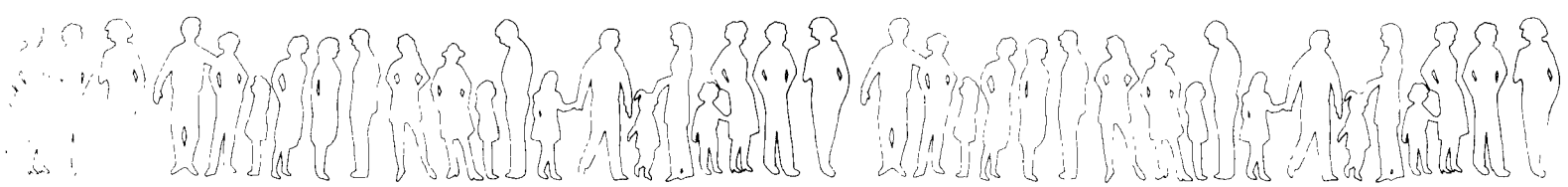
EPA 560-5-87-003H

NATIONAL BODY-BURDEN DATABASE

CHEMICALS IDENTIFIED IN HUMANS

1985-1986
VOLUME VIII



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NATIONAL BODY-BURDEN DATABASE
CHEMICALS IDENTIFIED IN HUMANS
1985-1986
VOLUME VIII

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Interagency Collaborative Group on Environmental Carcinogenesis,
National Cancer Institute, National Institutes of Health,
Dr. Thomas P. Cameron, Chairperson

Published December 1987

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INTRODUCTION

This database was established in 1978 under the aegis of the Interagency Collaborative Group on Environmental Carcinogenesis, National Cancer Institute (NCI). The work is performed by the Health and Environmental Information Section, Technical Information Analysis Division, Science Applications International Corporation (SAIC), Oak Ridge, Tennessee, under the direction of the Exposure Evaluation Division, Office of Toxic Substances, U.S. Environmental Protection Agency (EPA). Funds are provided through interagency agreements involving NCI, EPA, and the U.S. Department of Energy (DOE), and contracts among DOE, Analysas Corporation, and SAIC. The database provides a central source of systematically collected and organized body-burden data that facilitates the early identification of actual or potential human exposures to environmental contaminants and the assessment of the significance of such exposure.

Data are obtained primarily through routine, manual searches of selected, scientific journals. Because the database is not intended to obviate the need for the user to refer ultimately to the original sources, no attempt is made to evaluate the quality of the data. Information on chemical nomenclature and properties is from online sources and standard handbooks.

The database is used in exposure, hazard, and risk assessment; in identifying potential human and environmental health problems, including sources of exposure to toxic substances; in planning research and comparing results; and in teaching in public health and medical schools.

The database is available online through Lockheed's DIALOG Information Services, Inc. (File 138). Hard copies are printed and distributed primarily to interested government agency administrators and scientists, selected government agency libraries, and medical and public health school libraries. A companion report, **Chemicals Identified in Animals**, is also available. Individuals not having access to library copies or needing personal copies, may obtain them from the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, VA 22161. A limited number of copies is available on request to M. Virginia Cone, Science Applications International Corporation, P.O. Box 2501, Oak Ridge, TN 37831.

Comments by users of the database are invited. Correspondence should be directed to:

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USER'S GUIDE

This publication, contains introductory materials, chemical and journal lists, indices and, in tabular form, the records added to the database since the 1984 publication.

Appropriate data are extracted from journal articles and entered in the database by chemical and tissue/body fluid. Each such data entry is a single record and is given a record number. (Record numbers are assigned consecutively throughout the entire database). If a particular document contains information on more than one chemical and/or tissue, there will be multiple records. For example, a study of 5 chemicals in each of 3 tissues has 15 different records in the database and 15 record numbers. Chemicals in the table are arranged alphabetically by Chemical Abstracts Service (CAS) preferred name. Samples of two records are used to illustrate the format of the table. The chemical, in these examples, Lead, is listed first, followed by its CAS Registry number, symbol or formula, and chemical properties. These data are repeated at the top of each new page containing continued data on the same chemical. Keywords and references for each record appear across the columns at the bottom of the record. If there are multiple records from the same source, keywords/references appear with the last record in the set. The tissue and the record number are given in the first column and numbers of cases and exposure route, ranges and means of concentrations found in the tissue are reported in the next three columns.

Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C

Tissue	Cases Exposure Route	Range	Mean	
9407 Blood, whole	23 Ingestion	Not given	138 ug/l	Absorpti Health AAS

BLOOD SERUM; URINE; ENGLAND; CADMIUM; IRON; LEAD; DIETS; AGE; ENVIRONMENTAL EXP(
Bunker, V.W.; Lawson, M.S.; Delves, H.T.; Clayton, B.E. 1984 American Journal of Clinical Nutrition

Tissue	Cases Exposure Route	Range	Mean
9408 Blood, whole	7	39-139 ug/dl	Not given

BLOOD; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; CONNEC
NEUROLOGIC MANIFESTATIONS; OCCUPATIONAL DISEASES; LEAD; FOUNDR
SPERM
Cullen, M.R.; Kayne, R.D.; Robins, J.M 1984 Archives of Environmental Health

The last column in these same two records contains the general information needed to understand the ranges and means reported, for example, group distinctions, demography, health effects, pathology, morphology, toxicity, and analytical methods used (see page 5 for key to abbreviations).

	Mean	General Information
	138 ug/l	Absorption correlated with concentration in blood Healthy, elderly, nonsmokers, 11 males, 12 females, age 69-85, England AAS
TS; AGE; ENVIRONMENTAL EXPOSURE an Journal of Clinical Nutrition 39:803-808		

	Mean	General Information
	n	Exposures of 5 wk to 15 yr, at workplace or avocationally. Endocrine and reproductive function evaluated. After 2-6 mo chelation therapy, levels <30 ug/dl. 22-43 yr old victims of symptomatic occupational Pb intoxication, Connecticut Gastrointestinal, central nervous system, renal, blood, and reproductive problems Abnormal adrenocortical and germinal functions in most. AAS
ASE HISTORIES; CENTRAL NERVOUS SYSTEM DISEASES; LEAD POISONING; TH HAZARDS; INDUSTRIAL PLANTS; OCCUPATIONAL HAZARDS; PAINTS;		

Exponents are written as in the following example: 5×10^{-15} is 5 x 10(E-15). All means are arithmetic unless designated gometric. When included, standard error is indicated by S.E. However, standard deviations, when given, have no such designations. When source documents display data graphically, values are estimated by the data extractors and so indicated under general information.

Keywords provide additional information about the study reported and the contents of the source document. For example, another tissue occurring as a keyword indicates that the document also contains information on that tissue.

Secondary sources such as review articles are included, however, specific data (range, mean, etc.) are not recorded. Reviews are designated in the general information column.

CAS preferred names are from the Ninth Collective Index, and, when different, names from both eighth and ninth indices (8 CI, 9 CI) are given. An alphabetical list of synonyms paired with CAS preferred names is provided in the Chemical Lists section.

For accessing information in the database when only the CAS Registry number is known, the user should refer to the list of CAS Registry numbers coupled with preferred names. Author tissue or body fluid, and keyword indices refer the user to the appropriate record number(s) in the table. A cumulative chemical index for the entire database (1979-1986) is also included.

ABBREVIATIONS USED FOR ANALYTICAL METHODS

AAS	Atomic absorption spectrometry
APDC	Ammonium pyrrolidine diethiocarbamate-methylisobutyl ketone extraction
AS	Alpha spectrometry
ASV	Anodic stripping voltammetry
CC	Column chromatography
Chem	Chemical method
CI	Chemical ionization
Chemilumines	Chemical luminescence
DPASV	Differential pulse anodic stripping voltammetry
EC	Electron capture
Electrochem	Electrochemical method
ELISA	Enzyme-linked immunosorbent assay
EM	Electron microscopy
EMIT	Enzyme multiplied radioimmunoassay
ES	Emission spectrometry
GC	Gas chromatography
GC-EC	Gas chromatography, electron capture detection
GC/MS	Gas chromatography with mass spectrometry
GC/CI	Gas chromatography with chemical ionization
GC/MF	Gas chromatography with mass fragmentography
GLC	Gas-liquid chromatography
GLC-TEA	Gas-liquid chromatography, thermal energy analysis
Histochem	Histochemistry
HPLC	High-pressure liquid chromatography
HPLC-ED	High-pressure liquid chromatography, electrochemical detection
HPLC/RIA	High-pressure liquid chromatography with radioimmunoassay
HPLC/TLC	High pressure liquid chromatography with thin-layer chromatography
HPLC/FD	High pressure liquid chromatography with fluorometric determination
HRGS	High resolution gamma spectroscopy
ICAP	Inductively coupled argon plasma emission spectroscopy
ICP	Inductively coupled plasma emission spectroscopy
ICP-AES	Inductively coupled plasma-atomic emission spectroscopy
IDMS voltammetry	Isotope dilution mass spectrometry
IR	Infrared analysis
ISE	Ion-specific electrode
LC	Liquid chromatography
LSV	Linear sweep voltammetry

MAS	Molecular absorption spectrophotometry
MS	Mass spectrometry
MED	Microwave emission detector (ion)
MID GLC/MS	Multiple ion detection gas chromatography with mass spectrometry
NA	Neutron activation
NIAPIMS	Negative ionization atmospheric pressure ionization mass spectrometry
NMR	Nuclear magnetic resonance
PIXE	Proton-induced X-ray emission
RIA	Radioimmunoanalysis
SPF	Spectrophotofluorometry
TLC	Thin-layer chromatography
TLC/GC	Thin-layer chromatography with gas chromatography
TPGLC	Temperature-programmed gas-liquid chromatography
X-ray fluores	X-ray fluorescence
X-ray spectrom	X-ray spectrometry

Ambio
American Industrial Hygiene Association Journal
American Journal of Industrial Medicine
American Journal of Public Health
Archives of Environmental Contamination and Toxicology
Archives of Environmental Health
Archives of Toxicology
Biological Trace Element Research
British Journal of Industrial Medicine
British Medical Journal
Bulletin of Environmental Contamination and Toxicology
Canadian Medical Association Journal
Chemosphere
Ecotoxicology and Environmental Safety
Environment International
Environmental Health Perspectives
Environmental Pollution (Series A - Ecological and Biological)
Environmental Research
Environmental Science and Technology
Environmental Toxicology and Chemistry
Experientia
Food and Chemical Toxicology
Fundamental and Applied Toxicology
Health Physics
International Archives of Occupational and Environmental Health
Journal of Agricultural and Food Chemistry
Journal of Analytical Toxicology
Journal of Environmental Science and Health (Parts A and B)
Journal of Forensic Sciences
Journal of Occupational Medicine
Journal of Pediatrics
Journal of the American Medical Association
Journal of the Association of Official Analytical Chemists
Journal of Toxicology and Environmental Health
Journal of Toxicology - Clinical Toxicology
Lancet
Medical Journal of Australia
Nature
New England Journal of Medicine
Pediatrics
Public Health Reports
Research Communications in Chemical Pathology and Pharmacology
Reviews of Environmental Contamination and Toxicology (formerly Residue Reviews)
Science

CHEMICAL LISTS

CAS Registry Numbers/Preferred Names, page 9
Common Names-CAS Preferred Names, page 27

50-00-0
Formaldehyde

50-18-0
2H-1,3,2-Oxazaphosphorine, 2-(bis(2-chloroethyl)amino)tetrahydro-, 2-oxide (8 CI); 2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide (9 CI)

50-29-3
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene) bis(4-chloro- (9 CI)

50-32-8
Benzo(a)pyrene

54-11-5
Nicotine (8 CI); Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)- (9 CI)

55-18-5
Diethylamine, N-nitroso- (8 CI); Ethanamine, N-ethyl-N-nitroso- (9 CI)

56-23-5
Carbon tetrachloride (8 CI); Methane, tetrachloro- (9 CI)

56-86-0
Glutamic acid, L- (8 CI); L-Glutamic acid (9 CI)

57-10-3
Palmitic acid (8 CI); Hexadecanoic acid (9 CI)

57-11-4
Stearic acid (8 CI); Octadecanoic acid (9 CI)

57-12-5
Cyanide

57-55-6
1,2-Propanediol

57-74-9
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI)

57-88-5
Cholesterol (8 CI); Cholest-5-en-3-ol (3beta)- (9 CI)

58-89-9
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

58-90-2
Phenol, 2,3,4,6-tetrachloro-

59-02-9
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R* (4R*,8R*)))-

60-12-8
Phenethyl alcohol (8 CI); Benzeneethanol (9 CI)

60-57-1
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahyd ro-, endo,exo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7, 7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- (9 CI)

62-75-9
Dimethylamine, N-nitroso- (8 CI); Methanamine, N-methyl-N-nitroso- (9 CI)

63-25-2
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

67-56-1
Methanol

67-66-3
Chloroform (8 CI); Methane, trichloro- (9 CI)

71-43-2
Benzene

71-55-6
Ethane, 1,1,1-trichloro-

72-20-8
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahyd ro-, endo,endo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a, 7,7a-octahydro-, (1aalpha,2beta,2abeta,3alpha,6alpha,6abeta,7beta,7aalpha)- (9 CI)

72-54-8
Ethane, 1,1-dichloro-2,2-bis(p-chlorphenyl)- (8 CI); Benzene, 1,1'-(2,2-dichloroethylidene)bis(4-chloro- (9 CI)

72-55-9
Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(dichloroethenylidene)bis (4-chloro- (9 CI)

74-87-3
Methane, chloro-

75-09-2
Methane, dichloro-

75-15-0
Carbon disulfide

75-21-8
Ethylene oxide (8 CI); Oxirane (9 CI)

75-25-2
Methane, tribromo-

75-69-4
Methane, trichlorofluoro-

76-03-9
Acetic acid, trichloro-

76-44-8
4,7-Methanoindene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- (9 CI)

78-51-3
Ethanol, 2-butoxy-, phosphate (3:1)

79-01-6
Ethylene, trichloro- (8 CI); Ethene, trichloro- (9 CI)

83-32-9
Acenaphthene (8 CI); Acenaphthylene, 1,2-dihydro- (9 CI)

83-79-4
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6 (6aH)-one, 1,2,12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha, 12aalpha))- (9 CI)

84-66-2
Phthalic acid, diethyl ester (8 CI); 1,2-Benzenedicarboxylic acid, diethyl ester (9 CI)

84-74-2
Phthalic acid, dibutyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dibutyl ester (9 CI)

85-01-8
Phenanthrene

85-40-5
4-Cyclohexene-1,2-dicarboximide (8 CI); 1H-Isoindole-1,3-dione, 3a,4,7,7a-tetrahydro- (9 CI)

86-22-6
Pyridine, 2-(p-bromo-alpha-(2-(dimethylamino)ethyl)benzyl)- (8 CI); 2-Pyridinepropanaminne, gamma-(4-bromophenyl)-N,N-dimethyl- (9 CI)

86-73-7
Fluorene (8 CI); 9H-Fluorene (9 CI)

87-65-0
Phenol, 2,6-dichloro-

87-68-3
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-

87-86-5
Phenol, pentachloro-

88-06-2
Phenol, 2,4,6-trichloro-

90-15-3
1-Naphthol (8 CI); 1-Naphthalenol

90-64-2
Mandelic acid (8 CI); Benzeneacetic acid, alpha-hydroxy- (9 CI)

91-20-3
Naphthalene

92-52-4
Biphenyl (8 CI); 1,1'-Biphenyl (9 CI)

92-69-3
4-Biphenylol (8 CI); (1,1'-Biphenyl)-4-ol (9 CI)

93-72-1
Propanoic acid, 2-(2,4,5-trichlorophenoxy)-

93-76-5
Acetic acid, (2,4,5-trichlorophenoxy)-

94-75-7
Acetic acid, (2,4-dichlorophenoxy)-

95-16-9
Benzothiazole

95-47-6
o-Xylene (8 CI); Benzene, 1,2-dimethyl- (9 CI)

95-48-7
o-Cresol (8 CI); Phenol, 2-methyl- (9 CI)

95-57-8
Phenol, o-chloro- (8 CI); Phenol, 2-chloro- (9 CI)

95-77-2
Phenol, 3,4-dichloro-

95-95-4
Phenol, 2,4,5-trichloro-

100-02-7
Phenol, p-nitro- (8 CI); Phenol, 4-nitro- (9 CI)

100-41-4
Benzene, ethyl-

100-42-5
Styrene (8 CI); Benzene, ethenyl- (9 CI)

101-14-4
Aniline, 4,4'-methylenebis(2-chloro- (8 CI); Benzenamine, 4,4'-methylenebis(2-chloro- (9 CI)

106-42-3
p-Xylene (8 CI); Benzene, 1,4-dimethyl- (9 CI)

106-44-5
p-Cresol (8 CI); Phenol, 4-methyl- (9 CI)

106-48-9
Phenol, p-chloro- (8 CI); Phenol, 4-chloro- (9 CI)

108-38-3
m-Xylene (8 CI); Benzene, 1,3-dimethyl- (9 CI)

108-43-0
Phenol, m-chloro- (8 CI); Phenol, 3-chloro- (9 CI)

108-88-3
Toluene (8 CI); Benzene, methyl- (9 CI)

108-95-2
Phenol

110-13-4
2,5-Hexanedione

111-48-8
Ethanol, 2,2'-thiodi- (8 CI); Ethanol, 2,2'-thiobis- (9 CI)

112-39-0
Palmitic acid, methyl ester (8 CI); Hexadecanoic acid, methyl ester (9 CI)

112-61-8
Stearic acid, methyl ester (8 CI); Octadecanoic acid, methyl ester (9 CI)

112-95-8
Eicosane

117-81-7
Phthalic acid, bis(2-ethylhexyl) ester (8 CI); 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI)

118-74-1
Benzene, hexachloro-

120-12-7
Anthracene

120-83-2
Phenol, 2,4-dichloro-

121-75-5
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

123-33-1
3,6-Pyridazinedione, 1,2-dihydro-

124-10-7
Myristic acid, methyl ester (8 CI); Tetradecanoic acid, methyl ester (9 CI)

124-25-4
Myristaldehyde (8 CI); Tetradecanal (9 CI)

126-73-8
Phosphoric acid tributyl ester

127-18-4
Ethylene, tetrachloro- (8 CI); Ethene, tetrachloro- (9 CI)

128-37-0
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

129-00-0
Pyrene

131-11-3
Phthalic acid, dimethyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dimethyl ester (9 CI)

134-62-3
m-Toluamide, N,N-diethyl- (8 CI); Benzamide, N,N-diethyl-3-methyl- (9 CI)

134-85-0
Benzophenone, 4-chloro- (8 CI); Methanone, (4-chlorophenyl)phenyl- (9 CI)

298-06-6
Phosphorodithioic acid, O,O-diethyl ester

302-04-5
Thiocyanic acid, ion(1-) (8 CI); Thiocyanate (9 CI)

309-00-2
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, endo,exo- (8 CI) 1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha, 4alpha,4abeta,5alpha,8alpha,8abeta)- (9 CI)

319-84-6
Cyclohexane, 1,2,3,4,5,6-hexachloro-, alpha- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5beta,6beta)- (9 CI)

319-85-7
Cyclohexane, 1,2,3,4,5,6-hexachloro-, beta- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2beta,3alpha,4beta,5alpha,6beta)- (9 CI)

319-86-8
Cyclohexane, 1,2,3,4,5,6-hexachloro-, delta- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3alpha,4beta,5alpha,6beta)- (9 CI)

486-56-6
Cotinine (8 CI); 2-Pyrrolidinone, 1-methyl-5-(3-pyridinyl-,(S)- (9 CI)

495-69-2
Hippuric acid (8 CI); Glycine, N-benzoyl- (9 CI)

506-12-7
Heptadecanoic acid

510-15-6
Benzilic acid, 4,4'-dichloro-, ethyl ester (8 CI); Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester (9 CI)

540-72-7
Thiocyanic acid, sodium salt

544-63-8
Myristic acid (8 CI); Tetradecanoic acid (9 CI)

544-76-3
Hexadecane

576-24-9
Phenol, 2,3-dichloro-

583-78-8
Phenol, 2,5-dichloro-

591-35-5
Phenol, 3,5-dichloro-

593-45-3
Octadecane

598-02-7
Phosphoric acid, diethyl ester

609-19-8
Phenol, 3,4,5-trichloro-

610-30-0
Benzoic acid, 2,4-dinitro-

611-73-4
Glyoxylic acid, phenyl- (8 CI); Benzeneacetic acid, alpha-oxo- (9 CI)

627-03-2
Acetic acid, ethoxy-

629-62-9
Pentadecane

629-78-7
Heptadecane

629-80-1
Palmitaldehyde (8 CI); Hexadecanal (9 CI)

629-90-3
Heptadecanal

630-04-6
Hentriacontane

630-08-0
Carbon monoxide

638-66-4
Stearaldehyde (8 CI); Octadecanal (9 CI)

638-68-6
Triacontane

756-80-9
Phosphorodithioic acid, O,O-dimethyl ester

789-02-6
Ethane, 1,1,1-trichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)- (8 CI); Benzene, 1-chloro-2-(2,2,2-trichloro-1-(4-chlorophenyl)ethyl)- (9 CI)

813-78-5
Phosphoric acid, dimethyl ester

930-55-2
Pyrrolidine, 1-nitroso-

933-75-5
Phenol, 2,3,6-trichloro-

933-78-8
Phenol, 2,3,5-trichloro-

935-95-5
Phenol, 2,3,5,6-tetrachloro-

1024-57-3
4,7-Methanoindan, 1,4,5,6,7,8,8-heptachloro-2,3-epoxy-3a,4,7,7a-tetrahydro- (8 CI); 2,5-Methano-2H-indeno(1,2-b)oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a-hexahydro-, (1aalpha,1bbeta,2alpha,5alpha,5abeta,6beta,6aalpha)- (9 CI)

1112-38-5
Phosphorothioic acid, O,O-dimethyl ester

1133-64-8
Pyridine, 3-(1-nitroso-2-piperidinyl)-, (S)-

1162-65-8
Cyclopenta(c)furo(3',2':4,5)furo(2,3-h)(1)benzopyran-1,11-d ione, 2,3,6aalpha,9aalpha-tetrahydro-4-methoxy- (8 CI) Cyclopenta(c)furo(3',2':4,5)furo(2,3-h)(1)benzopyran-1,11-di one, 2,3,6a,9a-tetrahydro-4-methoxy-, (6aR-cis)- (9 CI)

1302-93-8
Mullite [Al6O5(SiO4)2]

1319-77-3
Cresol (8 CI) (VAN); Phenol, methyl- (9 CI)

1321-94-4
Naphthalene, methyl-

1330-20-7
Xylene (8 CI); Benzene, dimethyl- (9 CI)

1332-21-4
Asbestos

1336-36-3
Biphenyl, chloro (8 CI); 1,1'-Biphenyl, chloro derivs (9 CI)

1402-68-2
Aflatoxins

1746-01-6
Dibenzo-p-dioxin, 2,3,7,8-tetrachloro- (8 CI); Dibenzo(b,e)(1,4)dioxin, 2,3,7,8-tetrachloro- (9 CI)

1921-70-6
Pentadecane, 2,6,10,14-tetramethyl-

1972-08-3
6H-Dibenzo(b,d)pyran-1-ol, 6a,7,8,10a-tetrahydro-6,6-9-trimethyl-3-pentyl-, (6aR-trans)-

2032-59-9
Carbamic acid, methyl-, 4-(dimethylamino)-m-tolyl ester (8 CI); Phenol, 4-(dimethylamino)-3-methyl-, methylcarbamate (ester) (9 CI)

2051-60-7
Biphenyl, 2-chloro- (8 CI); 1,1'-Biphenyl, 2-chloro- (9 CI)

2270-40-8
Trichothec-9-ene-3alpha,4beta,15-triol, 12,13-epoxy-, 4,15-diacetate (8 CI); Trichothec-9-ene-3,4, 15-triol, 12,13-epoxy-, 4,15-diacetate, (3alpha,4beta)- (9 CI)

2385-85-5
1,3,4-Metheno-1H-cyclobuta(cd)pentalene, 1,1a,2,2,3,3a,4,5,5,5a,5b,6-dodecachlorooctahydro-

2465-65-8
Phosphorothioic acid, O,O-diethyl ester

2699-79-8
Sulfuryl fluoride

2765-11-9
Pentadecanal

3268-87-9
Dibenzo-p-dioxin, octachloro- (8 CI); Dibenzo(b,e)(1,4)dioxin, octachloro- (9 CI)

3424-82-6
Ethylene, 1,1-dichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)- (8 CI); Benzene, 1-chloro-2-(2,2-dichloro-1-(4-chlorophenyl)ethenyl)- (9 CI)

4685-14-7
4,4'-Bipyridinium, 1,1'-dimethyl-

4901-51-3
Phenol, 2,3,4,5-tetrachloro-

5103-71-9
4,7-Methanoindan, 1alpha,2alpha,4beta,5,6,7beta,8,8-octachloro-3aalpha,4,7,7aa lpha-tetrahydro (8 CI) 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-, (1alpha, 2alpha,3aalpha,4beta,7beta,7aalpha)- (9 CI)

5103-73-1
4,7-Methanoindan, 1alpha,2alpha,3alpha,4beta,5,6,7beta,8,8-nonachloro-3aalpha, 4,7,7-aalpha-tetrahydro- (8 CI) 4,7-Methano-1H-indene, 1,2,3,4,5,6,7,8,8-nonachloro-2,3,3a,4,7,7a-hexahydro-(1alpha ,2alpha,3alpha,3aalpha,4beta,7aalpha- (9 CI)

5103-74-2
4,7-Methanoindan, 1beta,2alpha,4alpha,5,6,7alpha,8,8-octachloro-3abeta,4,7,7ab eta-tetrahydro-(8 CI) 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-, (1alpha, 2beta,3aalpha,4beta,7beta,7aalpha)- (9 CI)

5315-79-7
1-Pyrenol

6515-38-4
2(1H)-Pyridone, 3,5,6-trichloro- (8 CI); 2(1H)-Pyridinone, 3,5,6-trichloro- (9 CI)

7012-37-5
1,1'-Biphenyl, 2,4,4'-trichloro-

7429-90-5
Aluminum

7439-88-5
Iridium

7439-89-6
Iron

7439-91-0
Lanthanum

7439-92-1
Lead

7439-93-2
Lithium

7439-94-3
Lutetium

7439-95-4
Magnesium

7439-96-5
Manganese

7439-97-6
Mercury

7439-98-7
Molybdenum

7440-00-8
Neodymium

7440-02-0
Nickel

7440-07-5
Plutonium

7440-09-7
Potassium

7440-17-7
Rubidium

7440-19-9
Samarium

7440-20-2
Scandium

7440-21-3
Silicon

7440-22-4
Silver

7440-23-5
Sodium

7440-25-7
Tantalum

7440-27-9
Terbium

7440-28-0
Thallium

7440-29-1
Thorium

7440-31-5
Tin

7440-36-0
Antimony

7440-38-2
Arsenic

7440-39-3
Barium

7440-41-7
Beryllium

7440-43-9
Cadmium

7440-45-1
Cerium

7440-46-2
Cesium

7440-47-3
Chromium

7440-48-4
Cobalt

7440-50-8
Copper

7440-53-1
Europium

7440-57-5
Gold

7440-58-6
Hafnium

7440-61-1
Uranium

7440-62-2
Vanadium

7440-64-4
Ytterbium

7440-66-6
Zinc

7440-70-2
Calcium

7440-74-6
Indium

7553-56-2
Iodine

7704-34-9
Sulfur

7723-14-0
Phosphorus

7726-95-6
Bromine

7782-49-2
Selenium

9007-73-2
Ferritins

9038-94-2
Metallothionein

9061-29-4
Carbonylhemoglobin

10043-66-0
Iodine, isotope of mass 131

10045-97-3
Cesium, isotope of mass 137

11095-43-5
Benzothiophene

11096-37-0
Transferrins

11096-82-5
Arochlor 1260

11103-57-4
Vitamin A

12001-28-4
Crocidolite

12001-29-5
Chrysotile (8 CI) (VAN); Chrysotile [H4Mg3(Si2O9)] (9 CI)

12002-48-1
Benzene, trichloro-

12172-73-5
Asbestos, grunerite

13029-08-8
Biphenyl, 2,2'-dichloro- (8 CI); 1,1'-Biphenyl, 2,2'-dichloro- (9 CI)

13674-87-8
2-Propanol, 1,3-dichloro-, phosphate (3:1)

13981-33-4
Selenium, isotope of mass 74

13982-38-2
Bismuth, isotope of mass 207

14158-31-7
Iodine, isotope of mass 125

14567-73-8
Tremolite (8 CI); Tremolite [Ca2Mg5H2(SiO3)8] (9 CI)

14596-10-2
Americium, isotope of mass 241

15046-84-1
Iodine, isotope of mass 129

15117-48-3
Plutonium, isotope of mass 239

15117-53-0
Sulfur, isotope of mass 35

15442-64-5
Zinc, (dihydrogen 3,7,12,17-tetramethyl-8,13-divinyl-2,18-porphinedipropionate (2-))- (8 CI)
Zinc, (7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18- dipropanoato(2-)-N(21),N (22),N(23),N(24))-, (SP-4-2)- (9 CI)

15950-66-0
Phenol, 2,3,4-trichloro-

16543-55-8
Nicotine, 1'-demethyl-1'-nitroso- (8 CI); Pyridine, 3-(1-nitroso-2-pyrrolidinyl)-, (S)- (9 CI)

16606-02-3
Biphenyl, 2,4',5-trichloro- (8 CI); 1,1'-Biphenyl, 2,4',5-trichloro- (9 CI)

16984-48-8
Fluoride

17341-25-2
Sodium, ion (Na(1+))

18540-29-9
Chromium, ion (Cr(6+))

19408-74-3
Dibenzo-p-dioxin, 1,2,3,7,8,9-hexachloro- (8 CI); Dibenzo(b,e)(1,4)dioxin, 1,2,3,7,8,9-hexachloro- (9 CI)

21259-20-1
Trichothec-9-ene-3alpha,4beta,8alpha,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-isovalerate (8 CI) ; Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3alpha, 4beta,8alpha)- (9 CI)

24952-65-6
Lead(2+), diethyl- ion (8 CI); Plumbanediylium, diethyl- (9 CI)

24959-67-9
Bromide

25167-81-1
Phenol, dichloro-

25167-82-2
Phenol, trichloro-

25167-83-3
Phenol, tetrachloro-

25321-14-6
Toluene, ar,ar-dinitro- (8 CI); Benzene, methyldinitro- (9 CI)

25321-22-6
Benzene, dichloro-

25551-13-7
Benzene, trimethyl-

26523-64-8
Ethane, trichlorotrifluoro-

26880-48-8
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-1,2-epoxy-3a,4,7,7a-tetrahydro- (8 CI) 2,5-Methano-2H-indeno(1,2-b)oxirene, 1a,2,3,4,5,6a,7,7-octachloro-1a,1b,5,5a,6,6a-hexahydro- (9 CI)

26934-87-2
Trichothec-9-ene-3alpha,4beta,8alpha,15-tetrol, 12,13-epoxy-, 15-acetate 8-isovalerate (8 CI); Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 15-acetate 8-(3-methylbutanoate), (3alpha,4beta, 8alpha)- (9 CI)

28804-88-8
Naphthalene, dimethyl-

30551-15-6
Nonenal

31508-00-6
Biphenyl, 2,3',4,4',5-pentachloro- (8 CI); 1,1'-Biphenyl, 2,3',4,4',5-pentachloro (9 CI)

32598-11-1
Biphenyl, 2,3',4',5-tetrachloro- (8 CI); 1,1'Biphenyl, 2,3',4',5-tetrachloro- (9 CI)

32598-14-4
Biphenyl, 2,3,3',4,4'-pentachloro- (8 CI); 1,1'-Biphenyl, 2,3,3',4,4'-pentachloro- (9 CI)

33025-41-1
Biphenyl, 2,3,4,4'-tetrachloro- (8 CI); 1,1'-Biphenyl, 2,3,4,4'-tetrachloro- (9CI)

35065-27-1
1,1'-Biphenyl, 2,2',4,4',5,5'-hexachloro-

35065-28-2
1,1'-Biphhenyl, 2,2',3,4,4',5'-hexachloro-

35065-29-3
1,1'-Biphenyl, 2,2',3,4,4',5,5'-heptachloro-

35065-30-6
1,1'-Biphenyl, 2,2',3,3',4,4',5-heptachloro-

35694-08-7
1,1'-Biphenyl, 2,2',3,3',4,4',5,5'-octachloro-

35822-46-9
Dibenzo(b,e)(1,4)dioxin, 1,2,3,4,6,7,8-heptachloro-

37680-73-2
1,1'-Biphenyl, 2,2',4,5,5'-pentachloro-

38380-01-7
1,1'-Biphenyl, 2,2',4,4',5-pentachloro-

39001-02-0
Dibenzofuran, octachloro-

39227-28-6
Dibenzo(b,e)(1,4)dioxin, 1,2,3,45,7,8-hexachloro-

39635-31-9
1,1'-Biphenyl, 2,3,3',4,4',5,5'-heptachloro-

39765-80-5
4,7-Methano-1H-indene, 1,2,3,4,5,6,7,8,8-nonachloro-2,3,3a,4,7,7a-hexahydro-, (1alpha,2beta, 3alpha,3aalpha,4beta,7beta,7aalpha)-

40186-71-8
1,1'-Biphenyl, 2,2',3,3',4,5',6,6'-octachloro-

40321-76-4
Dibenzo(b,e)(1,4)dioxin, 1,2,3,7,8-pentachloro-

51207-31-9
Dibenzofuran, 2,3,7,8-tetrachloro-

51908-16-8
1,1'-Biphenyl, 2,2',3,4',5,5'-hexachloro-

52663-64-6
1,1'-Biphenyl, 2,2',3,3',5,6,6'-heptachloro-

52663-65-7
1,1'-Biphenyl, 2,2',3,3',4,6,6'-heptachloro-

52663-67-9
1,1'-Biphenyl, 2,2',3,3',5,5',6-heptachloro-

52663-69-1
1,1'-Biphenyl, 2,2',3,4,4',5',6-heptachloro-

52663-76-0
1,1'-Biphenyl, 2,2',3,4,4',5,5',6-octachloro-

53469-21-9
Arochlor 1242

55673-89-7
Dibenzofuran, 1,2,3,4,7,8,9-heptachloro-

57117-31-4
Dibenzofuran, 2,3,4,7,8-pentachloro-

57117-41-6
Dibenzofuran, 1,2,3,7,8-pentachloro-

57117-44-9
Dibenzofuran, 1,2,3,6,7,8-hexachloro-

57653-85-7
Dibenzo(b,e)(1,4)dioxin, 1,2,3,6,7,8-hexachloro-

58200-70-7
Dibenzo(b,e)(1,4)dioxin, 1,2,3,4,6,7,9-heptachloro-

60851-34-5
Dibenzofuran, 2,3,4,6,7,8-hexachloro-

63449-39-8
Chlorinated paraffins

64091-91-4
1-Butanone, 4-(methylnitrosoamino)-1-(3-pyridinyl)-

67562-39-4
Dibenzofuran, 1,2,3,4,6,7,8-heptachloro-

68411-91-6
Hexadecanoic acid, C12-14-alkyl esters

70648-26-9
Dibenzofuran, 1,2,3,4,7,8-hexachloro-

71267-22-6
2,3'-Bipyridine, 1,2,3,6-tetrahydro-1-nitroso-, (S)-

72918-21-9
Divbenzofuran, 1,2,3,7,8,9-hexachloro-

74472-42-7
1,1'-Biphenyl, 2,3,3',4,4',6-hexachloro-

78218-09-4
Benzoic acid, 4-(2-(1H-imidazol-1-yl)ethoxy)-

((Dimethoxyphosphinothioyl)thio)butanedioic acid diethyl ester
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

(-)-Cholesterol
Cholesterol (8 CI); Cholest-5-en-3-ol (3beta)- (9 CI)

(-)-Cotinine
Cotinine (8 CI); 2-Pyrrolidinone, 1-methyl-5-(3-pyridinyl-,(S)- (9 CI)

(-)-delta(1)-Tetrahydrocannabinol
6H-Dibenzo(b,d)pyran-1-ol, 6a,7,8,10a-tetrahydro-6,6-9-trimethyl-3-pentyl-, (6aR-trans)-

(-)-delta(9)-Tetrahydrocannabinol
6H-Dibenzo(b,d)pyran-1-ol, 6a,7,8,10a-tetrahydro-6,6-9-trimethyl-3-pentyl-, (6aR-trans)-

(-)-delta(9)-THC
6H-Dibenzo(b,d)pyran-1-ol, 6a,7,8,10a-tetrahydro-6,6-9-trimethyl-3-pentyl-, (6aR-trans)-

(-)-delta(9)-trans-Tetrahydrocannabinol
6H-Dibenzo(b,d)pyran-1-ol, 6a,7,8,10a-tetrahydro-6,6-9-trimethyl-3-pentyl-, (6aR-trans)-

(-)-Nicotine
Nicotine (8 CI); Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)- (9 CI)

(-)-Rotenone
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2, 12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

(-)-trans-delta(9)-Tetrahydrocannabinol
6H-Dibenzo(b,d)pyran-1-ol, 6a,7,8,10a-tetrahydro-6,6-9-trimethyl-3-pentyl-, (6aR-trans)-

(2,4,5-Trichlorophenoxy)acetic acid
Acetic acid, (2,4,5-trichlorophenoxy)-

(2,4-Dichlorophenoxy)acetic acid
Acetic acid, (2,4-dichlorophenoxy)-

(2R,4'R,8'R)-alpha-Tocopherol
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

(4-Dimethylamino-3-methyl-phenyl)N-methyl-carbamate
Carbamic acid, methyl-, 4-(dimethylamino)-m-tolyl ester (8 CI); Phenol, 4-(dimethylamino)-3-methyl-, methylcarbamate (ester) (9 CI)

(4-Dimethylamino-3-methyl-phenyl)N-methyl-carbamaat
Carbamic acid, methyl-, 4-(dimethylamino)-m-tolyl ester (8 CI); Phenol, 4-(dimethylamino)-3-methyl-, methylcarbamate (ester) (9 CI)

(4-Dimetilamino-3-metil-fenil)-N-metil-carbammato
Carbamic acid, methyl-, 4-(dimethylamino)-m-tolyl ester (8 CI); Phenol, 4-(dimethylamino)-3-methyl-, methylcarbamate (ester) (9 CI)

(6)Annulene
Benzene

(beta-PEA)
Phenethyl alcohol (8 CI); Benzeneethanol (9 CI)

(R,R,R)-alpha-Tocopherol
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

(S)-2-Aminopentanedioic acid
Glutamic acid, L- (8 CI); L-Glutamic acid (9 CI)

(S)-Cotinine
Cotinine (8 CI); 2-Pyrrolidinone, 1-methyl-5-(3-pyridinyl-,(S)- (9 CI)

1'-Nitroso-1'-demethylnicotine
Nicotine, 1'-demethyl-1'-nitroso- (8 CI); Pyridine, 3-(1-nitroso-2-pyrrolidinyl)-, (S)- (9 CI)

1'-Nitrosonornicotine
Nicotine, 1'-demethyl-1'-nitroso- (8 CI); Pyridine, 3-(1-nitroso-2-pyrrolidinyl)-, (S)- (9 CI)

1,1'-Dimethyl-4,4'-bipyridinium
4,4'-Bipyridinium, 1,1'-dimethyl-

1,1'-Diphenyl
Biphenyl (8 CI); 1,1'-Biphenyl (9 CI)

1,1,1-Trichloro-2,2-bis(4,4'-dichlorodiphenyl)ethane
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

1,1,1-Trichloroethane
Ethane, 1,1,1-trichloro-

1,1,2,2-Tetrachloroethylene
Ethylene, tetrachloro- (8 CI); Ethene, tetrachloro- (9 CI)

1,1,2,3,4,4-Hexachloro-1,3-butadiene
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-

1,1-Bis(4-chlorophenyl)-2,2-dichloroethane
Ethane, 1,1-dichloro-2,2-bis(p-chlorphenyl)- (8 CI); Benzene, 1,1'-(2,2-dichloroethylidene)bis(4-chloro- (9 CI)

1,1-Bis(p-chlorophenyl)-2,2-dichloroethane
Ethane, 1,1-dichloro-2,2-bis(p-chlorphenyl)- (8 CI); Benzene, 1,1'-(2,2-dichloroethylidene)bis(4-chloro- (9 CI)

1,1-Bis(p-chlorophenyl)-2,2,2-trichloroethane 1,1,1-Trichloro-2,2-bis(p-chlorophenyl)ethane
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

1,1-Dichloro-2,2-bis(p-chlorophenyl)ethane
Ethane, 1,1-dichloro-2,2-bis(p-chlorphenyl)- (8 CI); Benzene, 1,1'-(2,2-dichloroethylidene)bis(4-chloro- (9 CI)

1,1-Dichloro-2,2-bis(p-chlorophenyl)ethylene
Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(dichloroethenylidene)bis(4-chloro- (9 CI)

1,1-Dichloro-2,2-di(p-chlorophenyl)ethylene
Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(dichloroethenylidene)bis(4-chloro- (9 CI)

1,1-Dichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)ethy lene
Ethylene, 1,1-dichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)- (8 CI); Benzene, 1-chloro-2-(2,2-dichloro-1-(4-chlorophenyl)ethenyl)- (9 CI)

1,2,3,4,5,6-Hexachlorocyclohexane
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin
Dibenzo-p-dioxin, octachloro- (8 CI); Dibenzo(b,e)(1,4)dioxin, octachloro- (9 CI)

1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
Dibenzo(b,e)(1,4)dioxin, 1,2,3,4,6,7,8-heptachloro-

1,2,3,4,6,7,8-Heptachlorodibenzofuran
Dibenzofuran, 1,2,3,4,6,7,8-heptachloro-

1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin
Dibenzo(b,e)(1,4)dioxin, 1,2,3,4,6,7,9-heptachloro-

1,2,3,4,7,8,9-Heptachlorodibenzofuran
Dibenzofuran, 1,2,3,4,7,8,9-heptachloro-

1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin
Dibenzo(b,e)(1,4)dioxin, 1,2,3,45,7,8-hexachloro-

1,2,3,4,7,8-Hexachlorodibenzofuran
Dibenzofuran, 1,2,3,4,7,8-hexachloro-

1,2,3,6,7,8-Hexachlorodibenzodioxin
Dibenzo(b,e)(1,4)dioxin, 1,2,3,6,7,8-hexachloro-

1,2,3,6,7,8-Hexachlorodibenzofuran
Dibenzofuran, 1,2,3,6,7,8-hexachloro-

1,2,3,6-Tetrahydrophthalimide
4-Cyclohexene-1,2-dicarboximide (8 CI); 1H-Isoindole-1,3-dione, 3a,4,7,7a-tetrahydro- (9 CI)

1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin
Dibenzo-p-dioxin, 1,2,3,7,8,9-hexachloro- (8 CI); Dibenzo(b,e)(1,4)dioxin, 1,2,3,7,8,9-hexachloro- (9 CI)

1,2,3,7,8,9-Hexachlorodibenzofuran
Divbenzofuran, 1,2,3,7,8,9-hexachloro-

1,2,3,7,8-Pentachlorodibenzo-p-dioxin
Dibenzo(b,e)(1,4)dioxin, 1,2,3,7,8-pentachloro-

1,2,3,7,8-Pentachlorodibenzofuran
Dibenzofuran, 1,2,3,7,8-pentachloro-

1,2,4,5,6,7,8,8-Octachloro-3a,4,7,7a-hexahydro-4,7-met hylene indane
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4, 5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI)

1,2,4,5,6,7,8,8-Ottochloro-3a,4,7,7a-tetraidro-4,7-end o-metano-indano
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4, 5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI)

1,2-benzenedicarboxylic acid, diethyl ester
Phthalic acid, diethyl ester (8 CI); 1,2-Benzenedicarboxylic acid, diethyl ester (9 CI)

1,2-Benzenedicarboxylic acid, bis(ethylhexyl)ester
Phthalic acid, bis(2-ethylhexyl) ester (8 CI); 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI)

1,2-Diacetylethane
2,5-Hexanedione

1,2-Dihydro-3,6-pyridazinedione
3,6-Pyridazinedione, 1,2-dihydro-

1,2-Dihydroacenaphthylene
Acenaphthene (8 CI); Acenaphthylene, 1,2-dihydro- (9 CI)

1,2-Dihydropyridazine-3,6-dione
3,6-Pyridazinedione, 1,2-dihydro-

1,2-Dihydroxypropane
1,2-Propanediol

1,2-Dimethylbenzene
o-Xylene (8 CI); Benzene, 1,2-dimethyl- (9 CI)

1,2-Epoxyaethan
Ethylene oxide (8 CI); Oxirane (9 CI)

1,2-Epoxyethane
Ethylene oxide (8 CI); Oxirane (9 CI)

1,2-Propanediol
1,2-Propanediol

1,2-Propylene glycol
1,2-Propanediol

1,2-Xylene
o-Xylene (8 CI); Benzene, 1,2-dimethyl- (9 CI)

1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-, dimer
1,3,4-Metheno-1H-cyclobuta(cd)pentalene, 1,1a,2,2,3,3a,4,5,5,5a,5b,6-dodecachlorooctahydro-

1,3-Dichloro-2-propanol phosphate (3:1)
2-Propanol, 1,3-dichloro-, phosphate (3:1)

1,3-Dimethylbenzene
m-Xylene (8 CI); Benzene, 1,3-dimethyl- (9 CI)

1,3-Xylene
m-Xylene (8 CI); Benzene, 1,3-dimethyl- (9 CI)

1,4,5,6,7,8,8-Heptachloro-2,3-epoxy-2,3,3a,4,7,7a-hexa hydro-4,7-methanoindene
4,7-Methanoindan, 1,4,5,6,7,8,8-heptachloro-2,3-epoxy-3a,4,7,7a-tetrahydro- (8 CI); 2,5-Methano-2H-indeno(1,2-b)oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a-hexahydro-, (1aalpha,1bbeta,2alpha,5alpha,5abeta,6beta,6aalpha)- (9 CI)

1,4-Dimethylbenzene
p-Xylene (8 CI); Benzene, 1,4-dimethyl- (9 CI)

1,4-Xylene
p-Xylene (8 CI); Benzene, 1,4-dimethyl- (9 CI)

1,8-Dihydroacenaphthalene
Acenaphthene (8 CI); Acenaphthylene, 1,2-dihydro- (9 CI)

1,8-Ethylenenaphthalene
Acenaphthene (8 CI); Acenaphthylene, 1,2-dihydro- (9 CI)

1-(p-Bromophenyl)-1-(2-pyridyl)-3-dimethylaminopropane 2-[p-Bromo-alpha-(2-dimethylaminoethyl)-benzy
Pyridine, 2-(p-bromo-alpha-(2-(dimethylamino)ethyl)benzyl)- (8 CI); 2-Pyridinepropanaminne, gamma-(4-bromophenyl)-N,N-dimethyl- (9 CI)

1-Aminopropane-1,3-dicarboxylic aCid
Glutamic acid, L- (8 CI); L-Glutamic acid (9 CI)

1-Bis(2-chloroethyl)-amino-1-oxo-2-aza-5-oxaphosphorid in
2H-1,3,2-Oxazaphosphorine, 2-(bis(2-chloroethyl)amino)tetrahydro-, 2-oxide (8 CI); 2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide (9 CI)

1-delta(1)-trans-Tetrahydrocannabinol
6H-Dibenzo(b,d)pyran-1-ol, 6a,7,8,10a-tetrahydro-6,6-9-trimethyl-3-pentyl-, (6aR-trans)-

1-DL-Phenylethanol
1-DL-Phenylethanol (No postings in CHEMLINE).

1-Heptadecanecarboxylic acid
Stearic acid (8 CI); Octadecanoic acid (9 CI)

1-Hydroxy-2-methylbenzene
o-Cresol (8 CI); Phenol, 2-methyl- (9 CI)

1-Hydroxy-4-methylbenzene
p-Cresol (8 CI); Phenol, 4-methyl- (9 CI)

1-Hydroxynaphthalene
1-Naphthol (8 CI); 1-Naphthalenol

1-Hydroxypyrene
1-Pyrenol

1-Methyl-2-(3-pyridyl)pyrrolidine
Nicotine (8 CI); Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)- (9 CI)

1-Methyl-4-hydroxybenzene
p-Cresol (8 CI); Phenol, 4-methyl- (9 CI)

1-Naphthol N-methylcarbamate
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

1-Naphthyl methylcarbamate
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

1-Naphthyl N-methylcarbamate
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

1-Nitroso-2-(3-pyridyl)pyrrolidine
Nicotine, 1'-demethyl-1'-nitroso- (8 CI); Pyridine, 3-(1-nitroso-2-pyrrolidinyl)-, (S)- (9 CI)

1-Nitrosoanabasine
Pyridine, 3-(1-nitroso-2-piperidinyl)-, (S)-

1-Nitrosopyrrolidine
Pyrrolidine, 1-nitroso-

1-Pentadecanecarboxylic acid
Palmitic acid (8 CI); Hexadecanoic acid (9 CI)

1-Pyrrolidinamine, N-nitroso-
Pyrrolidine, 1-nitroso-

1-Thia-3-azaindene
Benzothiazole

1-trans-delta(9)-Tetrahydrocannabinol
6H-Dibenzo(b,d)pyran-1-ol, 6a,7,8,10a-tetrahydro-6,6-9-trimethyl-3-pentyl-, (6aR-trans)-

1-Tridecanecarboxylic acid
Myristic acid (8 CI); Tetradecanoic acid (9 CI)

1721 Gold
Copper

2,2',3',4,4',5-Hexachlorobiphenyl
1,1'-Biphenyl, 2,2',3',4,4',5-hexachloro- (No postings in CHEMLINE).

2,2',3',4,4',5-Hexachlorobiphenyl
1,1'-Biphhenyl, 2,2',3,4,4',5'-hexachloro-

2,2',3,3',4,4',5,5'-Octachlorobiphenyl
1,1'-Biphenyl, 2,2',3,3',4,4',5,5'-octachloro-

2,2',3,3',4,4',5-Heptachlorobiphenyl
1,1'-Biphenyl, 2,2',3,3',4,4',5-heptachloro-

2,2',3,3',4,5',6,6'-Octachlorobiphenyl
1,1'-Biphenyl, 2,2',3,3',4,5',6,6'-octachloro-

2,2',3,3',4,6,6'-Heptachlorobiphenyl
1,1'-Biphenyl, 2,2',3,3',4,6,6'-heptachloro-

2,2',3,3',4-Pentachlorobiphenyl
1,1'-Biphenyl, 2,2',3,3',4-pentachloro- (No postings in CHEMLINE).

2,2',3,3',5,5',6-Heptachlorobiphenyl
1,1'-Biphenyl, 2,2',3,3',5,5',6-heptachloro-

2,2',3,3',5,6,6'-Heptachlorobiphenyl
1,1'-Biphenyl, 2,2',3,3',5,6,6'-heptachloro-

2,2',3,4',5,5'-Hexachlorobiphenyl
1,1'-Biphenyl, 2,2',3,4',5,5'-hexachloro-

2,2',3,4,4',5',6-Heptachlorobiphenyl
1,1'-Biphenyl, 2,2',3,4,4',5',6-heptachloro-

2,2',3,4,4',5'-Hexachlorobiphenyl
1,1'-Biphhenyl, 2,2',3,4,4',5'-hexachloro-

2,2',3,4,4',5,5',6-Octachlorobiphenyl
1,1'-Biphenyl, 2,2',3,4,4',5,5',6-octachloro-

2,2',3,4,4',5,5'-Heptachlorobiphenyl
1,1'-Biphenyl, 2,2',3,4,4',5,5'-heptachloro-

2,2',4,4',5,5'-Hexachloro-1,1'-biphenyl
1,1'-Biphenyl, 2,2',4,4',5,5'-hexachloro-

2,2',4,4',5,5'-Hexachlorobiphenyl
1,1'-Biphenyl, 2,2',4,4',5,5'-hexachloro-

2,2',4,4',5-Pentachlorobiphenyl
1,1'-Biphenyl, 2,2',4,4',5-pentachloro-

2,2',4,5,5'-PCB
1,1'-Biphenyl, 2,2',4,5,5'-pentachloro-

2,2',4,5,5'-Pentachlorobiphenyl
1,1'-Biphenyl, 2,2',4,5,5'-pentachloro-

2,2'-Dichlorobiphenyl
Biphenyl, 2,2'-dichloro- (8 CI); 1,1'-Biphenyl, 2,2'-dichloro- (9 CI)

2,2'-Thiodiethanol
Ethanol, 2,2'-thiodi- (8 CI); Ethanol, 2,2'-thiobis- (9 CI)

2,2-Bis(4-chlorophenyl)-1,1-dichloroethane
Ethane, 1,1-dichloro-2,2-bis(p-chlorphenyl)- (8 CI); Benzene, 1,1'-(2,2-dichloroethylidene)bis(4-chloro- (9 CI)

2,2-Bis(4-chlorophenyl)-1,1-dichloroethylene
Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(dichloroethenylidene)bis(4-chloro- (9 CI)

2,2-Bis(p-chlorophenyl)-1,1,1-trichloroethane
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

2,3',4',5-Tetrachlorobiphenyl
Biphenyl, 2,3',4',5-tetrachloro- (8 CI); 1,1'Biphenyl, 2,3',4',5-tetrachloro- (9 CI)

2,3',4,4',5-Pentachloro-1,1'-biphenyl
Biphenyl, 2,3',4,4',5-pentachloro- (8 CI); 1,1'-Biphenyl, 2,3',4,4',5-pentachloro (9 CI)

2,3',4,4',5-Pentachlorobiphenyl
Biphenyl, 2,3',4,4',5-pentachloro- (8 CI); 1,1'-Biphenyl, 2,3',4,4',5-pentachloro (9 CI)

2,3,3',4',5,6-Hexachlorobiphenyl
1,1'-Biphenyl, 2,3,3',4',5,6-hexachloro- (No postings in CHEMLINE).

2,3,3',4,4',5,5'-Heptachlorobiphenyl
1,1'-Biphenyl, 2,3,3',4,4',5,5'-heptachloro-

2,3,3',4,4',5,6-Heptachlorobiphenyl
1,1'-Biphenyl, 2,3,3',4,4',5,6-heptachloro- (No postings in CHEMLINE).

2,3,3',4,4',6-Hexachlorobiphenyl
1,1'-Biphenyl, 2,3,3',4,4',6-hexachloro- (No postings in CHEMLINE).

2,3,3',4,4',6-Hexachlorobiphenyl
1,1'-Biphenyl, 2,3,3',4,4',6-hexachloro-

2,3,3',4,4'-Pentachlorobiphenyl
Biphenyl, 2,3,3',4,4'-pentachloro- (8 CI); 1,1'-Biphenyl, 2,3,3',4,4'-pentachloro- (9 CI)

2,3,4,2',3',4',5'-Heptachlorobiphenyl
1,1'-Biphenyl, 2,2',3,3',4,4',5-heptachloro-

2,3,4,2',3'-Pentachlorobiphenyl
1,1'-Biphenyl, 2,2',3,3',4-pentachloro- (No postings in CHEMLINE).

2,3,4,2',4',5'-Hexachlorobiphenyl
1,1'-Biphhenyl, 2,2',3,4,4',5'-hexachloro-

2,3,4,3',4'-Pentachlorobiphenyl
Biphenyl, 2,3,3',4,4'-pentachloro- (8 CI); 1,1'-Biphenyl, 2,3,3',4,4'-pentachloro- (9 CI)

2,3,4,4'-Tetrachlorobiphenyl
Biphenyl, 2,3,4,4'-tetrachloro- (8 CI); 1,1'-Biphenyl, 2,3,4,4'-tetrachloro- (9CI)

2,3,4,5,2',3',4',5'-Octachlorobiphenyl
1,1'-Biphenyl, 2,2',3,3',4,4',5,5'-octachloro-

2,3,4,5,2',3',4'-Heptachlorobiphenyl
1,1'-Biphenyl, 2,2',3,3',4,4',5-heptachloro-

2,3,4,5,2',4',5'-Heptachlorobiphenyl
1,1'-Biphenyl, 2,2',3,4,4',5,5'-heptachloro-

2,3,4,5,3',4',5'-Heptachlorobiphenyl
1,1'-Biphenyl, 2,3,3',4,4',5,5'-heptachloro-

2,3,4,5,6,2',4',5'-Octachlorobiphenyl
1,1'-Biphenyl, 2,2',3,4,4',5,5',6-octachloro-

2,3,4,5-Tetrachlorophenol
Phenol, 2,3,4,5-tetrachloro-

2,3,4,6,2',3',5',6'-Octachlorobiphenyl
1,1'-Biphenyl, 2,2',3,3',4,5',6,6'-octachloro-

2,3,4,6,2',3',6'-Heptachlorobiphenyl
1,1'-Biphenyl, 2,2',3,3',4,6,6'-heptachloro-

2,3,4,6,2',4',5'-Heptachlorobiphenyl
1,1'-Biphenyl, 2,2',3,4,4',5',6-heptachloro-

2,3,4,6,3',4'-Hexachlorobiphenyl
1,1'-Biphenyl, 2,3,3',4,4',6-hexachloro- (No postings in CHEMLINE).

2,3,4,6,7,8-Hexachlorodibenzofuran
Dibenzofuran, 2,3,4,6,7,8-hexachloro-

2,3,4,6-Tetrachlorophenol
Phenol, 2,3,4,6-tetrachloro-

2,3,4,7,8-Pentachlorodibenzofuran
Dibenzofuran, 2,3,4,7,8-pentachloro-

2,3,4-Trichlorophenol
Phenol, 2,3,4-trichloro-

2,3,5,2',4',5'-Hexachlorobiphenyl
1,1'-Biphenyl, 2,2',3,4',5,5'-hexachloro-

2,3,5,6,2',3',5'-Heptachlorobiphenyl
1,1'-Biphenyl, 2,2',3,3',5,5',6-heptachloro-

2,3,5,6,2',3',6'-Heptachlorobiphenyl
1,1'-Biphenyl, 2,2',3,3',5,6,6'-heptachloro-

2,3,5,6,3',4'-Hexachlorobiphenyl
1,1'-Biphenyl, 2,3,3',4',5,6-hexachloro- (No postings in CHEMLINE).

2,3,5,6-Tetrachlorophenol
Phenol, 2,3,5,6-tetrachloro-

2,3,5-Trichlorophenol
Phenol, 2,3,5-trichloro-

2,3,6,7-Tetrachlorodibenzo-p-dioxin
Dibenzo-p-dioxin, 2,3,7,8-tetrachloro- (8 CI); Dibenzo(b,e)(1,4)dioxin, 2,3,7,8-tetrachloro- (9 CI)

2,3,6-Trichlorophenol
Phenol, 2,3,6-trichloro-

2,3,7,8-TCDD
Dibenzo-p-dioxin, 2,3,7,8-tetrachloro- (8 CI); Dibenzo(b,e)(1,4)dioxin, 2,3,7,8-tetrachloro- (9 CI)

2,3,7,8-Tetrachlorodibenzo-1,4-dioxin
Dibenzo-p-dioxin, 2,3,7,8-tetrachloro- (8 CI); Dibenzo(b,e)(1,4)dioxin, 2,3,7,8-tetrachloro- (9 CI)

2,3,7,8-Tetrachlorodibenzofuran
Dibenzofuran, 2,3,7,8-tetrachloro-

2,3-Dichlorophenol
Phenol, 2,3-dichloro-

2,3-Propanediol
1,2-Propanediol

2,4',5-Trichlorobiphenyl
Biphenyl, 2,4',5-trichloro- (8 CI); 1,1'-Biphenyl, 2,4',5-trichloro- (9 CI)

2,4'-DDE
Ethylene, 1,1-dichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)- (8 CI); Benzene, 1-chloro-2-(2,2-dichloro-1-(4-chlorophenyl)ethenyl)- (9 CI)

2,4'-DDT
Ethane, 1,1,1-trichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)- (8 CI); Benzene, 1-chloro-2-(2,2,2-trichloro-1-(4-chlorophenyl)ethyl)- (9 CI)

2,4'-Dichlorbiphenyl
Biphenyl, 2,4'-dichloro- (No postings in CHEMLINE).

2,4'-Dichlorobiphenyl
Biphenyl, 2,4'-dichloro- (No postings in CHEMLINE).

2,4,2',4',5'-Pentachlorobiphenyl
1,1'-Biphenyl, 2,2',4,4',5-pentachloro-

2,4,4'-Trichlorobiphenyl
1,1'-Biphenyl, 2,4,4'-trichloro-

2,4,5,2',3',4',6'-Heptachlorobiphenyl
1,1'-Biphenyl, 2,2',3,4,4',5',6-heptachloro-

2,4,5,2',3',4'-Hexachlorobiphenyl
1,1'-Biphenyl, 2,2',3',4,4',5-hexachloro- (No postings in CHEMLINE).

2,4,5,2',4',5'-Hexachlorobiphenyl
1,1'-Biphenyl, 2,2',4,4',5,5'-hexachloro-

2,4,5,2',4'-Pentachlorobiphenyl
1,1'-Biphenyl, 2,2',4,4',5-pentachloro-

2,4,5,2',5'-Pentachlorobiphenyl
1,1'-Biphenyl, 2,2',4,5,5'-pentachloro-

2,4,5,3',4'-Pentachlorobiphenyl
Biphenyl, 2,3',4,4',5-pentachloro- (8 CI); 1,1'-Biphenyl, 2,3',4,4',5-pentachloro (9 CI)

2,4,5,6-Tetrachlorophenol
Phenol, 2,3,4,6-tetrachloro-

2,4,5-T
Acetic acid, (2,4,5-trichlorophenoxy)-

2,4,5-TCPPA
Propanoic acid, 2-(2,4,5-trichlorophenoxy)-

2,4,5-TP
Propanoic acid, 2-(2,4,5-trichlorophenoxy)-

2,4,5-Trichlorophenoxyacetic acid
Acetic acid, (2,4,5-trichlorophenoxy)-

2,4,5-Trichlorophenol
Phenol, 2,4,5-trichloro-

2,4,5-Trichlorophenoxy-alpha-propionic acid
Propanoic acid, 2-(2,4,5-trichlorophenoxy)-

2,4,6-Trichlorophenol
Phenol, 2,4,6-trichloro-

2,4-D
Acetic acid, (2,4-dichlorophenoxy)-

2,4-D Acid
Acetic acid, (2,4-dichlorophenoxy)-

2,4-Dichlorophenol
Phenol, 2,4-dichloro-

2,4-Dichlorophenoxyacetic acid
Acetic acid, (2,4-dichlorophenoxy)-

2,4-Dinitrobenzoic acid
Benzoic acid, 2,4-dinitro-

2,5,3',4'-Tetrachlorobiphenyl
Biphenyl, 2,3',4',5-tetrachloro- (8 CI); 1,1'Biphenyl, 2,3',4',5-tetrachloro- (9 CI)

2,5,4'-Trichlorobiphenyl
Biphenyl, 2,4',5-trichloro- (8 CI); 1,1'-Biphenyl, 2,4',5-trichloro- (9 CI)

2,5-Dichlorophenol
Phenol, 2,5-dichloro-

2,5-Hexadione
2,5-Hexanedione

2,6-Bis(1,1-dimethylethyl)-4-methylphenol
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

2,6-Di-tert-butyl-4-methylphenol
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

2,6-Di-tert-butyl-p-methylphenol
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

2,6-Di-tert-butylcresol 2,6-Di-tert-butyl-p-cresol
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

2,6-Dichlorfenol
Phenol, 2,6-dichloro-

2,6-Dichlorophenol
Phenol, 2,6-dichloro-

2-(2,4,5-Trichloor-fenoxy)-propionzuur
Propanoic acid, 2-(2,4,5-trichlorophenoxy)-

2-(2,4,5-Trichlor-phenoxy)-propionsaeure 2-(2,4,5-Trichlorophenoxy)propionic acid
Propanoic acid, 2-(2,4,5-trichlorophenoxy)-

2-(2-chlorophenyl)-2-(4-chlorophenyl)-1,1-dichloroethy lene
Ethylene, 1,1-dichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)- (8 CI); Benzene, 1-chloro-2-(2,2-dichloro-1-(4-chlorophenyl)ethenyl)- (9 CI)

2-(2-chlorphenyl)-2-(4-chlorophenyl)-1,1,1-trichloroet hane
Ethane, 1,1,1-trichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)- (8 CI); Benzene, 1-chloro-2-(2,2,2-trichloro-1-(4-chlorophenyl)ethyl)- (9 CI)

2-Aminopentanedioic acid
Glutamic acid, L- (8 CI); L-Glutamic acid (9 CI)

2-Butoxyethanol, phosphate
Ethanol, 2-butoxy-, phosphate (3:1)

2-Chloro-1,1'-biphenyl
Biphenyl, 2-chloro- (8 CI); 1,1'-Biphenyl, 2-chloro- (9 CI)

2-Chlorobiphenyl
Biphenyl, 2-chloro- (8 CI); 1,1'-Biphenyl, 2-chloro- (9 CI)

2-Chlorodiphenyl
Biphenyl, 2-chloro- (8 CI); 1,1'-Biphenyl, 2-chloro- (9 CI)

2-Chlorophenol
Phenol, o-chloro- (8 CI); Phenol, 2-chloro- (9 CI)

2-Cresol
o-Cresol (8 CI); Phenol, 2-methyl- (9 CI)

2-Ethoxyacetic acid
Acetic acid, ethoxy-

2-Ethylhexyl phthalate
Phthalic acid, bis(2-ethylhexyl) ester (8 CI); 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI)

2-Hydroxychlorobenzene
Phenol, o-chloro- (8 CI); Phenol, 2-chloro- (9 CI)

2-Hydroxypropanol
1,2-Propanediol

2-Hydroxytoluene
o-Cresol (8 CI); Phenol, 2-methyl- (9 CI)

2-Methylphenol
o-Cresol (8 CI); Phenol, 2-methyl- (9 CI)

2-Oxo-2-phenylacetic acid
Glyoxylic acid, phenyl- (8 CI); Benzeneacetic acid, alpha-oxo- (9 CI)

2-Phenethyl alcohol
Phenethyl alcohol (8 CI); Benzeneethanol (9 CI)

2-Phenylethanoic acid
Glyoxylic acid, phenyl- (8 CI); Benzeneacetic acid, alpha-oxo- (9 CI)

2-Phenylethanol
Phenethyl alcohol (8 CI); Benzeneethanol (9 CI)

2-Phenylethyl alcohol
Phenethyl alcohol (8 CI); Benzeneethanol (9 CI)

2-Propanol, 1,3-dichloro-, phosphate(3:1)
2-Propanol, 1,3-dichloro-, phosphate (3:1)

3,4,2',3',4'-Pentachlorobiphenyl
Biphenyl, 2,3,3',4,4'-pentachloro- (8 CI); 1,1'-Biphenyl, 2,3,3',4,4'-pentachloro- (9 CI)

3,4,2',4',5'-Pentachlorobiphenyl
Biphenyl, 2,3',4,4',5-pentachloro- (8 CI); 1,1'-Biphenyl, 2,3',4,4',5-pentachloro (9 CI)

3,4,5-Trichlorophenol
Phenol, 3,4,5-trichloro-

3,4-Benz(a)pyrene
Benzo(a)pyrene

3,4-Benzopyrene
Benzo(a)pyrene

3,4-Benzopyrene [carcinogen]
Benzo(a)pyrene

3,4-Dichlorophenol
Phenol, 3,4-dichloro-

3,5,6-Trichloro-2(1H)-pyridone
2(1H)-Pyridone, 3,5,6-trichloro- (8 CI); 2(1H)-Pyridinone, 3,5,6-trichloro- (9 CI)

3,5,6-Trichloro-2-pyridinol
2(1H)-Pyridone, 3,5,6-trichloro- (8 CI); 2(1H)-Pyridinone, 3,5,6-trichloro- (9 CI)

3,5-Di-tert-butyl-4-hydroxytoluene
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

3,5-Dichlorophenol
Phenol, 3,5-dichloro-

3,6-Dihydroxypyridazine
3,6-Pyridazinedione, 1,2-dihydro-

3,6-Dioxopyridazine
3,6-Pyridazinedione, 1,2-dihydro-

3,6-Pyridazinediol
3,6-Pyridazinedione, 1,2-dihydro-

3,6-Pyridazinedione, 1,2-dihydro-
3,6-Pyridazinedione, 1,2-dihydro-

3,7-dimethyl-9-(2,6,6-trimethyl-1-cyclohexen-1-yl)-2,4 ,6,8-nonatetraen-1-ol
Vitamin A

3-(1-Nitroso-2-pyrrolidinyl)pyridine
Nicotine, 1'-demethyl-1'-nitroso- (8 CI); Pyridine, 3-(1-nitroso-2-pyrrolidinyl)-, (S)- (9 CI)

3-(N-Methylpyrollidino)pyridine
Nicotine (8 CI); Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)- (9 CI)

3-(p-Bromophenyl)-3-(2-pyridyl-3-dimethylaminopropane
Pyridine, 2-(p-bromo-alpha-(2-(dimethylamino)ethyl)benzyl)- (8 CI); 2-Pyridinepropanaminne, gamma-(4-bromophenyl)-N,N-dimethyl- (9 CI)

3-Chlorochlordene
4,7-Methanoindene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,4, 5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- (9 CI)

3-Chlorophenol
Phenol, m-chloro- (8 CI); Phenol, 3-chloro- (9 CI)

3-Hydroxychlorobenzene
Phenol, m-chloro- (8 CI); Phenol, 3-chloro- (9 CI)

3-Methyl-4-dimethylaminophenyl methylcarbamate
Carbamic acid, methyl-, 4-(dimethylamino)-m-tolyl ester (8 CI); Phenol, 4-(dimethylamino)-3-methyl-, methylcarbamate (ester) (9 CI)

3-Methyl-N,N-diethylbenzamide
m-Toluamide, N,N-diethyl- (8 CI); Benzamide, N,N-diethyl-3-methyl- (9 CI)

3beta-Hydroxycholest-5-ene
Cholesterol (8 CI); Cholest-5-en-3-ol (3beta)- (9 CI)

4,15-diacetoxy-8-(3-methylbutyryloxy)-12,13-epoxy-delt a-9-trichothecen-3-ol
Trichothec-9-ene-3alpha,4beta,8alpha,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-isovalerate (8 CI); Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3alpha,4beta, 8alpha)- (9 CI)

4,2',4'-Trichloro-1,1'-biphenyl
1,1'-Biphenyl, 2,4,4'-trichloro-

4,2',5'-Trichlorobiphenyl
Biphenyl, 2,4',5-trichloro- (8 CI); 1,1'-Biphenyl, 2,4',5-trichloro- (9 CI)

4,4'-DDD
Ethane, 1,1-dichloro-2,2-bis(p-chlorphenyl)- (8 CI); Benzene, 1,1'-(2,2-dichloroethylidene)bis(4-chloro- (9 CI)

4,4'-DDE
Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(dichloroethenylidene)bis(4-chloro- (9 CI)

4,4'-Dichlorobenzilic acid ethyl ester
Benzilic acid, 4,4'-dichloro-, ethyl ester (8 CI); Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester (9 CI)

4,4'-Dichlorodiphenyltrichloroethane
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

4,4'-Methylenebis(2-chloroanilene)
Aniline, 4,4'-methylenebis(2-chloro- (8 CI); Benzenamine, 4,4'-methylenebis(2-chloro- (9 CI)

4,4'-Methylenebis(o-chloroanilene)
Aniline, 4,4'-methylenebis(2-chloro- (8 CI); Benzenamine, 4,4'-methylenebis(2-chloro- (9 CI)

4,5-Dichlorophenol
Phenol, 3,4-dichloro-

4,6-Dichlorophenol
Phenol, 2,4-dichloro-

4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI)

4-(Dimethylamino)-m-tolyl methylcarbamate
Carbamic acid, methyl-, 4-(dimethylamino)-m-tolyl ester (8 CI); Phenol, 4-(dimethylamino)-3-methyl-, methylcarbamate (ester) (9 CI)

4-(N-methyl-N-nitrosamino)-1-(3-pyridyl)-1-butanone
1-Butanone, 4-(methylnitrosoamino)-1-(3-pyridinyl)-

4-Chlorobenzophenone
Benzophenone, 4-chloro- (8 CI); Methanone, (4-chlorophenyl)phenyl- (9 CI)

4-Chlorophenol
Phenol, p-chloro- (8 CI); Phenol, 4-chloro- (9 CI)

4-Cresol
p-Cresol (8 CI); Phenol, 4-methyl- (9 CI)

4-Dimethylamine m-cresyl methylcarbamate
Carbamic acid, methyl-, 4-(dimethylamino)-m-tolyl ester (8 CI); Phenol, 4-(dimethylamino)-3-methyl-, methylcarbamate (ester) (9 CI)

4-Dimethylamino-3-cresyl methylcarbamate
Carbamic acid, methyl-, 4-(dimethylamino)-m-tolyl ester (8 CI); Phenol, 4-(dimethylamino)-3-methyl-, methylcarbamate (ester) (9 CI)

4-Diphenylol
4-Biphenylol (8 CI); (1,1'-Biphenyl)-4-ol (9 CI)

4-Hydroxy-3,5-di-tert-butyltoluene
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

4-Hydroxybiphenyl
4-Biphenylol (8 CI); (1,1'-Biphenyl)-4-ol (9 CI)

4-Hydroxychlorobenzene
Phenol, p-chloro- (8 CI); Phenol, 4-chloro- (9 CI)

4-Hydroxydiphenyl
4-Biphenylol (8 CI); (1,1'-Biphenyl)-4-ol (9 CI)

4-Hydroxynitrobenzene
Phenol, p-nitro- (8 CI); Phenol, 4-nitro- (9 CI)

4-Hydroxytoluene
p-Cresol (8 CI); Phenol, 4-methyl- (9 CI)

4-Methyl-2,6-di-tert-butylphenol
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

4-Methylphenol
p-Cresol (8 CI); Phenol, 4-methyl- (9 CI)

4-Nitrophenol
Phenol, p-nitro- (8 CI); Phenol, 4-nitro- (9 CI)

4-Phenylphenol
4-Biphenylol (8 CI); (1,1'-Biphenyl)-4-ol (9 CI)

5'beta-Rotenone
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2, 12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

5,7,8-Trimethyltocol
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

5:6-Cholesten-3beta-ol
Cholesterol (8 CI); Cholest-5-en-3-ol (3beta)- (9 CI)

5RO4
Chrysotile (8 CI) (VAN); Chrysotile [H4Mg3(Si2O9)] (9 CI)

6-Hydroxy-3(2H)-pyridazinone
3,6-Pyridazinedione, 1,2-dihydro-

666
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

8059HC
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

A 00
Aluminum

A 95
Aluminum

A 99
Aluminum

A363
Carbamic acid, methyl-, 4-(dimethylamino)-m-tolyl ester (8 CI); Phenol, 4-(dimethylamino)-3-methyl-, methylcarbamate (ester) (9 CI)

A995
Aluminum

A999
Aluminum

AA 1099
Aluminum

AA 1199
Aluminum

Aahepta
4,7-Methanoindene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- (9 CI)

Aalindan
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Aavero-extra
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

Abbott 40566
6H-Dibenzo(b,d)pyran-1-ol, 6a,7,8,10a-tetrahydro-6,6-9-trimethyl-3-pentyl-, (6aR-trans)-

Acar
Benzilic acid, 4,4'-dichloro-, ethyl ester (8 CI); Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester (9 CI)

Acaraben
Benzilic acid, 4,4'-dichloro-, ethyl ester (8 CI); Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester (9 CI)

Acetic acid, (benzoylamino)-
Hippuric acid (8 CI); Glycine, N-benzoyl- (9 CI)

Aceto-Caustin
Acetic acid, trichloro-

Acetonylacetone
2,5-Hexanedione

Acide 2-(2,4,5-trichloro-phenoxy) propionique
Propanoic acid, 2-(2,4,5-trichlorophenoxy)-

Acido 2-(2,4,5-tricloro-fenossi)-propionico
Propanoic acid, 2-(2,4,5-trichlorophenoxy)-

Acon
Vitamin A

AD 1
Aluminum

AD1-M
Aluminum

ADO
Aluminum

Advastab 401
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

AE
Aluminum

Aerothene MM
Methane, dichloro-

Aerothene TT
Ethane, 1,1,1-trichloro-

Aethylenoxid
Ethylene oxide (8 CI); Oxirane (9 CI)

Afaxin
Vitamin A

Aflcide
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Aflatoxin
Aflatoxins

Aflatoxin B1
Cyclopenta(c)furo(3',2':4,5)furo(2,3-h)(1)benzopyran-1,11-d ione, 2,3,6aalpha,9aalpha-tetrahydro-4-methoxy- (8 CI) Cyclopenta(c)furo(3',2':4,5)furo(2,3-h)(1)benzopyran-1,11-di one, 2,3,6a,9a-tetrahydro-4-methoxy-, (6aR-cis)- (9 CI)

Aflatoxins
Aflatoxins

Agidol
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Agidol 1
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Agiolan
Vitamin A

Agritan
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

Agroceres
4,7-Methanoindene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,4, 5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- (9 CI)

Agrocide
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Agrocide III
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Agrocide WP
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

AI 3-22542
m-Toluamide, N,N-diethyl- (8 CI); Benzamide, N,N-diethyl-3-methyl- (9 CI)

Akar
Benzilic acid, 4,4'-dichloro-, ethyl ester (8 CI); Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester (9 CI)

Akar 338
Benzilic acid, 4,4'-dichloro-, ethyl ester (8 CI); Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester (9 CI)

Albocarbon
Naphthalene

Aldehyde formique
Formaldehyde

Aldeide formica
Formaldehyde

Aldocit
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, endo,exo- (8 CI) 1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha, 4abeta,5alpha,8alpha,8abeta)- (9 CI)

Aldrin
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, endo,exo- (8 CI) 1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha, 4abeta,5alpha,8alpha,8abeta)- (9 CI)

Aldrin Epoxide
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahyd ro-, endo, exo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- (9 CI)

Algofrene Type 1
Methane, trichlorofluoro-

Algylen
Ethylene, trichloro- (8 CI); Ethene, trichloro- (9 CI)

Alkenylbenzene
Benzene, alkenyl- (No postings in CHEMLINE).

Alkofen BP
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Alkylhexadecanoic acid
Alkylhexadecanoic acid (No postings in CHEMLINE).

Allbri Natural Copper
Copper

Almefrol
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

Almond acid
Mandelic acid (8 CI); Benzeneacetic acid, alpha-hydroxy- (9 CI)

alpha,alpha-Bis(p-chlorophenyl)-beta,beta,beta-trichlo rethane
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

alpha,beta-Diacetylethane
2,5-Hexanedione

alpha,beta-Oxidoethane
Ethylene oxide (8 CI); Oxirane (9 CI)

alpha-(2,4,5-Trichlorophenoxy)propionic acid
Propanoic acid, 2-(2,4,5-trichlorophenoxy)-

alpha-1,2,3,4,5,6-Hexachlorcyclohexane alpha-1,2,3,4,5,6-Hexachlorocyclohexane
Cyclohexane, 1,2,3,4,5,6-hexachloro-, alpha- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5beta,6beta)- (9 CI)

alpha-Aminoglutaric acid
Glutamic acid, L- (8 CI); L-Glutamic acid (9 CI)

alpha-Benzene hexachloride
Cyclohexane, 1,2,3,4,5,6-hexachloro-, alpha- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5beta,6beta)- (9 CI)

alpha-BHC
Cyclohexane, 1,2,3,4,5,6-hexachloro-, alpha- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5beta,6beta)- (9 CI)

alpha-Chlordan
4,7-Methanoindan, 1alpha,2alpha,4beta,5,6,7beta,8,8-octachloro-3aalpha,4,7,7aa lpha-tetrahydro (8 CI) 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-, (1alpha,2alpha,3aalpha, 4beta,7beta,7aalpha)- (9 CI)

alpha-Chlordane
4,7-Methanoindan, 1alpha,2alpha,4beta,5,6,7beta,8,8-octachloro-3aalpha,4,7,7aa lpha-tetrahydro (8 CI) 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-, (1alpha,2alpha,3aalpha, 4beta,7beta,7aalpha)- (9 CI)

alpha-Glutamic acid
Glutamic acid, L- (8 CI); L-Glutamic acid (9 CI)

alpha-HCH
Cyclohexane, 1,2,3,4,5,6-hexachloro-, alpha- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5beta,6beta)- (9 CI)

alpha-Hexachloran
Cyclohexane, 1,2,3,4,5,6-hexachloro-, alpha- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5beta,6beta)- (9 CI)

alpha-Hexachlorane
Cyclohexane, 1,2,3,4,5,6-hexachloro-, alpha- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5beta,6beta)- (9 CI)

alpha-Hexachlorcyclohexane
Cyclohexane, 1,2,3,4,5,6-hexachloro-, alpha- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5beta,6beta)- (9 CI)

alpha-Hexachlorocyclohexane
Cyclohexane, 1,2,3,4,5,6-hexachloro-, alpha- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5beta,6beta)- (9 CI)

alpha-Hydroxy-alpha-toluic acid
Mandelic acid (8 CI); Benzeneacetic acid, alpha-hydroxy- (9 CI)

alpha-Hydroxynaphthalene
1-Naphthol (8 CI); 1-Naphthalenol

alpha-Hydroxyphenylacetic acid
Mandelic acid (8 CI); Benzeneacetic acid, alpha-hydroxy- (9 CI)

alpha-Ketophenylacetic acid
Glyoxylic acid, phenyl- (8 CI); Benzeneacetic acid, alpha-oxo- (9 CI)

alpha-Lindane
Cyclohexane, 1,2,3,4,5,6-hexachloro-, alpha- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5beta,6beta)- (9 CI)

alpha-Naphthalenyl methylcarbamate
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

alpha-Naphthol
1-Naphthol (8 CI); 1-Naphthalenol

alpha-Naphthylmethyl carbamate
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

alpha-Oxobenzeneacetic acid
Glyoxylic acid, phenyl- (8 CI); Benzeneacetic acid, alpha-oxo- (9 CI)

alpha-Propylene glycol
1,2-Propanediol

alpha-T
Ethane, 1,1,1-trichloro-

alpha-Tocopherol
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

alpha-Trichloroethane
Ethane, 1,1,1-trichloro-

Alphalin
Vitamin A

Aluminium
Aluminum

Aluminium Flake
Aluminum

Aluminum
Aluminum

Aluminum A00
Aluminum

Aluminum Dehydrated
Aluminum

Aluminum Powder
Aluminum

Aluminum-27 CI 77000
Aluminum

Alvit 55
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahyd ro-, endo, exo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- (9 CI)

Am-241
Americium, isotope of mass 241

Amatin
Benzene, hexachloro-

Amchem Grass Killer
Acetic acid, trichloro-

Ameisenmittel merk
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Ameisentod
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

American Cyanamid 4,049
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Americium-241
Americium, isotope of mass 241

Amianthys
Asbestos

Aminocarb
Carbamic acid, methyl-, 4-(dimethylamino)-m-tolyl ester (8 CI); Phenol, 4-(dimethylamino)-3-methyl-, methylcarbamate (ester) (9 CI)

Aminocarbe
Carbamic acid, methyl-, 4-(dimethylamino)-m-tolyl ester (8 CI); Phenol, 4-(dimethylamino)-3-methyl-, methylcarbamate (ester) (9 CI)

Amisia-mottenschutz
Benzene, dichloro-

Amorphous crocidolite asbestos
Crocidolite

Amosite
Asbestos, grunerite

Amosite asbestos
Asbestos, grunerite

Amygdalic acid
Mandelic acid (8 CI); Benzeneacetic acid, alpha-hydroxy- (9 CI)

Amygdalinic acid
Mandelic acid (8 CI); Benzeneacetic acid, alpha-hydroxy- (9 CI)

Anac 110
Copper

Anatola
Vitamin A

Anguidin
Trichothec-9-ene-3alpha,4beta,15-triol, 12,13-epoxy-, 4,15-diacetate (8 CI); Trichothec-9-ene-3,4,15-triol, 12,13-epoxy-, 4,15-diacetate, (3alpha,4beta)- (9 CI)

Anguidine
Trichothec-9-ene-3alpha,4beta,15-triol, 12,13-epoxy-, 4,15-diacetate (8 CI); Trichothec-9-ene-3,4,15-triol, 12,13-epoxy-, 4,15-diacetate, (3alpha,4beta)- (9 CI)

Ankilostin
Ethylene, tetrachloro- (8 CI); Ethene, tetrachloro- (9 CI)

Anozol
Phthalic acid, diethyl ester (8 CI); 1,2-Benzenedicarboxylic acid, diethyl ester (9 CI)

Anprolene
Ethylene oxide (8 CI); Oxirane (9 CI)

Antergon
3,6-Pyridazinedione, 1,2-dihydro-

Anthracen
Anthracene

Anthracene
Anthracene

Anthracin
Anthracene

Anti-infective vitamin
Vitamin A

Anticarie
Benzene, hexachloro-

Antimony
Antimony

Antioxidant 29
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Antioxidant 30
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Antioxidant 4K
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Antioxidant DBPC
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Antioxidant KB
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Antisal 1
Ethylene, tetrachloro- (8 CI); Ethene, tetrachloro- (9 CI)

Antisal 1a
Toluene (8 CI); Benzene, methyl- (9 CI)

Antisterility vitamin
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

Antixerophthalmic vitamin
Vitamin A

Antyrost
3,6-Pyridazinedione, 1,2-dihydro-

AO 29
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

AO 4K
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

AO Al
Aluminum

Aoral
Vitamin A

Aparasin
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Apexol
Vitamin A

Aphtiria
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Aplidal
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Apostavit
Vitamin A

Aqua-vex
Propanoic acid, 2-(2,4,5-trichlorophenoxy)-

Aquasol A
Vitamin A

ar-Toluenol
Cresol (8 CI) (VAN); Phenol, methyl- (9 CI)

AR2
Aluminum

Arbitex
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Arcton 9
Methane, trichlorofluoro-

Argentum
Silver

Arilat
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

Arilate
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

Arkotine
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

Armco iron
Iron

Arochlor 1260
Arochlor 1260

Aroclor 1242
Arochlor 1242

Arsenic
Arsenic

Arsenic black
Arsenic

Arsenic-75
Arsenic

Artic
Methane, chloro-

Arwood copper
Copper

Arylan
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

Asbestos
Asbestos

Asbestos fiber
Asbestos

Asbestos, crocidolite
Crocidolite

Asta B 518
2H-1,3,2-Oxazaphosphorine, 2-(bis(2-chloroethyl)amino)tetrahydro-, 2-oxide (8 CI); 2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide (9 CI)

Asulfa-Supra
Sulfur

Atav
Vitamin A

Atomic sulfur
Sulfur

Atoxan
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

Autan
m-Toluamide, N,N-diethyl- (8 CI); Benzamide, N,N-diethyl-3-methyl- (9 CI)

AV00
Aluminum

AV000
Aluminum

Avibest C
Chrysotile (8 CI) (VAN); Chrysotile [H4Mg3(Si2O9)] (9 CI)

Avibon
Vitamin A

Avita
Vitamin A

Avitol
Vitamin A

Avolin
Phthalic acid, dimethyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dimethyl ester (9 CI)

Axerol
Vitamin A

Axerophthol
Vitamin A

Azotox M-33
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

B 518
2H-1,3,2-Oxazaphosphorine, 2-(bis(2-chloroethyl)amino)tetrahydro-, 2-oxide (8 CI); 2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide (9 CI)

B-Selektonon
Acetic acid, (2,4-dichlorophenoxy)-

Bacillol
Cresol (8 CI) (VAN); Phenol, methyl- (9 CI)

Barbasco
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2,12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

Barium
Barium

Barolub
Stearic acid (8 CI); Octadecanoic acid (9 CI)

BASF Ursol ERN
1-Naphthol (8 CI); 1-Naphthalenol

BAY 44646
Carbamic acid, methyl-, 4-(dimethylamino)-m-tolyl ester (8 CI); Phenol, 4-(dimethylamino)-3-methyl-, methylcarbamate (ester) (9 CI)

Bayer 44646
Carbamic acid, methyl-, 4-(dimethylamino)-m-tolyl ester (8 CI); Phenol, 4-(dimethylamino)-3-methyl-, methylcarbamate (ester) (9 CI)

BBH
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

BCF-Bushkiller
Acetic acid, (2,4,5-trichlorophenoxy)-

Belt
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI)

Ben-Hex
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Bensulfoid
Sulfur

Bentox 10
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Benz(a)pyrene
Benzo(a)pyrene

Benzamidoacetic acid
Hippuric acid (8 CI); Glycine, N-benzoyl- (9 CI)

Benzene, dimethyl-
Xylene (8 CI); Benzene, dimethyl- (9 CI)

Benzene, methyldinitro-
Toluene, ar,ar-dinitro- (8 CI); Benzene, methyldinitro- (9 CI)

Benzene-o-dicarboxylic acid di-n-butyl ester
Phthalic acid, dibutyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dibutyl ester (9 CI)

Benzenol
Phenol

Benzilan
Benzilic acid, 4,4'-dichloro-, ethyl ester (8 CI); Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester (9 CI)

Benzinoform
Carbon tetrachloride (8 CI); Methane, tetrachloro- (9 CI)

Benzo(d,e,f)chrysene
Benzo(a)pyrene

Benzo(def)phenanthrene
Pyrene

Benzol
Benzene

Benzole
Benzene

Benzosulfonazole
Benzothiazole

Benzothiazole
Benzothiazole

Benzothiophene
Benzothiophene

Benzoylformic acid
Glyoxylic acid, phenyl- (8 CI); Benzeneacetic acid, alpha-oxo- (9 CI)

Benzoylglycine
Hippuric acid (8 CI); Glycine, N-benzoyl- (9 CI)

Benzyl carbinol
Phenethyl alcohol (8 CI); Benzeneethanol (9 CI)

Bercema NMC50
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

Beryllium
Beryllium

Beryllium-9
Beryllium

beta,beta'-Dihydroxyethyl sulfide
Ethanol, 2,2'-thiodi- (8 CI); Ethanol, 2,2'-thiobis- (9 CI)

beta-1,2,3,4,5,6-Hexachlorocyclohexane
Cyclohexane, 1,2,3,4,5,6-hexachloro-, beta- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2beta, 3alpha,4beta,5alpha,6beta)- (9 CI)

beta-Benzene hexachloride
Cyclohexane, 1,2,3,4,5,6-hexachloro-, beta- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2beta, 3alpha,4beta,5alpha,6beta)- (9 CI)

beta-BHC
Cyclohexane, 1,2,3,4,5,6-hexachloro-, beta- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2beta, 3alpha,4beta,5alpha,6beta)- (9 CI)

beta-Chlordan
4,7-Methanoindan, 1beta,2alpha,4alpha,5,6,7alpha,8,8-octachloro-3abeta,4,7,7ab eta-tetrahydro- (8 CI)
4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-, (1alpha,2beta,3aalpha, 4beta,7beta,7aalpha)- (9 CI)

beta-Chlordane
4,7-Methanoindan, 1beta,2alpha,4alpha,5,6,7alpha,8,8-octachloro-3abeta,4,7,7ab eta-tetrahydro- (8 CI)
4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-, (1alpha,2beta,3aalpha, 4beta,7beta,7aalpha)- (9 CI)

beta-HCH
Cyclohexane, 1,2,3,4,5,6-hexachloro-, beta- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2beta, 3alpha,4beta,5alpha,6beta)- (9 CI)

beta-Hexachlorobenzene
Cyclohexane, 1,2,3,4,5,6-hexachloro-, beta- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2beta, 3alpha,4beta,5alpha,6beta)- (9 CI)

beta-Hexachlorocyclohexane
Cyclohexane, 1,2,3,4,5,6-hexachloro-, beta- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2beta, 3alpha,4beta,5alpha,6beta)- (9 CI)

beta-Hydroxyethyl sulfide
Ethanol, 2,2'-thiodi- (8 CI); Ethanol, 2,2'-thiobis- (9 CI)

beta-Hydroxyethylobenzene
Phenethyl alcohol (8 CI); Benzeneethanol (9 CI)

beta-Lindane
Cyclohexane, 1,2,3,4,5,6-hexachloro-, beta- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2beta, 3alpha,4beta,5alpha,6beta)- (9 CI)

beta-PHenethyl alcohol
Phenethyl alcohol (8 CI); Benzeneethanol (9 CI)

beta-Phenylethanol
Phenethyl alcohol (8 CI); Benzeneethanol (9 CI)

beta-Phenylethyl alcohol
Phenethyl alcohol (8 CI); Benzeneethanol (9 CI)

beta-Pyrene
Pyrene

beta-Pyridyl-alpha-N-methylpyrrolidine
Nicotine (8 CI); Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)- (9 CI)

beta-Thiodiglycol
Ethanol, 2,2'-thiodi- (8 CI); Ethanol, 2,2'-thiobis- (9 CI)

Bexol
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

BFV
Formaldehyde

BHC
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

BHT
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Bi-207
Bismuth, isotope of mass 207

Bibenzene
Biphenyl (8 CI); 1,1'-Biphenyl (9 CI)

Binitrotoluene
Toluene, ar,ar-dinitro- (8 CI); Benzene, methyldinitro- (9 CI)

Biosterol "Dohyfral" A
Vitamin A

Biphenyl, chlorinated
Biphenyl, chloro (8 CI); 1,1'-Biphenyl, chloro derivs (9 CI)

Bis(2-chloroethyl)phosphamide cyclic propanolamide ester
2H-1,3,2-Oxazaphosphorine, 2-(bis(2-chloroethyl)amino)tetrahydro-, 2-oxide (8 CI); 2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide (9 CI)

Bis(2-ethylhexyl)1,2-benzenedicarboxylate
Phthalic acid, bis(2-ethylhexyl) ester (8 CI); 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI)

Bis(2-ethylhexyl)phthalate
Phthalic acid, bis(2-ethylhexyl) ester (8 CI); 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI)

Bis(3-chloro-4-aminophenyl)methane
Aniline, 4,4'-methylenebis(2-chloro- (8 CI); Benzenamine, 4,4'-methylenebis(2-chloro- (9 CI)

Bis(4-amino-3-chlorophenyl)methane
Aniline, 4,4'-methylenebis(2-chloro- (8 CI); Benzenamine, 4,4'-methylenebis(2-chloro- (9 CI)

Bis(hydroxyethyl)sulfide
Ethanol, 2,2'-thiodi- (8 CI); Ethanol, 2,2'-thiobis- (9 CI)

Bismuth-207
Bismuth, isotope of mass 207

Bisoflex 81
Phthalic acid, bis(2-ethylhexyl) ester (8 CI); 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI)

Bisoflex DOP
Phthalic acid, bis(2-ethylhexyl) ester (8 CI); 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI)

Blue asbestos
Crocidolite

Blue powder
Zinc

Bosan supra
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

Bovidermol
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

BP
Benzo(a)pyrene

Brimstone
Sulfur

Bromide anion
Bromide

Bromide ion
Bromide

Bromide(1-)
Bromide

Bromine
Bromine

Bromine ion
Bromide

Bromine ion(1-)
Bromide

Bromine, ion (Br(1-))
Bromide

Bromoform
Methane, tribromo-

Bromopheniramine
Pyridine, 2-(p-bromo-alpha-(2-(dimethylamino)ethyl)benzyl)- (8 CI); 2-Pyridinepropanaminne, gamma-(4-bromophenyl)-N,N-dimethyl- (9 CI)

Brompheniramine
Pyridine, 2-(p-bromo-alpha-(2-(dimethylamino)ethyl)benzyl)- (8 CI); 2-Pyridinepropanaminne, gamma-(4-bromophenyl)-N,N-dimethyl- (9 CI)

Brown asbestos
Asbestos, grunerite

Buks
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Bunt-cure
Benzene, hexachloro-

Bunt-no-more
Benzene, hexachloro-

Burnish Gold
Gold

Bute hydrocarbon
Pentadecane, 2,6,10,14-tetramethyl-

Butyl phosphate
Phosphoric acid tributyl ester

Butyl phosphate, tri-
Phosphoric acid tributyl ester

Butyl phthalate
Phthalic acid, dibutyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dibutyl ester (9 CI)

Butylated hydroxytoluene
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

C 46
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-

C.I. 76605
1-Naphthol (8 CI); 1-Naphthalenol

C.I. 77050
Antimony

C.I. 77180
Cadmium

C.I. 77320
Cobalt

C.I. 77400
Copper

C.I. 77480
Gold

C.I. 77575
Lead

C.I. 77775
Nickel

C.I. 77805
Selenium

C.I. 77820
Silver

C.I. 77860
Tin

C.I. Oxidation Base 33
1-Naphthol (8 CI); 1-Naphthalenol

C.I. Pigment Metal 2
Copper

C.I. Pigment Metal 3
Gold

C.I. Pigment Metal 4
Lead

C.I. Pigment Metal 5
Tin

C12-Alkylbenzene
Alkylbenzene (No postings in CHEMLINE).

CAO 1
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Cadmium
Cadmium

Calcium
Calcium

Calidria RG 100
Chrysotile (8 CI) (VAN); Chrysotile [H4Mg3(Si2O9)] (9 CI)

Calidria RG 144
Chrysotile (8 CI) (VAN); Chrysotile [H4Mg3(Si2O9)] (9 CI)

Calidria RG 600
Chrysotile (8 CI) (VAN); Chrysotile [H4Mg3(Si2O9)] (9 CI)

Calphene
2H-1,3,2-Oxazaphosphorine, 2-(bis(2-chloroethyl)amino)tetrahydro-, 2-oxide (8 CI); 2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide (9 CI)

Cannabinol delta(1)-tetrahydro-
6H-Dibenzo(b,d)pyran-1-ol, 6a,7,8,10a-tetrahydro-6,6-9-trimethyl-3-pentyl-, (6aR-trans)-

CAO 3
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Caprolin
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

Carbaryl
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

Carbatox
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

Carbatox 60
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

Carbatox 75
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

Carbavur
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

Carbetovur
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Carbetox
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Carbinol
Methanol

Carbofos
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Carbolic acid
Phenol

Carbon bisulfide
Carbon disulfide

Carbon bisulphide
Carbon disulfide

Carbon chloride [CCl4]
Carbon tetrachloride (8 CI); Methane, tetrachloro- (9 CI)

Carbon disulphide
Carbon disulfide

Carbon monoxide
Carbon monoxide

Carbon nitride ion (CN(1-))
Cyanide

Carbon oxide (CO)
Carbon monoxide

Carbon sulfide [CS2]
Carbon disulfide

Carbona
Carbon tetrachloride (8 CI); Methane, tetrachloro- (9 CI)

Carbone (sufure de)
Carbon disulfide

Carbone (sulfure de)
Carbon disulfide

Carbonio (solfuro di)
Carbon disulfide

Carbophos
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Carboxyhemoglobin
Carbonylhemoglobin

Carpolin
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

Cassiar AK
Chrysotile (8 CI) (VAN); Chrysotile [H4Mg3(Si2O9)] (9 CI)

Cassiopeium
Lutetium

Catalin CAO-3
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

CD-68
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI)

CDA 101
Copper

CDA 102
Copper

CDA 110
Copper

CDA 122
Copper

Celanex Chloresene
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Celluflex DPB
Phthalic acid, dibutyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dibutyl ester (9 CI)

Celluphos 4
Phosphoric acid tributyl ester

Celtium
Hafnium

Cenol garden dust
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2,12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

Cerechlor 54
Chlorinated paraffins

Cereclor
Chlorinated paraffins

Cereclor 30
Chlorinated paraffins

Cereclor 42
Chlorinated paraffins

Cereclor 48
Chlorinated paraffins

Cereclor 50LV
Chlorinated paraffins

Cereclor 51L
Chlorinated paraffins

Cereclor 52
Chlorinated paraffins

Cereclor 54
Chlorinated paraffins

Cereclor 63L
Chlorinated paraffins

Cereclor 65L
Chlorinated paraffins

Cereclor 70
Chlorinated paraffins

Cereclor 70L
Chlorinated paraffins

Cereclor S 42
Chlorinated paraffins

Cereclor S 52
Chlorinated paraffins

Cereclor S 70
Chlorinated paraffins

Cereclor S52
Chlorinated paraffins

Cerium
Cerium

Cesium
Cesium

Cesium-133
Cesium

Cesium-137
Cesium, isotope of mass 137

Cetane
Hexadecane

Cetylic acid
Palmitic acid (8 CI); Hexadecanoic acid (9 CI)

CG-1283
1,3,4-Metheno-1H-cyclobuta(cd)pentalene, 1,1a,2,2,3,3a,4,5,5,5a,5b,6-dodecachlorooctahydro-

Chem-mite
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2, 12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

Chemanox 11 Dalpac
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Chloor-methaan
Methane, chloro-

Chloordaan
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4, 5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI)

Chlor-methan
Methane, chloro-

Chlorbenzilat
Benzilic acid, 4,4'-dichloro-, ethyl ester (8 CI); Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester (9 CI)

Chlorbenzylate
Benzilic acid, 4,4'-dichloro-, ethyl ester (8 CI); Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester (9 CI)

Chlorcosane
Chlorinated paraffins

Chlordan
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4, 5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI)

Chlordan, cis-
4,7-Methanoindan, 1alpha,2alpha,4beta,5,6,7beta,8,8-octachloro-3aalpha,4,7,7aa lpha-tetrahydro (8 CI) 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-, (1alpha,2alpha,3aalpha, 4beta,7beta,7aalpha)- (9 CI)

Chlordan, trans-
4,7-Methanoindan, 1beta,2alpha,4alpha,5,6,7alpha,8,8-octachloro-3abeta,4,7,7ab eta-tetrahydro- (8 CI) 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-, (1alpha,2beta,3aalpha, 4beta,7beta,7aalpha)- (9 CI)

Chlordane
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4, 5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI)

Chlorex 700
Chlorinated paraffins

Chlorez 700HMP
Chlorinated paraffins

Chloriben
Ethylene, trichloro- (8 CI); Ethene, trichloro- (9 CI)

Chlorierte biphenyle, chlorgehalt 42%
Arochlor 1242

Chlorinated dibenzofurans
Polychlorinated dibenzofurans (No postings in CHEMLINE).

Chlorinated diphenyl
Biphenyl, chloro (8 CI); 1,1'-Biphenyl, chloro derivs (9 CI)

Chlorinated paraffins
Chlorinated paraffins

Chlorinated phenoxy acid herbicides
Chlorinated phenoxy acids (No postings in CHEMLINE).

Chlorinated phenoxy acids
Chlorinated phenoxy acids (No postings in CHEMLINE).

Chlorobenzilate
Benzilic acid, 4,4'-dichloro-, ethyl ester (8 CI); Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester (9 CI)

Chlorobenzophenone
Benzophenone, 4-chloro- (8 CI); Methanone, (4-chlorophenyl)phenyl- (9 CI)

Chloromethane
Methane, chloro-

Chlorophenol
Chlorophenols (No postings in CHEMLINE).

Chlorophenols
Chlorophenols (No postings in CHEMLINE).

Chlorophenothane
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

Chlorophenoxy acids
Chlorinated phenoxy acids (No postings in CHEMLINE).

Chlorotene
Ethane, 1,1,1-trichloro-

Chlorothane NU
Ethane, 1,1,1-trichloro-

Chlorothene
Ethane, 1,1,1-trichloro-

Chlorothene NU
Ethane, 1,1,1-trichloro-

Chlorothene VG
Ethane, 1,1,1-trichloro-

Chlorowax 50
Chlorinated paraffins

Chlorowax 70
Chlorinated paraffins

Chlorowax 70S
Chlorinated paraffins

Chlorowax S 70
Chlorinated paraffins

Chlorphenothan
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

Chlorphenotoxum
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

Chlorten
Ethane, 1,1,1-trichloro-

Chlorure de methyle
Methane, chloro-

Chlorure de methylene
Methane, dichloro-

Chlorylen
Ethylene, trichloro- (8 CI); Ethene, trichloro- (9 CI)

Cholest-5-en-3beta-ol
Cholesterol (8 CI); Cholest-5-en-3-ol (3beta)- (9 CI)

Cholesterin
Cholesterol (8 CI); Cholest-5-en-3-ol (3beta)- (9 CI)

Cholesterol
Cholesterol (8 CI); Cholest-5-en-3-ol (3beta)- (9 CI)

Cholesterol base H
Cholesterol (8 CI); Cholest-5-en-3-ol (3beta)- (9 CI)

Cholesteryl alcohol
Cholesterol (8 CI); Cholest-5-en-3-ol (3beta)- (9 CI)

Chorylen
Ethylene, trichloro- (8 CI); Ethene, trichloro- (9 CI)

Chromium
Chromium

Chromium hexavalent ion
Chromium, ion (Cr(6+))

Chromium(6+)
Chromium, ion (Cr(6+))

Chromium(6+) ion
Chromium, ion (Cr(6+))

Chromium(VI)
Chromium, ion (Cr(6+))

Chrysotile asbestos
Chrysotile (8 CI) (VAN); Chrysotile [H4Mg3(Si2O9)] (9 CI)

Cinnamene
Styrene (8 CI); Benzene, ethenyl- (9 CI)

Cinnamol
Styrene (8 CI); Benzene, ethenyl- (9 CI)

cis-Chlordan
4,7-Methanoindan, 1alpha,2alpha,4beta,5,6,7beta,8,8-octachloro-3aalpha,4,7,7aa lpha-tetrahydro (8 CI) 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-, (1alpha,2alpha,3aalpha, 4beta,7beta,7aalpha)- (9 CI)

cis-Chlordane
4,7-Methanoindan, 1alpha,2alpha,4beta,5,6,7beta,8,8-octachloro-3aalpha,4,7,7aa lpha-tetrahydro (8 CI) 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-, (1alpha,2alpha,3aalpha, 4beta,7beta,7aalpha)- (9 CI)

cis-Nonachlor
4,7-Methanoindan, 1alpha,2alpha,3alpha,4beta,5,6,7beta,8,8-nonachloro-3aalpha, 4,7,7-aalpha-tetrahydro- (8 CI) 4,7-Methano-1H-indene, 1,2,3,4,5,6,7,8,8-nonachloro-2,3,3a,4,7,7a-hexahydro-(1alpha ,2alpha,3alpha,3aalpha,4beta,7aalpha- (9 CI)

Citox
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

Clafen
2H-1,3,2-Oxazaphosphorine, 2-(bis(2-chloroethyl)amino)tetrahydro-, 2-oxide (8 CI); 2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide (9 CI)

Clofenotan
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

Clofenotane DDT
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

Clordan
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4, 5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI)

Clorindan
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4, 5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI)

Clorodifenili, cloro 42%
Arochlor 1242

Clorometano
Methane, chloro-

Cloruro di metile
Methane, chloro-

Co-op Hexa
Benzene, hexachloro-

Coal naphtha
Benzene

Cobalt
Cobalt

Cobalt-59
Cobalt

Codechine
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Colloidal Gold
Gold

Colloidal manganese
Manganese

Colloidal sulfur
Sulfur

Color-set
Propanoic acid, 2-(2,4,5-trichlorophenoxy)-

Compd. 269
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahyd ro-, endo, endo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2abeta,3alpha,6alpha,6abeta,7beta,7aalpha)- (9 CI)

Compound 118
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, endo,exo- (8 CI) 1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha, 4abeta,5alpha,8alpha,8abeta)- (9 CI)

Compound 4049
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Compound 497
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahyd ro-, endo, exo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- (9 CI)

Compound 7744
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

Compound 889
Phthalic acid, bis(2-ethylhexyl) ester (8 CI); 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI)

Copper
Copper

Copper M 1
Copper

Copper powder
Copper

Cordulan
Cholesterol (8 CI); Cholest-5-en-3-ol (3beta)- (9 CI)

Corodane
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4, 5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI)

Cortilan-Neu
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4, 5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI)

Cosan
Sulfur

Cosan 80
Sulfur

Cotinine
Cotinine (8 CI); 2-Pyrrolidinone, 1-methyl-5-(3-pyridinyl-,(S)- (9 CI)

Covitol
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

Creclor S 45
Chlorinated paraffins

Cresylic acid
Cresol (8 CI) (VAN); Phenol, methyl- (9 CI)

Cresylol
Cresol (8 CI) (VAN); Phenol, methyl- (9 CI)

Crocidolite
Crocidolite

Crocidolite asbestos
Crocidolite

Crodacid
Myristic acid (8 CI); Tetradecanoic acid (9 CI)

Cs-137
Cesium, isotope of mass 137

Cu M3
Copper

Cube extract
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2, 12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

Cube root
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2, 12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

Cube-pulver
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2, 12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

Cubor
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2, 12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

CuEP
Copper

CuEPP
Copper

Cullunosal
Phenol, 2,4,5-trichloro-

Curex flea duster
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2, 12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

Cutaval
Manganese

Cyanide (CN(1-))
Cyanide

Cyanide anion
Cyanide

Cyanide ion
Cyanide

Cyanide(1-)
Cyanide

Cyanide(1-) ion
Cyanide

Cyclohexatriene
Benzene

Cyclophosphamid
2H-1,3,2-Oxazaphosphorine, 2-(bis(2-chloroethyl)amino)tetrahydro-, 2-oxide (8 CI); 2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide (9 CI)

Cyclophosphamide
2H-1,3,2-Oxazaphosphorine, 2-(bis(2-chloroethyl)amino)tetrahydro-, 2-oxide (8 CI); 2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide (9 CI)

Cyclophosphan
2H-1,3,2-Oxazaphosphorine, 2-(bis(2-chloroethyl)amino)tetrahydro-, 2-oxide (8 CI); 2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide (9 CI)

Cyclophosphane
2H-1,3,2-Oxazaphosphorine, 2-(bis(2-chloroethyl)amino)tetrahydro-, 2-oxide (8 CI); 2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide (9 CI)

Cythion
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Cytophosphan
2H-1,3,2-Oxazaphosphorine, 2-(bis(2-chloroethyl)amino)tetrahydro-, 2-oxide (8 CI); 2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide (9 CI)

Cytoxan
2H-1,3,2-Oxazaphosphorine, 2-(bis(2-chloroethyl)amino)tetrahydro-, 2-oxide (8 CI); 2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide (9 CI)

d-alpha-Tocopherol
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

D-Phenylethyleneglycol
D-Phenylethyleneglycol (No postings in CHEMLINE).

Dactinol
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2,12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

Dazoxiben
Benzoic acid, 4-(2-(1H-imidazol-1-yl)ethoxy)-

DBH
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

DBP
Phthalic acid, dibutyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dibutyl ester (9 CI)

DBPC
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

DCB
Benzene, dichloro-

DCP
Phenol, 2,4-dichloro-

DCuP1
Copper

DDD
Ethane, 1,1-dichloro-2,2-bis(p-chlorphenyl)- (8 CI); Benzene, 1,1'-(2,2-dichloroethylidene)bis(4-chloro- (9 CI)

DDE
Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(dichloroethenylidene)bis(4-chloro- (9 CI)

DDT
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

DDT, total
DDT, total (No postings in CHEMLINE).

De-Cut
3,6-Pyridazinedione, 1,2-dihydro-

De-Sprout
3,6-Pyridazinedione, 1,2-dihydro-

Dechlorane
1,3,4-Metheno-1H-cyclobuta(cd)pentalene, 1,1a,2,2,3,3a,4,5,5,5a,5b,6-dodecachlorooctahydro-

Dechlorane 4070
1,3,4-Metheno-1H-cyclobuta(cd)pentalene, 1,1a,2,2,3,3a,4,5,5,5a,5b,6-dodecachlorooctahydro-

Dechlorane 515
1,3,4-Metheno-1H-cyclobuta(cd)pentalene, 1,1a,2,2,3,3a,4,5,5,5a,5b,6-dodecachlorooctahydro-

Dechlorane Plus
1,3,4-Metheno-1H-cyclobuta(cd)pentalene, 1,1a,2,2,3,3a,4,5,5,5a,5b,6-dodecachlorooctahydro-

Dechlorane Plus 515
1,3,4-Metheno-1H-cyclobuta(cd)pentalene, 1,1a,2,2,3,3a,4,5,5,5a,5b,6-dodecachlorooctahydro-

Decnax
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

DEET
m-Toluamide, N,N-diethyl- (8 CI); Benzamide, N,N-diethyl-3-methyl- (9 CI)

DEHP
Phthalic acid, bis(2-ethylhexyl) ester (8 CI); 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI)

Delphene
m-Toluamide, N,N-diethyl- (8 CI); Benzamide, N,N-diethyl-3-methyl- (9 CI)

delta(1)-Tetrahydrocannabinol
6H-Dibenzo(b,d)pyran-1-ol, 6a,7,8,10a-tetrahydro-6,6-9-trimethyl-3-pentyl-, (6aR-trans)-

delta(1)-THC
6H-Dibenzo(b,d)pyran-1-ol, 6a,7,8,10a-tetrahydro-6,6-9-trimethyl-3-pentyl-, (6aR-trans)-

delta(4)-Tetrahydrophthalimide
4-Cyclohexene-1,2-dicarboximide (8 CI); 1H-Isoindole-1,3-dione, 3a,4,7,7a-tetrahydro- (9 CI)

delta(9)-Tetrahydrocannabinol
6H-Dibenzo(b,d)pyran-1-ol, 6a,7,8,10a-tetrahydro-6,6-9-trimethyl-3-pentyl-, (6aR-trans)-

delta(9)-THC
6H-Dibenzo(b,d)pyran-1-ol, 6a,7,8,10a-tetrahydro-6,6-9-trimethyl-3-pentyl-, (6aR-trans)-

delta(9)-trans-Tetrahydrocannabinol
6H-Dibenzo(b,d)pyran-1-ol, 6a,7,8,10a-tetrahydro-6,6-9-trimethyl-3-pentyl-, (6aR-trans)-

delta-(aeeee)-1,2,3,4,5,6-Hexachlorocyclohexane
Cyclohexane, 1,2,3,4,5,6-hexachloro-, delta- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3alpha,4beta,5alpha,6beta)- (9 CI)

delta-1,2,3,4,5,6-Hexachlorocyclohexane
Cyclohexane, 1,2,3,4,5,6-hexachloro-, delta- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3alpha,4beta,5alpha,6beta)- (9 CI)

delta-Benzene hexachloride
Cyclohexane, 1,2,3,4,5,6-hexachloro-, delta- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3alpha,4beta,5alpha,6beta)- (9 CI)

delta-BHC
Cyclohexane, 1,2,3,4,5,6-hexachloro-, delta- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3alpha,4beta,5alpha,6beta)- (9 CI)

delta-HCH
Cyclohexane, 1,2,3,4,5,6-hexachloro-, delta- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3alpha,4beta,5alpha,6beta)- (9 CI)

delta-Hexachlorocyclohexane
Cyclohexane, 1,2,3,4,5,6-hexachloro-, delta- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3alpha,4beta,5alpha,6beta)- (9 CI)

delta-Lindane
Cyclohexane, 1,2,3,4,5,6-hexachloro-, delta- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3alpha,4beta,5alpha,6beta)- (9 CI)

DENA
Diethylamine, N-nitroso- (8 CI); Ethanamine, N-ethyl-N-nitroso- (9 CI)

Denamone
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

Denapon Dicarbam
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

Densinfluat
Ethylene, trichloro- (8 CI); Ethene, trichloro- (9 CI)

Deoval
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

DEPTh
Phosphorothioic acid, O,O-diethyl ester

Deril
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2, 12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

Derrin
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2, 12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

Derris
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2, 12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

DET
m-Toluamide, N,N-diethyl- (8 CI); Benzamide, N,N-diethyl-3-methyl- (9 CI)

DETA
m-Toluamide, N,N-diethyl- (8 CI); Benzamide, N,N-diethyl-3-methyl- (9 CI)

DETA-20
m-Toluamide, N,N-diethyl- (8 CI); Benzamide, N,N-diethyl-3-methyl- (9 CI)

Detamide
m-Toluamide, N,N-diethyl- (8 CI); Benzamide, N,N-diethyl-3-methyl- (9 CI)

Detmol-Extrakt
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Detox
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

Detoxan
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

Devoran
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Desodorator
Naphthalene

Di(2-ethylhexyl)-phthalate
Phthalic acid, bis(2-ethylhexyl) ester (8 CI); 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI)

Di(Ethylhexyl)phthalate
Phthalic acid, bis(2-ethylhexyl) ester (8 CI); 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI)

Di-(2-Ethylhexyl)phthalate
Phthalic acid, bis(2-ethylhexyl) ester (8 CI); 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI)

Di-n-butyl phthalate
Phthalic acid, dibutyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dibutyl ester (9 CI)

Di-n-butylphthalate
Phthalic acid, dibutyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dibutyl ester (9 CI)

Di-tert-butyl-p-cresol
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Di-tert-butylcresol
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Diacetonyl
2,5-Hexanedione

Diacetoxyscirpenol
Trichothec-9-ene-3alpha,4beta,15-triol, 12,13-epoxy-, 4,15-diacetate (8 CI); Trichothec-9-ene-3,4,15-triol, 12,13-epoxy-, 4,15-diacetate, (3alpha,4beta)- (9 CI)

Diamet Kh
Aniline, 4,4'-methylenebis(2-chloro- (8 CI); Benzenamine, 4,4'-methylenebis(2-chloro- (9 CI)

Diazetoxyskirpenol
Trichothec-9-ene-3alpha,4beta,15-triol, 12,13-epoxy-, 4,15-diacetate (8 CI); Trichothec-9-ene-3,4,15-triol, 12,13-epoxy-, 4,15-diacetate, (3alpha,4beta)- (9 CI)

Dibovin
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

Dibunol
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Dibutyl phthalate
Phthalic acid, dibutyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dibutyl ester (9 CI)

Dibutylated hydroxytoluene
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Dichlorobenzene
Benzene, dichloro-

Dichlorodiphenyl dichloroethane
Ethane, 1,1-dichloro-2,2-bis(p-chlorphenyl)- (8 CI); Benzene, 1,1'-(2,2-dichloroethylidene)bis(4-chloro- (9 CI)

Dichlorodiphenyltrichloroethane
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

Dichloromethane
Methane, dichloro-

Dichlorophenol
Phenol, dichloro-

Dichlorophenoxyacetic acid
Acetic acid, (2,4-dichlorophenoxy)-

Dicophane
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

Dicopur
Acetic acid, (2,4-dichlorophenoxy)-

Didakene
Ethylene, tetrachloro- (8 CI); Ethene, tetrachloro- (9 CI)

Dieldrex
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahyd ro-, endo, exo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- (9 CI)

Dieldrin
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahyd ro-, endo, exo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- (9 CI)

Dielmoth
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahyd ro-, endo, exo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- (9 CI)

Dieltamid
m-Toluamide, N,N-diethyl- (8 CI); Benzamide, N,N-diethyl-3-methyl- (9 CI)

Dietary calcium
Calcium

Diethiophosphoric acid, O,O-diethyl ester
Phosphorodithioic acid, O,O-diethyl ester

Diethyl acid phosphate
Phosphoric acid, diethyl ester

Diethyl dithiophosphate
Phosphorodithioic acid, O,O-diethyl ester

Diethyl hydrogen phosphate
Phosphoric acid, diethyl ester

Diethyl hydrogen phosphorothionate
Phosphorothioic acid, O,O-diethyl ester

Diethyl phosphate
Phosphoric acid, diethyl ester

Diethyl phosphodithionate
Diethyl phosphodithionate (No postings in CHEMLINE).

Diethyl phosphoric acid
Phosphoric acid, diethyl ester

Diethyl phosphorodithioate
Phosphorodithioic acid, O,O-diethyl ester

Diethyl phosphorothionate
Phosphorothioic acid, O,O-diethyl ester

Diethyl phosphothionate
Phosphorothioic acid, O,O-diethyl ester

Diethyl phthalate
Phthalic acid, diethyl ester (8 CI); 1,2-Benzenedicarboxylic acid, diethyl ester (9 CI)

Diethyl thiophosphate
Diethyl thiophosphate (No postings in CHEMLINE).

Diethyl-m-toluamide
m-Toluamide, N,N-diethyl- (8 CI); Benzamide, N,N-diethyl-3-methyl- (9 CI)

Diethyllead
Lead(2+), diethyl- ion (8 CI); Plumbanediylium, diethyl- (9 CI)

Diethylnitrosamide
Diethylamine, N-nitroso- (8 CI); Ethanamine, N-ethyl-N-nitroso- (9 CI)

Diethylnitrosamine
Diethylamine, N-nitroso- (8 CI); Ethanamine, N-ethyl-N-nitroso- (9 CI)

Diethylthiophosphate
Diethyl thiophosphate (No postings in CHEMLINE).

Dihydrooxirene
Ethylene oxide (8 CI); Oxirane (9 CI)

Dildrin
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahyd ro-, endo, exo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- (9 CI)

Dilene
Ethane, 1,1-dichloro-2,2-bis(p-chlorphenyl)- (8 CI); Benzene, 1,1'-(2,2-dichloroethylidene)bis(4-chloro- (9 CI)

Dimegan
Pyridine, 2-(p-bromo-alpha-(2-(dimethylamino)ethyl)benzyl)- (8 CI); 2-Pyridinepropanaminne, gamma-(4-bromophenyl)-N,N-dimethyl- (9 CI)

Dimetane
Pyridine, 2-(p-bromo-alpha-(2-(dimethylamino)ethyl)benzyl)- (8 CI); 2-Pyridinepropanaminne, gamma-(4-bromophenyl)-N,N-dimethyl- (9 CI)

Dimethyl 1,2-benzenedicarboxylate
Phthalic acid, dimethyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dimethyl ester (9 CI)

Dimethyl dithiophosphate
Phosphorodithioic acid, O,O-dimethyl ester

Dimethyl hydrogen phosphate
Phosphoric acid, dimethyl ester

Dimethyl phosphate
Phosphoric acid, dimethyl ester

Dimethyl phosphodithionate
Phosphorodithioic acid, O,O-dimethyl ester

Dimethyl phosphorodithioate
Phosphorodithioic acid, O,O-dimethyl ester

Dimethyl phosphorothioate
Phosphorothioic acid, O,O-dimethyl ester

Dimethyl phosphothionate
Phosphorothioic acid, O,O-dimethyl ester

Dimethyl phthalate
Phthalic acid, dimethyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dimethyl ester (9 CI)

Dimethyl thiophosphate
Phosphorothioic acid, O,O-dimethyl ester

Dimethylbenzene
Xylene (8 CI); Benzene, dimethyl- (9 CI)

Dimethyldithiophosphoric acid
Phosphorodithioic acid, O,O-dimethyl ester

Dimethyldithiophosphoric acid
Phosphorodithioic acid, O,O-dimethyl ester

Dimethylene oxide
Ethylene oxide (8 CI); Oxirane (9 CI)

Dimethylnaphthalene
Naphthalene, dimethyl-

Dimethylnitrosamine
Dimethylamine, N-nitroso- (8 CI); Methanamine, N-methyl-N-nitroso- (9 CI)

Dimotane
Pyridine, 2-(p-bromo-alpha-(2-(dimethylamino)ethyl)benzyl)- (8 CI); 2-Pyridinepropanaminne, gamma-(4-bromophenyl)-N,N-dimethyl- (9 CI)

Dinitroaminotoluene
Dinitroaminotoluene (No postings in CHEMLINE).

Dinitrophenylmethane
Toluene, ar,ar-dinitro- (8 CI); Benzene, methyldinitro- (9 CI)

Dinitrotoluene
Toluene, ar,ar-dinitro- (8 CI); Benzene, methyldinitro- (9 CI)

Dinitrotoluene, liquid
Toluene, ar,ar-dinitro- (8 CI); Benzene, methyldinitro- (9 CI)

Dinitrotoluene, solid
Toluene, ar,ar-dinitro- (8 CI); Benzene, methyldinitro- (9 CI)

Dioctyl phthalate
Phthalic acid, bis(2-ethylhexyl) ester (8 CI); 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI)

Dioxin
Dibenzo-p-dioxin, 2,3,7,8-tetrachloro- (8 CI); Dibenzo(b,e)(1,4)dioxin, 2,3,7,8-tetrachloro- (9 CI)

Dioxins
Polychlorinated dibenzo-p-dioxin (No postings in CHEMLINE).

Diphenyl
Biphenyl (8 CI); 1,1'-Biphenyl (9 CI)

Diphenyle chlore, 42% de chlore
Arochlor 1242

Diphenylenemethane
Fluorene (8 CI); 9H-Fluorene (9 CI)

Disflamoll TB
Phosphoric acid tributyl ester

Dithiocarbonic anhydride
Carbon disulfide

dl-Mandelic acid
Mandelic acid (8 CI); Benzeneacetic acid, alpha-hydroxy- (9 CI)

DMF [insect repellent]
Phthalic acid, dimethyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dimethyl ester (9 CI)

DMN
Dimethylamine, N-nitroso- (8 CI); Methanamine, N-methyl-N-nitroso- (9 CI)

DMNA
Dimethylamine, N-nitroso- (8 CI); Methanamine, N-methyl-N-nitroso- (9 CI)

DMP
Phosphoric acid, dimethyl ester

DMP
Phthalic acid, dimethyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dimethyl ester (9 CI)

DNAT
Dinitroaminotoluene (No postings in CHEMLINE).

Dodat
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

Dodecachlorooctahydro-1,3,4-metheno-2H-cyclobuta(cd)pe ntalene
1,3,4-Metheno-1H-cyclobuta(cd)pentalene, 1,1a,2,2,3,3a,4,5,5,5a,5b,6-dodecachlorooctahydro-

Dol Granule
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

DOP
Phthalic acid, bis(2-ethylhexyl) ester (8 CI); 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI)

Dorytox
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahyd ro-, endo, exo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- (9 CI)

Dowchlor
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4, 5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI)

Dowfrost
1,2-Propanediol

Dowicide 2
Phenol, 2,4,5-trichloro-

Dowicide 2S
Phenol, 2,4,6-trichloro-

Dowicide 6
Phenol, 2,3,4,6-tetrachloro-

Dowicide 7
Phenol, pentachloro-

Dri-kil
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2,12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

Drilltox-Spezial Aglukon
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Dugoran
Cholesterol (8 CI); Cholest-5-en-3-ol (3beta)- (9 CI)

Durafur Developer D
1-Naphthol (8 CI); 1-Naphthalenol

Dusoline
Cholesterol (8 CI); Cholest-5-en-3-ol (3beta)- (9 CI)

Dykol
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

Dyna-carbyl
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

Dythol
Cholesterol (8 CI); Cholest-5-en-3-ol (3beta)- (9 CI)

E 3314
4,7-Methanoindene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- (9 CI)

E-Cu57
Copper

E-Vimin
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

EB
Benzene, ethyl-

Eicosane
Eicosane

Elaol
Phthalic acid, dibutyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dibutyl ester (9 CI)

Electro-CF 11
Methane, trichlorofluoro-

Elosal
Sulfur

Emany Atomized Aluminum Powder
Aluminum

Emery 655
Myristic acid (8 CI); Tetradecanoic acid (9 CI)

Emipherol
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

Endo E
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

Endoxan
2H-1,3,2-Oxazaphosphorine, 2-(bis(2-chloroethyl)amino)tetrahydro-, 2-oxide (8 CI); 2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide (9 CI)

Endrex
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahyd ro-, endo, endo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2abeta,3alpha,6alpha,6abeta,7beta,7aalpha)- (9 CI)

Endricol
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahyd ro-, endo, endo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2abeta,3alpha,6alpha,6abeta,7beta,7aalpha)- (9 CI)

Endrin
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahyd ro-, endo, endo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2abeta,3alpha,6alpha,6abeta,7beta,7aalpha)- (9 CI)

ENT 133
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2,12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

ENT 15,152
4,7-Methanoindene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- (9 CI)

ENT 15,949
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, endo,exo- (8 CI) 1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5alpha,8alpha,8abeta)- (9 CI)

ENT 17,034
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

ENT 18,870
3,6-Pyridazinedione, 1,2-dihydro-

ENT 20218
m-Toluamide, N,N-diethyl- (8 CI); Benzamide, N,N-diethyl-3-methyl- (9 CI)

ENT 22542
m-Toluamide, N,N-diethyl- (8 CI); Benzamide, N,N-diethyl-3-methyl- (9 CI)

ENT 25,552-X
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI)

ENT 25,584
4,7-Methanoindan, 1,4,5,6,7,8,8-heptachloro-2,3-epoxy-3a,4,7,7a-tetrahydro- (8 CI); 2,5-Methano-2H-indeno(1,2-b)oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a-hexahydro-, (1aalpha,1bbeta,2alpha,5alpha,5abeta,6beta,6aalpha)- (9 CI)

ENT 25,719
1,3,4-Metheno-1H-cyclobuta(cd)pentalene, 1,1a,2,2,3,3a,4,5,5,5a,5b,6-dodecachlorooctahydro-

ENT 25,784
Carbamic acid, methyl-, 4-(dimethylamino)-m-tolyl ester (8 CI); Phenol, 4-(dimethylamino)-3-methyl-, methylcarbamate (ester) (9 CI)

ENT 4,255
Ethane, 1,1-dichloro-2,2-bis(p-chlorphenyl)- (8 CI); Benzene, 1,1'-(2,2-dichloroethylidene)bis(4-chloro- (9 CI)

ENT 7,796
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

ENT 9,932
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4, 5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI)

ENT-1506
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

ENT-16225
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahyd ro-, endo, exo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- (9 CI)

ENT-23969
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

ENT-9932
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4, 5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI)

Entomoxan
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

EO5A
Iron

EP 30
Phenol, pentachloro-

Ephynal
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

Epiteliol
Vitamin A

Epoxyethane
Ethylene oxide (8 CI); Oxirane (9 CI)

Epoxyheptachlor
4,7-Methanoindan, 1,4,5,6,7,8,8-heptachloro-2,3-epoxy-3a,4,7,7a-tetrahydro- (8 CI); 2,5-Methano-2H-indeno(1,2-b)oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a-hexahydro-, (1aalpha,1bbeta,2alpha, 5alpha,5abeta,6beta,6aalpha)- (9 CI)

Eprolin
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

Eprolin S
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

Epsilan
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

Eranol
Iodine

Ergoplast FDB
Phthalic acid, dibutyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dibutyl ester (9 CI)

Esorb
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

Esteron 99
Acetic acid, (2,4-dichlorophenoxy)-

Estonate
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

Etamican
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

Etavit
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

Ethane, 1,1,1-trichloro-2,2-bis(4-chlorophenyl)
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

Ethanol, 2-butoxy-, phosphate
Ethanol, 2-butoxy-, phosphate (3:1)

Ethanol, 2-phenyl-
Phenethyl alcohol (8 CI); Benzeneethanol (9 CI)

Ethene oxide
Ethylene oxide (8 CI); Oxirane (9 CI)

Ethinyl trichloride
Ethylene, trichloro- (8 CI); Ethene, trichloro- (9 CI)

Ethiolacar
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Ethoxyacetic acid
Acetic acid, ethoxy-

Ethyl 4,4'-dichlorobenzilate
Benzilic acid, 4,4'-dichloro-, ethyl ester (8 CI); Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester (9 CI)

Ethyl phthalate
Phthalic acid, diethyl ester (8 CI); 1,2-Benzenedicarboxylic acid, diethyl ester (9 CI)

Ethylbenzene
Benzene, ethyl-

Ethylbenzol
Benzene, ethyl-

Ethyleenoxide
Ethylene oxide (8 CI); Oxirane (9 CI)

Ethylene (oxyde d')
Ethylene oxide (8 CI); Oxirane (9 CI)

Ethylene oxide
Ethylene oxide (8 CI); Oxirane (9 CI)

Ethylene tetrachloride
Ethylene, tetrachloro- (8 CI); Ethene, tetrachloro- (9 CI)

Ethylene trichloride
Ethylene, trichloro- (8 CI); Ethene, trichloro- (9 CI)

Ethylenenaphthalene
Acenaphthene (8 CI); Acenaphthylene, 1,2-dihydro- (9 CI)

Ethylethoxyphosphonothioic acid
Phosphorothioic acid, O,O-diethyl ester

Ethylhexyl phthalate
Phthalic acid, bis(2-ethylhexyl) ester (8 CI); 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI)

Etilene (ossido di)
Ethylene oxide (8 CI); Oxirane (9 CI)

Etiol
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Eto
Ethylene oxide (8 CI); Oxirane (9 CI)

Etylenu tlenek
Ethylene oxide (8 CI); Oxirane (9 CI)

Europium
Europium

Evion
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

Evipherol
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

Eviplast 80
Phthalic acid, bis(2-ethylhexyl) ester (8 CI); 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI)

Eviplast 81
Phthalic acid, bis(2-ethylhexyl) ester (8 CI); 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI)

Evitaminum
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

Exhaust gas
Carbon monoxide

Experimental Insecticide 7744
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

Experimental Insecticide 269
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahyd ro-, endo, endo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2abeta,3alpha,6alpha,6abeta,7beta,7aalpha)- (9 CI)

Extrax
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2, 12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

F11B
Methane, trichlorofluoro-

Fannoform
Formaldehyde

FC 11
Methane, trichlorofluoro-

FC 11 [halocarbon]
Methane, trichlorofluoro-

Fedal-Un
Ethylene, tetrachloro- (8 CI); Ethene, tetrachloro- (9 CI)

Fenoprop
Propanoic acid, 2-(2,4,5-trichlorophenoxy)-

Fenormone
Propanoic acid, 2-(2,4,5-trichlorophenoxy)-

Fermine
Phthalic acid, dimethyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dimethyl ester (9 CI)

Fernimine
Acetic acid, (2,4-dichlorophenoxy)-

Ferritin
Ferritins

Ferrovac E
Iron

Fibrous crocidolite asbestos
Crocidolite

Fish-tox
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2, 12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

FKW 11
Methane, trichlorofluoro-

Fleximel
Phthalic acid, bis(2-ethylhexyl) ester (8 CI); 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI)

Flexol DOP
Phthalic acid, bis(2-ethylhexyl) ester (8 CI); 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI)

Flowers of sulphur
Sulfur

Fluate
Ethylene, trichloro- (8 CI); Ethene, trichloro- (9 CI)

Flue gas
Carbon monoxide

Flukoids
Carbon tetrachloride (8 CI); Methane, tetrachloro- (9 CI)

Fluoride
Fluoride

Fluoride ion
Fluoride

Fluorine ion (1-)
Fluoride

Fluorochloroform
Methane, trichlorofluoro-

Fluorotrichloromethane
Methane, trichlorofluoro-

Fluorure de sulfuryle
Sulfuryl fluoride

Flux maag
Nicotine (8 CI); Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)- (9 CI)

Flypel
m-Toluamide, N,N-diethyl- (8 CI); Benzamide, N,N-diethyl-3-methyl- (9 CI)

Fog 3
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Folbex
Benzilic acid, 4,4'-dichloro-, ethyl ester (8 CI); Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester (9 CI)

Foredex 75
Acetic acid, (2,4-dichlorophenoxy)-

Formaldehyd
Formaldehyde

Formaldehyde
Formaldehyde

Formaldehyde solution
Formaldehyde

Formaldehyde, gas
Formaldehyde

Formalin
Formaldehyde

Formalin 40
Formaldehyde

Formalin-Loesungen
Formaldehyde

Formalina
Formaldehyde

Formaline
Formaldehyde

Formalith
Formaldehyde

Formic acid, benzoyl-
Glyoxylic acid, phenyl- (8 CI); Benzeneacetic acid, alpha-oxo- (9 CI)

Formic aldehyde
Formaldehyde

Formol
Formaldehyde

Forst U 46
Acetic acid, (2,4,5-trichlorophenoxy)-

Forst-Nexen
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Fortex
Acetic acid, (2,4,5-trichlorophenoxy)-

Fosforan troj-(1,3-dwuchloroizopylowy)
2-Propanol, 1,3-dichloro-, phosphate (3:1)

Fosfotion Fosfothion
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Fouramine ERN
1-Naphthol (8 CI); 1-Naphthalenol

Fourrine 99
1-Naphthol (8 CI); 1-Naphthalenol

Fourrine ERN
1-Naphthol (8 CI); 1-Naphthalenol

Freon 11
Methane, trichlorofluoro-

Freon 30
Methane, dichloro-

Freon MF
Methane, trichlorofluoro-

Freon R 11
Methane, trichlorofluoro-

Frigen 11
Methane, trichlorofluoro-

Frigen 11A
Methane, trichlorofluoro-

Fruitone T
Propanoic acid, 2-(2,4,5-trichlorophenoxy)-

Fungifen
Phenol, pentachloro-

Furro ER
1-Naphthol (8 CI); 1-Naphthalenol

Fusariotoxin T 2
Trichothec-9-ene-3alpha,4beta,8alpha,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-isovalerate (8 CI); Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3alpha,4beta, 8alpha)- (9 CI)

Fyde
Formaldehyde

Fyfanon
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Fyrol FR 2
2-Propanol, 1,3-dichloro-, phosphate (3:1)

G 23992
Benzilic acid, 4,4'-dichloro-, ethyl ester (8 CI); Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester (9 CI)

G 338
Benzilic acid, 4,4'-dichloro-, ethyl ester (8 CI); Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester (9 CI)

Gamma benzene hexachloride
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

gamma-1,2,3,4,5,6-Hexachlorocyclohexane
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

gamma-Benzene hexachloride
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

gamma-BHC
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

gamma-HCH gamma-Hexachloran
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

gamma-Hexachlorane
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

gamma-Hexachlorobenzene
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

gamma-Hexachlorocyclohexane
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

gamma-Lindane
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Gammater
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Garlon
Propanoic acid, 2-(2,4,5-trichlorophenoxy)-

GC 1283
1,3,4-Metheno-1H-cyclobuta(cd)pentalene, 1,1a,2,2,3,3a,4,5,5,5a,5b,6-dodecachlorooctahydro-

Gechloreerdedifenyl
Arochlor 1242

Geigy 338
Benzilic acid, 4,4'-dichloro-, ethyl ester (8 CI); Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester (9 CI)

Genetron 11 Isceon 131
Methane, trichlorofluoro-

Genoplast B
Phthalic acid, dibutyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dibutyl ester (9 CI)

Genoxal
2H-1,3,2-Oxazaphosphorine, 2-(bis(2-chloroethyl)amino)tetrahydro-, 2-oxide (8 CI); 2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide (9 CI)

Germain's
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

Germalgene
Ethylene, trichloro- (8 CI); Ethene, trichloro- (9 CI)

Gesafid
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

Gesarol
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

Gexane
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Glucinium
Beryllium

Glusate
Glutamic acid, L- (8 CI); L-Glutamic acid (9 CI)

Glutacid
Glutamic acid, L- (8 CI); L-Glutamic acid (9 CI)

Glutamic acid
Glutamic acid, L- (8 CI); L-Glutamic acid (9 CI)

Glutaminic acid
Glutamic acid, L- (8 CI); L-Glutamic acid (9 CI)

Glutaminol
Glutamic acid, L- (8 CI); L-Glutamic acid (9 CI)

Glutaton
Glutamic acid, L- (8 CI); L-Glutamic acid (9 CI)

Gold Flake
Gold

Gold Leaf
Gold

Gold Powder
Gold

GPKh
4,7-Methanoindene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,4, 5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- (9 CI)

Green Cross Warbler Powder
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2, 12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

Green Oil
Anthracene

Grey arsenic
Arsenic

Ground vocle sulphur
Sulfur

Grundier Arbezol
Phenol, pentachloro-

Hafnium
Hafnium

Hafnium metal, dry
Hafnium

Hafnium metal, wet
Hafnium

Haiari
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2,12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

Haimased
Thiocyanic acid, sodium salt

HCB
Benzene, hexachloro-

HCBD
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-

HCC
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

HCCH
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

HCE
4,7-Methanoindan, 1,4,5,6,7,8,8-heptachloro-2,3-epoxy-3a,4,7,7a-tetrahydro- (8 CI); 2,5-Methano-2H-indeno(1,2-b)oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a-hexahydro-, (1aalpha,1bbeta,2alpha,5alpha,5abeta,6beta,6aalpha)- (9 CI)

HCH
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

HCH
Hexachlorocyclohexane, total (No postings in CHEMLINE).

HCH, total
Hexachlorocyclohexane, total (No postings in CHEMLINE).

HCS 3260
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI)

Heclotox
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Hedonal [herbicide]
Acetic acid, (2,4-dichlorophenoxy)-

Hentriacontane
Hentriacontane

HEOD
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahyd ro-, endo, exo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- (9 CI)

Hepta
4,7-Methanoindene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,4, 5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- (9 CI)

Heptachlor
4,7-Methanoindene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,4, 5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- (9 CI)

Heptachlor epoxide
4,7-Methanoindan, 1,4,5,6,7,8,8-heptachloro-2,3-epoxy-3a,4,7,7a-tetrahydro- (8 CI); 2,5-Methano-2H-indeno(1,2-b)oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a-hexahydro-, (1aalpha,1bbeta,2alpha, 5alpha,5abeta,6beta,6aalpha)- (9 CI)

Heptachlorane
4,7-Methanoindene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,4, 5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- (9 CI)

Heptachlorodibenzo-p-dioxin
Dibenzo(b,e)(1,4)dioxin, 1,2,3,4,6,7,8-heptachloro-

Heptadecanal
Heptadecanal

Heptadecanoic acid
Heptadecanoic acid

Herbicides, silvex
Propanoic acid, 2-(2,4,5-trichlorophenoxy)-

Hexa
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Hexachloran Hexachlorane
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Hexachloro-1,3-butadiene
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-

Hexachlorobenzene
Benzene, hexachloro-

Hexachlorobutadiene
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-

Hexachlorocyclohexane
Hexachlorocyclohexane, total (No postings in CHEMLINE).

Hexachlorocyclopentadiene dimer
1,3,4-Metheno-1H-cyclobuta(cd)pentalene, 1,1a,2,2,3,3a,4,5,5,5a,5b,6-dodecachlorooctahydro-

Hexadecanal
Palmitaldehyde (8 CI); Hexadecanal (9 CI)

Hexadecanoic acid
Palmitic acid (8 CI); Hexadecanoic acid (9 CI)

Hexadecanoic acid, alkyl esters
Hexadecanoic acid, C12-14-alkyl esters

Hexadecanoic acid, C12-14-alkyl esters
Hexadecanoic acid, C12-14-alkyl esters

Hexadecylic acid
Palmitic acid (8 CI); Hexadecanoic acid (9 CI)

Hexadrin
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahyd ro-, endo, endo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2abeta,3alpha,6alpha,6abeta,7beta,7aalpha)- (9 CI)

Hexaplas M/B
Phthalic acid, dibutyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dibutyl ester (9 CI)

Hexavalent chromium
Chromium, ion (Cr(6+))

Hexaverm
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Hexchlorobutadiene
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-

Hexicide
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Hexyclan
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

HGI
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

HHDN
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, endo,exo- (8 CI) 1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha, 4abeta,5alpha,8alpha,8abeta)- (9 CI)

Hoch
Formaldehyde

Hooker no. 1 chrysotile asbestos
Chrysotile (8 CI) (VAN); Chrysotile [H4Mg3(Si2O9)] (9 CI)

Hortex
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

HSDB 2564
Ethanol, 2-butoxy-, phosphate (3:1)

HSDB 828
Sulfuryl fluoride

HT 2
Trichothec-9-ene-3alpha,4beta,8alpha,15-tetrol, 12,13-epoxy-, 15-acetate 8-isovalerate (8 CI); Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 15-acetate 8-(3-methylbutanoate), (3alpha,4beta, 8alpha)- (9 CI)

HT 2 toxin
Trichothec-9-ene-3alpha,4beta,8alpha,15-tetrol, 12,13-epoxy-, 15-acetate 8-isovalerate (8 CI); Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 15-acetate 8-(3-methylbutanoate), (3alpha,4beta, 8alpha)- (9 CI)

HT-2 toxin
Trichothec-9-ene-3alpha,4beta,8alpha,15-tetrol, 12,13-epoxy-, 15-acetate 8-isovalerate (8 CI); Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 15-acetate 8-(3-methylbutanoate), (3alpha,4beta, 8alpha)- (9 CI)

Humko Industrene R
Stearic acid (8 CI); Octadecanoic acid (9 CI)

Hungaria L 7
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Hydrobromic acid, ion(1-)
Bromide

Hydrocerin
Cholesterol (8 CI); Cholest-5-en-3-ol (3beta)- (9 CI)

Hydrocyanic acid, ion(1-)
Cyanide

Hydrofluoric acid, ion (1-)
Fluoride

Hydrofol acid 1495
Myristic acid (8 CI); Tetradecanoic acid (9 CI)

Hydrofol acid 150
Stearic acid (8 CI); Octadecanoic acid (9 CI)

Hydrofol acid 1655
Stearic acid (8 CI); Octadecanoic acid (9 CI)

Hydrovit A
Vitamin A

Hydroxybenzene
Phenol

Hystrene 80
Stearic acid (8 CI); Octadecanoic acid (9 CI)

Hystrene S-97
Stearic acid (8 CI); Octadecanoic acid (9 CI)

I-125
Iodine, isotope of mass 125

I-131
Iodine, isotope of mass 131

Ilitia
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

Illoxol
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahyd ro-, endo, exo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- (9 CI)

Ilvin
Pyridine, 2-(p-bromo-alpha-(2-(dimethylamino)ethyl)benzyl)- (8 CI); 2-Pyridinepropanaminne, gamma-(4-bromophenyl)-N,N-dimethyl- (9 CI)

Impruvol
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Indium
Indium

Industrene R
Stearic acid (8 CI); Octadecanoic acid (9 CI)

Inhibisol
Ethane, 1,1,1-trichloro-

Insariotoxin
Trichothec-9-ene-3alpha,4beta,8alpha,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-isovalerate (8 CI); Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3alpha,4beta, 8alpha)- (9 CI)

Insecticide no. 4049
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Insectlack
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahyd ro-, endo, exo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- (9 CI)

Iodine
Iodine

Iodine ((127)I2)
Iodine

Iodine colloidal
Iodine

Iodine crystals
Iodine

Iodine sublimed
Iodine

Iodine-125
Iodine, isotope of mass 125

Iodine-127
Iodine

Iodine-129
Iodine, isotope of mass 129

Iodine-131
Iodine, isotope of mass 131

Ionol
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Ionol 1
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Ionol CP
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Ionol [antioxidant]
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Ionole
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Iosan Superdip
Iodine

Ipaner
Acetic acid, (2,4-dichlorophenoxy)-

Iridium
Iridium

Iron
Iron

Isocyanide
Cyanide

Isoindole-1,3-dione, 3a,4,7,7a-tetrahydro-
4-Cyclohexene-1,2-dicarboximide (8 CI); 1H-Isoindole-1,3-dione, 3a,4,7,7a-tetrahydro- (9 CI)

Isothiocyanate
Thiocyanic acid, ion(1-) (8 CI); Thiocyanate (9 CI)

Isothiocyanic acid, ion (1-)
Thiocyanic acid, ion(1-) (8 CI); Thiocyanate (9 CI)

Isotron 11
Methane, trichlorofluoro-

Ivalon
Formaldehyde

Ivoran
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

Isal
Phenol

Jacutin
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

JISC 3108
Aluminum

JISC 3110
Aluminum

Julin's carbon chloride
Benzene, hexachloro-

K 6-30
Chrysotile (8 CI) (VAN); Chrysotile [H4Mg3(Si2O9)] (9 CI)

Kafar copper M1 [copper]
Copper

Kaltron 11
Methane, trichlorofluoro-

KAM 1000
Stearic acid (8 CI); Octadecanoic acid (9 CI)

KAM 2000
Stearic acid (8 CI); Octadecanoic acid (9 CI)

KAM 3000
Stearic acid (8 CI); Octadecanoic acid (9 CI)

Karbatox
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

Karbatox 75
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

Karbofos
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Karbosep
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

Karsan
Formaldehyde

Kathro
Cholesterol (8 CI); Cholest-5-en-3-ol (3beta)- (9 CI)

Kemester 9718
Stearic acid, methyl ester (8 CI); Octadecanoic acid, methyl ester (9 CI)

Kerabit
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

KMH
3,6-Pyridazinedione, 1,2-dihydro-

Kodaflex DOP
Phthalic acid, bis(2-ethylhexyl) ester (8 CI); 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI)

Kohlendisulfid (Schwefelkohlenstoff)
Carbon disulfide

Kokotine
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Kolloidschwefel 95
Sulfur

Kolo 100
Sulfur

Kombi-Albertan
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahyd ro-, endo, exo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- (9 CI)

Koolstofdisulfide (Zwavelkoolstof)
Carbon disulfide

Kortofil
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, endo,exo- (8 CI) 1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha, 4abeta,5alpha,8alpha,8abeta)- (9 CI)

KP 140
Ethanol, 2-butoxy-, phosphate (3:1)

Krokydolith
Crocidolite

KS-4
Lead

Ksylen
Xylene (8 CI); Benzene, dimethyl- (9 CI)

Kuran
Propanoic acid, 2-(2,4,5-trichlorophenoxy)-

Kurosal
Propanoic acid, 2-(2,4,5-trichlorophenoxy)-

Kurosal G
Propanoic acid, 2-(2,4,5-trichlorophenoxy)-

Kurosal SL
Propanoic acid, 2-(2,4,5-trichlorophenoxy)-

Kwell
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Kypchlor
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4, 5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI)

Kyselina O,O-dimethyldithiofosforcna
Phosphorodithioic acid, O,O-dimethyl ester

L 3
Silver

L-Glutamic acid
Glutamic acid, L- (8 CI); L-Glutamic acid (9 CI)

L-Nicotine
Nicotine (8 CI); Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)- (9 CI)

L-Phenylethyleneglycol
L-Phenylethyleneglycol (No postings in CHEMLINE).

L16
Aluminum

Lanol
Cholesterol (8 CI); Cholest-5-en-3-ol (3beta)- (9 CI)

Lanthanium
Lanthanum

Lanthanum
Lanthanum

Lard-factor
Vitamin A

Lauxtol
Phenol, pentachloro-

Lead
Lead

Lead Flake
Lead

Lead S2
Lead

Ledon 11
Methane, trichlorofluoro-

Lendine
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Lentox
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Lidenal
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Lindane
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Lindatox
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Lindex
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Lindosep
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Lintox
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Linvur
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Liquid Derris
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2, 12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

Liroprem
Phenol, pentachloro-

Lithium
Lithium

Loha
Iron

Lorexane
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Loxiol G 20
Stearic acid (8 CI); Octadecanoic acid (9 CI)

Lunac S 20
Stearic acid (8 CI); Octadecanoic acid (9 CI)

Lutecium
Lutetium

Lutetium Lutetium
Lutetium

Lysoform
Formaldehyde

M 1
Copper

M 140
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4, 5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI)

M 3
Copper

M 4
Copper

M 410
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4, 5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI)

m-Chlorophenol
Phenol, m-chloro- (8 CI); Phenol, 3-chloro- (9 CI)

m-Cresol, 4-(dimethylamino)-, methylcarbamate (ester)
Carbamic acid, methyl-, 4-(dimethylamino)-m-tolyl ester (8 CI); Phenol, 4-(dimethylamino)-3-methyl-, methylcarbamate (ester) (9 CI)

m-Delphene
m-Toluamide, N,N-diethyl- (8 CI); Benzamide, N,N-diethyl-3-methyl- (9 CI)

M-Det
m-Toluamide, N,N-diethyl- (8 CI); Benzamide, N,N-diethyl-3-methyl- (9 CI)

m-DETA
m-Toluamide, N,N-diethyl- (8 CI); Benzamide, N,N-diethyl-3-methyl- (9 CI)

m-Dimethylbenzene
m-Xylene (8 CI); Benzene, 1,3-dimethyl- (9 CI)

m-Toluic acid diethylamide Naugatuck DET
m-Toluamide, N,N-diethyl- (8 CI); Benzamide, N,N-diethyl-3-methyl- (9 CI)

m-Xylol
m-Xylene (8 CI); Benzene, 1,3-dimethyl- (9 CI)

M2 [copper]
Copper

M3 [copper]
Copper

M31
Copper

M3S
Copper

M4 [copper]
Copper

Magnesium
Magnesium

Magnesium Gold Purple
Gold

MAH
3,6-Pyridazinedione, 1,2-dihydro-

Maintain 3
3,6-Pyridazinedione, 1,2-dihydro-

Malafor
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Malamar 50
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Malaspray
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Malathion E50
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Malathion LV Concentrate
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Malatol
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Malazide
3,6-Pyridazinedione, 1,2-dihydro-

Maleic acid cyclic hydrazide
3,6-Pyridazinedione, 1,2-dihydro-

Maleic acid hydrazide
3,6-Pyridazinedione, 1,2-dihydro-

Maleic hydrazide
3,6-Pyridazinedione, 1,2-dihydro-

Maleic hydrazine
3,6-Pyridazinedione, 1,2-dihydro-

Malepin
3,6-Pyridazinedione, 1,2-dihydro-

Malzid
3,6-Pyridazinedione, 1,2-dihydro-

Mandelic Acid
Mandelic acid (8 CI); Benzeneacetic acid, alpha-hydroxy- (9 CI)

Manganese
Manganese

Margaric acid
Heptadecanoic acid

Matacil
Carbamic acid, methyl-, 4-(dimethylamino)-m-tolyl ester (8 CI); Phenol, 4-(dimethylamino)-3-methyl-, methylcarbamate (ester) (9 CI)

Maxide
3,6-Pyridazinedione, 1,2-dihydro-

MChVL
Molybdenum

Me1700
Ethane, 1,1-dichloro-2,2-bis(p-chlorphenyl)- (8 CI); Benzene, 1,1'-(2,2-dichloroethylidene)bis(4-chloro- (9 CI)

Menaphtam
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

Mendrin
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahyd ro-, endo, endo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2abeta,3alpha,6alpha,6abeta,7beta,7aalpha)- (9 CI)

Mercpatothion
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Mercury
Mercury

Metadelphene
m-Toluamide, N,N-diethyl- (8 CI); Benzamide, N,N-diethyl-3-methyl- (9 CI)

Metallic arsenic
Arsenic

Metallic tin
Tin

Metallothioneins
Metallothionein

Metana
Aluminum

Metana Aluminium Paste
Aluminum

Methacide
Toluene (8 CI); Benzene, methyl- (9 CI)

Methanal
Formaldehyde

Methane, chloro-
Methane, chloro-

Methane, diphenylene-
Fluorene (8 CI); 9H-Fluorene (9 CI)

Methenyl tribromide
Methane, tribromo-

Metholene 2216
Palmitic acid, methyl ester (8 CI); Hexadecanoic acid, methyl ester (9 CI)

Metholene 2218
Stearic acid, methyl ester (8 CI); Octadecanoic acid, methyl ester (9 CI)

Metholeneat 2495
Myristic acid, methyl ester (8 CI); Tetradecanoic acid, methyl ester (9 CI)

Methyl alcohol
Methanol

Methyl aldehyde
Formaldehyde

Methyl chloride
Methane, chloro-

Methyl hexadecanoate
Palmitic acid, methyl ester (8 CI); Hexadecanoic acid, methyl ester (9 CI)

Methyl hydroxide
Methanol

Methyl myristate
Myristic acid, methyl ester (8 CI); Tetradecanoic acid, methyl ester (9 CI)

Methyl n-hexadecanoate
Palmitic acid, methyl ester (8 CI); Hexadecanoic acid, methyl ester (9 CI)

Methyl n-octadecanoate
Stearic acid, methyl ester (8 CI); Octadecanoic acid, methyl ester (9 CI)

Methyl n-tetradecanoate
Myristic acid, methyl ester (8 CI); Tetradecanoic acid, methyl ester (9 CI)

Methyl octadecanoate
Stearic acid, methyl ester (8 CI); Octadecanoic acid, methyl ester (9 CI)

Methyl palmitate
Palmitic acid, methyl ester (8 CI); Hexadecanoic acid, methyl ester (9 CI)

Methyl stearate
Stearic acid, methyl ester (8 CI); Octadecanoic acid, methyl ester (9 CI)

Methyl tetradecanoate
Myristic acid, methyl ester (8 CI); Tetradecanoic acid, methyl ester (9 CI)

Methyl viologen(2+)
4,4'-Bipyridinium, 1,1'-dimethyl-

Methylbenzene
Toluene (8 CI); Benzene, methyl- (9 CI)

Methylbenzol
Toluene (8 CI); Benzene, methyl- (9 CI)

Methylchlorid
Methane, chloro-

Methylchloroform
Ethane, 1,1,1-trichloro-

Methyldinitrobenzene
Toluene, ar,ar-dinitro- (8 CI); Benzene, methyldinitro- (9 CI)

Methylene bichloride
Methane, dichloro-

Methylene chloride
Methane, dichloro-

Methylene dichloride
Methane, dichloro-

Methylene glycol
Formaldehyde

Methylene oxide
Formaldehyde

Methylenebis(3-chloro-4-aminobenzene)
Aniline, 4,4'-methylenebis(2-chloro- (8 CI); Benzenamine, 4,4'-methylenebis(2-chloro- (9 CI)

Methylethyl glycol
1,2-Propanediol

Methylethylene glycol
1,2-Propanediol

Methylheptadecanoic acid, methyl ester
Methylheptadecanoic acid, methyl ester (No postings in CHEMLINE).

Methylnaphthalene
Naphthalene, methyl-

Methylol
Methanol

Methylpentadecanoic acid, methyl ester
Methylpentadecanoic acid, methyl ester (No postings in CHEMLINE).

Methylstilbene
Stilbene, methyl- (No postings in CHEMLINE).

Methyltrichloromethane
Ethane, 1,1,1-trichloro-

Methylxylene
Benzene, trimethyl-

Metylenu chlorek
Methane, dichloro-

Metylu chlorek
Methane, chloro-

Mexide
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2, 12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

MH
3,6-Pyridazinedione, 1,2-dihydro-

MH 30
3,6-Pyridazinedione, 1,2-dihydro-

MH-40
3,6-Pyridazinedione, 1,2-dihydro-

Micowetsulf
Sulfur

Millol 49
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Mineral dust
Mineral dust (No postings in CHEMLINE).

Mineral fibers
Mineral fibers (No postings in CHEMLINE).

Mipax
Phthalic acid, dimethyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dimethyl ester (9 CI)

Mirex
1,3,4-Metheno-1H-cyclobuta(cd)pentalene, 1,1a,2,2,3,3a,4,5,5,5a,5b,6-dodecachlorooctahydro-

Mitacil
Carbamic acid, methyl-, 4-(dimethylamino)-m-tolyl ester (8 CI); Phenol, 4-(dimethylamino)-3-methyl-, methylcarbamate (ester) (9 CI)

MLS 62
Mullite [Al6O5(SiO4)2]

MOCA
Aniline, 4,4'-methylenebis(2-chloro- (8 CI); Benzenamine, 4,4'-methylenebis(2-chloro- (9 CI)

MOCA [curing agent]
Aniline, 4,4'-methylenebis(2-chloro- (8 CI); Benzenamine, 4,4'-methylenebis(2-chloro- (9 CI)

Molecular iodine
Iodine

Molybdenum
Molybdenum

Monochloromethane
Methane, chloro-

Monofluorotrichloromethane
Methane, trichlorofluoro-

Monohydroxybenzene
Phenol

Monohydroxymethane
Methanol

Monophenol
Phenol

Monopropylene glycol
1,2-Propanediol

Monsur
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

Moscarda
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Moth flakes
Naphthalene

Moth Snub D
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahyd ro-, endo, exo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- (9 CI)

Mott-Ex
Benzene, dichloro-

Mottenschutzmittel Evau P
Benzene, dichloro-

Mszycol Neo-Scabicidol
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Mullite
Mullite [Al6O5(SiO4)2]

Murvin
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

Mutoxan Neocid
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

Mycotoxin HT 2
Trichothec-9-ene-3alpha,4beta,8alpha,15-tetrol, 12,13-epoxy-, 15-acetate 8-isovalerate (8 CI); Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 15-acetate 8-(3-methylbutanoate), (3alpha,4beta, 8alpha)- (9 CI)

Mycotoxin T 2
Trichothec-9-ene-3alpha,4beta,8alpha,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-isovalerate (8 CI); Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3alpha,4beta, 8alpha)- (9 CI)

Mycotoxin T-2
Trichothec-9-ene-3alpha,4beta,8alpha,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-isovalerate (8 CI); Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3alpha,4beta, 8alpha)- (9 CI)

Mysorite
Asbestos, grunerite

N'-Nitrosoanatabine
2,3'-Bipyridine, 1,2,3,6-tetrahydro-1-nitroso-, (S)-

N'-Nitrosonornicotine
Nicotine, 1'-demethyl-1'-nitroso- (8 CI); Pyridine, 3-(1-nitroso-2-pyrrolidinyl)-, (S)- (9 CI)

N,N'-Dimethyl-4,4'-bipyridinium dication
4,4'-Bipyridinium, 1,1'-dimethyl-

N,N-Bis(2-chloroethyl)-N',O-propylenephosphoric acid ester diamide Procytox
2H-1,3,2-Oxazaphosphorine, 2-(bis(2-chloroethyl)amino)tetrahydro-, 2-oxide (8 CI); 2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide (9 CI)

N,N-Bis(beta-chloroethyl)-N',O-trimethylenephosphoric acid ester diamide
2H-1,3,2-Oxazaphosphorine, 2-(bis(2-chloroethyl)amino)tetrahydro-, 2-oxide (8 CI); 2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide (9 CI)

N,N-Diethyl-3-methylbenzamide
m-Toluamide, N,N-diethyl- (8 CI); Benzamide, N,N-diethyl-3-methyl- (9 CI)

N,N-Diethyl-m-toluamide
m-Toluamide, N,N-diethyl- (8 CI); Benzamide, N,N-diethyl-3-methyl- (9 CI)

N,N-Maleoylhydrazine
3,6-Pyridazinedione, 1,2-dihydro-

N-Benzoylglycine
Hippuric acid (8 CI); Glycine, N-benzoyl- (9 CI)

n-Butyl phthalate
Phthalic acid, dibutyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dibutyl ester (9 CI)

n-C20
Eicosane

n-Cetane
Hexadecane

n-Eicosane
Eicosane

N-Ethyl-N-nitrosoethanamine
Diethylamine, N-nitroso- (8 CI); Ethanamine, N-ethyl-N-nitroso- (9 CI)

n-Hentriacontane
Hentriacontane

n-Heptadecane
Heptadecane

n-Heptadecoic acid
Heptadecanoic acid

n-Heptadecylic acid
Heptadecanoic acid

n-Hexadecane
Hexadecane

n-Hexadecanoic acid
Palmitic acid (8 CI); Hexadecanoic acid (9 CI)

n-Hexadecanoic acid methyl ester
Palmitic acid, methyl ester (8 CI); Hexadecanoic acid, methyl ester (9 CI)

n-Hexadecoic acid
Palmitic acid (8 CI); Hexadecanoic acid (9 CI)

N-methyl-2-(3-pyridyl)-5-pyrrolidone
Cotinine (8 CI); 2-Pyrrolidinone, 1-methyl-5-(3-pyridinyl-,(S)- (9 CI)

N-Methyl-N-nitrosomethanamine
Dimethylamine, N-nitroso- (8 CI); Methanamine, N-methyl-N-nitroso- (9 CI)

N-Methylcarbamate de 4-dimethylamino 3-methyl phenyle
Carbamic acid, methyl-, 4-(dimethylamino)-m-tolyl ester (8 CI); Phenol, 4-(dimethylamino)-3-methyl-, methylcarbamate (ester) (9 CI)

N-Nitrosamines
Nitrosamines (No postings in CHEMLINE).

N-Nitroso-N,N-diethylamine
Diethylamine, N-nitroso- (8 CI); Ethanamine, N-ethyl-N-nitroso- (9 CI)

N-Nitroso-N,N-dimethylamine
Dimethylamine, N-nitroso- (8 CI); Methanamine, N-methyl-N-nitroso- (9 CI)

N-Nitrosoanabasine
Pyridine, 3-(1-nitroso-2-piperidinyl)-, (S)-

N-Nitrosodiethylamine
Diethylamine, N-nitroso- (8 CI); Ethanamine, N-ethyl-N-nitroso- (9 CI)

N-Nitrosodimethylamine
Dimethylamine, N-nitroso- (8 CI); Methanamine, N-methyl-N-nitroso- (9 CI)

N-Nitrosonornicotine
Nicotine, 1'-demethyl-1'-nitroso- (8 CI); Pyridine, 3-(1-nitroso-2-pyrrolidinyl)-, (S)- (9 CI)

N-Nitrosopyrrolidin
Pyrrolidine, 1-nitroso-

N-Nitrosopyrrolidine
Pyrrolidine, 1-nitroso-

n-Octadecane
Octadecane

n-Octadecanoic acid methyl ester
Stearic acid, methyl ester (8 CI); Octadecanoic acid, methyl ester (9 CI)

n-Pentadecane
Pentadecane

N-Pyr
Pyrrolidine, 1-nitroso-

n-Tetradecan-1-oic acid
Myristic acid (8 CI); Tetradecanoic acid (9 CI)

n-Tetradecanoic acid
Myristic acid (8 CI); Tetradecanoic acid (9 CI)

n-Tetradecoic acid
Myristic acid (8 CI); Tetradecanoic acid (9 CI)

n-Triacontane
Triacontane

NAA 173
Stearic acid (8 CI); Octadecanoic acid (9 CI)

NAC
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

Nako TRB
1-Naphthol (8 CI); 1-Naphthalenol

Naphthaline
Naphthalene

Naphthene
Naphthalene

Naphthyleneethylene
Acenaphthene (8 CI); Acenaphthylene, 1,2-dihydro- (9 CI)

Narcogen
Ethylene, trichloro- (8 CI); Ethene, trichloro- (9 CI)

Narkosoid
Ethylene, trichloro- (8 CI); Ethene, trichloro- (9 CI)

Narkotil
Methane, dichloro-

Natrium
Sodium

Natriumrhodanid
Thiocyanic acid, sodium salt

NCI C09007
Crocidolite

NCI C60253A
Asbestos, grunerite

NCI-C00099
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4, 5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI)

NCI-C00475
Ethane, 1,1-dichloro-2,2-bis(p-chlorphenyl)- (8 CI); Benzene, 1,1'-(2,2-dichloroethylidene)bis(4-chloro- (9 CI)

NCI-C03703
Dibenzo(b,e)(1,4)dioxin, 1,2,3,6,7,8-hexachloro-

NCI-C04273
Chromium, ion (Cr(6+))

NCI-C04591
Carbon disulfide

NCI-C06428
1,3,4-Metheno-1H-cyclobuta(cd)pentalene, 1,1a,2,2,3,3a,4,5,5,5a,5b,6-dodecachlorooctahydro-

NCI-C08991
Tremolite (8 CI); Tremolite [Ca2Mg5H2(SiO3)8] (9 CI)

NCI-C50088
Ethylene oxide (8 CI); Oxirane (9 CI)

NCI-C50102
Methane, dichloro-

NCI-C53587
Chlorinated paraffins

NCI-C55210
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2,12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

NCI-C55232
Xylene (8 CI); Benzene, dimethyl- (9 CI)

NCI-C60048
Phthalic acid, diethyl ester (8 CI); 1,2-Benzenedicarboxylic acid, diethyl ester (9 CI)

Neantine
Phthalic acid, diethyl ester (8 CI); 1,2-Benzenedicarboxylic acid, diethyl ester (9 CI)

Necatorina
Carbon tetrachloride (8 CI); Methane, tetrachloro- (9 CI)

Nema
Ethylene, tetrachloro- (8 CI); Ethene, tetrachloro- (9 CI)

Neo-Fat 14
Myristic acid (8 CI); Tetradecanoic acid (9 CI)

Neo-Fat 18
Stearic acid (8 CI); Octadecanoic acid (9 CI)

Neo-Fat 18-53
Stearic acid (8 CI); Octadecanoic acid (9 CI)

Neo-Fat 18-54
Stearic acid (8 CI); Octadecanoic acid (9 CI)

Neo-Fat 18-55
Stearic acid (8 CI); Octadecanoic acid (9 CI)

(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2, 12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

Nimco Cholesterol base H Nimco cholesterol base No. 712
Cholesterol (8 CI); Cholest-5-en-3-ol (3beta)- (9 CI)

Nio-A-Let
Vitamin A

Niphen
Phenol, p-nitro- (8 CI); Phenol, 4-nitro- (9 CI)

Nitrosamine
Nitrosamines (No postings in CHEMLINE).

Nitrosamines
Nitrosamines (No postings in CHEMLINE).

Nitrosodiethylamine
Diethylamine, N-nitroso- (8 CI); Ethanamine, N-ethyl-N-nitroso- (9 CI)

Nitrosonornicotine
Nicotine, 1'-demethyl-1'-nitroso- (8 CI); Pyridine, 3-(1-nitroso-2-pyrrolidinyl)-, (S)- (9 CI)

NMC 50
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

No Bunt
Benzene, hexachloro-

No Bunt 40
Benzene, hexachloro-

No Bunt 80
Benzene, hexachloro-

No Bunt Liquid
Benzene, hexachloro-

NO-Pyr
Pyrrolidine, 1-nitroso-

Nonachlor, cis
4,7-Methanoindan, 1alpha,2alpha,3alpha,4beta,5,6,7beta,8,8-nonachloro-3aalpha, 4,7,7-aalpha-tetrahydro- (8 CI) 4,7-Methano-1H-indene, 1,2,3,4,5,6,7,8,8-nonachloro-2,3,3a,4,7,7a-hexahydro-(1alpha ,2alpha,3alpha,3aalpha,4beta,7aalpha- (9 CI)

Nonenal
Nonenal

Nonox TBC
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Noral Aluminium
Aluminum

Noral Extra Fine Lining Grade
Aluminum

Neo-Fat 18-59
Stearic acid (8 CI); Octadecanoic acid (9 CI)

Neocidol
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

Neodymium
Neodymium

Netzschwefel Precipitated sulfur
Sulfur

Nexen FB
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Nexit
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Nexit-stark
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Nexol-E
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Ni 0901-S(Harshaw)
Nickel

Ni 270
Nickel

Ni 4303T
Nickel

Nickel
Nickel

Nickel 270
Nickel

Nickel NP2
Nickel

Nicochloran
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Nicotine
Nicotine (8 CI); Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)- (9 CI)

Nicotine, 1'-nitroso-1'-demethyl-
Nicotine, 1'-demethyl-1'-nitroso- (8 CI); Pyridine, 3-(1-nitroso-2-pyrrolidinyl)-, (S)- (9 CI)

Nicouline

Noral Ink Grade Aluminium
Aluminum

Norphytane
Pentadecane, 2,6,10,14-tetramethyl-

Noxfish
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2, 12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

NP2
Nickel

NPYR
Pyrrolidine, 1-nitroso-

NSC 138780
Trichothec-9-ene-3alpha,4beta,8alpha,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-isovalerate (8 CI); Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3alpha,4beta, 8alpha)- (9 CI)

NSC 141537
Trichothec-9-ene-3alpha,4beta,15-triol, 12,13-epoxy-, 4,15-diacetate (8 CI); Trichothec-9-ene-3,4,15-triol, 12,13-epoxy-, 4,15-diacetate, (3alpha,4beta)- (9 CI)

NSC-141537
Trichothec-9-ene-3alpha,4beta,15-triol, 12,13-epoxy-, 4,15-diacetate (8 CI); Trichothec-9-ene-3,4,15-triol, 12,13-epoxy-, 4,15-diacetate, (3alpha,4beta)- (9 CI)

NTM
Phthalic acid, dimethyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dimethyl ester (9 CI)

O,O'-Dimethyl hydrogen dithiophosphate
Phosphorodithioic acid, O,O-dimethyl ester

O,O-Diethyl dithiophosphate
Phosphorodithioic acid, O,O-diethyl ester

O,O-Diethyl hydrogen phosphorodithioate
Phosphorodithioic acid, O,O-diethyl ester

O,O-Diethyl phosphorodithioate
Phosphorodithioic acid, O,O-diethyl ester

O,O-Diethyl phosphorothioate
Phosphorothioic acid, O,O-diethyl ester

O,O-Diethyl thiophosphate
Phosphorothioic acid, O,O-diethyl ester

O,O-Diethyl-S-hydrogen phosphorodithioate Phosphorodithioic acid, O,O-diethyl ester
Phosphorodithioic acid, O,O-diethyl ester

O,O-Dimethyl dithiophosphate
Phosphorodithioic acid, O,O-dimethyl ester

O,O-Dimethyl hydrogen dithiophosphate
Phosphorodithioic acid, O,O-dimethyl ester

O,O-Dimethyl phosphate
Phosphoric acid, dimethyl ester

O,O-Dimethyl phosphorodithioic acid
Phosphorodithioic acid, O,O-dimethyl ester

O,O-Dimethyl phosphorothionate
Phosphorothioic acid, O,O-dimethyl ester

O,O-Dimethyl thiophosphate
Phosphorothioic acid, O,O-dimethyl ester

O,O-Dimethylphosphorodithioate O,O-Dimethyl phosphorodithioate
Phosphorodithioic acid, O,O-dimethyl ester

o,p'-DDE
Ethylene, 1,1-dichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)- (8 CI); Benzene, 1-chloro-2-(2,2-dichloro-1-(4-chlorophenyl)ethenyl)- (9 CI)

o,p'-DDT
Ethane, 1,1,1-trichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)- (8 CI); Benzene, 1-chloro-2-(2,2,2-trichloro-1-(4-chlorophenyl)ethyl)- (9 CI)

O-2857
Benzothiazole

o-Benzenedicarboxylic acid, dibutyl ester
Phthalic acid, dibutyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dibutyl ester (9 CI)

O-Benzenedicarboxylic acid diethyl ester
Phthalic acid, diethyl ester (8 CI); 1,2-Benzenedicarboxylic acid, diethyl ester (9 CI)

o-Chlorophenol
Phenol, o-chloro- (8 CI); Phenol, 2-chloro- (9 CI)

o-Cresol
o-Cresol (8 CI); Phenol, 2-methyl- (9 CI)

o-Cresylic acid
o-Cresol (8 CI); Phenol, 2-methyl- (9 CI)

o-di-tert-Butyl-p-methylphenol P21
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

o-Dimethylbenzene
o-Xylene (8 CI); Benzene, 1,2-dimethyl- (9 CI)

o-Hydroxytoluene
o-Cresol (8 CI); Phenol, 2-methyl- (9 CI)

o-Kresol
o-Cresol (8 CI); Phenol, 2-methyl- (9 CI)

o-Methylphenol
o-Cresol (8 CI); Phenol, 2-methyl- (9 CI)

o-Methylphenylol
o-Cresol (8 CI); Phenol, 2-methyl- (9 CI)

o-Methyltoluene
o-Xylene (8 CI); Benzene, 1,2-dimethyl- (9 CI)

o-Oxytoluene
o-Cresol (8 CI); Phenol, 2-methyl- (9 CI)

o-Toluol
o-Cresol (8 CI); Phenol, 2-methyl- (9 CI)

o-Xylol
o-Xylene (8 CI); Benzene, 1,2-dimethyl- (9 CI)

OCDD
Dibenzo-p-dioxin, octachloro- (8 CI); Dibenzo(b,e)(1,4)dioxin, octachloro- (9 CI)

Octa-Klor
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4, 5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI)

Octachlor epoxide
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-1,2-epoxy-3a,4,7,7a-tetrahydro- (8 CI) 2,5-Methano-2H-indeno(1,2-b)oxirene, 1a,2,3,4,5,6a,7,7-octachloro-1a,1b,5,5a,6,6a-hexahydro- (9 CI)

Octachloro-4,7-methanohydroindane
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4, 5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI)

Octachlorodibenzo(b,e)(1,4)dioxin
Dibenzo-p-dioxin, octachloro- (8 CI); Dibenzo(b,e)(1,4)dioxin, octachloro- (9 CI)

Octachlorodibenzo-p-dioxin
Dibenzo-p-dioxin, octachloro- (8 CI); Dibenzo(b,e)(1,4)dioxin, octachloro- (9 CI)

Octachlorodibenzodioxin
Dibenzo-p-dioxin, octachloro- (8 CI); Dibenzo(b,e)(1,4)dioxin, octachloro- (9 CI)

Octachlorodibenzofuran
Dibenzofuran, octachloro-

Octachlorodihydrodicyclopentadiene
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4, 5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI)

Octadecanal
Stearaldehyde (8 CI); Octadecanal (9 CI)

Octadecanoic acid
Stearic acid (8 CI); Octadecanoic acid (9 CI)

Octadecanoic acid, methyl ester
Stearic acid, methyl ester (8 CI); Octadecanoic acid, methyl ester (9 CI)

Octalene
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, endo,exo- (8 CI) 1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha, 4abeta,5alpha,8alpha,8abeta)- (9 CI)

Octalox
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahyd ro-, endo, exo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- (9 CI)

Octoil
Phthalic acid, bis(2-ethylhexyl) ester (8 CI); 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI)

Octylphthalate
Phthalic acid, bis(2-ethylhexyl) ester (8 CI); 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI)

Off
m-Toluamide, N,N-diethyl- (8 CI); Benzamide, N,N-diethyl-3-methyl- (9 CI)

OFHC Cu
Copper

Oktanex
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahyd ro-, endo, endo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2abeta,3alpha,6alpha,6abeta,7beta,7aalpha)- (9 CI)

Oktaterr
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI)

Oleophosphothion O,O-Dimethyl S-(1,2-dicarbethoxyethyl) dithiophosphate
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Oleovitamin A
Vitamin A

Omal
Phenol, 2,4,6-trichloro-

Omnitox
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Ortho Malathion
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Orthocresol
o-Cresol (8 CI); Phenol, 2-methyl- (9 CI)

Ovadziak
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Owadziak
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Oxacyclopropane
Ethylene oxide (8 CI); Oxirane (9 CI)

Oxane
Ethylene oxide (8 CI); Oxirane (9 CI)

Oxidoethane
Ethylene oxide (8 CI); Oxirane (9 CI)

Oxiraan
Ethylene oxide (8 CI); Oxirane (9 CI)

Oxiran
Ethylene oxide (8 CI); Oxirane (9 CI)

Oxirane
Ethylene oxide (8 CI); Oxirane (9 CI)

Oxirene, dihydro-
Ethylene oxide (8 CI); Oxirane (9 CI)

Oxybenzene
Phenol

Oxychlordan
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-1,2-epoxy-3a,4,7,7a-tetrahydro- (8 CI) 2,5-Methano-2H-indeno(1,2-b)oxirene, 1a,2,3,4,5,6a,7,7-octachloro-1a,1b,5,5a,6,6a-hexahydro- (9 CI)

Oxychlordane
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-1,2-epoxy-3a,4,7,7a-tetrahydro- (8 CI) 2,5-Methano-2H-indeno(1,2-b)oxirene, 1a,2,3,4,5,6a,7,7-octachloro-1a,1b,5,5a,6,6a-hexahydro- (9 CI)

Oxyfume
Ethylene oxide (8 CI); Oxirane (9 CI)

Oxyfume 12
Ethylene oxide (8 CI); Oxirane (9 CI)

p,p'-DDD
Ethane, 1,1-dichloro-2,2-bis(p-chlorphenyl)- (8 CI); Benzene, 1,1'-(2,2-dichloroethylidene)bis(4-chloro- (9 CI)

p,p'-DDE
Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(dichloroethenylidene)bis(4-chloro- (9 CI)

p,p'-DDT
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

p,p'-Dichlorodiphenyl-2,2-dichloroethylene
Ethane, 1,1-dichloro-2,2-bis(p-chlorphenyl)- (8 CI); Benzene, 1,1'-(2,2-dichloroethylidene)bis(4-chloro- (9 CI)

p,p'-Dichlorodiphenyltrichloroethane
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

p,p'-Dichlorodiphenyldichloroethylene
Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(dichloroethenylidene)bis(4-chloro- (9 CI)

p,p'-TDE
Ethane, 1,1-dichloro-2,2-bis(p-chlorphenyl)- (8 CI); Benzene, 1,1'-(2,2-dichloroethylidene)bis(4-chloro- (9 CI)

p-Biphenylol
4-Biphenylol (8 CI); (1,1'-Biphenyl)-4-ol (9 CI)

p-CBP
Benzophenone, 4-chloro- (8 CI); Methanone, (4-chlorophenyl)phenyl- (9 CI)

p-Chlorobenzophenone
Benzophenone, 4-chloro- (8 CI); Methanone, (4-chlorophenyl)phenyl- (9 CI)

p-Chlorophenol
Phenol, p-chloro- (8 CI); Phenol, 4-chloro- (9 CI)

p-Cresol
p-Cresol (8 CI); Phenol, 4-methyl- (9 CI)

p-Cresylic acid
p-Cresol (8 CI); Phenol, 4-methyl- (9 CI)

p-Dimethylbenzene
p-Xylene (8 CI); Benzene, 1,4-dimethyl- (9 CI)

p-Hydroxybiphenyl
4-Biphenylol (8 CI); (1,1'-Biphenyl)-4-ol (9 CI)

p-Hydroxydiphenyl
4-Biphenylol (8 CI); (1,1'-Biphenyl)-4-ol (9 CI)

p-Hydroxynitrobenzene
Phenol, p-nitro- (8 CI); Phenol, 4-nitro- (9 CI)

p-Hydroxytoluene
p-Cresol (8 CI); Phenol, 4-methyl- (9 CI)

p-Kresol
p-Cresol (8 CI); Phenol, 4-methyl- (9 CI)

p-Methylhydroxybenzene
p-Cresol (8 CI); Phenol, 4-methyl- (9 CI)

p-Methylphenol
p-Cresol (8 CI); Phenol, 4-methyl- (9 CI)

p-Methyltoluene
p-Xylene (8 CI); Benzene, 1,4-dimethyl- (9 CI)

p-Nitrophenol
Phenol, p-nitro- (8 CI); Phenol, 4-nitro- (9 CI)

p-Oxytoluene
p-Cresol (8 CI); Phenol, 4-methyl- (9 CI)

p-Phenylphenol
4-Biphenylol (8 CI); (1,1'-Biphenyl)-4-ol (9 CI)

p-Toluol
p-Cresol (8 CI); Phenol, 4-methyl- (9 CI)

p-Tolyl alcohol
p-Cresol (8 CI); Phenol, 4-methyl- (9 CI)

Palatinol A
Phthalic acid, diethyl ester (8 CI); 1,2-Benzenedicarboxylic acid, diethyl ester (9 CI)

Palatinol AH
Phthalic acid, bis(2-ethylhexyl) ester (8 CI); 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI)

Palatinol C
Phthalic acid, dibutyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dibutyl ester (9 CI)

Palatinol M
Phthalic acid, dimethyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dimethyl ester (9 CI)

Palmitoylpentachlorophenol
Palmitoylpentachlorophenol (No postings in CHEMLINE).

Panam
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

PAP-1
Aluminum

para-Cresol
p-Cresol (8 CI); Phenol, 4-methyl- (9 CI)

Parabar 441
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Parabromdylamine
Pyridine, 2-(p-bromo-alpha-(2-(dimethylamino)ethyl)benzyl)- (8 CI); 2-Pyridinepropanaminne, gamma-(4-bromophenyl)-N,N-dimethyl- (9 CI)

Parabromodylamine
Pyridine, 2-(p-bromo-alpha-(2-(dimethylamino)ethyl)benzyl)- (8 CI); 2-Pyridinepropanaminne, gamma-(4-bromophenyl)-N,N-dimethyl- (9 CI)

Parachlorocidum
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

Paraderil
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2,12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

Paraffin waxes and hydrocarbon waxes, chlorinated
Chlorinated paraffins

Paraffins waxes and hydrocarbon waxes, chloro
Chlorinated paraffins

Paramandelic acid
Mandelic acid (8 CI); Benzeneacetic acid, alpha-hydroxy- (9 CI)

Paramethyl phenol
p-Cresol (8 CI); Phenol, 4-methyl- (9 CI)

Paramex
1,3,4-Metheno-1H-cyclobuta(cd)pentalene, 1,1a,2,2,3,3a,4,5,5,5a,5b,6-dodecachlorooctahydro-

Paranaphthalene
Anthracene

Paranitrophenol
Phenol, p-nitro- (8 CI); Phenol, 4-nitro- (9 CI)

Paraquat
4,4'-Bipyridinium, 1,1'-dimethyl-

Paraquat dication
4,4'-Bipyridinium, 1,1'-dimethyl-

Paraquat ion
4,4'-Bipyridinium, 1,1'-dimethyl-

Paraxenol
4-Biphenylol (8 CI); (1,1'-Biphenyl)-4-ol (9 CI)

PBB
Polybrominated biphenyls (No postings in CHEMLINE).

PCB
Biphenyl, chloro (8 CI); 1,1'-Biphenyl, chloro derivs (9 CI)

PCB 1260
Arochlor 1260

PCDD
Polychlorinated dibenzo-p-dioxin (No postings in CHEMLINE).

PCDF
Polychlorinated dibenzofurans (No postings in CHEMLINE).

PCP
Phenol, pentachloro-

PCQ
Polychlorinated quaterphenyl (No postings in CHEMLINE).

PD 185
Stearic acid (8 CI); Octadecanoic acid (9 CI)

PEA
Phenethyl alcohol (8 CI); Benzeneethanol (9 CI)

PEB1
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

Pedraczak
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Penchlorol
Phenol, pentachloro-

Penta
Phenol, pentachloro-

Pentachlorin
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

Pentachlorophenol
Phenol, pentachloro-

Pentachlorophenyl chloride
Benzene, hexachloro-

Pentadecanal
Pentadecanal

Pentadecanecarboxylic acid
Palmitic acid (8 CI); Hexadecanoic acid (9 CI)

Pentanedioic acid, 2-amino-, (S)-
Glutamic acid, L- (8 CI); L-Glutamic acid (9 CI)

Penticidum
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

Perchlorethylene
Ethylene, tetrachloro- (8 CI); Ethene, tetrachloro- (9 CI)

Perchloro-1,3-butadiene
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-

Perchlorobenzene
Benzene, hexachloro-

Perchlorobutadiene
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-

Perchlorodihomocubane
1,3,4-Metheno-1H-cyclobuta(cd)pentalene, 1,1a,2,2,3,3a,4,5,5,5a,5b,6-dodecachlorooctahydro-

Perchloroethylene
Ethylene, tetrachloro- (8 CI); Ethene, tetrachloro- (9 CI)

Perchloromethane
Carbon tetrachloride (8 CI); Methane, tetrachloro- (9 CI)

Perchloropentacyclo(5.2.1.0(2,6).0(3,9).0(5,8))decane
1,3,4-Metheno-1H-cyclobuta(cd)pentalene, 1,1a,2,2,3,3a,4,5,5,5a,5b,6-dodecachlorooctahydro-

Perclene
Ethylene, tetrachloro- (8 CI); Ethene, tetrachloro- (9 CI)

Perfluoride
Fluoride

Peri-ethylene naphthalene
Acenaphthene (8 CI); Acenaphthylene, 1,2-dihydro- (9 CI)

Peri-ethylenenaphthalene
Acenaphthene (8 CI); Acenaphthylene, 1,2-dihydro- (9 CI)

Permasan
Phenol, pentachloro-

PerSec Tetracap
Ethylene, tetrachloro- (8 CI); Ethene, tetrachloro- (9 CI)

PF 38
2-Propanol, 1,3-dichloro-, phosphate (3:1)

PF 38/3
2-Propanol, 1,3-dichloro-, phosphate (3:1)

Pflanzol
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

PG 12
1,2-Propanediol

Phenachlor
Phenol, 2,4,6-trichloro-

Phenanthrene
Phenanthrene

Phene
Benzene

Phenethanol
Phenethyl alcohol (8 CI); Benzeneethanol (9 CI)

Phenethylene
Styrene (8 CI); Benzene, ethenyl- (9 CI)

Phenic acid
Phenol

Phenol
Phenol

Phenol, 2,6-dichloro
Phenol, 2,6-dichloro-

Phenol, trichloro-
Phenol, trichloro-

Phenoxy acid herbicides
Chlorinated phenoxy acids (No postings in CHEMLINE).

Phenoxy acids
Chlorinated phenoxy acids (No postings in CHEMLINE).

Phenyl hydrate
Phenol

Phenyl hydride
Benzene

Phenyl hydroxide
Phenol

Phenylbenzene
Biphenyl (8 CI); 1,1'-Biphenyl (9 CI)

Phenylcarbonylaminoacetic acid
Hippuric acid (8 CI); Glycine, N-benzoyl- (9 CI)

Phenylethane
Benzene, ethyl-

Phenylethanol
Phenethyl alcohol (8 CI); Benzeneethanol (9 CI)

Phenylethene
Styrene (8 CI); Benzene, ethenyl- (9 CI)

Phenylethyl alcohol
Phenethyl alcohol (8 CI); Benzeneethanol (9 CI)

Phenylethylene
Styrene (8 CI); Benzene, ethenyl- (9 CI)

Phenylgloxylic acid
Glyoxylic acid, phenyl- (8 CI); Benzeneacetic acid, alpha-oxo- (9 CI)

Phenylglycolic acid
Mandelic acid (8 CI); Benzeneacetic acid, alpha-hydroxy- (9 CI)

Phenylglyoxylic acid
Glyoxylic acid, phenyl- (8 CI); Benzeneacetic acid, alpha-oxo- (9 CI)

Phenylhexanone
Phenylhexanone (No postings in CHEMLINE).

Phenylhydroxyacetic acid Racemic mandelic acid
Mandelic acid (8 CI); Benzeneacetic acid, alpha-hydroxy- (9 CI)

Phenylic acid
Phenol

Phenylic alcohol
Phenol

Phenylmethane
Toluene (8 CI); Benzene, methyl- (9 CI)

Phosphoric acid, tris(2-butoxyethyl) ester
Ethanol, 2-butoxy-, phosphate (3:1)

Phosphoric acid, tributyl ester
Phosphoric acid tributyl ester

Phosphorodithioic acid, O,O-dimethyl ester
Phosphorodithioic acid, O,O-dimethyl ester

Phosphorus
Phosphorus

Phosphorus-31
Phosphorus

Phosphothion
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Phthalic acid dioctyl ester
Phthalic acid, bis(2-ethylhexyl) ester (8 CI); 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI)

Phthalol
Phthalic acid, diethyl ester (8 CI); 1,2-Benzenedicarboxylic acid, diethyl ester (9 CI)

Phytogermine
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

Pielik
Acetic acid, (2,4-dichlorophenoxy)-

Pittsburgh PX-138
Phthalic acid, bis(2-ethylhexyl) ester (8 CI); 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI)

Placidol E
Phthalic acid, diethyl ester (8 CI); 1,2-Benzenedicarboxylic acid, diethyl ester (9 CI)

Plastibest 20
Chrysotile (8 CI) (VAN); Chrysotile [H4Mg3(Si2O9)] (9 CI)

Plutonium
Plutonium

Plutonium-239
Plutonium, isotope of mass 239

Polsulkol Extra
Sulfur

Polybrominated biphenyls
Polybrominated biphenyls (No postings in CHEMLINE).

Polychlorinated biphenyl
Biphenyl, chloro (8 CI); 1,1'-Biphenyl, chloro derivs (9 CI)

Polychlorinated dibenzodioxin
Polychlorinated dibenzo-p-dioxin (No postings in CHEMLINE).

Polychlorinated dibenzofurans
Polychlorinated dibenzofurans (No postings in CHEMLINE).

Polychlorinated quaterphenyls
Polychlorinated quaterphenyl (No postings in CHEMLINE).

Polychlorinated quaterphenyl
Polychlorinated quaterphenyl (No postings in CHEMLINE).

Polychlorinated terpenes
Polychlorinated terpenes (No postings in CHEMLINE).

Polycizer DBP
Phthalic acid, dibutyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dibutyl ester (9 CI)

Polysorbates
Polysorbate (No postings in CHEMLINE).

Pomex
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

Potassium
Potassium

Powder and Root
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2, 12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

Praval
Calcium

Prepalin
Vitamin A

Preventol I
Phenol, 2,4,5-trichloro-

Prioderm
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Pristane
Pentadecane, 2,6,10,14-tetramethyl-

Pro-Nox Fish
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2, 12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

Profecundin
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

Propane-1,2-diol
1,2-Propanediol

Propellant 11
Methane, trichlorofluoro-

Propionic acid, 2-(2,4,5-trichlorophenoxy)-
Propanoic acid, 2-(2,4,5-trichlorophenoxy)-

Propon
Propanoic acid, 2-(2,4,5-trichlorophenoxy)-

Propylene glycol
1,2-Propanediol

Propylfuranacetaldehyde
Propylfuranacetaldehyde (No postings in CHEMLINE).

Proteins, transferrins
Transferrins

Provitamin A
Vitamin A

Provitamin D
Cholesterol (8 CI); Cholest-5-en-3-ol (3beta)- (9 CI)

Pu-239
Plutonium, isotope of mass 239

PX 104
Phthalic acid, dibutyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dibutyl ester (9 CI)

Pyranol 1478
Benzene, trichloro-

Pyrobenzol
Benzene

Pyrobenzole
Benzene

Pyrrolidine, 1-Nitroso
Pyrrolidine, 1-nitroso-

PZh-1M3
Iron

PZh-2
Iron

PZh1M1
Iron

PZh2M
Iron

PZh2M1
Iron

PZh2M2
Iron

PZh3
Iron

PZh3M
Iron

PZh4M
Iron

Quellada
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Quicksilver
Mercury

Quodorole 3,3'-Dichloro-4,4'-diaminodiphenylmethane
Aniline, 4,4'-methylenebis(2-chloro- (8 CI); Benzenamine, 4,4'-methylenebis(2-chloro- (9 CI)

R 10
Carbon tetrachloride (8 CI); Methane, tetrachloro- (9 CI)

R 11
Methane, trichlorofluoro-

R 11 [refrigerant]
Methane, trichlorofluoro-

R 20
Chloroform (8 CI); Methane, trichloro- (9 CI)

R 20 [refrigerant]
Chloroform (8 CI); Methane, trichloro- (9 CI)

R 40
Methane, chloro-

R-30
Methane, dichloro-

Ramor
Thallium

Raney alloy
Nickel

Raney copper
Copper

Raney nickel
Nickel

RC-Schwefel Extra
Sulfur

RCH 55/5
Nickel

RCRA Waste Number P022
Carbon disulfide

RCRA Waste Number U045
Methane, chloro-

RCRA Waste Number U080
Methane, dichloro-

RCRA Waste Number U069
Phthalic acid, dibutyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dibutyl ester (9 CI)

RCRA Waste Number U088
Phthalic acid, diethyl ester (8 CI); 1,2-Benzenedicarboxylic acid, diethyl ester (9 CI)

RCRA Waste Number U036
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4, 5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI)

RCRA Waste Number U115
Ethylene oxide (8 CI); Oxirane (9 CI)

RCRA Waste Number U148
3,6-Pyridazinedione, 1,2-dihydro-

RCRA Waste Number U239
Xylene (8 CI); Benzene, dimethyl- (9 CI)

Red phosphorus
Phosphorus

Red Shield
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahyd ro-, endo, exo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- (9 CI)

Regulox
3,6-Pyridazinedione, 1,2-dihydro-

Regulox 36
3,6-Pyridazinedione, 1,2-dihydro-

Regulus of antimony
Antimony

Repeftal
Phthalic acid, dimethyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dimethyl ester (9 CI)

Repper-DET
m-Toluamide, N,N-diethyl- (8 CI); Benzamide, N,N-diethyl-3-methyl- (9 CI)

Repudin-Special
m-Toluamide, N,N-diethyl- (8 CI); Benzamide, N,N-diethyl-3-methyl- (9 CI)

Retard
3,6-Pyridazinedione, 1,2-dihydro-

Retinol
Vitamin A

RG 600
Chrysotile (8 CI) (VAN); Chrysotile [H4Mg3(Si2O9)] (9 CI)

Rhodanide
Thiocyanic acid, ion(1-) (8 CI); Thiocyanate (9 CI)

Rhodiachlor
4,7-Methanoindene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- (9 CI)

Rhothane
Ethane, 1,1-dichloro-2,2-bis(p-chlorphenyl)- (8 CI); Benzene, 1,1'-(2,2-dichloroethylidene)bis(4-chloro- (9 CI)

Rhothane D-3
Ethane, 1,1-dichloro-2,2-bis(p-chlorphenyl)- (8 CI); Benzene, 1,1'-(2,2-dichloroethylidene)bis(4-chloro- (9 CI)

Ro-Ko
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2,12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

Ronone

(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2, 12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

Rotamott
Benzene, dichloro-

Roteflve
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2, 12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

Rotefour
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2, 12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

Rotenon
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2, 12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

Rotenona
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2, 12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

Rotenone
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2, 12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

Rotessenol
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2, 12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

Rothane
Ethane, 1,1-dichloro-2,2-bis(p-chlorphenyl)- (8 CI); Benzene, 1,1'-(2,2-dichloroethylidene)bis(4-chloro- (9 CI)

Rotocide
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2, 12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

Royal MH-30
3,6-Pyridazinedione, 1,2-dihydro-

Rubidium
Rubidium

S-(-)-Cotinine
Cotinine (8 CI); 2-Pyrrolidinone, 1-methyl-5-(3-pyridinyl-,(S)- (9 CI)

S-(1,2-Bis(carbethoxy)ethyl O,O-dimethyl dithiophosphate S-(1,2-Bis(ethoxycarbonyl)ethyl O,O-dimethy
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

S-35
Sulfur, isotope of mass 35

S0
Lead

S1
Lead

Sadaphos
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Sadofos
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Samarium
Samarium

Sang-gamma
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Sanocide
Benzene, hexachloro-

Santophen 20
Phenol, pentachloro-

Scandium
Scandium

Schwefelkohlenstoff
Carbon disulfide

Scyan
Thiocyanic acid, sodium salt

SD 2794
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, endo,exo- (8 CI) 1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha, 4abeta,5alpha,8alpha,8abeta)- (9 CI)

SD 3417
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahyd ro-, endo, exo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- (9 CI)

SD 3419
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahyd ro-, endo, endo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2abeta,3alpha,6alpha,6abeta,7beta,7aalpha)- (9 CI)

Seedrin
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, endo,exo- (8 CI) 1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha, 4abeta,5alpha,8alpha,8abeta)- (9 CI)

Seffein
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

Selenium
Selenium

Selenium-74
Selenium, isotope of mass 74

Sendoxan
2H-1,3,2-Oxazaphosphorine, 2-(bis(2-chloroethyl)amino)tetrahydro-, 2-oxide (8 CI); 2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide (9 CI)

Serpentine chrysotile
Chrysotile (8 CI) (VAN); Chrysotile [H4Mg3(Si2O9)] (9 CI)

Sevimol
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

Sevin
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

Sevin 4
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

Sewin Union Carbide 7,744
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

SF 60
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Shell Gold
Gold

Shell Silver
Silver

Sicol 150
Phthalic acid, bis(2-ethylhexyl) ester (8 CI); 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI)

Silflake 135
Silver

Silicon
Silicon

Silver
Silver

Silver atom
Silver

Silver Matt Powder
Tin

Silver metal
Silver

Silvex
Propanoic acid, 2-(2,4,5-trichlorophenoxy)-

Silvi-rhap
Propanoic acid, 2-(2,4,5-trichlorophenoxy)-

Siptox I
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Sirlene
1,2-Propanediol

Snieciotox
Benzene, hexachloro-

Sodium
Sodium

Sodium (1+)
Sodium, ion (Na(1+))

Sodium (Na(1+))
Sodium, ion (Na(1+))

Sodium cation
Sodium, ion (Na(1+))

Sodium ion
Sodium, ion (Na(1+))

Sodium ion (Na(1+))
Sodium, ion (Na(1+))

Sodium ion(1+)
Sodium, ion (Na(1+))

Sodium isothiocyanate
Thiocyanic acid, sodium salt

Sodium metal
Sodium

Sodium rhodanate
Thiocyanic acid, sodium salt

Sodium rhodanide
Thiocyanic acid, sodium salt

Sodium sulfocyanate
Thiocyanic acid, sodium salt

Sodium sulfocyanide
Thiocyanic acid, sodium salt

Sodium thiocyanate
Thiocyanic acid, sodium salt

Sodium thiocyanide
Thiocyanic acid, sodium salt

Sodium(1+) ion
Sodium, ion (Na(1+))

Sodium-23
Sodium

Solaesthin
Methane, dichloro-

Solar Winter Ban
1,2-Propanediol

Solargard P
1,2-Propanediol

Solfuro di carbonio
Carbon disulfide

Solmethine
Methane, dichloro-

Solvanol
Phthalic acid, diethyl ester (8 CI); 1,2-Benzenedicarboxylic acid, diethyl ester (9 CI)

Solvanom
Phthalic acid, dimethyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dimethyl ester (9 CI)

Solvarone
Phthalic acid, dimethyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dimethyl ester (9 CI)

SP 104
6H-Dibenzo(b,d)pyran-1-ol, 6a,7,8,10a-tetrahydro-6,6-9-trimethyl-3-pentyl-, (6aR-trans)-

Spavit E
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

Spritz-Rapidin
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Sprout-Stop
3,6-Pyridazinedione, 1,2-dihydro-

Sprout/Off
3,6-Pyridazinedione, 1,2-dihydro-

Spruehpflanzol
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Sr 999
Silver

Sta-fast
Propanoic acid, 2-(2,4,5-trichlorophenoxy)-

Staeubol-Puder
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Staflex DBP
Phthalic acid, dibutyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dibutyl ester (9 CI)

Staflex DOP
Phthalic acid, bis(2-ethylhexyl) ester (8 CI); 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI)

Stavox
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Stearex beads
Stearic acid (8 CI); Octadecanoic acid (9 CI)

Stearophanic acid
Stearic acid (8 CI); Octadecanoic acid (9 CI)

Stibium
Antimony

Streunex
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Stuntman
3,6-Pyridazinedione, 1,2-dihydro-

Styrene
Styrene (8 CI); Benzene, ethenyl- (9 CI)

Styrol
Styrene (8 CI); Benzene, ethenyl- (9 CI)

Styrole
Styrene (8 CI); Benzene, ethenyl- (9 CI)

Styrolene
Styrene (8 CI); Benzene, ethenyl- (9 CI)

Styropol SO
Styrene (8 CI); Benzene, ethenyl- (9 CI)

Sublimed sulfur
Sulfur

Sucker-Stuff
3,6-Pyridazinedione, 1,2-dihydro-

Sufran
Sulfur

Sufran D
Sulfur

Sulfex
Sulfur

Sulfidal
Sulfur

Sulfonyl fluoride
Sulfuryl fluoride

Sulfur
Sulfur

Sulfur atom
Sulfur

Sulfur difluoride dioxide
Sulfuryl fluoride

Sulfur ointment
Sulfur

Sulfur, pharmaceutical Sulikol
Sulfur

Sulfur-35
Sulfur, isotope of mass 35

Sulfuric oxyfluoride
Sulfuryl fluoride

Sulfuryl fluoride
Sulfuryl fluoride

Sulkol
Sulfur

Sulphocarbonic anhydride
Carbon disulfide

Sulphur
Sulfur

Sultaf
Sulfur

Sumitox
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Sumulizer BHT
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Super-de-sprout
3,6-Pyridazinedione, 1,2-dihydro-

Sustane BHT
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

SUY B-2
Iron

Svovl
Sulfur

Sylodex
Chrysotile (8 CI) (VAN); Chrysotile [H4Mg3(Si2O9)] (9 CI)

Sulfonyl fluoride
Sulfuryl fluoride

Sulfur
Sulfur

Sulfur atom
Sulfur

Sulfur difluoride dioxide
Sulfuryl fluoride

Sulfur ointment
Sulfur

Sulfur, pharmaceutical Sulikol
Sulfur

Sulfur-35
Sulfur, isotope of mass 35

Sulfuric oxyfluoride
Sulfuryl fluoride

Sulfuryl fluoride
Sulfuryl fluoride

Sulkol
Sulfur

Sulphocarbonic anhydride
Carbon disulfide

Sulphur
Sulfur

Sultaf
Sulfur

Sumitox
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Sumulizer BHT
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Super-de-sprout
3,6-Pyridazinedione, 1,2-dihydro-

Sustane BHT
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

SUY B-2
Iron

Svovl
Sulfur

Sylodex
Chrysotile (8 CI) (VAN); Chrysotile [H4Mg3(Si2O9)] (9 CI)

Synklor
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4, 5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI)

Syntopherol
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

T 2 Toxin
Trichothec-9-ene-3alpha,4beta,8alpha,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-isovalerate (8 CI); Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3alpha,4beta, 8alpha)- (9 CI)

T-2 Mycotoxin
Trichothec-9-ene-3alpha,4beta,8alpha,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-isovalerate (8 CI); Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3alpha,4beta, 8alpha)- (9 CI)

T-2 Toxin
Trichothec-9-ene-3alpha,4beta,8alpha,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-isovalerate (8 CI); Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3alpha,4beta, 8alpha)- (9 CI)

T-Gas
Ethylene oxide (8 CI); Oxirane (9 CI)

Tafidex
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

Tantalum
Tantalum

Tantalum-181
Tantalum

Tap 85
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Tar camphor
Naphthalene

TAT Chlor 4
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4, 5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI)

Tatuzinho
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, endo,exo- (8 CI) 1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha, 4abeta,5alpha,8alpha,8abeta)- (9 CI)

TBEP
Ethanol, 2-butoxy-, phosphate (3:1)

TBP
Phosphoric acid tributyl ester

TCA
Acetic acid, trichloro-

TCDBD
Dibenzo-p-dioxin, 2,3,7,8-tetrachloro- (8 CI); Dibenzo(b,e)(1,4)dioxin, 2,3,7,8-tetrachloro- (9 CI)

TCDD
Dibenzo-p-dioxin, 2,3,7,8-tetrachloro- (8 CI); Dibenzo(b,e)(1,4)dioxin, 2,3,7,8-tetrachloro- (9 CI)

TCP
Phenol, 2,3,4,6-tetrachloro-

TCP
Phenol, 2,4,5-trichloro-

TDE
Ethane, 1,1-dichloro-2,2-bis(p-chlorphenyl)- (8 CI); Benzene, 1,1'-(2,2-dichloroethylidene)bis(4-chloro- (9 CI)

Tegolan
Cholesterol (8 CI); Cholest-5-en-3-ol (3beta)- (9 CI)

Tekresol
Cresol (8 CI) (VAN); Phenol, methyl- (9 CI)

Teltlen
Ethylene, tetrachloro- (8 CI); Ethene, tetrachloro- (9 CI)

Tenamene 3
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Tenox BHT
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Terbium
Terbium

Termitox
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahyd ro-, endo, exo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- (9 CI)

Tertral ERN
1-Naphthol (8 CI); 1-Naphthalenol

Testavol
Vitamin A

Tetra Olive N2G
Anthracene

Tetrachlorethylene
Ethylene, tetrachloro- (8 CI); Ethene, tetrachloro- (9 CI)

Tetrachlorodiphenyl ethane
Ethane, 1,1-dichloro-2,2-bis(p-chlorphenyl)- (8 CI); Benzene, 1,1'-(2,2-dichloroethylidene)bis(4-chloro- (9 CI)

Tetrachloroethene
Ethylene, tetrachloro- (8 CI); Ethene, tetrachloro- (9 CI)

Tetrachloroethylene
Ethylene, tetrachloro- (8 CI); Ethene, tetrachloro- (9 CI)

Tetrachloromethane
Carbon tetrachloride (8 CI); Methane, tetrachloro- (9 CI)

Tetrachlorophenol
Phenol, tetrachloro-

Tetradecanal
Myristaldehyde (8 CI); Tetradecanal (9 CI)

Tetradecanoic acid
Myristic acid (8 CI); Tetradecanoic acid (9 CI)

Tetraflnol
Carbon tetrachloride (8 CI); Methane, tetrachloro- (9 CI)

Tetraform
Carbon tetrachloride (8 CI); Methane, tetrachloro- (9 CI)

Tetraguer
Ethylene, tetrachloro- (8 CI); Ethene, tetrachloro- (9 CI)

Tetrahydrocannabinol (1)-delta(1)-Tetrahydrocannabinol
6H-Dibenzo(b,d)pyran-1-ol, 6a,7,8,10a-tetrahydro-6,6-9-trimethyl-3-pentyl-, (6aR-trans)-

Tetrahydrophthalic acid imide
4-Cyclohexene-1,2-dicarboximide (8 CI); 1H-Isoindole-1,3-dione, 3a,4,7,7a-tetrahydro- (9 CI)

Tetrahydrophthalimide
4-Cyclohexene-1,2-dicarboximide (8 CI); 1H-Isoindole-1,3-dione, 3a,4,7,7a-tetrahydro- (9 CI)

Tetraleno
Ethylene, tetrachloro- (8 CI); Ethene, tetrachloro- (9 CI)

Tetrasol
Carbon tetrachloride (8 CI); Methane, tetrachloro- (9 CI)

Tetropil
Ethylene, tetrachloro- (8 CI); Ethene, tetrachloro- (9 CI)

Tetrosin P 300
4-Biphenylol (8 CI); (1,1'-Biphenyl)-4-ol (9 CI)

Thallium
Thallium

Thiocyanate
Thiocyanic acid, ion(1-) (8 CI); Thiocyanate (9 CI)

Thiocyanate (1-)
Thiocyanic acid, ion(1-) (8 CI); Thiocyanate (9 CI)

Thiocyanate anion
Thiocyanic acid, ion(1-) (8 CI); Thiocyanate (9 CI)

Thiocyanate ion
Thiocyanic acid, ion(1-) (8 CI); Thiocyanate (9 CI)

Thiocyanate ion (1-)
Thiocyanic acid, ion(1-) (8 CI); Thiocyanate (9 CI)

Thiocyanate sodium
Thiocyanic acid, sodium salt

Thiocyanide
Thiocyanic acid, ion(1-) (8 CI); Thiocyanate (9 CI)

Thiodiethylene glycol
Ethanol, 2,2'-thiodi- (8 CI); Ethanol, 2,2'-thiobis- (9 CI)

Thiodiglycol
Ethanol, 2,2'-thiodi- (8 CI); Ethanol, 2,2'-thiobis- (9 CI)

Thioether
Thioether (No postings in CHEMLINE).

Thioneins
Metallothionein

Thiovit
Sulfur

Thorium-232
Thorium

Threthylen
Ethylene, trichloro- (8 CI); Ethene, trichloro- (9 CI)

Threthylene
Ethylene, trichloro- (8 CI); Ethene, trichloro- (9 CI)

Tin
Tin

Tin Flake
Tin

Tin Powder
Tin

Tipula
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, endo,exo- (8 CI)
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha, 4abeta,5alpha,8alpha,8abeta)- (9 CI)

TM-4049
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Tokopharm
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

Toluene
Toluene (8 CI); Benzene, methyl- (9 CI)

Toluene, dinitro-
Toluene, ar,ar-dinitro- (8 CI); Benzene, methyldinitro- (9 CI)

Toluene, dinitroamino-
Dinitroaminotoluene (No postings in CHEMLINE).

Toluol
Toluene (8 CI); Benzene, methyl- (9 CI)

Topanol
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Topanol O
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Topanol OC
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Topiclor
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4, 5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI)

Total BHC
BHC, total (No postings in CHEMLINE).

Total HCH
BHC, total (No postings in CHEMLINE).

Toxichlor
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4, 5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI)

Toxin HT 2
Trichothec-9-ene-3alpha,4beta,8alpha,15-tetrol, 12,13-epoxy-, 15-acetate 8-isovalerate (8 CI); Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 15-acetate 8-(3-methylbutanoate), (3alpha,4beta, 8alpha)- (9 CI)

Toxin T 2
Trichothec-9-ene-3alpha,4beta,8alpha,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-isovalerate (8 CI); Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3alpha,4beta, 8alpha)- (9 CI)

trans-Chlordan
4,7-Methanoindan, 1beta,2alpha,4alpha,5,6,7alpha,8,8-octachloro-3abeta,4,7,7ab eta-tetrahydro- (8 CI) 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-, (1alpha,2beta,3aalpha, 4beta,7beta,7aalpha)- (9 CI)

trans-Chlordane
4,7-Methanoindan, 1beta,2alpha,4alpha,5,6,7alpha,8,8-octachloro-3abeta,4,7,7ab eta-tetrahydro- (8 CI) 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-, (1alpha,2beta,3aalpha, 4beta,7beta,7aalpha)- (9 CI)

trans-Nonachlor
4,7-Methano-1H-indene, 1,2,3,4,5,6,7,8,8-nonachloro-2,3,3a,4,7,7a-hexahydro-, (1alpha,2beta,3alpha, 3aalpha,4beta,7beta,7aalpha)-

Transferrin
Transferrins

Transferrins
Transferrins

Transnonachlor
4,7-Methano-1H-indene, 1,2,3,4,5,6,7,8,8-nonachloro-2,3,3a,4,7,7a-hexahydro-, (1alpha,2beta,3alpha, 3aalpha,4beta,7beta,7aalpha)-

Tremolite
Tremolite (8 CI); Tremolite [Ca2Mg5H2(SiO3)8] (9 CI)

Trethylene
Ethylene, trichloro- (8 CI); Ethene, trichloro- (9 CI)

Tri Tri-Clene
Ethylene, trichloro- (8 CI); Ethene, trichloro- (9 CI)

Tri(2-butoxyethyl) phosphate
Ethanol, 2-butoxy-, phosphate (3:1)

Tri(butoxyethyl) phosphate
Ethanol, 2-butoxy-, phosphate (3:1)

Tri-6 Viton
Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)

Tri-n-butyl phosphate
Phosphoric acid tributyl ester

Triacontane
Triacontane

Tribromomethane
Methane, tribromo-

Tributilfosfato
Phosphoric acid tributyl ester

Tributoxyethyl phosphate
Ethanol, 2-butoxy-, phosphate (3:1)

Tributoxyphosphine oxide
Phosphoric acid tributyl ester

Tributyl cellosolve phosphate
Ethanol, 2-butoxy-, phosphate (3:1)

Tributyl phosphate
Phosphoric acid tributyl ester

Tributyle (phosphate de)
Phosphoric acid tributyl ester

Tributylfosfaat
Phosphoric acid tributyl ester

Tributylphosphat
Phosphoric acid tributyl ester

Tributylphosphate
Phosphoric acid tributyl ester

Trichloran
Ethylene, trichloro- (8 CI); Ethene, trichloro- (9 CI)

Trichloren
Ethylene, trichloro- (8 CI); Ethene, trichloro- (9 CI)

Trichloroacetic acid
Acetic acid, trichloro-

Trichlorobenzene
Benzene, trichloro-

Trichlorobenzene, liquid
Benzene, trichloro-

Trichlorobis(4'-chlorophenyl)ethane
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

Trichloroethanoic acid
Acetic acid, trichloro-

Trichloroethene
Ethylene, trichloro- (8 CI); Ethene, trichloro- (9 CI)

Trichloroethylene
Ethylene, trichloro- (8 CI); Ethene, trichloro- (9 CI)

Trichlorofluoromethane
Methane, trichlorofluoro-

Trichloroform
Chloroform (8 CI); Methane, trichloro- (9 CI)

Trichloromethane
Chloroform (8 CI); Methane, trichloro- (9 CI)

Trichloromonofluoromethane
Methane, trichlorofluoro-

Trichlorophenol
Phenol, trichloro-

Trichlorotrifluoroethane
Ethane, trichlorotrifluoro-

Trichothec-9-ene-3alpha,4beta,8alpha,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-isovalerate
Trichothec-9-ene-3alpha,4beta,8alpha,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-isovalerate (8 CI); Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3alpha,4beta, 8alpha)- (9 CI)

Triclene Anamenth
Ethylene, trichloro- (8 CI); Ethene, trichloro- (9 CI)

Tricresol
Cresol (8 CI) (VAN); Phenol, methyl- (9 CI)

Trielene
Ethylene, trichloro- (8 CI); Ethene, trichloro- (9 CI)

Trilen
Ethylene, trichloro- (8 CI); Ethene, trichloro- (9 CI)

Trilene
Ethylene, trichloro- (8 CI); Ethene, trichloro- (9 CI)

Trimar
Ethylene, trichloro- (8 CI); Ethene, trichloro- (9 CI)

Trimethyl glycol
1,2-Propanediol

Trimethylbenzene
Benzene, trimethyl-

Trimethylnaphthalene
Naphthalene, trimethyl- (No postings in CHEMLINE).

Trinoxol
Acetic acid, (2,4-dichlorophenoxy)-

Trioxon
Acetic acid, (2,4,5-trichlorophenoxy)-

Tris(1,3-dichloro-2-propyl) phosphate
2-Propanol, 1,3-dichloro-, phosphate (3:1)

Tris(1,3-dichloroisopropyl)phosphate
2-Propanol, 1,3-dichloro-, phosphate (3:1)

Tris(1,3-dichloropropyl) phosphate
2-Propanol, 1,3-dichloro-, phosphate (3:1)

Tris(1-chloromethyl-2-chloroethyl)phosphate
2-Propanol, 1,3-dichloro-, phosphate (3:1)

Tris(2-butoxyethyl) phosphate
Ethanol, 2-butoxy-, phosphate (3:1)

Tris-(1,3-dichloro-2-propyl)-phosphate
2-Propanol, 1,3-dichloro-, phosphate (3:1)

Truflex DOP
Phthalic acid, bis(2-ethylhexyl) ester (8 CI); 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI)

TsM1
Molybdenum

Tubatoxin
(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-o ne, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2, 12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)

U 46DP
Acetic acid, (2,4-dichlorophenoxy)-

Ucar 35
1,2-Propanediol

Ultra Sulfur
Sulfur

UN 1040
Ethylene oxide (8 CI); Oxirane (9 CI)

UN 1063
Methane, chloro-

UN 1131
Carbon disulfide

UN 1326
Hafnium

UN 1593
Methane, dichloro-

UN 1600
Toluene, ar,ar-dinitro- (8 CI); Benzene, methyldinitro- (9 CI)

UN 2038
Toluene, ar,ar-dinitro- (8 CI); Benzene, methyldinitro- (9 CI)

UN 2191
Sulfuryl fluoride

UN 2212
Crocidolite

UN 2545
Hafnium

Unichlor 50
Chlorinated paraffins

Unimoll DA
Phthalic acid, diethyl ester (8 CI); 1,2-Benzenedicarboxylic acid, diethyl ester (9 CI)

Unimoll DB
Phthalic acid, dibutyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dibutyl ester (9 CI)

Unimoll DM
Phthalic acid, dimethyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dimethyl ester (9 CI)

Uniphat A50
Myristic acid, methyl ester (8 CI); Tetradecanoic acid, methyl ester (9 CI)

Uniphat A60
Palmitic acid, methyl ester (8 CI); Hexadecanoic acid, methyl ester (9 CI)

Univerm
Carbon tetrachloride (8 CI); Methane, tetrachloro- (9 CI)

Univol U 316S
Myristic acid (8 CI); Tetradecanoic acid (9 CI)

Uranium I [(238)U]
Uranium

Uranium-238
Uranium

Uromaline
Mandelic acid (8 CI); Benzeneacetic acid, alpha-hydroxy- (9 CI)

Ursol ERN Zoba ERN
1-Naphthol (8 CI); 1-Naphthalenol

USAF EK-4812
Benzothiazole

USAF EK-T-434
Thiocyanic acid, sodium salt

V 9
Silver

Vaflol
Vitamin A

Vanadium
Vanadium

Vanadium-51
Vanadium

Vangard BT
Benzothiazole

Vanicol
Stearic acid (8 CI); Octadecanoic acid (9 CI)

Vanlube PC
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Vanlube PCX
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Vascuals
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

Velsicol 104
4,7-Methanoindene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,4, 5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- (9 CI)

Velsicol 1068
4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4, 5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI)

Velsicol 53-CS-17
4,7-Methanoindan, 1,4,5,6,7,8,8-heptachloro-2,3-epoxy-3a,4,7,7a-tetrahydro- (8 CI); 2,5-Methano-2H-indeno(1,2-b)oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a-hexahydro-, (1aalpha,1bbeta,2alpha, 5alpha,5abeta,6beta,6aalpha)- (9 CI)

Vermoestricid
Carbon tetrachloride (8 CI); Methane, tetrachloro- (9 CI)

Verrol
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

Verton 2-D
Acetic acid, (2,4-dichlorophenoxy)-

Verton 2-T
Acetic acid, (2,4,5-trichlorophenoxy)-

Verton 2D
Acetic acid, (2,4-dichlorophenoxy)-

Verton 2T
Acetic acid, (2,4,5-trichlorophenoxy)-

Vestinol AH
Phthalic acid, bis(2-ethylhexyl) ester (8 CI); 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI)

Vetiol
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Vi-Alpha
Vitamin A

Vianol
p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

Vidon 638
Acetic acid, (2,4-dichlorophenoxy)-

Vikane
Sulfuryl fluoride

Vikane fumigant
Sulfuryl fluoride

Vinicizer 80 Witcizer
Phthalic acid, bis(2-ethylhexyl) ester (8 CI); 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI)

Vinylbenzene
Styrene (8 CI); Benzene, ethenyl- (9 CI)

Vinylbenzol
Styrene (8 CI); Benzene, ethenyl- (9 CI)

Violet 3
Xylene (8 CI); Benzene, dimethyl- (9 CI)

Vioxan
Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)

Vitamin A
Vitamin A

Vitamin A alcohol
Vitamin A

Vitamin A(1)
Vitamin A

Vitamin E
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

Vitaplex E
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

Vitavel A
Vitamin A

Vitayonon
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

Viteolin
2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl) -, (2R-(2R(4R,8R)))-

Vitpex Vogan
Vitamin A

Vogan-Neu
Vitamin A

Vondalhyde
3,6-Pyridazinedione, 1,2-dihydro-

Vondrax
3,6-Pyridazinedione, 1,2-dihydro-

Wang
Tin

Weeviltox
Carbon disulfide

Wegla Dwusiarczek
Carbon disulfide

Westrosol
Ethylene, trichloro- (8 CI); Ethene, trichloro- (9 CI)

White phosphorus
Phosphorus

White tar
Naphthalene

Witcizer 300
Phthalic acid, dibutyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dibutyl ester (9 CI)

Wood alcohol
Methanol

Wood alcohols B.P.
Cholesterol (8 CI); Cholest-5-en-3-ol (3beta)- (9 CI)

Wood spirit
Methanol

Xiloli
Xylene (8 CI); Benzene, dimethyl- (9 CI)

Xylene
Xylene (8 CI); Benzene, dimethyl- (9 CI)

Xylenen
Xylene (8 CI); Benzene, dimethyl- (9 CI)

Xylenes
Xylene (8 CI); Benzene, dimethyl- (9 CI)

Xylol
Xylene (8 CI); Benzene, dimethyl- (9 CI)

Xylole
Xylene (8 CI); Benzene, dimethyl- (9 CI)

Yellow phosphorus
Phosphorus

Ytterbium
Ytterbium

Zerdane
Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)

Zinc
Zinc

Zinc protoporphyrin IX
Zinc, (dihydrogen 3,7,12,17-tetramethyl-8,13-divinyl-2,18-porphinedipropionate (2-))- (8 CI) Zinc, (7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18- dipropanoato(2-)-N(21),N(22),N(23),N(24))-, (SP-4-2)- (9 CI)

Zinc protoporphyrin
Zinc, (dihydrogen 3,7,12,17-tetramethyl-8,13-divinyl-2,18-porphinedipropionate (2-))- (8 CI) Zinc, (7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18- dipropanoato(2-)-N(21),N(22),N(23),N(24))-, (SP-4-2)- (9 CI)

Zithiol
Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)

Abdul-Jalil, F.H. **12004, 12005, 12015, 12016, 12745, 12746, 12802, 12803, 12826, 12827**

Abe, H. **11879**

Acquavella, J.F. **12453, 12457, 12458, 12460, 12462**

Adlkofer, F. **11972**

Agin, G.L. **12334, 12335**

Aitoio, A. **11779**

Akagi, K. **11768**

Akesson, B. **11932, 12363**

Al-Bassomy, M. **12004, 12005, 12015, 12016, 12745, 12746, 12802, 12803, 12826, 12827**

Al-Ogaily, N. **11985, 11994, 12003-12005, 12015, 12016, 12070, 12077, 12089, 12118, 12736, 12743, 12745, 12746, 12802, 12803, 12817, 12821, 12826, 12827**

Al-Omar, M. **12004, 12005, 12015, 12016, 12745, 12746, 12802, 12803, 12826, 12827**

Al-Omar, M.A. **11985, 11994, 12003, 12070, 12077, 12089, 12118, 12736, 12743, 12817, 12821**

Alboge, K. **11846, 12220, 12313, 12544**

Alessio, L. **11840, 11873**

Alfthan, G. **12547, 12668, 12755**

Alkes, I. **12207**

Andersen, K.J. **12578**

Ando, M. **11773, 11807, 11818**

Andress, D.L. **11673**

Angerer, J. **11726, 12071, 12149, 12208, 12279, 12371, 12373, 12377, 12388, 12634, 12635**

Angle, C.R. **12202**

Annapurna, V. **12236**

Ansari, G.A.S. **11729, 12103, 12381, 12720, 12730**

Antoine, S.R. **11721, 11725, 11727, 11740, 11918, 12072, 12095, 12099, 12336, 12337, 12601, 12638, 12669**

Anzion, R.B.M. **12702**

Aono, H. **11844, 11847, 11878, 11922, 11923, 11933, 11952, 11953, 11967, 12216, 12234, 12235, 12265, 12300, 12301, 12309, 12311, 12314, 12330, 12673, 12674, 12696**

Arad, I. **11736, 11814, 11993, 12001, 12076, 12087, 12115, 12787, 12796**

Araki, S. **11844, 11847, 11878, 11922, 11923, 11933, 11952, 11953, 11967, 12216, 12234, 12235, 12265, 12300, 12301, 12309, 12311, 12314, 12330, 12673, 12674, 12696**

Arcoleo, C.G. **12184**

Arendt, U. **12094, 12098**

Armstrong, B.G. **11848, 11876, 12201**

Atkins, E.H. **11902**

Atuma, S.S. **12396, 12398**

Azaric, J. **11845**

Baghurst, P. **12224, 12227**

Bai, K.M. **11983, 11990, 11995, 11999, 12143**

Bailey, D.N. **12732, 12733**

Baker, E.L. **11787, 11902, 12192**

Baluja, G. **12318**

Barbalat, F. **11719, 11849, 11881, 12242, 12283, 12677**

Barber, T.E. **12332**

Barkley, D.E.H. **12147**

Barrett, S. **11675, 11702, 11750, 11853, 11884, 11926, 11943, 11960, 12137, 12165, 12247, 12269, 12287, 12304, 12319, 12347, 12361, 12441, 12521, 12539, 12555, 12576, 12581, 12631, 12666, 12683**

Barry, S.F. **12454-12456, 12459, 12461, 12463**

Bartolucci, G.B. **12092, 12636, 12639**

Baxter, P.J. **12188, 12223**

Bayliss, P.A. **12543, 12559, 12562, 12570**

Beckett, W.S. **11703, 11708**

Beentjes, L.B. **11834**

Beginn, U. **12191**

Behrens, R.H. **11835**

Bellinger, D. **12182, 12240**

Bellomo, M.L. **12148, 12370**

Benoit, F.M. **12097, 12339**

Berant, M. **12218**

Bergmark, A. **12153, 12626**

Berkey, C.S. **12192**

Berkowitz, A. **12218**

Berlin, M. **11723**

Berman, E. **12233**

Bernard, A. **11842, 11872, 12196**

Berode, M. **12602, 12604**

Berra, A. **11691, 11700, 11850, 11908, 11910, 11911, 11925, 11942, 12120, 12121, 12135, 12138, 12151, 12160, 12163, 12177, 12180, 12271, 12316, 12345, 12357-12359, 12538, 12540-12542, 12553, 12579, 12610, 12611, 12629, 12630, 12656, 12671, 12678**

Bertarini, W. **12328, 12571**

Bhide, S.V. **12062, 12063, 12367, 12368, 12536, 12537, 12699, 12753**

Bianchi, M. **12131**

Bjorck, L **12153, 12626**

Blain, C. **11719, 11849, 11881, 12242, 12283, 12677**

Blanc, P. **11977, 11981**

Blanke, R.V. **12800, 12823, 12824**

Bleecker, M.L. **11703, 11708**

Blomkvist, G. **11735, 11810, 11992, 12069, 12075, 12086, 12113, 12514, 12786, 12795**

Boesch, R.R. **11744**

Boey, K.W. **12217**

Bogdasarian, M. **12017, 12020, 12022, 12025, 12028, 12031, 12034, 12037, 12039, 12042, 12045, 12047, 12052, 12056**

Bogusz, M. **12764, 12771**

Boleij, J.S.M. **12759**

Bolt, H.M. **12754**

Borella, P. **12239, 12244**

Bornschein, R.L. **12186, 12225, 12229, 12230**

Bos, R.P. **12702, 12756**

Boter, H.L. **12091**

Botta, G.C. **11691, 11700, 11850, 11908, 11910, 11911, 11925, 11942, 11951, 12120, 12121, 12135, 12138, 12151, 12160, 12163, 12177, 12180, 12271, 12316, 12345, 12357-12359, 12538, 12540-12542, 12553, 12579, 12610, 12611, 12629, 12630, 12656, 12671, 12678**

Bowlt, C. **12156, 12158**

Boyd, H.A. **11678-11688**

Braun, J. **12124-12129**

Breitenstein, B.D. **11678-11688**

Brera, S. **11907, 11909, 12175, 12176, 12178, 12270, 12272, 12670, 12672**

Britt, S.G. **12381**

Brittenham, G.M. **12241**

Brockhaus, A. **11665, 11666, 11842, 11872, 11919, 12073, 12096, 12100, 12196, 12338**

Brody, A.R. **11713**

Bromet, E.J. **12211**

Brown, J.F. **11781, 11782, 12109**

Brown, J.R. **12122, 12161, 12643**

Brown, M. **12549, 12573**

Brugnone, F. **12092, 12093, 12148, 12370, 12636, 12639**

Brune, D. **11695, 11705, 11863, 11868-11870, 11929, 11948, 12179, 12251, 12253-12255, 12566, 12688, 12691, 12693**

Bryce-Smith, D. **11674, 11692, 11701, 11718, 11720, 11836, 11837, 11912, 11956, 12136, 12152, 12162, 12281, 12303, 12346, 12516, 12552, 12554, 12606, 12664, 12665, 12682**

Buchanan, B.E. **12543, 12559, 12562, 12570**

Buchet, J.P. **11871, 12195, 12261, 12329**

Bugge, A. **11892, 11893, 12828**

Buijs, W.C. **11834**

Bunn, W.B. **12332**

Burnett, R.T. **11746, 11860, 11866, 11886, 11887, 11962, 11963, 12168, 12170, 12250, 12290, 12291, 12306, 12307, 12323, 12325, 12443, 12444, 12524, 12525, 12560, 12564, 12583, 12584, 12686, 12690**

Bush, B. **11734, 11809, 11825, 11826, 11828, 11829, 11831-11833, 12112, 12703, 12706, 12708-12711, 12713-12718, 12722-12724, 12727-12729, 12751, 12752**

Campbell, B.C. **12209**

Campbell, L. **11899-11901**

Campbell, R.A. **11661**

Capelli, R. **12328, 12571**

Caplan, Y.H. **11905**

Carreras, N. **11786, 11816, 11819, 12110, 12116, 12119**

Carton, D. **11658, 11659, 12535**

Casanova-Schmitz, M. **12130**

Cattani, R. **11904**

Centers for Disease Control **12737**

Chang, K. **11769, 12486, 12508**

Chang, Y. **11769, 12486, 12508**

Chapman, J.S. **12342**

Chatterjee, B.B. **11857, 11983, 11990, 11995, 11999, 12143, 12687**

Chen, P.H. **11756, 11770, 11790, 11792, 11793, 11795, 11799, 11800, 11805, 11820, 11822, 12481, 12487, 12489-12492, 12494, 12496, 12500, 12503-12505, 12510**

Chen, R. **11769, 12486, 12508**

Cherniack, M.G. **12275, 12278**

Chia, C.B. **12217**

Chisolm, J.J. **12232**

Chmielnicka, J. **12203, 12262, 12268**

Christiani, D.C. **11787**

Chu, Y.-J. **12551**

Churg, A. **11714, 11716, 11937, 11939, 12343, 12344, 12644**

Cikrt, M. **11858, 11875**

Claesson, O. **12153, 12626**

Clark, C.S. **12229**

Clark, J. **12184**

Clark, M.A. **12067**

Claude, J.R. **12183**

Cociancich, L **12190, 12260**

Cohn, R.A. **12185**

Cohn, S.H. **11855, 11856, 11864, 11865, 12222, 12243, 12266**

Coles, R. **11715, 11717, 11938, 11976, 12349**

Colgrove, M.L. **12187, 12249, 12252, 12259**

Collecchi, P. **11907, 11909, 12175, 12176, 12178, 12270, 12272, 12670, 12672**

Connell, M.M. **12211**

Connor, S. **11734, 11809, 11825, 11826, 11828, 11829, 11831-11833, 12112, 12703, 12706, 12708-12711, 12713-12718, 12722-12724, 12727-12729, 12751, 12752**

Cornelio, G. **12190, 12260**

Corona, P.C. **12148, 12370**

Corstens, F.H. **11834**

Craig, J.C. **11722**

Craig, R. **11745, 12064, 12641**

Crocker, T.T. **11776, 11778**

Cromer, J.W. **12332**

Cronk, L.S. **12147**

Crowley, R.J. **12273, 12274, 12276, 12277**

Crume, Y.S. **12642**

Cruse, S. **11761, 11987, 12068, 12079, 12104, 12735, 12739, 12805**

Cusic, S. **11984, 11991, 12000, 12012, 12084, 12101, 12111**

Cutolo, M. **11907, 11909, 12175, 12176, 12178, 12270, 12272, 12670, 12672**

Dahlberg, P.-A. **12153, 12626**

Dale, M.E. **12642**

David, O.J. **12184**

Davidson, W.R. **12097, 12339**

Davies, D.J. **11696, 11697, 11728, 11753, 11982, 11986, 11996, 12074, 12078, 12102, 12734, 12738, 12781, 12790, 12804**

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YUGOSLAVIA 11812, 11845, 11984, 11991, 12000, 12012, 12084, 12085, 12101, 12111, 12114

(-)-2-Hydroxy-N-cyclopropylmethylmorphinan (No postings in Chemline). **5780**

(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-one, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2,12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha, 12aalpha))- (9 CI) **11658, 11659**

(1,1'-Biphenyl)-4-butanoic acid, gamma-oxo- **4678, 4679**

(1,3)Dioxolo(4,5-q)cinnoline-3-carboxylic acid, 1-ethyl-1,4-dihydro-4-oxo- **1581, 1582**

(2R,4R)-2-(2-Hydroxyphenyl)-3-(3-mercaptopropionyl)-4-thiazolidinecarboxyli c acid (No postings in CHEMLINE). **10018**

(3,4'-Bipyridin)-6(1H)-one, 5-amino- **5781, 5782, 7061, 8264, 10019, 10020**

(3,4'-Bipyridine)-5-carbonitrile, 1,6-dihydro-2-methyl-6-oxo- **10021, 10022**

Acenaphthene (8 CI); Acenaphthylene, 1,2-dihydro- (9 CI) **11660**

Acetaldehyde **3501-3504, 6012, 7588, 8265, 8695, 10023-10025**

Acetamide, N-(5-sulfamoyl-1,3,4-thiadiazol-2-yl)- (8 CI); Acetamide, N-(5-(aminosulfonyl)-1,3,4-thiadiazol-2-yl)- (9 CI) **1583, 7589**

Acetamide, N-amidino-2-(2,6-dichlorphenyl)- (8 CI); Benzeneacetamide, N-(aminoiminomethyl)-2, 6-dichloro- (9 CI) **4680-4682, 7062-7064, 7590**

Acetamide, N-methyl **1584**

Acetamide, 2-(p-(2-hydroxy-3-(isopropylamino)propoxy)phenyl)- (8 CI); Benzeenacetamide, 4-(2-hydroxy-3-((1-methylethyl)amino)propoxy)- (9 CI) **1585-1588, 4683, 4684, 7065-7067, 8266, 8267, 10026-10030**

Acetamide, 2,2-dichloro-N-(beta-hydroxy-alpha-(hydroxymethyl)-p-(methylsulfonyl)phenethyl) - , D-threo-(+)- (8 CI) Acetamide, 2,2-dichloro-N-(2-hydroxy-1-(hydroxymethyl)-2-(4-(methylsulfonyl)phenyl)ethyl)-, (R-(R*,R*))- (9 CI) **5783-5794, 10031, 10032**

Acetamide, 2,2-dichloro-N-(beta-hydroxy-alpha-(hydroxymethyl)-p-nitrophenethyl)-, D-threo-(-)- , (8 CI); Acetamide, 2,2-dichloro-N-(2-hydroxy-1-(hydroxymethyl)-2-(4-nitrophenyl)ethyl)-,(R-(R*,R*)) - (9 CI) **1589, 4685-4688, 5795, 5796, 7068-7070, 8268, 10033-10042**

Acetanilide, 4'-(2-hydroxy-3-(isopropylamino)propoxy)- (8 CI); Acetamide, N-(4-(2-hydroxy-3-((1-methylethyl)amino)propoxy)phenyl)- (9 CI) **1-3, 4689, 5797**

Acetanilide, 4'-hydroxy- (8 CI); Acetamide, N-(4-hydroxyphenyl)- (9 CI) **1590-1595, 4690-4699, 5798-5801, 7071-7076, 7591, 7592, 8269-8276, 8961, 9013, 9014, 10043-10067**

Acetic acid ethyl ester **3505, 3506, 6013**

Acetic acid, (((2-((2-(((aminocarbonyl)oxy)methyl)-4-oxo-1-sulfo-3-azetidinyl)amino)-1-(2-ami no-4-thiazolyl)-2-oxoethylidene)amino)oxy)-, (2S-(2alpha,3alpha(Z)))- **10068, 10069**

Acetic acid, (o-(2,6-dichloroanilino)phenyl)-, monosodium salt (8 CI); Benzeneacetic acid, 2-((2,6-dichlorophenyl)amino)-, monosodium salt (9 CI) **1596-1598, 8781**

Acetic acid, (2-hydroxyethoxy)- **4, 1599**

Acetic acid, (2,3-dichloro-4-(2-thienylcarbonyl)phenoxy)- **4700**

Acetic acid, (2,4-dichlorophenoxy)- **5, 6, 1600-1603, 6014, 7593, 7594, 8696-8714, 11661, 11662**

Acetic acid, (2,4,5-trichlorophenoxy)- **1604-1606, 8715, 11663**

Acetic acid, (3,4-dihydroxyphenyl)- (8 CI); Benzeneacetic acid, 3,4-dihydroxy- (9 CI) **1607**

Acetic acid, (4-(allyloxy)-3-chlorophenyl)- (8 CI); Benzeneacetic acid, 3-chloro-4-(2-propenyloxy)- (9 CI) **4701-4703**

Acetic acid, (4-hydroxy-3-methoxyphenyl)- (8 CI); Benzeneacetic acid, 4-hydroxy-3-methoxy- (9 CI) **1608**

Acetic acid, allyl ester (8 CI); Acetic acid, 2-propenyl ester (9 CI) **3507, 6015**

Acetic acid, butyl ester **3508, 3509**

Acetic acid, cyano- **4704**

Acetic acid, ethoxy- **11664**

Acetic acid, octyl ester **3510, 6016**

Acetic acid, phenyl- (8 CI); Benzeneacetic acid (9 CI) **3511, 6017**

Acetic acid, phenyl-, ethyl ester (8 CI); Benzeneacetic acid, ethyl ester (9 CI) **3512, 6018**

Acetic acid, propyl ester **3513, 3514, 6019**

Acetic acid, thio- (8 CI); Ethanethioic acid (9 CI) **3515, 6020**

Acetic acid, thiodi- (8 CI); Acetic acid, 2,2'-thiobis- (9 CI) **8716**

Acetic acid, trichloro- **1609-1611, 3516-3518, 7595, 7596, 8717, 8718, 11665, 11666**

Acetoacetic acid, butyl ester (8 CI); Butanoic acid, 3-oxo-, butyl ester (9 CI) **3519, 6021**

Acetone (8 CI); 2-Propanone (9 CI) **3520-3523, 6022, 7077, 8719-8722**

Acetonitrile **3524, 6023**

Acetylene, dichloro- (8 CI); Ethyne, dichloro- (9 CI) **3525, 6024**

Adenosine, cyclic 3',5'-(hydrogen phosphate) **7**

Adenosine, 5'-((L-3-amino-3-carboxypropyl)methylsulfonio)-5'-deoxy-, hydroxide, inner salt (8 CI) ; Adenosine, 5'-((3-amino-3-carboxypropyl)methylsulfonio)-5'-deoxy, hydroxide, inner salt, (3S)- (9 CI) **10070**

Adriamycin (8 CI); 5,12-Naphthacenedione, 10-((3-amino-2,3,6-trideoxy-alpha-L-lyxo-hexopyranosyl)oxy)-7,8,9,10-tetrahydro- 6,8,11-trihydroxy-8-(hydroxyacetyl)-1-methoxy-, (8S-cis)- (9 CI) **1612, 4705, 5802, 10071-10076**

Aflatoxins **11667, 11668**

Ajmaline (8 CI); Ajmalan-17,21-diol, (17R,21alpha)- (9 CI) **10077**

Alanine, 3-((carboxymethyl)thio)-, L- (8 CI); L-Cysteine, S-(carboxymethyl)- (9 CI) **8, 1613, 1614, 8427**

Alanine, 3-(methylthio)-, L- (8 CI); L-Cysteine, S-methyl- (9 CI) **3526**

Alanine, 3-(p-(bis(2-chloroethyl)amino)phenyl-, L- (8 CI); L-Phenylalanine, 4-(bis(2-chloroethyl) amino)- (9 CI) **4706-4709**

Alanine, 3-(3,4-dihydroxyphenyl)-, L- (8 CI); L-Tyrosine, 3-hydroxy- (9 CI) **1615, 1616, 10078**

Alanine, 3-(4-(4-hydroxy-3-iodophenoxy)-3,5-diiodophenyl)-, L- (8 CI); L-Tyrosine, O-(4-hydroxy-3-iodophenyl)-3,5-diiodo- (9 CI) **3527, 10079**

Alkylbenzene (No postings in CHEMLINE). **11669**

Alkylhexadecanoic acid (No postings in CHEMLINE). **11670**

Allyl alcohol (8 CI); 2-Propen-1-ol (9 CI) **3528**

alpha-Amanitin **8723**

Aluminum **9-12, 1617-1627, 3529-3548, 5272-5280, 6025-6043, 7078-7083, 7597-7602, 8277-8279, 8724-8739, 10080-10092, 11671-11677**

Aluminum hydroxide (8 CI); Aluminum hydroxide [Al(OH)3] (9 CI) **10093**

Americium, isotope of mass 241 **11678-11688**

Ammonia **1628**

Ammonium **8740**

Ammonium, (m-hydroxyphenyl)trimethyl-, dimethylcarbamate (ester) (8 CI); Benzenaminium, 3-(((dimethylamino)carbonyl)oxy)-N,N,N-trimethyl- (9 CI) **4711**

Ammonium, (o-bromobenzyl)ethyldimethyl-, p-toluenesulfonate (8 CI); Benzenemethanaminium, 2-bromo-N-ethyl-N,N-dimethyl-, salt with 4-methylbenzenesulfonic acid (1:1) (9 CI) **4712-4714, 8280, 8281, 10094, 10095**

Ammonium, (3-carboxy-2-hydroxypropyl)trimethyl-, hydroxide, inner salt, L- (8 CI); 1-Propanaminium, 3-(carboxy-2-hydroxy-N,N,N-trimethyl-, hydroxide, inner salt, (R)- (9 CI) **1629-1633**

Ammonium, trimethyl(1-methyl-2-phenothiazin-10-ylethyl)-, methyl sulfate (8 CI); 10H-Phenothiazine-10-ethanaminium, N,N,N,alpha-tetramethyl-, methyl sulfate (9 CI) **1634, 1635**

Amphiboles **13, 3549-3551**

Amphotericin B **10096, 10097**

Androstan-3-one, 17-hydroxy-1-methyl-17-propyl-, (1alpha,5alpha,17beta)- **10098**

Aniline (8 CI); Benzenamine (9 CI) **1636, 7603**

Aniline, 4,4'-methylenebis(2-chloro- (8 CI); Benzenamine, 4,4'-methylenebis(2-chloro- (9 CI) **3552, 11689**

Aniline, 4,4'-sulfonyldi- (8 CI); Benzeneamine, 4,4'-sulfonylbis- (9 CI) **4715, 4716, 8282, 8283**

Anthracene **6044, 6045, 11690**

Anthranilic acid, N-(8-(trifluoromethyl)-4-quinolyl)-, 2,3-dihydroxypropyl ester (8 CI); Benzoic acid, 2-((8-(trifluoromethyl)-4-quinolinyl)amino)-, 2,3-dihydroxypropyl ester (9 CI) **1637**

Anthranilic acid, N-2,3-xylyl- (8 CI); Benzoic acid, 2-((2,3-dimethylphenyl)amino)- (9 CI) **7084, 8284**

Anthranilic acid, 4-chloro-N-furfuryl-5-sulfamoyl- (8 CI); Benzoic acid, 5-(aminosulfonyl)-4-chloro-2-((2-furanylmethyl)amino)- (9 CI) **1638-1641, 4717-4719, 5803, 5804, 7085-7087, 7604, 8285-8288, 10099-10109**

Antimony **14-27, 1642-1644, 3553-3566, 6046-6051, 7605-7608, 8741-8743, 11691-11695**

Antipyrine (8 CI); 3H-Pyrazol-3-one, 1,2-dihydro-1,5-dimethyl-2-phenyl- (9 CI) **1645-1647, 4720-4723, 5805, 5806, 7088, 7089, 7609, 7610, 8289-8291, 8759, 10110, 10111**

Antipyrine, 4-(dimethylamino)- (8 CI); 3H-Pyrazol-3-one, 4-(dimethylamino)-1,2-dihydro-1,5-dimethyl-2-phenyl- (9 CI) **4724-4726, 5807-5809, 7090**

Arochlor 1242 **28, 7611, 8744, 11696**

Arochlor 1248 **6052, 6053, 7612, 7613**

Arochlor 1260 **3567, 7616, 7617, 7620, 8746-8749, 11697**

Aroclor 1016 **7618, 7619, 8750, 8751**

Aroclor 1254 **29, 6054, 6055, 7614, 7615, 8745**

Arsenenous acid, sodium salt **6056**

Arsenic **30-81, 1648-1673, 3568-3593, 5281-5293, 6057-6068, 7621-7631, 8731-8735, 8752-8795, 8808-8811, 10112, 11698-11710**

Arsenic oxide [As2O3] **1674, 6069, 6070**

Arsine **3594**

Arsine oxide, hydroxydimethyl- (8 CI); Arsinic acid, dimethyl- (9 CI) **82, 3595**

Arsine oxide, hydroxydimethyl-, sodium salt (8 CI); Arsinic acid, dimethyl-, sodium salt (9 CI) **6071**

Asbestos **83-85, 1675, 3596-3619, 5294-5296, 6072-6075, 7632, 7633, 8796-8799, 11711-11715**

Asbestos, grunerite **8800, 11716, 11717**

Asparaginase **7091, 7092**

Attapulgite (VAN) **5297, 5810**

Barbituric acid, 5-(1-cyclohepten-1-yl)-5-ethyl- (8 CI); 2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-(1-cyclohepten-1-yl)-5-ethyl- (9 CI) **1676**

Barbituric acid, 5-(1-cyclohexen-1-yl)-1,5-dimethyl- (8 CI) (VAN); 2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-(1-cyclohexen-1-yl)-1,5-dimethyl- (9 CI) **1677, 4727, 4728, 7093, 10113, 10114**

Barbituric acid, 5-(1-cyclohexen-1-yl)-5-ethyl- (8 CI); 2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-(1-cyclohexen-1-yl)-5 ethyl- (9 CI) **7094-7096, 8292**

Barbituric acid, 5-allyl-1-methyl-5-(1-methyl-2-pentynyl)- (8 CI); 2,4,6(1H,3H,5H)-Pyrimidinetrione, 1-methyl-5-(1-methyl-2-pentynyl)-5-(2-propenyl)- (9 CI) **10115**

Barbituric acid, 5-allyl-5-(1-methylbutyl)- (8 CI); 2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-(1-methylbutyl)-5-(2-propenyl)- (9 CI) **86-94, 1678-1687, 5811, 7097-7100, 8293, 8294, 10116-10125**

Barbituric acid, 5-allyl-5-isobutyl- (8 CI); 2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-(2-methylpropyl)-5-(2-propenyl)- (9 CI) **7101, 10126, 10127**

Barbituric acid, 5-butyl-5-ethyl- (8 CI); 2,4,6-(1H,3H,5H)-Pyrimidinetrione, 5-butyl-5-ethyl- (9 CI) ; **10128**

Barbituric acid, 5-ethyl-5-(p-hydroxyphenyl)- (8 CI); 2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-ethyl-5-(4-hydroxyphenyl)- (9 CI) **1688**

Barbituric acid, 5-ethyl-5-(1-methyl-1-butenyl)- (8 CI); 2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-ethyl-5-(1-methyl-1-butenyl)- (9 CI) **7102-7105**

Barbituric acid, 5-ethyl-5-(1-methylbutyl)- (8 CI); 2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-ethyl-5-(1-methylbutyl)- (9 CI) **95, 96, 1689-1702, 4729-4731, 5812, 7106-7120, 8295, 8296, 10129-10137**

Barbituric acid, 5-ethyl-5-(1-methylbutyl)-, sodium salt (8 CI); 2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-ethyl-5-(1-methylbutyl)-, monosodium salt (9 CI) **97**

Barbituric acid, 5-ethyl-5-isopentyl- (8 CI); 2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-ethyl-5-(3-methylbutyl)- (9 CI) **98-105, 1703-1715, 4732-4734, 7121-7123, 8297, 10138-10145**

Barbituric acid, 5-ethyl-5-phenyl- (8 CI); 2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-ethyl-5-phenyl- (9 CI) **106-111, 1716-1737, 4735-4742, 5813-5819, 7124-7135, 8298-8300, 10146-10159**

Barbituric acid, 5-sec-butyl-5-ethyl-, sodium salt (8 CI); 2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-ethyl-5-(1-methylpropyl)-, monosodium salt (9 CI) **112, 113, 1738-1744, 7136, 7137, 8301**

Barbituric acid, 5,5-diethyl- (8 CI); 2,4,6(1H,3H,5H)-Pyrimidinetrione, 5,5-diethyl- (9 CI) **1745-1750**

Barium **114, 115, 1751-1756, 3620, 5298, 5299, 6076-6093, 8801, 8802, 11718-11720**

Benz(e)acephenanthrylene **6094, 6095**

Benzaldehyde **116, 3621, 3622**

Benzamide, N-(p-(2-(dimethylamino)ethoxy)benzyl)-3,4,5-trimethoxy- (8 CI); Benzamide, N-((4-(2-dimethylamino)ethoxy)phenyl)methyl)-3,4,5-trimethoxy- (9 CI) **8302, 8303**

Benzamide, N-(1-(2-(1H-indol-3-yl)ethyl)-4-piperidinyl)- **8304**

Benzamide, N-(2-piperidinylmethyl)-2,5-bis(2,2,2-trifluoroethoxy)- **10160-10162**

Benzamide, p-amino-N-(2-(diethylamino)ethyl)- (8 CI); Benzamide, 4-amino-N-(2-(diethylamino)ethyl)- (9 CI) **117, 1757-1759, 7634, 8305, 8803, 10163-10166**

Benzamide, 2-hydroxy-5-(1-hydroxy-2-((1-methyl-3-phenylpropyl)amino)ethyl)- **118**

Benzamide, 4-(acetylamino)-N-(2-(diethylamino)ethyl)- **4743-4745, 8306-8308**

Benzamide, 4-chloro-N-(2-methyl-1-indolinyl)-3-sulfamoyl- (8 CI); Benzamide, 3-(aminosulfonyl)-4-chloro-N-(2,3-dihydro-2-methyl-1H-indol-1-yl)- (9 CI) **10167-10171**

Benzamide, 4-methoxy-N-(2-(2-(1-methyl-2-piperidinyl)ethyl)phenyl)-, (+-)- **10172, 10173**

Benzene **3623, 3624, 6096-6100, 10174, 11721-11723**

Benzene, alkenyl- (No postings in CHEMLINE). **11724**

Benzene, chloro- **3625, 6101, 8804, 8805**

Benzene, dichloro- **6102, 8806, 11725**

Benzene, ethyl- **119, 120, 3626-3628, 6103, 8807, 8808, 11726, 11727**

Benzene, hexachloro- **121-128, 1760-1767, 3629-3634, 5300-5303, 6104, 6105, 7635-7638, 8809-8817, 8817, 8818, 8818-8824, 11728-11738**

Benzene, o-dichloro- (8 CI); Benzene, 1,2-dichloro- (9 CI) **3635, 6106, 8825-8828**

Benzene, o-diethyl- (8 CI); Benzene, 1,2-diethyl- (9 CI) **3636, 6107**

Benzene, p-dichloro- (8 CI); Benzene, 1,4-dichloro- (9 CI) **129, 3637-3639, 6108, 8829-8832**

Benzene, pentachloro- **130, 3640, 7639, 8833-8836**

Benzene, pentachloronitro- **3641**

Benzene, propyl- **3642**

Benzene, trichloro- **11739**

Benzene, trimethyl- **3643, 11740**

Benzene, 1,2-dimethoxy-4-methyl-5-(methylsulfinyl)- **8309**

Benzene, 1,2,3-trichloro- **8837-8841**

Benzene, 1,2,3,4-tetrachloro- **8842-8844**

Benzene, 1,2,3,5-tetrachloro- **8845-8848**

Benzene, 1,2,4-trichloro- **8849-8852**

Benzene, 1,3,5-trichloro- **8853-8856**

Benzeneacetamide, N-(4-chlorophenyl)-N-(1-(1-methylethyl)-4-piperidinyl)- **1768-1770, 10175, 10176**

Benzeneacetamide, N-(4-chlorophenyl)-N-4-piperidinyl- **10177**

Benzeneacetic acid, alpha-methyl-4-(2-thienylcarbonyl)- **10178-10180**

Benzeneacetic acid, alpha,3-dichloro-4-cyclohexyl- **131, 132**

Benzenebutanoic acid, 2,4,5-triethoxy-gamma-oxo- **1771**

Benzeneethanamine, alpha-methyl-N-propyl-, (+-)- **7138**

Benzeneethanol, alpha-(2-amino-1-methylethyl)-alpha-phenyl-, propanoate (ester), (S-(R*,S*))- **133-135, 1772-1777, 10181, 10182**

Benzeneethanol, beta-(2-(dimethylamino)propyl)-alpha-ethyl-beta-phenyl-, acetate (ester), (S-(R*, R*))- **8310, 8311**

Benzenepropanamine, N-methyl-gamma-(4-(trifluoromethyl)phenoxy)-, (+-)- **4746, 8857, 8858**

Benzenesulfonamide, 2-chloro-5-(1-hydroxy-3-oxo-1-isoindolinyl)- (8 CI); Benzenesulfonamide, 2-chloro-5-(2,3-dihydro-1-hydroxy-3-oxo-1H-isoindol-1-yl)- (9 CI) **136-138, 4747-4750**

Benzenesulfonamide, 2-chloro-5-(4-hydroxy-3-methyl-2-(methylimino)-4-thiazolidinyl)- **10183**

Benzenesulfonamide, 4-amino-N-2-pyrimidinyl-, mixt. with 5-((3,4,5-trimethoxyphenyl)methyl)-2, 4-pyrimidinediamine **10184, 10185**

Benzenesulfonamide, 5-(1-hydroxy-2-((2-(2-methoxyphenoxy)ethyl)amino)ethyl)-2-methyl-, (+-)- **10186**

Benzenesulfonic acid, 2-hydroxy-5-(((4-methylphenyl)sulfonyl)oxy)- **8921**

Benzidine (8 CI); (1,1'-Biphenyl)-4,4'-diamine (9 CI) **6109**

Benzilic acid, 4,4'-dichloro-, ethyl ester (8 CI); Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl) -alpha-hydroxy-, ethyl ester (9 CI) **6110, 8859, 11741-11743**

Benzo(a)pyrene **6111, 6112, 11744**

Benzo(e)pyrene **6113**

Benzo(ghi)perylene **6114, 6115**

Benzo(k)fluoranthene **6116, 6117**

Benzoic acid, p-(dipropylsulfamoyl)- (8 CI); Benzoic acid, 4-((dipropylamino)sulfonyl)- (9 CI) **139, 1778, 4751, 4752, 5820, 8312**

Benzoic acid, p-amino-, 2-(diethylamino)ethyl ester (8 CI); Benzoic acid, 4-amino-, 2-(diethylamino)ethyl ester (9 CI) **1779**

Benzoic acid, p-hydroxy-, methyl ester (8 CI); Benzoic acid, 4-hydroxy-, methyl ester (9 CI) **10187**

Benzoic acid, 2-((8-(trifluoromethyl)-4-quinolinyl)amino)- **1780**

Benzoic acid, 2-hydroxy-, monosodium salt **8313**

Benzoic acid, 2-hydroxy-, 2-carboxyphenyl ester **1781, 4753, 8314, 8315, 10188, 10189**

Benzoic acid, 2,4-dinitro- **11745**

Benzoic acid, 3-(aminosulfonyl)-4-phenoxy-5-(1-pyrrolidinyl)- **8316, 10190-10192**

Benzoic acid, 3-(aminosulfonyl)-5-(butylamino)-4-phenoxy- **8955, 8956, 10193-10195**

Benzoic acid, 3,5-diacetamido-2,4,6-triiodo- (8 CI); Benzoic acid, 3,5-bis(acetylamino)-2,4,6-triiodo- (9 CI) **10196**

Benzoic acid, 3,6-dichloro-2-methoxy- **8860-8863**

Benzoic acid, 4-(2-(1H-imidazol-1-yl)ethoxy)- **8947, 8948, 11746**

Benzoic acid, 4-amino-2-chloro- **1782, 1783**

Benzoic acid, 4-amino-2-chloro-, 2-(diethylamino)ethyl ester **10197, 10198**

Benzonitrile **3644**

Benzophenone, 4-chloro- (8 CI); Methanone, (4-chlorophenyl)phenyl- (9 CI) **11747**

Benzophenone, 4,4'-dichloro- (8 CI); Methanone, bis(4-chlorophenyl)- (9 CI) **140, 1784**

Benzothiazole **11748**

Benzothiophene **11749**

Benzyl alcohol, alpha-((tert-butylamino)methyl-3,5-dihydroxy- (8 CI); 1,3-Benzenediol, 5-(2-((1,1-dimethylethyl)amino)-1-hydroxyethyl)- (9 CI) **141-146, 5821, 8317**

Benzyl alcohol, alpha-(aminomethyl)-3,4-dihydroxy-, (-)- (8 CI); 1,2-Benzenediol, 4-(2-amino-1-hydroxyethyl)-, (R)- (9 CI) **4754-4761, 5822, 6118, 10199**

Benzyl alcohol, p-hydroxy-alpha-(1-((p-hydroxyphenethyl)amino)ethyl)-, erythro- (8 CI); Benzenemethanol, 4-hydroxy-alpha-(1-((2-(4-hydroxyphenyl)ethyl)amino)ethyl)-, (R*,S*)- (9 CI) **10200**

Benzyl alcohol, 3,4-dihydroxy-alpha-((methylamino)methyl)-, (-)- (8 CI); 1,2-Benzenediol, 4-(1-hydroxy-2-(methylamino)ethyl)-, (R)- (9 CI) **10201**

Benzylamine (8 CI); Benzenemethanamine (9 CI) **3645, 6119**

Beryllium **147-149, 1785-1788, 3646, 3647, 11750**

beta-D-Glucopyranosiduronic acid, cyanophenylmethyl, (R)- **4762, 4763, 7139-7141**

BHC, total (No postings in CHEMLINE). **462-473, 1263, 2067-2082, 3079-3081, 3877-3884, 4524, 4525, 5304-5309, 5406-5411, 6120-6123, 6314-6319, 7640, 7781-7785, 8864-8870, 11751**

Biguanide, 1-butyl- (8 CI); Imidodicarbonimidic diamine, N-butyl- (9 CI) **5823-5829**

Biguanide, 1,1-dimethyl- (8 CI); Imidodicarbonimidic diamide, N,N-dimethyl- (9 CI) **5830, 5831, 7142, 7143**

Biphenyl (8 CI); 1,1'-Biphenyl (9 CI) **3648, 11752**

Biphenyl, chloro (8 CI); 1,1'-Biphenyl, chloro derivs (9 CI) **150-179, 1789-1820, 3649-3672, 5310-5324, 6124-6126, 7641-7650, 8871-8914, 11753-11824**

Biphenyl, 2-chloro- (8 CI); 1,1'-Biphenyl, 2-chloro- (9 CI) **11825**

Biphenyl, 2,2'-dichloro- (8 CI); 1,1'-Biphenyl, 2,2'-dichloro- (9 CI) **11826**

Biphenyl, 2,2',4,4'-tetrachloro- (8 CI); 1,1'-Biphenyl, 2,2',4,4'-tetrachloro- (9 CI) **6127, 6128**

Biphenyl, 2,3,',4,4'-tetrachloro- (8 CI); 1,1'-Biphenyl, 2,3',4,4'-tetrachloro-(9 CI) **6129, 6130**

Biphenyl, 2,3,3',4,4'-pentachloro- (8 CI); 1,1'-Biphenyl, 2,3,3',4,4'-pentachloro- (9 CI) **1821, 6131-6133, 8915, 11827, 11828**

Biphenyl, 2,3,4,4'-tetrachloro- (8 CI); 1,1'-Biphenyl, 2,3,4,4'-tetrachloro- (9CI) **6134, 6135, 11829**

Biphenyl, 2,3',4,4',5-pentachloro- (8 CI); 1,1'-Biphenyl, 2,3',4,4',5-pentachloro (9 CI) **1822, 6136-6138, 8916, 8917, 11830**

Biphenyl, 2,3',4',5-tetrachloro- (8 CI); 1,1'Biphenyl, 2,3',4',5-tetrachloro- (9 CI) **6139, 6140, 11831**

Biphenyl, 2,4,4',5-tetrachloro- (8 CI); 1,1'-Biphenyl, 2,4,4',5-tetrachloro- (9CI) **6141, 6142**

Biphenyl, 2,4'-dichloro- (No postings in CHEMLINE). **11832**

Biphenyl, 2,4',5-trichloro- (8 CI); 1,1'-Biphenyl, 2,4',5-trichloro- (9 CI) **6143, 11833**

Biphenyl, 3,3',4,4'-tetrachloro- (8 CI); 1,1'-Biphenyl, 3,3',4,4'-tetrachloro- (9 CI) **6144, 6145**

Biphenyl, 3,3',5,5'-tetrachloro- (8 CI); 1,1'-Biphenyl, 3,3',5,5'-tetrachloro- (9 CI) **6146, 6147**

Biphenyl, 4,4'-dichloro- (8 CI); 1,1'-Biphenyl, 4,4'-dichloro- (9 CI) **6148, 6149**

Bismuth **180, 181, 1823-1828, 5832, 7144, 7145, 8918**

Bismuth, isotope of mass 207 **11834**

Bleomycin **1829, 10202, 10203**

Boric acid **10204-10206**

Boron **182, 1830-1834, 3673**

Bromide **5833, 7146, 7651, 8919, 10207, 11835**

Bromine **183, 184, 1835, 1836, 3674-3676, 5325, 6150-6152, 8920-8923, 11836, 11837**

Butanamide, N-(2,6-dimethylphenyl)-2-(ethylpropylamino)- (+-)- **1837**

Butanamide, N-(3-acetyl-4-(2-hydroxy-3-((1-methylethyl)amino)propoxy)phenyl)-, (+-)- **4764, 4765, 10208, 10209**

Butane **3677**

Butanedioic acid, mono((4-butyl-3,5-dioxo-1,2-diphenyl-4-pyrazolidinyl)methyl) ester **8318, 8319**

Butanoic acid, 2,3-dihydroxy-2-(1-methylethyl)-, (2,3,5,7a-tetrahydro-1-hydroxy-1H-pyrrolizin-7-yl) methyl ester, N-oxide, (1R-(1alpha,7(2R*,3S*),7abeta))- **1838, 1839**

Butirosin **4766, 4767**

Butyl alcohol (8 CI); 1-Butanol (9 CI) **3678, 3679, 6153**

Butyric acid, 3-((2-amino-2-carboxyethyl)thio)-, stereoisomer (8 CI); L-Cysteine, S-(2-carboxy-1-methylethyl)- (9 CI) **1840**

Butyric acid, 4-(p-(bis(2-chloroethyl)amino)phenyl)- (8 CI); Benzenebutanoic acid, 4-(bis(2-chloroethyl)amino)- (9 CI) **1841**

Butyrophenone, 4-(4-(p-bromophenyl)-4-hydroxypiperidino)-4'-fluoro- (8 CI); 1-Butanone, 4-(4-(4-bromophenyl)-4-hydroxy-1-piperidinyl)-1-(4-fluorophenyl)- (9 CI) **10210**

Butyrophenone, 4-(4-(p-chlorophenyl)-4-hydroxypiperidino)-4'-fluoro- (8 CI); 1-Butanone, 4-(4-(4-chlorophenyl)-4-hydroxy-1-piperidinyl)-1-(4-fluorophenyl)- (9 CI) **1842, 7147-7149, 10211, 10212**

C-26 Sterol (No postings in CHEMLINE). **6154, 6155**

C-29 Sterol (No postings in CHEMLINE). **6156, 6157**

Cadmium **185-306, 1843-1893, 3680-3732, 5326-5349, 6158-6203, 7652-7687, 8898, 8899, 8924-8973, 8973-8987, 8987, 8988, 8988, 8989, 8989-9036, 11838-11879**

Caffeine (8 CI); 1H-Purine-2,6-dione, 3,7-dihydro-1,3,7-trimethyl- (9 CI) **1894-1898, 4768-4774, 5834, 5835, 7150-7152, 8320-8335, 8695, 8774, 8775, 9022, 10213-10243**

Calcium **307-318, 1899-1924, 3733-3741, 4775, 5350-5359, 6204-6224, 7153-7156, 7688-7705, 9037-9058, 10244-10246, 11880-11891**

Calcium, isotope of mass 47 **9059-9061**

Camphor (8 CI); Bicyclo(2.2.1)heptan-2-one, 1,7,7-trimethyl- (9 CI) **4776, 8888, 8889**

Cannabinoids (No postings in CHEMLINE). **10247, 10248, 11892, 11893**

Carbamic acid, (2-(4-(2-hydroxy-3-((1-methylethyl)amino)propoxy)phenyl)ethyl)-, methyl ester, (+-)- **4777**

Carbamic acid, (2,5-bis(1-aziridinyl)-3,6-dioxo-1,4-cyclohexadiene-1,4-diyl)bis-, diethyl ester **10249, 10250**

Carbamic acid, ethyl-, 1-(6,7-dimethoxy-1-phthalazinyl)-4-piperidinyl ester **10251, 10252**

Carbamic acid, isopropyl-, 2-(hydroxymethyl)-2-methylpentyl ester carbamate (ester) (8 CI); Carbamic acid, (1-methylethyl)-, 2-(((aminocarbonyl)oxy)methyl)-2-methylpentyl ester (9 CI) **10253**

Carbamic acid, methyl-, o-isopropoxyphenyl ester (8 CI); Phenol, 2-(1-methylethoxy)-, methylcarbamate (9 CI) **1925**

Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI) **1926, 1927, 11894-11897**

Carbamic acid, methyl-, 2,6-pyridinediyldimethylene ester (8 CI); 2,6-Pyridinedimethanol, bis (methylcarbamate) (ester) (9 CI) **1928**

Carbamic acid, methyl-, 4-(dimethylamino)-m-tolyl ester (8 CI); Phenol, 4-(dimethylamino)-3-methyl-, methylcarbamate (ester) (9 CI) **11898**

Carbanilic acid, m-chloro-, isopropyl ester (8 CI); Carbamic acid, (3-chlorophenyl)-, 1-methylethyl ester (9 CI) **1929**

Carbanilide, trichloro- (8 CI); Urea, N,N'-diphenyl-, trichloro deriv. (9 CI) **5360, 6225, 6226**

Carbon disulfide **5361, 6227, 9062, 11899-11901**

Carbon monoxide **319-321, 5362-5366, 6228, 7706, 7707, 9063-9068, 11902**

Carbon tetrachloride (8 CI); Methane, tetrachloro- (9 CI) **3742, 5367, 9069, 11903**

Carbonate **322**

Carbonic acid monosodium salt **10254**

Carbonylhemoglobin **323-325, 1930, 5368, 7708, 8805-8807, 9070, 9071, 11904-11906**

Card-20(22)-enolide, 3-((O-2,6-dideoxy-4-O-methyl-beta-D-ribo-hexopyranosyl-(1-4)-O-2,-6-dideoxy-beta -D-ribo-hexopyranosyl-(1-4)-2,6-dideoxy-beta-D-ribo-hexopyranosyl)oxy)-12,14-dih ydroxy-, (3beta,5beta,12beta)- **8336, 8337**

Carminomycin **10255, 10256**

Carotenes and Carotenoids **6229, 10257**

Catechol (8 CI); 2H-1-Benzopyran-3,5,7-triol, 2-(3,4-dihydroxyphenyl)-3,4-dihydro-, (2R-trans)- (9 CI) **10258-10260**

Cerium **1931, 9072, 9073, 11907-11910**

Cesium **327, 1932, 1933, 3743-3745, 6230, 6231, 7709, 7710, 9074, 11911, 11912**

Cesium, isotope of mass 137 **328-334, 1934, 11913**

Chloral hydrate (8 CI); 1,1-Ethanediol, 2,2,2-trichloro- (9 CI) **5840, 7157, 10261**

Chloramphenicol-3-monosuccinate (No postings in CHEMLINE). **7158, 7159**

Chloride **7711, 7712, 9084, 9085**

Chlorinated paraffins **11914**

Chlorinated phenoxy acids (No postings in CHEMLINE). **11915**

Chlorine **336, 337, 1936-1938, 3747-3750, 5369, 5370, 6232, 9086**

Chloroform (8 CI); Methane, trichloro- (9 CI) **3751, 3752, 5371, 6233, 9087, 10262, 11916-11919**

Chlorophenols (No postings in CHEMLINE). **11920**

Cholecalciferol (8 CI); 9,10-Secocholesta-5,7,10(19)-trien-3-ol, (3beta,5Z,7E)- (9 CI) **3753, 10263-10266**

Cholesta-5,22-dien-3beta-ol (8 CI); Cholesta-5,22-dien-3-ol, (3beta)- (9 CI) **6234, 6235**

Cholesterol (8 CI); Cholest-5-en-3-ol (3beta)- (9 CI) **1939, 5372, 6236, 6237, 9088, 9089, 11921**

Cholic acid (8 CI); Cholan-24-oic acid, 3,7,12-trihydroxy-, (3alpha,5beta,7alpha,12alpha)- (9 CI) **338**

Chromate [Cr207(2-)] **8930, 8931**

Chromium **339-376, 1940-1957, 3754-3787, 5373-5377, 6238-6257, 7713-7730, 9090-9111, 10267-10271, 11922-11933**

Chromium, ion (Cr(6+)) **11934-11936**

Chrysotile (8 CI) (VAN); Chrysotile [H4Mg3(Si2O9)] (9 CI) **1958-1960, 3788, 3789, 5378, 11937-11940**

Cirramycin A1, 4'-deoxy- **10272, 10273**

cis-Diammine(1,1-cyclobutanedicarboxylato)platinum (No postings in CHEMLINE). **10274**

Citric acid, ion(3-) (8 CI); 1,2,3-Propanetricarboxylic acid, 2-hydroxy-, ion(3-) (9 CI) **377**

Citric acid, tripotassium salt (8 CI); 1,2,3-Propanetricarboxylic acid, 2-hydroxy-, tripotassium salt (9 CI) **10275, 10276**

Clodronate disodium (No postings in CHEMLINE). **7160, 7161, 8852, 8853**

Coal (No postings in CHEMLINE). **1961-1967**

Cobalt **378-384, 1968-1976, 3790-3805, 5379, 5380, 6258-6277, 7731-7733, 9112-9121, 11941-11951**

Colchicine (8 CI); Acetamide, N-(5,6,7,9-tetrahydro-1,2,3,10-tetramethoxy-9-oxobenzo(a)heptalen-7-yl)-, (S)- (9 CI) **385, 386, 4782, 10277**

Copper **387-441, 1977-2032, 3806-3853, 5381-5404, 6278-6300, 7162, 7734-7770, 8338, 9122-9167, 10278-10282, 11952-11967**

Cortisol (8 CI); Pregn-4-ene-3,20-dione, 11,17,21-trihydroxy-, (11beta)- (9 CI) **2033, 8339, 10283, 10284**

Cotinine (8 CI); 2-Pyrrolidinone, 1-methyl-5-(3-pyridinyl-,(S)- (9 CI) **4783-4786, 7163, 8340, 9168-9179, 10285-10287, 11968-11974**

Coumarin (8 CI); 2H-1-Benzopyran-2-one (9 CI) **3854, 6301**

Coumarin, 3-(alpha-acetonylbenzyl)-4-hydroxy- (8 CI); 2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)- (9 CI) **2034, 4787-4791, 7164, 7771, 10288**

Coumarin, 3-(alpha-acetonylbenzyl)-4-hydroxy-, sodium salt (8 CI); 2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, sodium salt (9 CI) **2035, 2036, 4792-4795, 8341**

Creatine (8 CI); Glycine, N-(aminoiminomethyl)-N-methyl- (9 CI) **9180, 9181**

Creatinine (8 CI); 4H-Imidazol-4-one, 2-amino-1,5-dihydro-1-methyl- (9 CI) **9182, 9183**

Cresol (8 CI) (VAN); Phenol, methyl- (9 CI) **2037, 3855, 11975**

Crocidolite **11976**

Cumene (8 CI); Benzene, (1-methylethyl)- (9 CI) **3856, 3857, 6302**

Curium **6303**

Cyanide **442, 2038-2040, 3858, 5405, 6304, 10289, 11977-11981**

Cyclohexane **3859, 3860, 6305**

Cyclohexane, methyl- **3861**

Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3alpha,4beta,5beta,6beta)- **7772**

Cyclohexane, 1,2,3,4,5,6-hexachloro-, alpha- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3beta,4alpha,5beta,6beta)- (9 CI) **443-445, 2041-2048, 3862-3864, 6306-6309, 7773-7775, 9184-9186, 11982-11985**

Cyclohexane, 1,2,3,4,5,6-hexachloro-, beta- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2beta,3alpha,4beta,5alpha,6beta)- (9 CI) **446-460, 2049-2063, 3865-3875, 6310-6313, 7776-7779, 8823, 8824, 9187-9191, 11986-11994**

Cyclohexane, 1,2,3,4,5,6-hexachloro-, delta- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha,3alpha,4beta,5alpha,6beta)- (9 CI) **461, 2064-2066, 3876, 7780, 11995**

Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)- (9 CI) **9192-9194, 11996-12005**

Cyclohexaneethylamine, N,alpha-dimethyl- (8 CI); Cyclohexaneethanamine, N,alpha-dimethyl- (9 CI) **4796-4801**

Cyclohexaneglycolic acid, alpha-phenyl-, 4-(diethylamino)-2-butynyl ester (8 CI); Benzeneacetic acid, alpha-cyclohexyl-alpha-hydroxy-, 4-(diethylamino)-2-butynyl ester (9 CI) **10290**

Cyclohexanol **3885, 3886, 6320**

Cyclohexanol, 1-ethynyl-, carbamate **2083**

Cyclohexanone, 2-(2-chlorophenyl)-2-(methylamino)-, (+-)- **8919, 10291-10293**

Cyclohexylamine (8 CI); Cyclohexanamine (9 CI) **5841, 5842**

Cyclopenta(c)furo(3',2':4,5)furo(2,3-h)(1)benzopyran-1,11-dione, 2,3,6aalpha,9aalpha-tetrahydro-4-methoxy- (8 CI) Cyclopenta(c)furo(3',2':4,5)furo(2,3-h)(1)benzopyran-1,11-dione, 2,3,6a,9a-tetrahydro-4-methoxy-, (6aR-cis)- (9 CI) **474, 3887, 5412-5414, 9195, 12006-12010**

Cyclopentane, methyl- **3888**

Cyclopentanol **3889, 6321**

Cyclopropanecarboxylic acid, 3-(2,2-dichloroethenyl)-2,2-dimethyl-, cyano(3-phenoxyphenyl) methyl ester **9196**

Cyclopropylamine, 2-phenyl-, trans-(+-)- (8 CI); Cyclopropanamine, 2-phenyl-, trans-(+-)- (9 CI) **2084-2089, 10294**

Cyclosporin A **10295-10302**

Cyclotetrasiloxane, 2,2,4,6,6,8-hexamethyl-4,8-diphenyl-, cis- **4802**

Cystine **3890**

Cytosine, 1-beta-D-arabinofuranosyl- (8 CI); 2(1H)-Pyrimidinone, 4-amino-1-beta-D-arabinofuranosyl- (9 CI) **10303**

D-erythro-D-galacto-Octopyranoside, methyl 6,8-dideoxy-6-(1-methyl-4-propyl-L-2-pyrrolidinecarboxamido)-1-thio-, trans-alpha- (8 CI); D-erythro-alpha-D-galacto-Octopyranoside, methyl 6,8-dideoxy-6-(((1-methyl-4-propyl-2-pyrrolidinyl)carbonyl)amino)-1-thio-, (2S-trans)- (9 CI) **10304, 10305**

D-Gluconic acid, 4-O-beta-D-galactopyranosyl-, compd. with erythromycin (1:1) **8788-8791**

D-Glucose, 2-((((2-chloroethyl)nitrosoamino)carbonyl)amino)-2-deoxy- **2090, 2091**

D-Phenylethyleneglycol (No postings in CHEMLINE). **12011**

D-Streptamine, O-3-amino-3-deoxy-alpha-D-glucopyranosyl-(1-6)-O-(6-amino-6-deoxy-alpha-D-glucop yranosyl-(1-4))-N(1)-(4-amino-2-hydroxy-1-oxobutyl)-2-deoxy-, (S)- **2092, 2093, 4803, 8342, 8343, 10306-10311**

D-Streptamine, O-3-amino-3-deoxy-alpha-D-glucopyranosyl-(1-6)-O-(6-amino-6-deoxy-alpha-D-glucop yranosyl-(1-4))-2-deoxy- **2094, 2095, 4804**

D-Streptamine, O-3-deoxy-4-C-methyl-3-(methylamino)-beta-L-arabinopyranosyl-(1-6)-O-(26-diamino -2,3,4,6-tetradeoxy-alpha-D-glycero-hex-4-enopyranosyl-(1-4))-2-deoxy-N(1)-ethyl - **475, 10312-10315**

DDT, total (No postings in CHEMLINE). **534-570, 1264-1281, 2190-2216, 3082-3101, 3919-3935, 4526-4531, 5415-5422, 5431-5438, 6322-6326, 6342-6345, 7786-7790, 7805-7811, 8821, 8822, 9197-9205, 12012-12016**

Decanal **3891, 6327**

Decane **3892, 6328**

delta(9)-Tetrahydrocannabinol-11-oic acid glucuronide (No postings in CHEMLINE). **10316**

Dibenz(b,e)oxepin-delta(11(6H),gamma)-propylamine, N-methyl- (8 CI); 1-Propanamine, 3-dibenz (b,e)oxepin-11(6H)-ylidene-N-methyl- (9 CI) **2096, 10317**

Dibenz(b,e)oxepin-delta(11(6H),gamma)-propylamine, N-methyl-, hydrochloride (8 CI); 1-Propanamine, 3-dibenz(b,e)oxepin-11(6H)-ylidene-N-methyl-, hydrochloride (9 CI) **476, 2097**

Dibenz(b,e)oxepin-delta(11(6H),gamma)-propylamine, N,N-dimethyl- (8 CI); 1-Propanamine, 3-dibenz(b,e)oxepin-11(6H)-ylidene-N,N-dimethyl- (9 CI) **477-488, 2098-2103, 7165, 8344-8350, 10318-10323**

Dibenz(b,e)oxepin-delta(11(6H),gamma)-propylamine, N,N-dimethyl-, hydrochloride (8 CI); 1-Propanamine, 3-dibenz(b,e)oxepin-11(6H)-ylidene-N,N-dimethyl-, hydrochloride (9 CI) **4805**

Dibenz(b,f)(1,4)oxazepin-8-ol, 2-chloro-11-(1-piperazinyl)- **2104, 10324**

Dibenz(b,f)(1,4)oxazepin-8-ol, 2-chloro-11-(4-methyl-1-piperazinyl)- **2105**

Dibenz(b,f)(1,4)oxazepine, 2-chloro-11-(1-piperazinyl)- **10325, 10326**

Dibenz(b,f)(1,4)oxazepine, 2-chloro-11-(4-methyl-1-piperazinyl)- **2106-2108, 5843-5847**

Dibenzo(b,e)(1,4)dioxin, 1,2,3,4,6,7,8-heptachloro- **12017-12019**

Dibenzo(b,e)(1,4)dioxin, 1,2,3,4,6,7,9-heptachloro- **12020**

Dibenzo(b,e)(1,4)dioxin, 1,2,3,45,7,8-hexachloro- **12021**

Dibenzo(b,e)(1,4)dioxin, 1,2,3,6,7,8-hexachloro- **12022-12024**

Dibenzo(b,e)(1,4)dioxin, 1,2,3,7,8-pentachloro- **12025-12027**

Dibenzo(b,e)thiepin-delta(11(6H),gamma)-propylamine, N,N-dimethyl- (8 CI); 1-Propanamine, 3-dibenzo(b,e)thiepin-11(6H)-ylidene-N,N-dimethyl- (9 CI) **489-491**

Dibenzo(c,f)pyrazino(1,2-a)azepine, 1,2,3,4,10,14b-hexahydro-2-methyl- **5848, 8351, 8352, 10327, 10328**

Dibenzo-p-dioxin, octachloro- (8 CI); Dibenzo(b,e)(1,4)dioxin, octachloro- (9 CI) **12028-12030**

Dibenzo-p-dioxin, 1,2,3,7,8,9-hexachloro- (8 CI); Dibenzo(b,e)(1,4)dioxin, 1,2,3,7,8,9-hexachloro- (9 CI) **12031, 12032**

Dibenzo-p-dioxin, 2,3,7,8-tetrachloro- (8 CI); Dibenzo(b,e)(1,4)dioxin, 2,3,7,8-tetrachloro- (9 CI) **3893-3898, 9206, 12033-12036**

Dibenzofuran, hexachloro- **2109, 2110**

Dibenzofuran, octachloro- **12037, 12038**

Dibenzofuran, 1,2,3,4,6,7,8-heptachloro- **12039-12041**

Dibenzofuran, 1,2,3,4,7,8-hexachloro- **12042-12044**

Dibenzofuran, 1,2,3,4,7,8,9-heptachloro- **12045, 12046**

Dibenzofuran, 1,2,3,6,7,8-hexachloro- **12047-12049**

Dibenzofuran, 1,2,3,7,8-pentachloro- **12050**

Dibenzofuran, 1,2,4,7,8-pentachloro- **2111, 2112**

Dibenzofuran, 2,3,4,6,7,8-hexachloro- **12051**

Dibenzofuran, 2,3,4,7,8-pentachloro- **2113, 2114, 12052-12054**

Dibenzofuran, 2,3,6,8-tetrachloro- **2115, 2116**

Dibenzofuran, 2,3,7,8-tetrachloro- **2117, 2118, 12055-12057**

Dibutylamine (8 CI); 1-Butanamine, n-butyl- (9 CI) **3899, 6329**

Diethyl phosphodithionate (No postings in CHEMLINE). **12058, 12059**

Diethyl thiophosphate (No postings in CHEMLINE). **12060, 12061**

Diethylamine, N-nitroso- (8 CI); Ethanamine, N-ethyl-N-nitroso- (9 CI) **5423, 9207, 9208, 10329, 10330, 12062**

Diflunisal (No postings in CHEMLINE). **7166, 7167, 10331, 10332**

Digitoxin (8 CI); Card-20(22)-enolide, 3-((O-2,6-dideoxy-beta-D-ribo-hexopyranosyl-(1-4)-O-2, 6-dideoxy-beta-D-ribo-hexo pyranosyl-(1-4)-2,6-dideoxy-beta-D-ribo-hexopyranosyl)oxy)-14-hydroxy-, (3beta,5beta)- (9 CI) **2119, 4806, 5849, 7791, 8353, 8354, 10333-10336**

Digoxin (8 CI); Card-20(22)-enolide, 3-((O-2,6-dideoxy-beta-D-ribo-hexopyranosyl-(1-4)-O-2,6-dideoxy-beta-D-ribo-hexo pyranosyl-(1-4)-2,6-dideoxy-beta-D-ribo-hexopyranosyl)oxy)-12,14-dihydroxy-, (3beta,5beta,12beta)- (9 CI) **492-495, 2120-2139, 4807-4818, 5850-5852, 7168-7172, 8355-8366, 10337-10390**

Dimethylamine, N-nitroso- (8 CI); Methanamine, N-methyl-N-nitroso- (9 CI) **2140, 3900, 5424, 7792, 7793, 9209-9211, 12063**

Dinitroaminotoluene (No postings in CHEMLINE). **12064**

Dipyrido(1,2-a:2',1'-c)pyrazinediium, 6,7-dihydro- **2146, 2147, 5425, 9212, 9213**

Disulfide, bis(diethylthiocarbamoyl) (8 CI); Thioperoxydicarbonic diamide [((H2N)C(S))2S2] , tetraethyl- (9 CI) **10391-10393**

Divbenzofuran, 1,2,3,7,8,9-hexachloro- **12065**

Docosanamide, N-(1-beta-D-arabinofuranosyl-1,2-dihydro-2-oxo-4-pyrimidinyl)- **10394-10398**

Dodecane **3901, 6330**

Dodecylamine, N,N-dimethyl-, N-oxide (8 CI); 1-Dodecanamine, N,N-dimethyl-, N-oxide (9 CI) **2148, 2149**

D00478 (No postings in CHEMLINE). **3903**

D00481 (No postings in CHEMLINE). **6331**

D00607 (No postings in CHEMLINE). **6332**

Eicosane **12066**

Emetine (8 CI); Emetan, 6',7',10,11-tetramethoxy- (9 CI) **7173-7178**

Epipodophyllotoxin, 4'-demethyl-, 9-(4,6-O-2-thenylidene-beta-D-glucopyranoside) (8 CI) Furo(3',4':6,7)naphtho(2,3-d)-1,3-dioxol-6(5aH)-one, 5,8,8a,9-tetrahydro-5-(4-hydroxy-3,5-dimethoxyphenyl)-9-((4,6-O-2-thienylmethyle ne)-beta-D-glucopyranosyl)oxy)-, (5R-(5alpha, 5abeta,8aalpha,9beta(R*)))- (9 CI) **4819, 4820**

Ergocalciferol (8 CI); 9,10-Secoergosta-5,7,10(19),22-tetraen-3-ol, (3beta,5Z,7E,22E)- (9 CI) **9214, 10399-10401**

Ergocryptine, 2-bromo (8 CI); Ergotaman-3',6',18-trione, 2-bromo-12'-hydroxy-2'-(1-methylethyl)-5'-(2-methylpropyl)-, (5'alpha)- (9 CI) **10402**

Ergoline-8-acetonitrile, 2-chloro-6-methyl-, (8beta)- **2150**

Ergoline-8beta-carboxamide, 9,10-didehydro-N,N-diethyl-6-methyl- (8 CI); Ergoline-8-carboxamide, 9,10-didehydro-N,N-diethyl-6-methyl-, (8beta)- (9 CI) **5853, 5854**

Ergosta-5,22-dien-3beta-ol (8 CI); Ergosta-5,22-dien-3-ol, (3beta,22E)- (9 CI) **6333, 6334**

Ergosta-5,24(28)-dien-3beta-ol (8 CI); Ergosta-5,24(28)-dien-3-ol (3beta)- (9 CI) **6335, 6336**

Ergotoxine, dihydro-, monomethanesulfonate (salt) **8367**

Erythromycin **496, 497, 2151-2156, 8368, 8369, 10403**

Erythromycin, mono(ethyl succinate) (ester) (8 CI); Erythromycin, 2'-(ethyl butanedioate) (9 CI) **8784-8787**

Erythromycin, 2'-propionate (8 CI); Erythromycin, 2'-propanoate (9 CI) **2157**

Estra-1,3,5(10),6,8-pentaene-3,17alpha-diol (8 CI); Estra-1,3,5(10),6,8-pentaene-3,17-diol, (17alpha)- (9 CI) **2158**

Estra-1,3,5(10),7-tetraen-17-one, 3-hydroxy- **2159**

Estra-1,3,5(10),7-tetraene-3,17alpha-diol (8 CI); Estra-1,3,5(10),7-tetraene-3,17-diol, (17alpha)- (9 CI) **2160**

Estra-1,3,5(10),7-tetraene-3,17beta-diol (8 CI); Estra-1,3,5(10),7-tetraene-3,17-diol, (17beta)- (9 CI) **2161**

Estradiol (8 CI); Estra-1,3,5(10)-triene-3,17-diol, (17beta)- (9 CI) **498, 499, 2162, 4821, 4822, 10404**

Estradiol, 3-(bis(2-chloroethyl)carbamate) dihydrogen phosphate (8 CI); Estra-1,3,5(10)-triene-3, 17-diol (17beta)-, 3-(bis(2-chloroethyl)carbamate) 17-(dihydrogen phosphate) (9 CI) **2163**

Estrogens, conjugated (No postings in CHEMLINE). **7179**

Estrone (8 CI); Estra-1,3,5(10)-trien-17-one, 3-hydroxy- (9 CI) **500, 501, 2164, 10405**

Estrone, hydrogen sulfate (8 CI); Estra-1,3,5(10)-trien-17-one, 3-(sulfooxy)- (9 CI) **502**

Ethanaminium, 2-hydroxy-N,N,N-trimethyl- **7794**

Ethanaminium, 2-hydroxy-N,N,N-trimethyl-, salt with 2-hydroxybenzoic acid (1:1), mixt. wtih 2-hydroxybenzoic acid magnesium salt (2:1) **10406**

Ethane, trichlorotrifluoro- **12067**

Ethane, 1,1-dichloro- **3904**

Ethane, 1,1-dichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)- (8 CI); Benzene, 1-chloro-2-(2,2-dichloro-1-(4-chlorophenyl)ethyl)- (9 CI) **503-509, 2165-2167, 6337, 7795, 7796, 8370-8376, 9215, 9216**

Ethane, 1,1-dichloro-2,2-bis(p-chlorphenyl)- (8 CI); Benzene, 1,1'-(2,2-dichloroethylidene)bis(4-chloro- (9 CI) **510-519, 2168-2179, 3905-3913, 5426-5430, 6338-6341, 7797-7800, 9010, 9217-9221, 12068-12070**

Ethane, 1,1,1-trichloro- **520, 521, 3914, 3915, 7801, 9222-9224, 12071-12073**

Ethane, 1,1,1-trichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)- (8 CI); Benzene, 1-chloro-2-(2,2,2-trichloro-1-(4-chlorophenyl)ethyl)- (9 CI) **9225, 9226, 12074-12077**

Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis (4-chloro- (9 CI) **9227-9231, 12078-12089**

Ethane, 1,1,1-trichloro-2,2-bis(p-methoxyphenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene) bis(4-methoxy- (9 CI) **2217**

Ethane, 1,1,1-trichloro-2,2,2-trifluoro- **3936**

Ethane, 1,1,2-trichloro- **9232**

Ethane, 1,1,2-trichloro-1,2,2-trifluoro- **9233-9236**

Ethane, 1,2-dibromo **9237-9239**

Ethane, 1,2-dichloro- **3937, 5439, 9240**

Ethane, 2-bromo-2-chloro-1,1,1-trifluoro- **4823, 4824, 9241**

Ethanethiol, 2-amino- **7812, 7813**

Ethanol, 2-(2-(4-(p-chloro-alpha-phenylbenzyl)-1-piperazinyl)ethoxy)- (8 CI); Ethanol, 2-(2-(4-((4-chlorophenyl)phenylmethyl)-1-piperazinyl)ethoxy)- (9 CI) **2218, 9049-9053, 10407-10411**

Ethanol, 2-butoxy-, phosphate (3:1) **12090**

Ethanol, 2,2,2-trichloro- **2219-2222, 3938, 3939, 7814, 7815, 9242-9244, 10412-10414**

Ethanol, 2,2'-thiodi- (8 CI); Ethanol, 2,2'-thiobis- (9 CI) **12091**

Ethanol, 2,2',2",2"'-((4,8-dipiperidinopyrimido(5,4-d)pyrimidine-2,6-diyl)dinitrilo)tet ra- (8 CI); Ethanol, 2,2',2",2"'-((4,8-di-1-piperidinylpyrimido(5,4-d)pyrimidine-2,6-diyl)dinitrilo)tetrakis- (9 CI) **2223, 8377, 8378, 10415**

Ethene, dichlorodifluoro- **3940**

Ethyl alcohol (8 CI); Ethanol (9 CI) **571-582, 2224-2231, 3941-3944, 4825-4834, 5855, 6346, 6347, 7180-7192, 8379-8389, 10416-10447**

Ethyl ether (8 CI); Ethane, 1,1'-oxybis- (9 CI) **3945**

Ethylamine, N,N-dimethyl-2-((o-methyl-alpha-phenylbenzyl)oxy)- (8 CI); Ethanamine, N,N-dimethyl-2-((2-methylphenyl)phenylmethoxy)- (9 CI) **10448-10450**

Ethylamine, 1-methyl-2-(2,6-xylyloxy)- (8 CI); 2-Propanamine, 1-(2,6-dimethylphenoxy)- (9 CI) **5856, 5857, 10451, 10452**

Ethylamine, 2-(diphenylmethoxy)-N,N-dimethyl- (8 CI); Ethanamine, 2-(diphenylmethoxy)-N,N-dimethyl- (9 CI) **4835, 7193, 9245, 10453-10461**

Ethylamine, 2-(diphenylmethoxy)-N,N-dimethyl-, hydrochloride (8 CI); Ethanamine, 2-(diphenylmethoxy)-N,N-dimethyl-, hydrochloride **5858, 8390**

Ethylamine, 2-(p-(1,2-diphenyl-1-butenyl)phenoxy)-N,N-dimethyl-, (Z)- (8 CI); Ethanamine, 2-(4-(1,2-diphenyl-1-butenyl)phenoxy)-N,N-dimethyl-, (Z)- (9 CI) **10462**

Ethylene (8 CI); Ethene (9 CI) **3946**

Ethylene glycol (8 CI); 1,2-Ethanediol (9 CI) **2232, 2233, 9246, 10463**

Ethylene glycol, dinitrate (8 CI); 1,2-Ethanediol, dinitrate (9 CI) **5440, 6348, 6349**

Ethylene oxide (8 CI); Oxirane (9 CI) **12092, 12093**

Ethylene, chloro- (8 CI); Ethene, chloro- (9 CI) **3947, 3948**

Ethylene, chlorofluoro- (8 CI); Ethene, chlorofluoro- (9 CI) **3949**

Ethylene, tetrachloro- (8 CI); Ethene, tetrachloro- (9 CI) **583, 3950-3958, 6350-6354, 9247-9253, 12094-12098**

Ethylene, trichloro- (8 CI); Ethene, trichloro- (9 CI) **2234-2237, 3959-3963, 6355, 6356, 7816-7819, 9254, 12099, 12100**

Ethylene, 1,1-dichloro- (8 CI); Ethene, 1,1-dichloro- (9 CI) **3964, 8825, 8826, 9255**

Ethylene, 1,1-dichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)- (8 CI); Benzene, 1-chloro-2-(2,2-dichloro-1-(4-chlorophenyl)ethenyl)- (9 CI) **584-590, 2238-2242, 5441, 7820, 7821, 9256, 9257, 12101**

Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(dichloroethenylidene)bis(4-chloro- (9 CI) **210, 591-630, 2243-2272, 3965-3983, 5442-5451, 6357-6361, 7822-7834, 9258-9273, 12102-12119**

Ethylenediamine (8 CI); 1,2-Ethanediamine (9 CI) **10464, 10465**

Europium **9274, 9275, 12120, 12121**

Ferritins **631, 632, 2273, 2274, 6362, 6363, 7194, 7835, 8391, 12122**

Fluorene (8 CI); 9H-Fluorene (9 CI) **12123**

Fluoride **633-640, 2275-2284, 3984-3988, 5452-5454, 6364-6366, 7195-7198, 7836, 7837, 8392, 8393, 9276-9279, 10466, 12124-12129**

Fluorine **641, 642, 3989, 5455, 6367, 6368**

Fluorocarbon, total (No postings in CHEMLINE). **10467**

Flupentixol (No postings in CHEMLINE). **7199**

Folic acid (8 CI); L-Glutamic acid, N-(4-(((2-amino-1,4-dihydro-4-oxo-6-pteridinyl)methyl)amino) benzoyl)- (9 CI) **4836-4838, 5859, 7838, 10468**

Formaldehyde **9280, 9281, 12130**

Formamide, N-methyl- **2285, 2286, 3990, 3991, 9282**

Formamide, N,N-dimethyl **3992**

Formic acid **9283, 9284**

Furan **3993, 3994, 6369**

Gallium **3995**

gamma-Vinyl-gamma-aminobutyric acid (No postings in CHEMLINE). **10469, 10470**

Gentamicin **643, 2287-2294, 4839-4843, 8394, 10471-10476**

Gentamycin, sulfate (salt) (8 CI); Gentamicin, sulfate (salt) (9 CI) **2295**

Germanium **644, 645, 2296, 3996**

Glucitol, 1,4:3,6-dianhydro-, dinitrate, D- (8 CI); D-Glucitol, 1,4:3,6-dianhydro-, dinitrate (9 CI) **2297, 2298, 4844, 4845, 8395, 10477-10481**

Glucitol, 1,4:3,6-dianhydro-, 5-nitrate, D- (8 CI); D-Glucitol, 1,4:3,6-dianhydro-, 5-nitrate (9 CI) **10482-10484**

Gluconic acid, D-, compd. with quinidine (1:1) (8 CI); D-Gluconic acid, compd. with (9S)-6'-methoxycinchonan-9-ol (1:1) (9 CI) **10485**

Glutamic acid, L- (8 CI); L-Glutamic acid (9 CI) **12131**

Glutamic acid, N-(p-(((2-amino-5-formul-5,6,7,8-tetrahydro-4-hydroxy-6-pteridinyl)methyl)amino) benzoyl)-, calcium salt (1:1), L- (8 CI); L-glutamic acid, N-(4-(((2-amino-5-formyl-1,4,5,6,7,8-hexahydro-4-oxo-6-pteridinyl)methyl)amino)b enzoyl)-, calcium salt (1:1) (9 CI) **10486**

Glutamic acid, N-(p-(((2-amino-5-formyl-5,6,7,8-tetrahydro-4-hydroxy-6-pteridinyl)methyl)amino) benzoyl)-, L- (8 CI); L-Glutamic acid, N-(4-(((2-amino-5-formyl-1,4,5,6,7,8-hexahydro-4-oxo-6-pteridinyl)methyl)amino)b enzoyl)- (9 CI) **10487**

Glutamic acid, N-(p-(((2,4-diamino-6-pteridinyl)methyl)amino)benzoyl)-, L- (8 CI); L-Glutamic acid, N-(4-(((2,4-diamino-6-pteridinyl)methyl)amino)benzoyl)- (9 CI) **4846**

Glutamic acid, N-(p-(((2,4-diamino-6-pteridinyl)methyl)methylamino)benzoyl)-, L-(+)- (8 CI); L-Glutamic acid, N-(4-(((2,4-diamino-6-pteridinyl)methyl)methylamino)benzoyl)- (9 CI) **646, 647, 2299-2301, 4847-4850, 8396, 8397, 10488-10497**

Glutarimide, 2-(p-aminophenyl)-2-ethyl- (8 CI); 2,6-Piperidinedione, 3-(4-aminophenyl)-3-ethyl (9 CI) **10498**

Glutarimide, 2-ethyl-2-phenyl- (8 CI); 2,6-Piperidinedione, 3-ethyl-3-phenyl- (9 CI) **648, 649, 2302-2304, 7200-7208, 10499, 10500**

Glycerol (8 CI); 1,2,3-Propanetriol (9 CI) **6370, 8398**

Glycine, N-((6-methoxy-5-(trifluoromethyl)-1-naphthalenyl)thioxomethyl)-N-methyl- **10501, 10502**

Glycine, N-(2-methylbenzoyl)- **3997**

Glycols, polyethylene, mono(tetrahydrofurfuryl) ether (8 CI); Poly(oxy-1,2-ethanediyl), alpha-((tetrahydro-2-furanyl)methyl)-omega-hydroxy- (9 CI) **9285**

Glyoxylic acid, phenyl- (8 CI); Benzeneacetic acid, alpha-oxo- (9 CI) **650, 2305, 9286, 12132-12134**

Gold **651, 2306, 2307, 3998-4003, 4851-4854, 5456, 6371, 6372, 7839, 8399, 8400, 9287-9289, 12135-12137**

Guanidine, ((2,6-dichlorobenzylidene)amino)- (8 CI); Hydrazinecarboximidamide, 2-((2,6-dichlorophenyl)methylene)- (9 CI) **2308, 2309**

Guanidine, N-cyano-N'-methyl-N"-(2-(((5-methyl-1H-imidazol-4-yl)methyl)thio)ethyl)- **652-654, 2310, 4855, 5860, 7209, 8401-8407, 10503-10514**

Guanidine, N-cyano-N'-4-pyridinyl-N"-(1,2,2-trimethylpropyl)- **8922, 8929**

Guanidine, 1-benzyl-2,3-dimethyl- (8 CI); Guanidine, N,N'-dimethyl-N"-(phenylmethyl)- (9 CI) **2311**

Hafnium **12138**

Halogenated organics (No postings in CHEMLINE). **7840-7854**

Hematite (8 CI); Hematite [Fe2O3] (9 CI) **6373**

Hentriacontane **12139**

Heparin **7210, 10515**

Heptadecanal **12140**

Heptadecane **12141**

Heptadecanoic acid **12142**

Heptane **4004, 6374**

Heptane, 2,2-dimethyl- **6375**

Heptane, 2,4-dimethyl- **4005, 6376**

Heptane, 2,5-dimethyl- **4006, 6377**

Heptyl alcohol (8 CI); 1-Heptanol (9 CI) **4007, 6378**

Hexachlorobenzol (No postings in CHEMLINE). **2312**

Hexachlorocyclohexane, total (No postings in CHEMLINE). **9290-9292, 12143**

Hexadecane **12144**

Hexadecanoic acid, C12-14-alkyl esters **12145**

Hexamethylenetetramine (8 CI); 1,3,5,7-Tetraazatricyclo(3.3.1(3,7))decane (9 CI) **5861**

Hexane **4008-4010, 6379, 6380, 7855, 7856**

Hexane, 1-chloro- **4011, 6381**

Hexane, 2,2,5,5-tetramethyl- **7040**

Hexane, 2,3-dimethyl- **4012, 6382**

Hexane, 2,3,5-trimethyl- **4013, 6383**

Hexane, 3,4-dimethyl- **4014, 6384**

Hexanoic acid, 6-amino- **10516**

Hexene **4015**

Hippuric acid (8 CI); Glycine, N-benzoyl- (9 CI) **2313, 4016, 12146-12150**

Hippuric acid, m-methyl- (8 CI); Glycine, N-(3-methylbenzoyl)- (9 CI) **4017**

Hippuric acid, o-hydroxy- (8 CI); Glycine, N-(2-hydroxybenzoyl)- (9 CI) **10517**

Hydantoin, 1-((5-nitrofurfurylidene)amino)- (8 CI); 2,4-Imidazolidinedione, 1-(((5-nitro-2-furanyl) methylene)amino)- (9 CI) **655-657, 4856-4858**

Hydantoin, 3-ethyl-5-phenyl- (8 CI); 2,4-Imidazolidinedione, 3-ethyl-5-phenyl- (9 CI) **10518**

Hydantoin, 5-ethyl-3-methyl-5-phenyl- (8 CI); 2,4-Imidazolidinedione, 5-ethyl-3-methyl-5-phenyl- (9 CI) **10519**

Hydantoin, 5-ethyl-5-phenyl- (8 CI); 2,4-Imidazolidinedione, 5-ethyl-5-phenyl- (9 CI) **10520, 10521**

Hydantoin, 5,5-diphenyl- (8 CI); 2,4-Imidazolidinedione, 5,5-diphenyl- (9 CI) **658-665, 2314-2327, 4859-4873, 5862-5867, 7211-7217, 7857, 8408-8411, 10522-10530**

Hydracrylic acid, N,N-bis(2-chloroethyl)phosphorodiamidate (8 CI); Propanoic acid, 3-((amino(bis (2-chloroethyl)amino)-phosphinyl)oxy)- (9 CI) **666**

Hydratropic acid, m-benzoyl- (8 CI); Benzeneacetic acid, 3-benzoyl-alpha-methyl- (9 CI) **2328, 7218, 10531, 10532**

Hydratropic acid, p-isobutyl- (8 CI); Benzeneacetic acid, alpha-methyl-4-(2-methylpropyl)- (9 CI) **2329, 5868, 5869, 10533-10539**

Hydratropic acid, 3-chloro-4-(3-pyrrolin-1-yl)- (8 CI); Benzeneacetic acid, 3-chloro-4-(2,5-dihydro-1H-pyrrol-1-yl)-alpha-methyl- (9 CI) **2330, 10540, 10541**

Hydrazine **4874**

Hydrazinecarboxylic acid, 2-(6-(ethyl(2-hydroxypropyl)amino)-3-pyridazinyl)-, ethyl ester **10542, 10543**

Hydrocinnamic acid, beta-(aminomethyl)-p-chloro- (8 CI); Benzenepropanoic acid, beta-(aminomethyl)-4-chloro- (9 CI) **10544, 10545**

Hydroquinidine (8 CI); Cinchonan-9-ol, 10,11-dihydro-6'-methoxy-, (9S)- (9 CI) **7219, 7220**

Hydroxymethylnitrofurantoin (No postings in CHEMLINE). **667, 668**

Imidazo(1,5-a)pyridine-5-hexanoic acid **10546, 10547**

Imidazo(2,1-b)quinazolin-2(3H)-one, 6-chloro-1,5-dihydro-3-methyl-, (R)- **10548, 10549**

Imidazo(2,1-b)quinazolin-2(3H)-one, 6,7-dichloro-1,5-dihydro- **5870, 5871**

Imidazo(2,1-b)thiazole, 2,3,5,6-tetrahydro-6-phenyl, (S)- **7221**

Imidazole-1-ethanol, alpha-(chloromethyl)-2-methyl-5-nitro- (8 CI); 1H-Imidazole-1-ethanol, alpha-(chloromethyl)-2-methyl-5-nitro- (9 CI) **2331**

Imidazole-1-ethanol, alpha-(methoxymethyl)-2-nitro- (8 CI); 1H-Imidazole-1-ethanol, alpha-(methoxymethyl)-2-nitro- (9 CI) **7222, 7223, 10550-10552**

Imidazole-1-ethanol, 2-methyl-5-nitro- (8 CI); 1H-Imidazole-1-ethanol, 2-methyl-5-nitro- (9 CI) **5872, 5873, 7224, 8412-8414, 10553-10561**

Imidazole-2-thiol, 1-methyl- (8 CI); 2H-Imidazole-2-thione, 1,3-dihydro-1-methyl- (9 CI) **4875, 4876**

Imidazole-5-carboxylic acid, 1-(alpha-methylbenzyl)-, ethyl ester, (R)-(+)- (8 CI); 1H-Imidazole-5-carboxylic acid, 1-(1-phenylethyl)-, ethyl ester, (R)- (9 CI) **10562**

Imidazole, 1-(2-(ethylsulfonyl)ethyl)-2-methyl-5-nitro- (8 CI); 1H-Imidazole, 1-(2-(ethylsulfonyl) ethyl)-2-methyl-5-nitro- (9 CI) **10563-10565**

Indene (8 CI); 1H-Indene (9 CI) **4018, 4019, 6385**

Indicine (8 CI); Butanoic acid, 2,3-dihydroxy-2-(1-methylethyl)-, (2,3,5,7a-tetrahydro-1-hydroxy-1H-pyrrolizin-7-yl)methyl ester, (1R-(1alpha,7(2R*,3S*),7abeta))- (9 CI) **2332, 2333**

Indium **4020-4028, 12151**

Indole-3-acetic acid, 1-(p-chlorobenzoyl)-5-methoxy-2-methyl- (8 CI); 1H-Indole-3-acetic acid, 1-(4-chlorobenzoyl)-5-methoxy-2-methyl- (9 CI) **2334-2339, 4877-4881, 5874, 8415, 8416, 10566-10571**

Indole, 3-(2-(dimethylamino)ethyl)- (8 CI); 1H-Indole-3-ethanamine, N,N-dimethyl- (9 CI) **7225, 7226**

Insulin **5875, 8417, 10572-10574**

Interferon **10575-10578**

Iodide **2340, 9293**

Iodine **669, 670, 2341-2346, 4029-4031, 5457-5459, 6386-6390, 7227, 7858-7861, 8418, 8419, 9294-9297, 10579, 10580, 12152, 12153**

Iodine, isotope of mass 125 **12154-12157**

Iodine, isotope of mass 129 **12158**

Iodine, isotope of mass 131 **12159**

Iridium **6391, 12160**

Iron **671-692, 2347-2390, 4032-4054, 4882, 5460-5482, 5876, 6392-6416, 7228-7236, 7862-7879, 8420-8422, 8881, 8882, 8902, 9298-9317, 10581-10584, 12161-12173**

Iron oxide [Fe2O3] **9318**

Isobutyl alcohol (8 CI); 1-Propanol, 2-methyl- (9 CI) **4055, 4056, 6417**

Isonicotinic acid hydrazide (8 CI); 4-Pyridinecarboxylic acid, hydrazide (9 CI) **4883-4885, 7880**

Isonipecotic acid, 1-methyl-4-phenyl-, ethyl ester (8 CI); 4-Piperidinecarboxylic acid, 1-methyl-4-phenyl-, ethyl ester (9 CI) **693, 2391-2404, 4886-4891, 7237-7243, 7881, 7882, 8423, 8424, 10585-10587**

Isonipecotic acid, 4-phenyl-, ethyl ester (8 CI); 4-Piperidinecarboxylic acid, 4-phenyl-, ethyl ester (9 CI) **2405-2412, 4892-4895**

Isooctyl alcohol (8 CI); Isooctanol (9 CI) **4057, 6418**

Isopentyl alcohol (8 CI); 1-Butanol, 3-methyl- (9 CI) **4058, 4059**

Isoprene (8 CI); 1,3-Butadiene, 2-methyl- (9 CI) **4060-4062, 6419**

Isopropyl alcohol (8 CI); 2-Propanol (9 CI) **4063, 4064, 6420, 7244, 8782, 9319-9322, 10588**

Isoquinoline, 6,7-dimethoxy-1-veratryl- (8 CI); Isoquinoline, 1-((3,4-dimethoxyphenyl)methyl)-6,7-dimethoxy- (9 CI) **2413, 8425, 8426**

Isoquinoline, 7,8-dichloro-1,2,3,4-tetrahydro-, hydrochloride **4896, 4897**

Isoquinoline, 8-amino-1,2,3,4-tetrahydro-2-methyl-4-phenyl- (8 CI); 8-Isoquinolinamine, 1,2,3,4-tetrahydro-2-methyl-4-phenyl- (9 CI) **694**

Isosorbide 2-mononitrate (No postings in CHEMLINE). **10589, 10590**

Kanechlor 400 **2414, 2415**

Ketone, 3,5-dibromo-4-hydroxyphenyl 2-ethyl-3-benzofuranyl (8 CI); Methanone, (3,5-dibromo-4-hydroxyphenyl)(2-ethyl-3-benzofuranyl)- (9 CI) **5877**

L-Ascorbic acid **695, 2416-2422, 4898, 4899, 5483-5486, 8799-8804, 9323-9326, 10591**

L-Glutamic acid, N-(4-((2-(2-amino-1,4,5,6,7,8-hexahydro-5-methyl-4-oxo-6-pteridinyl)ethyl) amino) benzoyl)- **10592-10594**

L-Phenylethyleneglycol (No postings in CHEMLINE). **12174**

L-Proline, 1-(N-(1-(ethoxycarbonyl)-3-phenylpropyl)-L-alanyl)-, (S)- **10595, 10596**

L-Proline, 1-(3-mercapto-2-methyl-1-oxopropyl)-, (S)- **4900, 4901, 7245-7248, 8428-8431, 8765, 8766, 10597-10601**

L-threo-D-galacto-Octopyranoside, methyl 7-chloro-6,7,8-trideoxy-6-(1-methyl-4-propyl-L-2-pyrrolidinecarboxamido)-1-thio- , trans- alpha- (8 CI) L-threo-alpha-D-galacto-Octopyranoside, methyl 7-chloro-6,7,8-trideoxy-6-(((1-methyl-4-propyl-2-pyrrolidinyl)carbonyl)amino)-1- thio-, (2S-trans)- (9 CI) **2423, 10602, 10603**

L-threo-D-galacto-Octopyranoside, methyl 7-chloro-6,7,8-trideoxy-6-(1-methyl-4-propyl-L-2-pyrrolidinecarboxamido)-1-thio- , 2-(dihydrogen phosphate), trans- alpha- (8 CI); L-threo-alpha-D-galacto-Octopyranoside, methyl 7-chloro-6,7,8-trideoxy-6-(((1-methyl-4-propyl-2-pyrrolidinyl) carbonyl)amino)-1- thio- 2-(dihydrogen phosphate), (2S-trans)- (9 CI) **10604**

L-threo-2,3-Hexodiulosonic acid, gamma-lactone **9327, 9328**

Lactic acid, butyl ester (8 CI); Propanoic acid, 2-hydroxy-, butyl ester (9 CI) **4065**

Lactic acid, 3-(1-naphthyloxy)- (8 CI); Propanoic acid, 2-hydroxy-3-(1-naphthalenyloxy)- (9 CI) **4902**

Lanthanum **696, 2424, 4066-4069, 6421, 6422, 9329-9333, 12175-12180**

Lead **697-886, 2425-2570, 4070-4146, 5487-5566, 6423-6498, 7883-7951, 8813, 8814, 9334-9476, 12181-12267**

Lead(2+), diethyl- ion (8 CI); Plumbanediylium, diethyl- (9 CI) **12268**

Lead, isotope of mass 203 **9477-9480**

Lead, isotope of mass 210 **9481, 9482**

Leurocristine (8 CI); Vincaleukoblastine, 22-oxo- (9 CI) **4903-4905, 7249, 7250**

Lithium **887-890, 2571-2579, 4147-4149, 4906, 5567, 5568, 5878, 7251, 7252, 7952, 8432, 10605-10607, 12269**

Lithium, ion (Li(1+)) **891**

Luteinizing hormone-releasing factor **10608, 10609**

Lutetium **9483, 9484, 12270-12272**

m-Benzenedisulfonamide, 4-chloro-N(1)-methyl-N(1)-(tetrahydro-2-methylfurfuryl)- (8 CI); 1,3-Benzenedisulfonamide, 4-chloro-N(1)-methyl-N(1)-((tetrahydro-2-methyl-2-furanyl)methyl)- (9 CI) **4907-4909**

m-Hydroxyphenylacetic acid (No postings in CHEMLINE). **2580**

m-Phenylenediamine, 4-methoxy- (8 CI); 1,3-Benzenediamine, 4-methoxy- (9 CI) **4150, 7953**

m-Toluamide, N,N-diethyl- (8 CI); Benzamide, N,N-diethyl-3-methyl- (9 CI) **4151, 12273-12278**

m-Toluic acid, alpha,5-diacetamido-2,4,6-triiodo- (8 CI); Benzoic acid, 3-(acetylamino)-5-((acetylamino)methyl)-2,4,6-triiodo- (9 CI) **2581, 2582**

m-Tyrosine, L- (8 CI) (VAN); L-Phenylalanine, 3-hydroxy- (9 CI) **2583, 2584**

m-Xylene (8 CI); Benzene, 1,3-dimethyl- (9 CI) **4152-4155, 5569, 6499-6504, 9485, 12279, 12280**

Magnesium **892-903, 2585-2612, 4156-4171, 5570-5573, 6505-6522, 7954-7965, 9486-9497, 10610-10615, 12281-12296**

Magnetite (8 CI); Magnetite [Fe304] (9 CI) **5574**

Malonamic acid, N-(2-carboxy-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo(3.2.0)hept-6-yl)-2-phenyl- (8 CI) (VAN) 4-Thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 6-((carbosyphenylacetyl)amino) -3,3-dimethyl-7-oxo-, (2S-(2alpha,5alpha,6beta))- (9 CI) **10616**

Malonamide, 2-ethyl-2-phenyl- (8 CI); Propanediamide, 2-ethyl-2-phenyl- (9 CI) **904, 10617**

Mandelic acid (8 CI); Benzeneacetic acid, alpha-hydroxy- (9 CI) **905, 2613, 9498-9500, 12297-12299**

Manganese **906-917, 2614-2633, 4172-4197, 5575-5585, 5879, 6523-6545, 7966-7985, 9501-9522, 12300-12309**

Melamine, pentamethyl- (8 CI); 1,3,5-Triazine-2,4,6-triamine, N,N,N',N',N"-pentamethyl- (9 CI) **2634, 5880, 5881**

Mercury **918-1036, 2635-2666, 4198-4246, 5586-5620, 6546-6570, 7986-8006, 8746-8748, 8900, 8901, 8914, 8974-8976, 9523-9558, 10618-10626, 12310-12332**

Mercury(1+), methyl-, ion (8 CI); Mercury(1+), methyl- (9 CI) **1037-1047, 2667-2669, 4247-4257, 5621-5632, 6571-6575, 8007-8011, 8741, 8815, 9559-9562**

Mercury, chloroethyl- **9563**

Mesitylene (8 CI); Benzene, 1,3,5-trimethyl- (9 CI) **4258, 4259, 6576**

Metallothionein **12333**

Methane **4260**

Methane, bromodichloro- **9564**

Methane, chloro- **12334, 12335**

Methane, dibromochloro- **5633**

Methane, dibromodichloro- **5634**

Methane, dichloro- **1048-1050, 4261, 5635, 6577-6580, 12336**

Methane, dichlorodifluoro- **4262-4271, 6581**

Methane, dichlorofluoro- **4272, 5636-5639**

Methane, dichloronitro- **4273, 6582**

Methane, tribromo- **12337**

Methane, trichlorofluoro- **4274-4284, 5640-5643, 6583, 12338**

Methanearsonic acid (8 CI); Arsonic acid, methyl- (9 CI) **1051, 4285**

Methanearsonic acid, sodium salt (8 CI); Arsonic acid, methyl-, sodium salt (9 CI) **6584**

Methanesulfonamide, N-(4-(9-acridinylamino)-3-methoxyphenyl)- **10627-10630**

Methanesulfonanilide, 4'-(1-hydroxy-2-(isopropylamino)ethyl)- (8 CI); Methanesulfonamide, N-(4-(1-hydroxy-2-((1-methylethyl)amino)ethyl)phenyl)- (9 CI) **2670-2672, 4910-4920, 7253-7256, 8433, 8434**

Methanesulfonic acid, (antipyrinylmethylamino)-, sodium salt, monohydrate (8 CI); Methanesulfonic acid, ((2,3-dihydro-1,5-dimethyl-3-oxo-2-phenyl-1H-pyrazol-4-yl)methylamino)-, sodium salt, monohydrate (9 CI) **10631**

Methanol **2673, 4286-4288, 5644-5647, 6585, 8012, 8885, 9565-9568, 10632, 10633, 12339**

Methanone, (2-butyl-3-benzofuranyl)(4-(2-(diethylamino)ethoxy)-3,5-diiodophenyl)- **8949, 10634-10638**

Methionine, L- (8 CI); L-Methionine (9 CI) **2674-2676, 8990**

Methyl disulfide (8 CI); Disulfide, dimethyl (9 CI) **4289, 4290**

Methyl sulfide (8 CI); Methane, thiobis- (9 CI) **4291, 4292, 6586**

Methyl-4-heptanone (No postings in CHEMLINE). **6587**

Methyldopa, pivaloyloxyethyl ester (No postings in CHEMLINE). **10639, 10640**

Methylheptadecanoic acid, methyl ester (No postings in CHEMLINE). **12340**

Methylpentadecanoic acid, methyl ester (No postings in CHEMLINE). **12341**

Methylsulfone PCB (No postings in CHEMLINE). **1052**

Mineral dust (No postings in CHEMLINE). **2677, 12342, 12343**

Mineral fibers (No postings in CHEMLINE). **2678, 12344**

Mitomycin **10641**

Molybdenum **1053-1061, 2679-2683, 4293-4297, 6588-6605, 9569-9571, 12345-12348**

Morphanthridine, 6-(4-methyl-1-piperazinyl)- (8 CI); 11H-Dibenz(b,e)azepine, 6-(4-methyl-1-piperazinyl)- (9 CI) **5882**

Morphinan-3-ol, 17-methyl- **4921-4927, 5883, 10642-10644**

Morphinan-3,14-diol, 17-(cyclopropylmethyl)-4,5-epoxy-6-methylene-, (5alpha)- **10645, 10646**

Morphinan-3,14-diol,17-(cyclobutylmethyl)- (9 CI) **2684, 4928, 4929**

Morphinan-3,6alpha-diol, 7,8-didehydro-4,5alpha-epoxy-17-methyl- (8 CI); Morphinan-3,6-diol, 7,8-didehydro-4,5-epoxy-17-methyl- (5alpha,6alpha)- (9 CI) **1062-1069, 2685-2689, 4930, 4931, 7257-7285, 8435, 10647-10669**

Morphinan-3,6alpha-diol, 7,8-didehydro-4,5alpha-epoxy-17-methyl-, diacetate (ester) (8 CI); Morphinan-3,6-diol, 7,8-didehydro-4,5-epoxy-17-methyl-(5alpha,6alpha)-, diacetate (ester) (9 CI) **7286**

Morphinan-3,6alpha,14-triol, 17-(cyclobutylmethyl)-4,5alpha-epoxy-, (8 CI); Morphinan-3,6,14-triol, 17-(cyclobutylmethyl)-4,5-epoxy-, (5alpha,6alpha)- (9 CI) **10670**

Morphinan-6-one, 17-(cyclopropylmethyl)-4,5alpha-epoxy-3,14-dihydroxy- (8 CI); Morphinan-6-one, 17-(cyclopropylmethyl)-4,5-epoxy-3,14-dihydroxy-, (5alpha)- (9 CI) **7287, 7288, 10671-10674**

Morphinan-6-one, 4,5-epoxy-3-methoxy-, (5alpha)- **1105**

Morphinan-6-one, 4,5alpha-epoxy-14-hydroxy-3-methoxy-17-methyl- (8 CI); Morphinan-6-one, 4,5-epoxy-14-hydroxy-3-methoxy-17-methyl-, (5alpha)- (9 CI) **2690, 10675-10677**

Morphinan-6-one, 4,5alpha-epoxy-3-hydroxy-17-methyl- (8 CI); Morphinan-6-one, 4,5-epoxy-3-hydroxy-17-methyl-, (5alpha)- (9 CI) **2691-2694, 7289, 10678-10683**

Morphinan-6-one, 4,5alpha-epoxy-3-methoxy-17-methyl- (8 CI); Morphinan-6-one, 4,5-epoxy-3-methoxy-17-methyl-, (5alpha)- (9 CI) **1070-1072, 7290, 10684, 10685**

Morphinan-6-one, 4,5alpha-epoxy-3,14-dihydroxy-17-methyl- (8 CI); Morphinan-6-one, 4,5-epoxy-3,14-dihydroxy-17-methyl-, (5alpha)- (9 CI) **10686**

Morphinan-6alpha-ol, 7,8-didehydro-4,5alpha-epoxy-3-methoxy- (8 CI); Morphinan-6-ol, 7,8-didehydro-4,5-epoxy-3-methoxy-, (5alpha,6alpha)- (9 CI) **1073, 10687**

Morphinan-6alpha-ol, 7,8-didehydro-4,5alpha-epoxy-3-methoxy-17-methyl- (8 CI); Morphinan-6-ol, 7,8-didehydro-4,5-epoxy-3-methoxy-17-methyl-, (5alpha,6alpha)- (9 CI) **1074, 2695-2699, 5884, 7291-7300, 8436-8438, 10688-10694**

Morphinan-6beta-ol, 4,5alpha-epoxy-3-methoxy-17-methyl- (8 CI); Morphinan-6-ol, 4,5-epoxy-3-methoxy-17-methyl-, (5alpha,6beta)- (9 CI) **1075**

Morpholine, 2-((2-ethoxyphenoxy)methyl)- **2700, 2701, 5885**

Morpholine, 3-methyl-2-phenyl- **8439**

Morpholine, 4-(thioxo(3,4,5-trimethoxyphenyl)methyl)- **5886, 5887**

Mullite [Al6O5(SiO4)2] **12349**

Myristaldehyde (8 CI); Tetradecanal (9 CI) **12350**

Myristic acid (8 CI); Tetradecanoic acid (9 CI) **12351**

Myristic acid, methyl ester (8 CI); Tetradecanoic acid, methyl ester (9 CI) **12352**

Naphthalene **4298, 4299, 6606, 12353**

Naphthalene, dimethyl- **4300, 12354**

Naphthalene, methyl- **4301, 4302, 6607, 12355**

Naphthalene, trimethyl- (No postings in CHEMLINE). **12356**

Neodymium **9572, 9573, 12357, 12358**

Nickel **1076-1100, 2702-2718, 4303-4316, 5648-5655, 6608-6624, 8013-8016, 9574-9581, 12359-12363**

Nickel carbonyl [Ni(CO)4] (8 CI); Nickel carbonyl [Ni(CO)4], (T-4)- (9 CI) **5656, 5657, 8017, 8018**

Nicotine (8 CI); Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)- (9 CI) **1101, 2719-2721, 4932-4940, 5888, 6625, 7301, 7302, 8440-8451, 10695-10712, 12364-12366**

Nicotine, 1'-demethyl-1'-nitroso- (8 CI); Pyridine, 3-(1-nitroso-2-pyrrolidinyl)-, (S)- (9 CI) **10713, 12367**

Nitrate **1102, 2722, 8019, 8020, 9582-9586**

Nitric acid sodium salt **2723-2726**

Nitric acid, gallium salt **4941, 4942**

Nitrite **8021, 9587, 9588**

Nitrogen **1103, 4943, 9589**

Nitrogen oxide [NO] **1104**

Nitrogen oxide [N2O] **10714**

Nitroglycerin (8 CI); 1,2,3-Propanetriol, trinitrate (9 CI) **4944, 7303, 10715-10717**

Nitrosamines (No postings in CHEMLINE). **12368**

Nitrous acid, sodium salt **2727-2730**

Nonane **4317, 6626**

Nonenal **12369**

Norephedrine, hydrochloride, (+-)- (8 CI); Benzenemethanol, alpha-(1-aminoethyl)-, hydrochloride, (R*,S*)-(+-)- (9 CI) **10718**

Nortoxiferinium, N,N'-diallyl- (8 CI); Toxiferine I, 4,4'-didemethyl-4,4'-di-2-propenyl- (9 CI) **10719**

o-Anisamide, N-((1-ethyl-2-pyrrolidinyl)methyl)-5-sulfamoyl- (8 CI); Benzamide, 5-(aminosulfonyl)-N-((1-ethyl-2-pyrrolidinyl)methyl)-2-methoxy- (9 CI) **2732, 2733, 5889, 8884, 10720, 10721**

o-Anisamide, 4-amino-5-chloro-N-(2-(diethylamino)ethyl)- (8 CI); Benzamide, 4-amino-5-chloro-N-(2-(diethylamino)ethyl)-2-methoxy- (9 CI) **2734, 10722-10724**

o-Cresol (8 CI); Phenol, 2-methyl- (9 CI) **12370-12372**

o-Toluenesulfonamide (8 CI); Benzenesulfonamide, 2-methyl- (9 CI) **3078**

o-Xylene (8 CI); Benzene, 1,2-dimethyl- (9 CI) **4318-4320, 6627, 12373**

Octadecane **12374**

Octane **4321, 6628**

Octanoic acid, pentadecafluoro-, ammonium salt **4322**

Octyne **4323**

Olean-12-en-30-oic acid, 3beta-hydroxy-11-oxo-, hydrogen succinate (8 CI); Olean-12-en-29-oic acid, 3-(3-carboxy-1-oxopropoxy)-11-oxo-, (3beta,20beta)- (9 CI) **2735**

Orotic acid (8 CI); 4-Pyrimidinecarboxylic acid, 1,2,3,6-tetrahydro-2,6-dioxo- (9 CI) **9590**

Oxalic acid (8 CI); Ethanedioic acid (9 CI) **5658, 7304, 9591**

Oxazolo(3,2-d)(1,4)benzodiazepin-6(5H)-one, 10-chloro-2,3,7,11b-tetrahydro-2-methyl-11b-phenyl- **10725**

Oxytocin **4945, 10726-10728**

p-Acetophenetidide (8 CI); Acetamide, N-(4-ethoxyphenyl)- (9 CI) **2736-2738, 4946-4950, 7305, 7306, 8452, 8453**

p-Cresol (8 CI); Phenol, 4-methyl- (9 CI) **12375**

p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI) **4324, 6629, 12376**

p-Cymen-7-ol (8 CI); Benzenemethanol, 4-(1-methylethyl)- (9 CI) **4325, 6630**

p-Dioxane (8 CI); 1,4-Dioxane (9 CI) **1106, 2739, 2740, 4326, 4327**

p-Hydroxyphenylacetic acid (No postings in CHEMLINE). **2741**

p-Mentha-1,8-diene (8 CI); Cyclohexene, 1-methyl-4-(1-methylethenyl)- (9 CI) **4328, 6631**

p-Phenylenediamine (8 CI); 1,4-Benzenediamine (9 CI) **4329**

p-Tolualdehyde (8 CI); Benzaldehyde, 4-methyl- (9 CI) **4330, 6632**

p-Xylene (8 CI); Benzene, 1,4-dimethyl- (9 CI) **4331-4333, 6633, 12377**

Palladium **1107, 4334-4342, 5659-5661**

Palmitaldehyde (8 CI); Hexadecanal (9 CI) **12378**

Palmitic acid (8 CI); Hexadecanoic acid (9 CI) **12379**

Palmitic acid, methyl ester (8 CI); Hexadecanoic acid, methyl ester (9 CI) **12380**

Palmitoylpentachlorophenol (No postings in CHEMLINE). **12381**

Paraxanthine (8 CI); 1H-Purine-2,6-dione, 3,7-dihydro-1,7-dimethyl- (9 CI) **9592**

Penicillin (VAN) **1114, 1115, 8454, 8455**

Pentadecanal **12382**

Pentadecane **12383**

Pentadecane, 2,6,10,14-tetramethyl- **12384**

Pentane, 2-methyl- **4343, 6634**

Pentane, 2,2,4-trimethyl- **4344**

Pentane, 3-ethyl- **4345, 6635**

Pentane, 3-methyl- **4346, 6636**

Pentanoic acid, 2-methyl-, ethyl ester **4347, 6637**

Pentyl alcohol (8 CI); 1-Pentanol (9 CI) **4348, 4349, 6638**

Phenanthrene **12385**

Phenethyl alcohol (8 CI); Benzeneethanol (9 CI) **12386**

Phenethylamine (8 CI); Benzeneethanamine (9 CI) **2742**

Phenethylamine, alpha-methyl-, (+)- (8 CI); Benzeneethanamine, alpha-methyl-, (S)- (9 CI) **7307**

Phenethylamine, alpha-methyl-, (+-)- (8 CI); Benzeneethanamine, alpha-methyl-, (+-)- (9 CI) **2743, 2744, 7308-7315, 8456-8458, 10729, 10730**

Phenethylamine, alpha-methyl-3,4-(methylenedioxy)- (8 CI); 1,3-Benzodioxole-5-ethanamine, alpha-methyl- (9 CI) **1116, 1117**

Phenethylamine, alpha,alpha-dimethyl- (8 CI); Benzeneethanamine, alpha,alpha-dimethyl- (9 CI) **10731-10734**

Phenethylamine, N-ethyl-alpha-methyl-m-(trifluoromethyl)- (8 CI); Benzeneethanamine, N-ethyl-alpha-methyl-3-(trifluoromethyl)- (9 CI) **2745**

Phenethylamine, N,alpha-dimethyl-, (S)-(+)- (8 CI); Benzeneethanamine, N,alpha-dimethyl-, (S)- (9 CI) **10735**

Phenol **1118, 2746, 2747, 4350, 4351, 6639-6641, 8023, 8024, 9593, 12387-12389**

Phenol, dichloro- **12390**

Phenol, m-(2-aminoethyl)- (8 CI); Phenol 3-(2-aminoethyl)- (9 CI) **2748**

Phenol, m-chloro- (8 CI); Phenol, 3-chloro- (9 CI) **4352, 12391**

Phenol, o-chloro- (8 CI); Phenol, 2-chloro- (9 CI) **4353, 12392**

Phenol, p-(dimethylamino)-, hydrochloride (8 CI); Phenol, 4-(dimethylamino)-, hydrochloride (9 CI) **7316**

Phenol, p-(2-aminoethyl)- (8 CI); Phenol, 4-(2-aminoethyl)- (9 CI) **10736**

Phenol, p-amino- (8 CI); Phenol, 4-amino- (9 CI) **2749**

Phenol, p-chloro- (8 CI); Phenol, 4-chloro- (9 CI) **4354, 12393**

Phenol, p-nitro- (8 CI); Phenol, 4-nitro- (9 CI) **2750, 4355, 9594, 12394, 12395**

Phenol, pentachloro- **1119-1123, 2751-2754, 4356-4360, 6642-6649, 8025-8031, 9595-9601, 12396-12399**

Phenol, tert-butyl-4-methoxy- (8 CI); Phenol, (1,1-dimethylethyl)-4-methoxy- (9 CI) **1124, 1125, 9602, 9603**

Phenol, tetrachloro- **9604, 9605, 12400**

Phenol, trichloro- **12401**

Phenol, 2-methoxy- **8032**

Phenol, 2,2'-methylenebis(3,4,6-trichloro- **1126, 2755-2758, 5890-5897, 9606, 10737**

Phenol, 2,3-dichloro- **9607, 12402**

Phenol, 2,3,4-trichloro- **12403**

Phenol, 2,3,4,5-tetrachloro- **2759, 2760, 9608, 9609, 12404**

Phenol, 2,3,4,6-tetrachloro- **2761, 2762, 9610, 12405**

Phenol, 2,3,5-trichloro- **2763-2765, 12406**

Phenol, 2,3,5,6-tetrachloro- **12407**

Phenol, 2,3,6-trichloro- **12408**

Phenol, 2,4-dichloro- **2766, 2767, 4361, 9611, 12409**

Phenol, 2,4,5-trichloro- **2768, 2769, 4362, 9612, 12410, 12411**

Phenol, 2,4,6-trichloro- **2770, 2771, 4363, 4364, 9613, 12412**

Phenol, 2,5-dichloro- **12413**

Phenol, 2,6-dichloro- **9614, 12414**

Phenol, 3-(3-ethylhexahydro-1-methyl-1H-azepin-3-yl- **7317, 10738**

Phenol, 3,4-dichloro- **9615, 12415**

Phenol, 3,4,5-trichloro- **9616, 12416**

Phenol, 3,5-dichloro- **12417**

Phenol, 4-(2-hydroxy-3-((1-methylethyl)amino)propoxy)-, (S)- **7318, 10739**

Phenol, 4-(2-hydroxy-3-((1-methylethyl)amino)propoxy)-2,3,6-trimethyl-, 1-acetate **8459, 8460**

Phenol, 4-bromo-2,5-dichloro- **2772, 2773**

Phenol, 5-chloro-2-(2,4-dichlorophenoxy)- **6650**

Phenolphthlein, 4,7-dibromo-3',3"-disulfo- (8 CI); Benzenesulfonic acid, 3,3'-(4,7-dibromo-3-oxo-1 (3H)-isobenzofuranylidene)bis(6-hydroxy- (9 CI) **10740-10742**

Phenothiazine, 10-(2-(dimethylamino)propyl)- (8 CI); 10H-Phenothiazine-10-ethanamine, N,N, alpha-trimethyl- (9 CI) **1127, 7319, 10743-10747**

Phenothiazine, 10-(2-(1-methyl-2-piperidyl)ethyl)-2-(methylsulfinyl)- (8 CI); 10H-Phenothiazine, 10-(2-(1-methyl-2-piperidinyl)ethyl)-2-(methylsulfinyl)- (9 CI) **1128, 10748**

Phenothiazine, 10-(2-(1-methyl-2-piperidyl)ethyl)-2-(methylthio)- (8 CI); 10H-Phenothiazine, 10-(2-(1-methyl-2-piperidinyl)ethyl)-2-(methylthio)- (9 CI) **1130-1134, 2774-2778, 4951, 8461-8463, 9008, 10749**

Phenothiazine, 10-(2-(1-methyl-2-piperidyl)ethyl)-2-(methylthio)-, 5-oxide (8 CI); 10H-Phenothiazine, 10-(2-(1-methyl-2-piperidinyl)ethyl)-2-(methylthio)-, 5-oxide (9 CI) **1135**

Phenothiazine, 10-(3-(4-methyl-1-piperazinyl)propyl)-2-(trifluoromethyl)- (8 CI); 10H-Phenothiazine, 10-(3-(4-methyl-1-piperazinyl)propyl)-2-(trifluoromethyl)-(9 CI) **5898, 5899, 7320-7322, 10750-10752**

Phenothiazine, 2-chloro-10-(3-(dimethylamino)propyl)- (8 CI); 10H-Phenothiazine-10-propanamine, 2-chloro-N,N-dimethyl- (9 CI) **1136, 1137, 2779, 4952, 7323-7332, 8464, 10753**

Phenylhexanone (No postings in CHEMLINE). **12418**

Phosphate **1138-1140, 2780-2782, 10754, 10755**

Phosphine (VAN) **9617-9619**

Phosphonic acid, (1,2-epoxypropyl)-, (1R,2S)-(-)- (8 CI); Phosphonic acid, (3-methyloxiranyl)-, (2R-cis)- (9 CI) **7333, 7334**

Phosphonic acid, (2,2,2-trichloro-1-hydroxyethyl)-, dimethyl ester **8033, 8034**

Phosphoric acid tributyl ester **12419**

Phosphoric acid, chromium (3+) salt (1:1) **10756-10759**

Phosphoric acid, diethyl ester **1141, 2783-2788, 9620, 12420-12423**

Phosphoric acid, dimethyl ester **9621, 12424-12427**

Phosphoric acid, dimethyl ester, ester with 3-hydroxy-N-methylcrotonamide, (E)- (8 CI); Phosphoric acid, dimethyl 1-methyl-3-(methylamino)-3-oxo-1-propenyl ester, (E)- (9 CI) **2794**

Phosphoric acid, 2,2-dichlorovinyl dimethyl ester (8 CI); Phosphoric acid, 2,2-dichloroethenyl dimethyl ester (9 CI) **6651, 9622**

Phosphorodithioic acid, O,O-diethyl ester **1144, 12428, 12429**

Phosphorodithioic acid, O,O-diethyl ester, S-ester with 6-chloro-3-(mercaptomethyl)-2-benzoxazolinone (8 CI); Phosphorodithioic acid, S-((6-chloro-2-oxo-3(2H)-benzoxyazolyl)methyl) O,O-diethyl ester (9 CI) **2795**

Phosphorodithioic acid, O,O-dimethyl ester **1145, 9623, 12430-12433**

Phosphorodithioic acid, O,O-dimethyl ester, S-ester with 3-(mercaptomethyl)-1,2,3-benzotriazin-4(3H)-one (8 CI); Phosphorodithioic acid, O,O-dimethyl S-((4-oxo-1,2,3-benzotriazin-3(4H)-yl) methyl) ester (9 CI) **2796, 5662**

Phosphorodithioic acid, S-(((p-chlorophenyl)thio)methyl)O,O-diethyl ester (8 CI); Phosphorodithioic acid, S-(((4-chlorophenyl)thio)methyl) O,O-diethyl ester (9 CI) **2797, 2798**

Phosphorodithioic acid, S,S'-methylene O,O,O',O'-tetraethyl ester **2799, 6652**

Phosphorothioic acid, O-(2,4-dichlorophenyl) O,O-diethyl ester **2800-2804**

Phosphorothioic acid, O,O-diethyl ester **1146, 2805-2808, 9624, 12434, 12435**

Phosphorothioic acid, O,O-diethyl O-(p-nitrophenyl) ester (8 CI); Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester (9 CI) **2809-2812, 5663, 5664, 6653**

Phosphorothioic acid, O,O-diethyl O-(3,5,6-trichloro-2-pyridyl) ester (8 CI); Phosphorothioic acid, O,O-diethyl O-(3,5,6-trichloro-2-pyridinyl) ester (9 CI) **2813-2815, 6654, 9625-9629**

Phosphorothioic acid, O,O-diethyl, O-(2-isopropyl-6-methyl-4-pyrimidinyl ester (8 CI); Phosphorothioic acid, O,O-diethyl O-(6-methyl-2-(1-methylethyl)-4-pyrimidinyl) ester (9 CI) **2816, 6655**

Phosphorothioic acid, O,O-dimethyl ester **1147, 1148, 2817-2820, 9630, 12436-12440**

Phosphorothioic acid, O,O-dimethyl O-(p-nitrophenyl) ester (8 CI); Phosphorothioic acid, O,O-dimethyl O-(4-nitrophenyl) ester (9 CI) **2821, 2822**

Phosphorothioic acid, O,O-dimethyl O-(4-nitro-m-tolyl) ester (8 CI); Phosphorothioic acid, O,O-dimethyl O-(3-methyl-4-nitrophenyl) ester (9 CI) **9631, 9632**

Phosphorus **1149-1152, 2823-2829, 4365-4371, 5665, 5666, 6656-6673, 7335-7338, 8035-8042, 9633-9639, 12441-12444**

Phosphorus, isotope of mass 32 **9640, 10760**

Phthalazine, 1-hydrazino- (8 CI); 1(2H)-Phthalazinone, hydrazone (9 CI) **2830, 2831, 4953, 4954, 8465, 10761, 10762**

Phthalic acid, bis(2-ethylhexyl) ester (8 CI); 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI) **1153, 2832, 2833, 4372, 4373, 5667, 8466, 9641, 9642, 12445-12448**

Phthalic acid, dibutyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dibutyl ester (9 CI) **1154, 2834, 5668, 12449**

Phthalic acid, diethyl ester (8 CI); 1,2-Benzenedicarboxylic acid, diethyl ester (9 CI) **9643, 12450**

Phthalic acid, dimethyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dimethyl ester (9 CI) **12451**

Picolinic acid, 4-amino-3,5,6-trichloro- (8 CI); 2-Pyridinecarboxylic acid, 4-amino-3,5,6-trichloro- (9 CI) **9644-9646**

Piperazine, 1-(diphenylmethyl)-4-methyl- **10763, 10764**

Piperazine, 1-(4-amino-6,7-dimethoxy-2-quinazolinyl)-4-(2-furoyl)- (8 CI); Piperazine, 1-(4-amino-6,7-dimethoxy-2-quinazolinyl)-4-(2-furanylcarbonyl)- (9 CI) **2835, 2836, 4955, 4956, 5900, 7339, 7340, 8467, 8468, 10765**

Piperazine, 1-acetyl-4-(4-((2-(2,4-dichlorophenyl)-2-(1H-imidazol-1-ylmethyl)-1,3-dioxolan-4 -yl) methoxy)phenyl)-, cis- **8797, 8798, 8946, 10766, 10767**

Piperidine, 1-(1-phenylcyclohexyl)- **1155-1163, 2837-2844, 4957-4964, 7341-7348, 8469-8474, 9016-9020, 9070, 10768-10773**

Piperidine, 2-(2,2-dicyclohexylethyl)- **5901**

Piperidine, 3-((1,3-benzodioxol-5-yloxy)methyl)-4-(4-fluorophenyl)-, trans-(-)- **4965, 8475**

Piperidine, 3-((4-methoxyphenoxy)methyl)-1-methyl-4-phenyl-, (3R-trans)- **4966, 4967, 10774**

Piperidinium, 1,1'-(3alpha,17beta-dihydroxy-5alpha-androstan-2beta,16beta-ylene)bis(1-methyl-, dibromide, diacetate (8 CI) Piperidinium, 1,1'-((2beta,3alpha,5alpha,16beta,17beta)-3,17-bis (acetyloxy)androstane-2,16-diy l)bis(1-methyl-, dibromide (9 CI) **2845, 7349**

Platinum **1164, 1165, 4374-4382, 5669-5672, 9647**

Platinum, diamminedichloro-, cis- (8 CI); Platinum, diamminedichloro-, (SP-4-2)- (9 CI) **4968-4971, 5902, 8476, 10775**

Plumbane, chlorotriethyl- **4383-4391**

Plumbane, chlorotrimethyl- **4392**

Plumbane, tetraethyl- **4393, 4394**

Plumbane, tetramethyl- **1166, 1167**

Plutonium **6674-6681, 8043-8050, 9648-9653, 12452-12463**

Plutonium, isotope of mass 239 **12464**

Polybrominated biphenyls (No postings in CHEMLINE). **1168-1179, 2846-2850, 4395-4398, 5673-5675, 6682, 6683, 8051-8065, 9654-9663, 12465-12477**

Polychlorinated dibenzo-p-dioxin (No postings in CHEMLINE). **12478-12480**

Polychlorinated dibenzofurans (No postings in CHEMLINE). **2851-2856, 9664-9667, 12481-12504**

Polychlorinated quaterphenyl (No postings in CHEMLINE). **12505-12513**

Polychlorinated terpenes (No postings in CHEMLINE). **12514**

Polysorbate (No postings in CHEMLINE). **12515**

Porphyrin, total (No postings in CHEMLINE). **9671**

Potassium **1180-1182, 2857-2873, 4399-4403, 4972, 5681, 6684-6700, 7350, 8066-8072, 9672-9683, 10776, 12516-12530**

Potassium, isotope of mass 40 **6701**

Pregn-4-ene-21-carboxylic acid, 7-(acetylthio)-17-hydroxy-3-oxo-, gamma-lactone, (7alpha,17alpha) - **8477**

Pregna-1,4-diene-3,11,20-trione, 17,21-dihydroxy- **1183, 2874, 7351, 8478, 8981, 10777, 10778**

Pregna-1,4-diene-3,20-dione, 11beta,17,21-trihydroxy- (8 CI); Pregna-1,4-diene-3,20-dione, 11,17, 21-trihydroxy-, (11beta)- (9 CI) **2875, 4973, 5903, 7352, 8980, 10779-10782**

Pregna-1,4-diene-3,20-dione, 11beta,17,21-trihydroxy-6alpha-methyl- (8 CI); Pregna-1,4-diene-3,20-dione, 11,17,21-trihydroxy-6-methyl-, (6alpha,11beta)- (9 CI) **10783**

Pregna-1,4-diene-3,20-dione, 11beta,17,21-trihydroxy-6alpha-methyl-, 21-acetate (8 CI); Pregna-1, 4-diene-3,20-dione, 21-(acetyloxy)-11,17-dihydroxy-6-methyl-, (6alpha,11beta)- (9 CI) **2876, 2877**

Pregna-1,4-diene-3,20-dione, 6alpha-fluoro-11beta,16alpha,17,21-tetrahydroxy-, cyclic 16,17-acetal with acetone (8 CI) Pregna-1,4-diene-3,20-dione, 6-fluoro-11,21-dihydroxy-16,17-((1-methylethylidene)bis(oxy))-, (6alpha,11beta,16alpha)- (9 CI) **4974**

Pregna-1,4-diene-3,20-dione, 9-fluoro-11beta,17,21-trihydroxy-16alpha-methyl- (8 CI); Pregna-1,4-diene-3,20-dione, 9-fluoro-11,17,21-trihydroxy-16-methyl-, (11beta,16alpha)- (9 CI) **4975, 4976**

Pregna-1,4-diene-3,20-dione, 9-fluoro-11beta,17,21-trihydroxy-16alpha-methyl-, 21-(dihydrogen phosphate) (8 CI) Pregna-1,4-diene-3,20-dione, 9-fluoro-11,17-dihydroxy-16-methyl-21-(phosphonooxy)-, (11beta,16alpha)- (9 CI) **4977**

Pregna-1,4-diene-3,20-dione, 9-fluoro-11beta,17,21-trihydroxy-16beta-methyl- (8CI); Pregna-1,4-diene-3,20-dione, 9-fluoro-11,17,21-trihydroxy-16-methyl-, (11beta,16beta)- (9 CI) **7353**

Pregna-1,4,6-triene-3,20-dione, 6-chloro-11beta,17,21-trihydroxy- (8 CI); Pregna-1,4,6-triene-3,20-dione, 6-chloro-11,17,21-trihydroxy-, (11beta)- (9 CI) **2878**

Pregna-4,6-diene-21-carboxylic acid, 17-hydroxy-3-oxo, gamma-lactone, (17alpha)- **8962, 8963**

Pregnan-20-one, 11-(dimethylamino)-2-ethoxy-3-hydroxy-, (2beta,3alpha,5alpha,11alpha)- **8479**

Prizidilol (No postings in CHEMLINE). **7354**

Progestogens (No postings in CHEMLINE). **10784**

Prolactin (VAN) **2879, 2880, 5904, 8883, 10785**

Proline, 4-hydroxy-, L- (8 CI); L-Proline, 4-hydroxy-, trans- (9 CI) **1184, 2881**

Propanamide, N-(1-(2-(4-ethyl-4,5-dihydro-5-oxo-1H-tetrazol-1-yl)ethyl)-4-(methoxymethyl)-4-piperidinyl)-N-phenyl- **7355, 10786, 10787**

Propanamide, 2-amino-N-(2,6-dimethylphenyl)- **1185, 2882-2885, 8770, 10788, 10789**

Propane **4404**

Propane, 1,1'-oxybis (2,3,3,3-tetrachloro)- **8073**

Propane, 2-nitro- **4405, 6702**

Propanoic acid, 2-(((1-(2-amino-4-thiazolyl)-2-((2-methyl-4-oxo-1-sulfo-3-azetidinyl)amino)-2-oxoethylidene)amino)oxy)-2-methyl-, (2S-(2alpha,3beta(Z)))- **10790-10809**

Propanoic acid, 2-(2,4,5-trichlorophenoxy)- **9684, 12531, 12532**

Propanoic acid, 2-(4-chloro-2-methylphenoxy)-, (+-)- **9685-9699**

Propene, 1,3-dichloro-, (Z)- (8 CI); 1-Propene, 1,3-dichloro-, (Z)- (9 CI) **9700**

Propionaldehyde, 2-methyl-2-(methylthio)-, O-(methylcarbamoyl)oxime (8 CI); Propanal, 2-methyl-2-(methylthio)-, O-((methylamino)carbonyl)oxime (9 CI) **9701-9704**

Propionanilide, N-(1-phenethyl-4-piperidyl)- (8 CI); Propanamide, N-phenyl-N-(1-(2-phenylethyl)-4-piperidinyl- (9 CI) **10810**

Propionanilide, N-(1-phenethyl-4-piperidyl)-, citrate (1:1) (8 CI); Propanamide, N-phenyl-N-(1-(2-phenylethyl)-4-piperidinyl)-, 2-hydroxy-1,2,3-propanetricarboxylate (1:1) (9 CI) **4978-4980, 7356, 7357, 10811-10815**

Propionic acid, 2-(p-chlorophenoxy)-2-methyl- (8 CI); Propanoic acid, 2-(4-chlorophenoxy)-2-methyl- (9 CI) **4981, 5905, 5906**

Propionic acid, 2-(2,4-dichlorophenoxy)- (8 CI); Propanoic acid, 2-(2,4-dichlorophenoxy)- (9 CI) **9705**

Propionic acid, 3-mercapto-, ethyl ester (8 CI); Propanoic acid, 3-mercapto-, ethyl ester (9 CI) **4406, 6703**

Propionitrile, 3-amino- (8 CI); Propanenitrile, 3-amino- (9 CI) **4982**

Propiophenone (8 CI); 1-Propanone, 1-phenyl- (9 CI) **4407, 6704**

Propyl alcohol (8 CI); 1-Propanol (9 CI) **4408, 4409**

Propylfuranacetaldehyde (No postings in CHEMLINE). **12533**

Propyne (8 CI); 1-Propyne (9 CI) **4410**

Prosta-5,13-dien-1-oic acid, 15-hydroxy-11,16,16-trimethyl-9-oxo-, (5Z,11alpha,13E,15R)- **10816**

Pseudoephedrine, (+)- (8 CI); Benzenemethanol, alpha-(1-(methylamino)ethyl)-, (S-(R*,R*))- (9 CI) **2886-2888, 5907, 5908**

Pteridine, 2,4,7-triamino-6-phenyl- (8 CI); 2,4,7-Pteridinetriamine, 6-phenyl- (9 CI) **10817-10820**

Purine-6-thiol (8 CI); 6H-Purine-6-thione, 1,7-dihydro- (9 CI) **10821, 10822**

Pyrazinecarboxylic acid, 5 methyl-, 4 oxide **8952, 8953**

Pyrene **6706, 6707, 12534**

Pyridazinium, 4-amino-6-methoxy-1-phenyl-, methyl sulfate **10823**

Pyridine, 2-((2-(dimethylamino)ethyl)(p-methoxybenzyl)amino)- (8 CI); 1,2-Ethanediamine, N-((4-methoxyphenyl)methyl)-N',N'-dimethyl-N-2-pyridinyl- (9 CI) **8480-8482, 10824**

Pyridine, 2-((2-(dimethylamino)ethyl)-2-thenylamino)- (8 CI); 1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)- (9 CI) **10825**

Pyridine, 2-(alpha-(2-(dimethylamino)ethoxy)-alpha-methylbenzyl)- (8 CI); Ethanamine, N,N-dimethyl-2-(1-phenyl-1-(2-pyridinyl)ethoxy)- (9 CI) **10826**

Pyridine, 2-(alpha-(2-(dimethylamino)ethyl)benzyl)- (8 CI); 2-Pyridinepropanamine, N,N-dimethyl-gamma-phenyl- (9 CI) **4983-4987**

Pyridine, 2-(benzyl(2-(dimethylamino)ethyl)amino)- (8 CI); 1,2-Ethanediamine, N,N-dimethyl-N'-(phenylmethyl)-N'-2-pyridinyl- (9 CI) **10827**

Pyridine, 2-(p-bromo-alpha-(2-(dimethylamino)ethyl)benzyl)- (8 CI); 2-Pyridinepropanaminne, gamma-(4-bromophenyl)-N,N-dimethyl- (9 CI) **2889, 2890, 12535**

Pyridine, 2-(p-chloro-alpha-(2-(dimethylamino)ethyl)benzyl)- (8 CI); 2-Pyridinepropanamine, gamma-(4-chlorophenyl)-N,N-dimethyl- (9 CI) **2891, 7358-7364, 10828-10831**

Pyridine, 2-(3-(1-pyrrolidinyl)-1-p-tolylpropenyl)-, (E)- (8 CI); Pyridine, 2-(1-(4-methylphenyl)-3-(1-pyrrolidinyl)-1-propenyl)-, (E)- (9 CI) **10832**

Pyridine, 2,6-diamino-3-(phenylazo)- (8 CI); 2,6-Pyridinediamine, 3-(phenylazo)- (9 CI) **2892**

Pyridine, 3-(1-nitroso-2-piperidinyl)-, (S)- **12536**

Pyridinium, 1-((2-carboxy-7-(((((5-carboxy-1H-imidazol-4-yl)carbonyl)amina)phenylacetyl)amino)-8-oxo-5-thia-1-azabicyclo(4.2.0)oct-2-en-3-yl)methyl)-4-(2-sulfoethyl)-, hydroxide, inner salt, (6R-(6alpha,7beta(R*)))- **10833, 10834**

Pyridinium, 1-((2-carboxy-8-oxo-7-(2-(2-thienyl)acetamido-)-5-thia-1-azabicyclo(4.2.0)oct-2-en-3-yl)methyl)-, hydroxide, inner salt (8 CI) (VAN) Pyridinium, 1-((2-carboxy-8-oxo-7-((2-thienylacetyl)amino)-5-thia-1-azabicyclo(4.2.0)oct-2-e n-3-yl)methyl)-, hydroxide, inner salt, (6R-trans)- (9 CI) **2893, 4988, 4989**

Pyridinium, 1-((7-(((2-amino-4-thiazolyl)((1-carboxy-1-methylethoxy)imino)acetyl)amino)-2-carboxy-8-oxo-5-thia-1-azabicyclo(4.2.0)oct-2-en-3-yl)methyl)-, hydroxide, inner salt, (6R-(6alpha, 7beta(Z)))- **10835-10850**

Pyridinium, 2-formyl-1-methyl-, chloride, oxime (8 CI); Pyridinium, 2-((hydroxyimino)methyl)-1-methyl, chloride (9 CI) **4990, 4991**

Pyridinium, 3-hydroxy-1-methyl-, dimethylcarbamate (ester) (8 CI); Pyridinium, 3-((dimethylamino)carbonyl)oxy)-1-methyl- (9 CI) **4992, 4993**

Pyridinium, 4-(aminocarbonyl)-1-((2-carboxy-8-oxo-7-((phenylsulfoacetyl)amino)-5-thia-1-azabicyclo(4.2.0)oct-2-en-3-yl)methyl)-, hydroxide, inner salt, monsodium salt, (6R-(6alpha,7beta (R*)))- **10851-10854**

Pyrido(2,3-d)pyrimidine-6-carboxylic acid, 8-ethyl-5,8-dihydro-5-oxo-2-(1-piperazinyl)- **10855-10859**

Pyridoxal, 5-(dihydrogen phosphate (8 CI); 4-Pyridinecarboxaldehyde, 3-hydroxy-2-methyl-5-((phosphonooxy)methyl) (9 CI) **7365**

Pyridoxol (8 CI); 3,4-Pyridinedimethanol, 5-hydroxy-6-methyl- (9 CI) **2894, 2895, 4994, 10860**

Pyridoxol, hydrochloride (8 CI); 3,4-Pyridinedimethanol, 5-hydroxy-6-methyl-, hydrochloride (9 CI) **10861**

Pyrimidine, 2,4-diamino-5-(p-chlorophenyl)-6-ethyl- (8 CI); 2,4-Pyrimidinediamine, 5-(4-chlorophenyl)-6-ethyl- (9 CI) **10862, 10863**

Pyrimidine, 2,4-diamino-5-(3,4,5,-trimethoxybenzyl)- (8 CI); 2,4-Pyrimidinediamine, 5-((3,4,5-trimethoxyphenyl)methyl)- (9 CI) **2896, 2897, 4995-4999, 5909, 5910, 10864-10866**

Pyrimido(1,2-a)indol-10-ol, 10-(3-chlorophenyl)-2,3,4,10-tetrahydro- **1186, 2898**

Pyrrole-2-acetic acid, 1-methyl-5-p-toluoyl- (8 CI); 1H-Pyrrole-2-acetic acid, 1-methyl-5-(4-methylbenzoyl)- (9 CI) **5000, 5001, 8483-8485**

Pyrrole-2-acetic acid, 5-(p-chlorobenzoyl)-1,4-dimethyl- (8 CI); 1H-Pyrrole-2-acetic acid, 5-(4-chlorobenzoyl)-1,4-dimethyl- (9 CI) **5002, 5003, 8486, 8487, 10867-10870**

Pyrrolidine, 1-nitroso- **9706, 12537**

Pyrrolidinium, 3-(diphenylmethylene)-1,1-diethyl-2-methyl-, bromide **10871, 10872**

Quartz (8 CI); Quartz [SiO2] (9 CI) **2899, 2900**

Quinidine (8 CI); Cinchonan-9-ol, 6'-methoxy-, (9S)- (9 CI) **2901-2903, 5004-5007, 7366, 8488-8490, 8920, 10873-10877**

Quinidine, sulfate (2:1) (salt) (8 CI); Cinchonan-9-ol, 6'-methoxy-, (9S)-, sulfate (2:1) (salt) (9 CI) **10878**

Quinine (8 CI); Cinchonan-9-ol, 6'-methoxy-, (8alpha,9R)- (9 CI) **7367, 10879, 10880**

Quinoline, 7-chloro-4-((4-(diethylamino)-1-methylbutyl)amino)- (8 CI); 1,4-Pentanediamine, N(4)-(7-chloro-4-quinolinyl)-N(1),N(1)-diethyl- (9 CI) **2904, 7368-7372, 10881-10887**

Quinoline, 8-((4-amino-1-methylbutyl)amino)-6-methoxy- (8 CI); 1,4-Pentanediamine, N(4)-(6-methoxy-8-quinolinyl)- (9 CI) **10888-10890**

Radium **6708-6710**

Radium, isotope of mass 226 **8074-8095**

Resorcinol (8 CI); 1,3-Benzenediol (9 CI) **7373**

Retinoic acid, 13-cis- **8491-8493**

Riboflavin **2905, 10891**

Ricin **10892**

Rubidium **1187, 2906-2914, 4411-4422, 6711, 6712, 8096, 8097, 9707-9709, 12538, 12539**

S-Sulfonate (No postings in CHEMLINE). **2915**

s-Triazolo(4,3-a)pyridin-3(2H)-one, 2-(3-(4-(m-chlorophenyl)-1-piperazinyl)propyl)- (8 CI); 1,2,4-Triazolo(4,3-a)pyridin-3(2H)-one, 2-(3-(4-(3-chlorophenyl)-1-piperazinyl)propyl- (9 CI) **10893-10895**

s-Trioxane, 2,4,6-trimethyl- (8 CI); 1,3,5-Trioxane, 2,4,6-trimethyl- (9 CI) **10896**

Salicylamide (8 CI); Benzamide, 2-hydroxy- (9 CI) **1188**

Salicylic acid (8 CI); Benzoic acid, 2-hydroxy- (9 CI) **2916, 5008-5011, 7374-7376, 8494-8496, 10897-10901**

Salicylic acid acetate (8 CI); Benzoic acid, 2-(acetyloxy)- (9 CI) **2917-2919, 5012, 7377, 8497-8501, 10902-10912**

Salicylic acid acetate, ester with 4'-hydroxyacetanilide (8 CI); Benzoic acid, 2-(acetyloxy)-, 4-(acetylamino)phenyl ester (9 CI) **10913**

Salicylic acid, ion(1-) (8 CI); Benzoic acid, 2-hydroxy-, ion(1-) (9 CI) (VAN) **1189, 2920-2928, 5013-5025, 5911-5914, 6713, 7378-7380, 8502-8512, 8772, 8773, 10914-10917**

Salicylic acid, p-aminobenzoate (8 CI); Benzoic acid, 2-((4-aminobenzoyl)oxy)- (9 CI) **2929**

Salicylic acid, 4-amino- (8 CI); Benzoic acid, 4-amino-2-hydroxy- (9 CI) **5026, 5027**

Salicylic acid, 5-((p-(2-pyridylsulfamoyl)phenyl)azo)- (8 CI); Benzoic acid, 2-hydroxy-5-((4-((2-pyridinylamino)sulfonyl)phenyl)azo)- (9 CI) **2930, 5028-5031, 8098, 8513**

Samarium **1190, 2931, 9710, 9711, 12540, 12541**

Sanguinarine (8 CI); (1,3)Benzodioxolo(5,6-c)-1,3-dioxolo(4,5-i)phenanthridinium, 13-methyl- (9 CI) **1191, 1192**

Scandium **1193, 2932, 4423-4434, 6714-6716, 8099, 8100, 9712, 12542**

Selenium **1194-1217, 2933-2947, 4435-4465, 5682-5687, 6717-6732, 8101-8145, 8514-8516, 8816, 9713-9751, 10918-10921, 12543-12574**

Selenium, isotope of mass 74 **12575**

Silane, difluorodimethyl- **4466**

Silane, fluorotrimethyl- **4467**

Silica **1218-1220, 2948-2952**

Silicate (No postings in CHEMLINE). **2953**

Silicon **1221-1223, 2954-2959, 4468-4473, 5688, 6733-6747, 9752-9754, 12576, 12577**

Silver **1224, 1225, 2960-2966, 4474-4478, 5689, 5690, 6748-6768, 8146, 9755-9758, 12578-12580**

Sisomicin (8 CI); D-Streptamine, O-3-deoxy-4-C-methyl-3-(methylamino)-beta-L-arabinopyranosyl-(1-6)-O-(2,6-diamin o-2,3,4,6-tetradeoxy-alpha-D-glycero-hex-4-enopyranosyl-(1-4))-2-deoxy- (9 CI) **5915**

Sodium **1226, 2967-2975, 4479-4482, 5691-5693, 6769-6784, 8147-8151, 9759-9764, 12581-12585**

Sodium bromide (8 CI); Sodium bromide [NaBr] (9 CI) **10922**

Sodium, ion (Na(1+)) **2976, 8152-8154, 9765-9767, 10923, 12586-12594**

Solanid-5-en-3-ol, (3beta)- **8517-8520**

Sparteine (8 CI); 7,14-Methano-2H,6H-dipyrido(1,2-a:1',2'-e)(1,5)diazocine, dodecahydro-, (7S-(7alpha,7aalpha,14alpha,14abeta))- (9 CI) **5032, 8521**

Stainless steel **2977**

Starch, 2-hydroxyethyl ether **8155, 8156**

Stearaldehyde (8 CI); Octadecanal (9 CI) **12595**

Stearic acid (8 CI); Octadecanoic acid (9 CI) **12596**

Stearic acid, methyl ester (8 CI); Octadecanoic acid, methyl ester (9 CI) **12597**

Stilbene, methyl- (No postings in CHEMLINE). **12598**

Streptamine, O-3-amino-3-deoxy-alpha-D-glucopyranosyl-(1-4)-O-(2,6-diamino-2,3,6-trideoxy-alpha-D-ribo-hexopyranosyl-(1-6))-2-deoxy-, D- (8 CI) D-Streptamine, O-3-amino-3-deoxy-alpha-D-glucopyranosyl-(1-6)-O-(2,6-diamino-2,3,6-trideoxy-alpha-D-ribo-hexopyranosyl-(1-4))-2-deoxy- (9 CI) **2978, 2979, 8522, 8523, 10924-10929**

Strontium **1227-1229, 2980-2984, 4483, 5694, 5695, 6785-6801, 8157, 9768-9771**

Strontium, isotope of mass 90 **1230-1235, 2985**

Strychnine (8 CI); Strychnidin-10-one (9 CI) **2986, 2987, 8524-8526**

Styrene (8 CI); Benzene, ethenyl- (9 CI) **1236-1238, 2988, 4484, 4485, 5696, 5697, 6802-6805, 8969, 9772, 9773, 12599-12604**

Styrene, octachloro- (8 CI); Benzene, pentachloro(trichloroethenyl)- (9 CI) **1239**

Succinamic acid, 3-amino-N-(alpha-carboxyphenethyl)-, N-methyl ester, stereoisomer (8 CI) (VAN); L-Phenylalanine, N-L-alpha-aspartyl-, 1-methyl ester (9 CI) **2989, 2990, 6806, 10930**

Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI) **2991, 2992, 12605**

Succinimide, 2-ethyl-2-methyl- (8 CI); 2,5-Pyrrolidinedione, 3-ethyl-3-methyl- (9 CI) **5916-5918, 8158**

Sulfamide, N'-((8alpha)-1,6-dimethylergolin-8-yl)-N,N-dimethyl- **10931**

Sulfanilamide, N(1)-(3-methoxypyrazinyl)- (8 CI); Benzenesulfonamide, 4-amino-N-(3-methoxypyrazinyl)- (9 CI) **5919, 5920**

Sulfanilamide, N(1)-(3,4-dimethyl-5-isoxazolyl)- (8 CI); Benzenesulfonamide, 4-amino-N-(3,4-dimethyl-5-isoxazolyl)- (9 CI) **5033**

Sulfanilamide, N(1)-(4,6-dimethyl-2-pyrimidinyl)- (8 CI); Benzenesulfonamide, 4-amino-N-(4,6-dimethyl-2-pyrimidinyl)- (9 CI) **2993, 2994, 5034-5037, 8527**

Sulfanilamide, N(1)-(5-methoxy-2-pyrimidinyl)- (8 CI); Benzenesulfonamide, 4-amino-N-(5-methoxy-2-pyrimidinyl)- (9 CI) **5038**

Sulfanilamide, N(1)-(5-methyl-3-isoxazolyl)- (8 CI); Benzenesulfonamide, 4-amino-N-(5-methyl-3-isoxazolyl)- (9 CI) **2995, 5039-5041, 10932**

Sulfanilamide, N(1)-2-pyridyl- (8 CI); Benzenesulfonamide, 4-amino-N-2-pyridinyl- (9 CI) **2996-2998, 5042**

Sulfanilamide, N(1)-2-pyrimidinyl- (8 CI); Benzenesulfonamide, 4-amino-N-2-pyrimidinyl- (9 CI) **2999, 10933, 10934**

Sulfate **9774-9776**

Sulfide (VAN) **1240**

Sulfide, methyl propyl (8 CI); Propane, 1-(methythio)- (9 CI) **4486, 6807**

Sulfur **3000, 4487-4489, 5698, 8159, 12606**

Sulfur, isotope of mass 35 **12607**

Sulfuric acid disodium salt **7381**

Sulfuric acid magnesium salt (1:1), compd. with 2,2'-dithiobis(pyridine) 1,1'-dioxide (1:1) **3001, 3002**

Sulfuryl fluoride **12608, 12609**

Sulphone (No postings in CHEMLINE). **8160**

Tantalum **12610**

Technetium, isotope of mass 99 **3003, 8161, 10935**

Teichomycin **10936, 10937**

Tellurium **4490-4492**

Terbium **9777, 9778, 12611**

Terphenyl, chlorinated **9779-9788**

tert-Butyl disulfide (8 CI); Disulfide, bis(1,1-dimethylethyl) (9 CI) **4493, 6808**

Tetrahydrocannabinol cross-reacting cannabinoids (No postings in CHEMLINE). **5921-5923, 7382, 7383**

Thallium **1241, 3004-3040, 4494-4496, 5699-5704, 6809, 9021, 9789-9791, 12612-12624**

Theobromine (8 CI); 1H-Purine-2,6-dione, 3,7-dihydro-3,7-dimethyl- (9 CI) **5043-5045, 8528-8530, 10938**

Theophylline (8 CI); 1H-Purine-2,6-dione, 3,7-dihydro-1,3-dimethyl- (9 CI) **1242-1246, 3041-3048, 5046-5063, 5924-5928, 7384-7388, 8531-8539, 9792, 10939-10979**

Theophylline, compd. with ethylenediamine (2:1) (8 CI); 1H-Purine-2,6-dione, 3,7-dihydro-1,3-dimethyl-, compd. with 1,2-ethanediamine (2:1) (9 CI) **3049, 3050, 4497, 4498, 7389**

Theophylline, 7-(2,3-dihydroxypropyl)- (8 CI); 1H-Purine-2,6-dione, 7-(2,3-dihydroxypropyl)-3,7-dihydro-1,3-dimethyl- (9 CI) **3051, 7390, 10980**

Thiamine (8 CI); Thiazolium, 3-((4-amino-2-methyl-5-pyrimidinyl)methyl-5-(2-hydroxyethyl)-4-methyl-chloride (9 CI) **3052**

Thiazole, 5-(2-chloroethyl)-4-methyl- **1247-1249, 3053, 3054**

Thiocyanic acid, ion(1-) (8 CI); Thiocyanate (9 CI) **1250, 3055, 4499, 4500, 6810, 8162, 9793-9802, 12625**

Thiocyanic acid, sodium salt **12626**

Thiocyclopentane (No postings in CHEMLINE). **4501, 6811**

Thioether (No postings in CHEMLINE). **3056, 5705, 6812, 12627, 12628**

Thiopyrano(3,4-b)indole-1-ethanamine, 9-ethyl-1,3,4,9-tetrahydro-N,N,1-trimethyl- **5064**

Thiosulfuric acid, disodium salt (8 CI); Thiosulfuric acid [H2S2O3], disodium salt (9 CI) **10981, 10982**

Thioxanthene-delta(9, gamma)-propylamine, 2-chloro-N,N-dimethyl-, (Z)- (8 CI); 1-Propanamine, 3-(2-chloro-9H-thioxanthen-9-ylidene)-N,N-dimethyl-, (Z)- (9 CI) **3057, 7391, 7392**

Thioxanthene-2-sulfonamide, N,N-dimethyl-9-(3-(4-methyl-1-piperazinyl)propylidene)- (8 CI); 9H-Thioxanthene-2-sulfonamide, N,N-dimethyl-9-(3-(4-methyl-1-piperazinyl)propylidene)- (9 CI) **5065**

Thorium **8163-8166, 9803-9812, 12629**

Thorium, isotope of mass 228 **6813, 6814, 8167-8170, 9813-9820**

Thorium, isotope of mass 230 **8171-8174, 9821-9828**

Thymidine **5066, 10983**

Thyroxine, L- (8 CI); L-Tyrosine, O-(4-hydroxy-3,5-diiodophenyl)-3,5-diiodo- (9 CI) **4502, 10984, 10985**

Tin **1251-1254, 3058-3065, 4503-4507, 5706, 6815-6831, 8175-8177, 9829-9831, 12630-12633**

Titanium **1255-1258, 3066-3074, 4508-4518, 6832-6846, 8178, 9832, 9833**

Tocopherol **3075, 3076, 5929, 5930**

Toluene (8 CI); Benzene, methyl- (9 CI) **1259-1262, 4519-4521, 5931, 5932, 6847-6850, 8179-8181, 9834-9845, 12634-12640**

Toluene-alpha, 2-diamine, 3,5-dibromo-N(alpha)-cyclohexyl-N(alpha)-methyl- (8 CI); Benzenemethanamine, 2-amino-3,5-dibromo-N-cyclohexyl-N-methyl- (9 CI) **3077**

Toluene-2,5-diamine (8 CI); 1,4-Benzenediamine, 2-methyl- (9 CI) **4522**

Toluene, ar,ar-dinitro- (8 CI); Benzene, methyldinitro- (9 CI) **12641, 12642**

Toluene, o-nitro- (8 CI); Benzene, 1-methyl-2-nitro- (9 CI) **4523, 6851**

Transferrins **12643**

Tremolite (8 CI); Tremolite [Ca2Mg5H2(SiO3)8] (9 CI) **12644**

Triacontane **12645**

Trichothec-9-ene-3alpha,4beta,15-triol, 12,13-epoxy-, 4,15-diacetate (8 CI); Trichothec-9-ene-3,4,15-triol, 12,13-epoxy-, 4,15-diacetate, (3alpha,4beta)- (9 CI) **12646**

Trichothec-9-ene-3alpha,4beta,8alpha,15-tetrol, 12,13-epoxy-, 15-acetate 8-isovalerate (8 CI); Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 15-acetate 8-(3-methylbutanoate), (3alpha,4beta,8alpha)- (9 CI) **12647-12649**

Trichothec-9-ene-3alpha,4beta,8alpha,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-isovalerate (8 CI); Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3alpha,4beta,8alpha)- (9 CI) **12650-12653**

Triethylamine, 2,2"',2""-(v-phenenyltrioxy)tris- (8 CI); Ethanamine, 2,2',2"-(1,2,3-benzenetriyltris(oxy))tris(N,N-diethyl- (9 CI) **10986, 10987**

Tritium **9846**

Tryptophan, 5-hydroxy-, L- (8 CI); L-Tryptophan, 5-hydroxy- (9 CI) **3102, 4533, 7393**

Tubocurarine (8 CI) (VAN); Tubocuraranium, 7',12'-dihydroxy-6,6'-dimethoxy-2,2',2'-trimethyl- (9 CI) **5067, 10988**

Tungsten **1282, 4534-4537, 6852, 6853**

Uracil, 5-fluoro- (8 CI) (VAN); 2,4(1H,3H)-Pyrimidinedione, 5-fluoro- (9 CI) **3103, 5068-5070, 7394, 8540, 10989-10995**

Uracil, 6-propyl-2-thio- (8 CI); 4(1H)-Pyrimidinone, 2,3-dihydro-6-propyl-2-thioxo- (9 CI) **3104, 3105, 5071, 5072, 8959, 8960, 10996**

Uranium **4538, 12654-12663**

Urea, (2-bromo-2-ethylbutyryl)- (8 CI); Butanamide, N-(aminocarbonyl)-2-bromo-2-ethyl- (9 CI) **7395**

Urea, N'-(3-acetyl-4-(3-((1,1-dimethylethyl)amino)-2-hydroxypropoxy)phenyl)-N,N-diethy l- **10997, 10998**

Urea, 1-((p-chlorophenyl)sulfonyl)-3-propyl- (8 CI); Benzenesulfonamide, 4-chloro-N-((propylamino)carbonyl)- (9 CI) **5073, 8541, 10999, 11000**

Urea, 1-cyclohexyl-3-((p-(2-(5-methylpyrazinecarboxamido)ethyl)phenyl)sulfonyl)- (8 CI); Pyrazinecarboxamide, N-(2-(4-((((cyclohexylamino)carbonyl)amino)sulfonyl)phenyl)ethyl)-5-methyl- (9 CI) **11001-11004**

Urea, 3-(9,10-didehydro-6-methylergolin-8alpha-yl)-1,1-diethyl- (8 CI); Urea, N'-((8alpha)-9,10-didehydro-6-methylergolin-8-yl)-N,N-diethyl- (9 CI) **11005, 11006**

Uric acid (8 CI); 1H-Purine-2,6,8(3H)-trione, 7,9-dihydro- (9 CI) **9847, 9848**

Valeric acid, ethyl ester (8 CI); Pentanoic acid, ethyl ester (9 CI) **6854**

Valeric acid, 2-propyl- (8 CI); Pentanoic acid, 2-propyl- (9 CI) **3106-3111, 5074-5076, 5933, 5934, 7396-7398, 8182, 11007-11016**

Valeric acid, 2-propyl-, sodium salt (8 CI); Pentanoic acid, 2-propyl-, sodium salt (9 CI) **1283, 3112, 5077, 7399, 8542, 8752, 11017-11020**

Valeric acid, 2,2-dimethyl-5-(2,5-xylyloxy)- (8 CI); Pentanoic acid, 5-(2,5-dimethylphenoxy)-2,2-dimethyl- (9 CI) **11021, 11022**

Valeronitrile, S-((3,4-dimethoxyphenethyl)methylamino)-2-(3,4-dimethoxyphenyl)-2-isopropyl- (8 CI) Benzeneacetonitrile, alpha-(3-((2-(3,4-dimethoxyphenyl)ethyl)methylamino)propyl)-3,4-dimethoxy-alpha- (1-methylethyl)- (9 CI) **3113, 5078, 7400-7406, 8543, 8998, 11023-11026**

Valine, L- (8 CI); L-Valine (9 CI) **11027**

Valine, 3-mercapto-, D- (8 CI); D-Valine, 3-mercapto- (9 CI) **3114-3117, 7407-7409, 11028, 11029**

Vanadium **1284-1306, 3118-3128, 4539-4553, 5707-5710, 6855-6871, 8183, 9849-9855, 12664-12667**

Vancomycin **8544, 11030-11038**

Vincaleukoblastine **9856, 11039**

Vitamin A **3129, 3130, 4554, 4555, 5935, 6872, 8545, 9857, 11040-11042, 12668**

Vitamin B12 **5936, 8184-8186**

Vitamin D, sulfate **9858**

White spirit (No postings in CHEMLINE). **9859-9861**

Xylene (8 CI); Benzene, dimethyl- (9 CI) **12669**

Xylose, D- (8 CI); D-Xylose (9 CI) **11043**

Ytterbium **9862, 9863, 12670-12672**

Zeolites **9864**

Zinc **1307-1399, 3131-3194, 4556-4608, 5711-5745, 5937-5941, 6873-6920, 7410-7420, 8187-8227, 8546-8550, 9865-9938, 11044-11051, 12673-12696**

Zinc 70 (No postings in CHEMLINE). **6921**

Zinc, (dihydrogen 3,7,12,17-tetramethyl-8,13-divinyl-2,18-porphinedipropionate(2-))- (8 CI) Zinc, (7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(2-)-N(2 1),N(22),N (23),N(24))-, (SP-4-2)- (9 CI) **1400, 1401, 3195, 3196, 4609, 6922-6924, 9939-9943, 12697, 12698**

Zirconium **4610, 5746, 6925-6939**

1-Adamantanamine (8 CI); Tricyclo(3.3.1.1(3,7))decan-1-amine (9 CI) **5079, 5080, 11052-11055**

1-Azabicyclo(3.2.0)hept-2-ene-2-carboxylic acid, 6-(1-hydroxyethyl)-3-((2-((iminomethyl)amino) ethyl)thio)-7-oxo-, monohydrate, (5R-(5alpha,6alpha(R*)))- **11056-11059**

1-Butanol, 2-ethyl- **4611, 6705**

1-Butanol, 2-methyl- **4612**

1-Butanone, 1-(10-(3-(4-methyl-1-piperazinyl)propyl)phenothiazin-2-yl)- (8 CI); 1-Butanone, 1-(10-(3-(4-methyl-1-piperazinyl)propyl)-10H-phenothiazin-2-yl)- (9 CI) **3199, 3200**

1-Butanone, 4-(methylnitrosoamino)-1-(3-pyridinyl)- **12699**

1-Butanone, 4-(1-pyrrolidinyl)-1-(2,4,6-trimethoxyphenyl)- **11060-11063**

1-Butene **4613**

1-Butyne **4614**

1-DL_Phenylethanol (No postings in CHEMLINE). **12700**

1-Hexadecanol, hydrogen sulfate **5747, 5748**

1-Hexanethiol **4615, 6940**

1-Hexanol, 2-ethyl- **4616, 6941**

1-Naphthol (8 CI); 1-Naphthalenol **3201, 12701**

1-Octene, 2-methyl- **4617, 6942**

1-Oxa-4-aza-2,6-disilacyclohexane, 4-((3-methoxyphenyl)methyl)-2,2,6,6-tetramethyl- **11064, 11065**

1-Pentanol, 2-ethyl-4-methyl- **4618, 6943**

1-Pentanol, 2-methyl- **6944**

1-Pentanol, 2,2-dimethyl- **4619, 6945**

1-Pentanol, 2,2,4-trimethyl- **4620, 6946**

1-Pentanone, 1-(4-chlorophenyl)-5-methoxy-, O-(2-aminoethyl)oxime, (E)- **11066**

1-Penten-3-ol, 1-(1,3-benzodioxol-5-yl)-4,4-dimethyl- **11067**

1-Penten-4-yn-3-ol, 1-chloro-3-ethyl- **1402-1405, 3202-3205, 7421-7423, 11068-11071**

1-Pentene **4621**

1-Pentyn-3-ol, 3-methyl- **1406, 1407**

1-Piperazinecarboxylic acid, 4-(4-amino-6,7,8-trimethoxy-2-quinazolinyl)-, 2-hydroxy-2-methylpropyl ester **11072**

1-Piperazineethanol, 4-(3-(2-(trifluoromethyl)-9H-thioxanthen-9-ylidene)propyl-, (Z)- **5942, 7424-7426**

1-Piperazineethanol, 4-(3-(2-(trifluoromethyl)phenothiazin-10-yl)propyl)- (8 CI); 1-Piperazineethanol, 4-(3-(2-(trifluoromethyl)-10H-phenothiazin-10-yl)propyl)- (9 CI) **5943, 5944, 7427**

1-Piperidinebutanamide, 4-(4-chlorophenyl)-4-hydroxy-N,N-dimethyl-alpha,alpha-diphenyl- **3206**

1-Piperidinebutanol, alpha-(4-(1,1-dimethylethyl)phenyl)-4-(hydroxydiphenylmethyl)- **7428**

1-Propanaminium, 2-hydroxy-N,N-dimethyl-N-(1-methylethyl)-3-(1-naphthalenyloxy)-, chloride **8783**

1-Propanol, 2,2-dimethyl-, acetate **4622, 6947**

1-Propanol, 2,3-dichloro-, phosphate (3:1) **6948**

1-Propanone, 1-(2-(2-hydroxy-3-(propylamino)propoxy)phenyl)-3-phenyl- **11073, 11074**

1-Propanone, 1-(3-chlorophenyl)-2-((1,1-dimethylethyl)amino)-, (+-)- **11075**

1-Propanone, 1-(4-(m-hydroxyphenyl)-1-methyl-4-piperidyl)- (8 CI); 1-Propanone, 1-(4-(3-hydroxyphenyl)-1-methyl-4-piperidinyl)- (9 CI) **5081, 5945**

1-Pyrenol **12702**

1,1-Ethenediamine, N-(2-(((5-((dimethylamino)methyl)-2-furanyl)methyl)thio)ethyl)-N'-methyl-2-nitro - **11076-11080**

1,1'-Biphenyl, 2,2',3,3',4-pentachloro- (No postings in CHEMLINE). **12703**

1,1'-Biphenyl, 2,2',3,3',4,4'-hexachloro- **6949, 6950**

1,1'-Biphenyl, 2,2',3,3',4,4',5-heptachloro- **3207, 6951-6953, 9944, 12704-12706**

1,1'-Biphenyl, 2,2',3,3',4,4',5,5'-octachloro- **6954, 12707**

1,1'-Biphenyl, 2,2',3,3',4,4',5,6'-octachloro- **6955, 6956**

1,1'-Biphenyl, 2,2',3,3',4,5,5',6'-octachloro- **6957, 6958**

1,1'-Biphenyl, 2,2',3,3',4,5,6'-heptachloro- **6959, 6960**

1,1'-Biphenyl, 2,2',3,3',4,5'-hexachloro- **6961, 6962**

1,1'-Biphenyl, 2,2',3,3',4,5',6,6'-octachloro- **12708**

1,1'-Biphenyl, 2,2',3,3',4,5',6'-heptachloro- **6963, 6964**

1,1'-Biphenyl, 2,2',3,3',4,6,6'-heptachloro- **12709**

1,1'-Biphenyl, 2,2',3,3',5,5',6-heptachloro- **12710**

1,1'-Biphenyl, 2,2',3,3',5,6,6'-heptachloro- **12711**

1,1'-Biphenyl, 2,2',3,4-tetrachloro- **6965, 6966**

1,1'-Biphenyl, 2,2',3,4,4',5,5'-heptachloro- **3208, 6967-6969, 9945, 9946, 12712, 12713**

1,1'-Biphenyl, 2,2',3,4,4',5,5',6-octachloro- **12714**

1,1'-Biphenyl, 2,2',3,4,4',5',6-heptachloro- **6973, 6974, 12715**

1,1'-Biphenyl, 2,2',3,4,5'-pentachloro- **6975, 6976**

1,1'-Biphenyl, 2,2',3,4',5,5'-hexachloro- **6977, 6978, 12716**

1,1'-Biphenyl, 2,2',3,4',5,5',6-heptachloro- **6979, 6980**

1,1'-Biphenyl, 2,2',3,5,5'-pentachloro- **6981, 6982**

1,1'-Biphenyl, 2,2',3,5'-tetrachloro- **6983, 6984**

1,1'-Biphenyl, 2,2',3,5',6-pentachloro- **6985, 6986**

1,1'-Biphenyl, 2,2',3',4,4',5-hexachloro- (No postings in CHEMLINE). **12717**

1,1'-Biphenyl, 2,2',4,4',5-pentachloro- **6987, 6988, 12718**

1,1'-Biphenyl, 2,2',4,4',5,5'-hexabromo- **9947**

1,1'-Biphenyl, 2,2',4,4',5,5'-hexachloro- **3210, 6989-6991, 9948, 9949, 12719-12722**

1,1'-Biphenyl, 2,2',4,5,5'-pentachloro- **6992, 6993, 12723**

1,1'-Biphenyl, 2,2',4,5'-tetrachloro- **6994, 6995**

1,1'-Biphenyl, 2,2',5,5'-tetrachloro- **6996, 6997**

1,1'-Biphenyl, 2,3,3',4,4',5-hexachloro- **3211, 6998-7000**

1,1'-Biphenyl, 2,3,3',4,4',5,5'-heptachloro- **12724**

1,1'-Biphenyl, 2,3,3',4,4',5,6-heptachloro- (No postings in CHEMLINE). **12725**

1,1'-Biphenyl, 2,3,3',4,4',6-hexachloro- **12726**

1,1'-Biphenyl, 2,3,3',4,4',6-hexachloro- (No postings in CHEMLINE). **12727**

1,1'-Biphenyl, 2,3,3',4,5,5'-hexachloro- **7001, 7002**

1,1'-Biphenyl, 2,3,3',4',5-pentachloro- **7003, 7004**

1,1'-Biphenyl, 2,3,3',4',5,6-hexachloro- (No postings in CHEMLINE). **12728**

1,1'-Biphenyl, 2,3,3',4',6-pentachloro- **7005, 7006**

1,1'-Biphenyl, 2,3',4,4',5,5'-hexachloro- **7007, 7008**

1,1'-Biphenyl, 2,4,4'-trichloro- **7009, 7010, 12729**

1,1'-Biphenyl, 3,3',4,5'-tetrachloro- **7011, 7012**

1,1'-Biphhenyl, 2,2',3,4,4',5'-hexachloro- **3209, 6970-6972, 9950, 9951, 12730, 12731**

1,2-Benzenediol **8228**

1,2-Benzisothiazolin-3-one, 1,1-dioxide (8 CI); 1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide (9 CI) **5749-5753, 7013-7018**

1,2-Benzisothiazoline, 1,1-dioxide (8 CI); 1,2-Benzisothiazole, 2,3-dihydro-, 1,1-dioxide (9 CI) **1408**

1,2-Propanediol **12732, 12733**

1,2-Propanediol, 3-(p-chlorophenoxy)-, 1-carbamate (8 CI); 1,2-Propanediol, 3-(4-chlorphenoxy)-, 1-carbamate (9 CI) **5082**

1,2-Propanediol, 3-(2-nitroimidazol-1-yl)- (8 CI); 1,2-Propanediol, 3-(2-nitro-1H-imidazol-1-yl- (9 CI) **7429-7431, 11081, 11082**

1,3-Benzenediamine, 4-methyl- **8229**

1,3-Benzenedicarboxamide, 5-(acetyl(2,3-dihydroxypropyl)amino)-N,N'-bis(2,3-dihydroxypropyl)-2, 4,6-triiodo - **11083, 11084**

1,3-Butadiene, 1,1,2,3,4,4-hexachloro- **8230, 12734**

1,3-Cycloheptadiene (No postings in CHEMLINE). **7019**

1,3-Dihydro-4-methyl-5-[4-(methylthio)-benzoyl]-2H-imidazol-2-one (No postings in CHEMLINE). **11085, 11086**

1,3-Propanediol, 2-methyl-2-propyl-, dicarbamate **1409, 1410, 4623, 11087-11089**

1,3,4-Metheno-1H-cyclobuta(cd)pentalene, 1,1a,2,2,3,3a,4,5,5,5a,5b-undecachlorooctahydro- **9952**

1,3,4-Metheno-1H-cyclobuta(cd)pentalene, 1,1a,2,2,3,3a,4,5,5,5a,5b,6-dodecachlorooctahydro- **1411, 1412, 4624, 4625, 8231, 8232, 9953-9955, 12735**

1,3,4-Metheno-2H-cyclobuta(cd)pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro- **3212-3215, 4626, 5754-5756, 7020-7024**

1,3,5-Cycloheptatriene **4627, 7025**

1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-tris(oxiranylmethyl)-, stereoisomer **11090**

1,4-Benzenediol, 2-(1,1-dimethylethyl)-, polymer with diethenylbenzene, 4-(1,1-dimethylethyl) phenol, 4-methoxyphenol, 4,4'-(1-methylethylidene)bis(phenol) and 4-methylphenol **3902**

1,4-Butanediol, dimethanesulfonate **11091, 11092**

1,4-Naphthalenedione, 2-(3,3-dichloro-2-propenyl)-3-hydroxy- **5083, 5084**

1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, endo,exo- (8 CI) 1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha, 4alpha,4abeta,5alpha,8alpha,8abeta)- (9 CI) **3216-3218, 4628-4632, 5757-5760, 7026-7028, 9956-9958, 12736**

1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-, endo,endo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a, 7,7a-octahydro-, (1aalpha,2beta,2abeta,3alpha,6alpha,6abeta,7beta,7aalpha)- (9 CI) **7029, 8233, 12737**

1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-, endo,exo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7, 7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- (9 CI) **1413-1443, 3219-3240, 4633-4643, 5761-5769, 7030, 8234-8241, 8819, 8820, 9959-9969, 12738-12746**

1,5-Benzothiazepin-4(5H)-one, 3-(acetyloxy)-5-(2-(dimethylamino)ethyl)-2,3-dihydro-2-(4-methoxyphenyl)-, cis-(+)- **5946, 11093-11097**

1,8-Naphthyridine-3-carboxylic acid, 1-ethyl-1,4-dihydro-7-methyl-4-oxo- **8551**

1,8-Naphthyridine-3-carboxylic acid, 1-ethyl-6-fluoro-1,4-dihydro-4-oxo-7-(1-piperazinyl)- **11098, 11099**

1alphaH,5alphaH-Nortropane-2beta-carboxylic acid, 3beta-hydroxy-, methyl ester, benzoate (ester) (8 CI); 8-Azabicyclo(3.2.1)octane-2-carboxylic acid, 3-(benzoyloxy)-, methyl ester, (1R-(exo,exo))- (9 CI) **3241**

1alphaH,5alphaH-Tropan-3alpha-ol, 6beta,7beta-epoxy-, (-)-tropate (ester) (8 CI) Benzeneacetic acid, alpha-(hydroxymethyl)-, 9-methyl-3-oxa-9-azatricyclo(3.3.1.U(2,4))non-7-yl ester, (7(S)-(1alpha,2beta,4beta,5alpha,7beta))- (9 CI) **1444-1446, 5085**

1alphaH,5alphaH-Tropane-2beta-carboxylic acid, 3beta-hydroxy-, benzoate (ester) (8 CI); 8-Azabicyclo(3.2.1)octane-2-carboxylic acid, 3-(benzoyloxy)-8-methyl-, (1R-(exo,exo))- (9 CI) **3242-3247, 5947, 11100**

1alphaH,5alphaH-Tropane-2beta-carboxylic acid, 3beta-hydroxy-, methyl ester (8 CI); 8-Azabicyclo(3.2.1)octane-2-carboxylic acid, 3-hydroxy-8-methyl-, methyl ester, (1R-(exo,exo))- (9 CI) **11101**

1alphaH,5alphaH-Tropane-2beta-carboxylic acid, 3beta-hydroxy-, methyl ester, benzoate (ester) (8 CI) 8-Azabicyclo(3.2.1)octane-2-carboxylic acid, 3-(benzoyloxy)-8-methyl-, methyl ester, (1R-(exo,exo))- (9 CI) **1447-1455, 3248-3258, 5086, 5948-5951, 7433-7444, 8242, 11102-11105**

1alphaH,5alphaH-Tropane, 3alpha-(diphenylmethoxy)-, methanesulfonate (8 CI); 8-Azabicyclo (3.2.1)octane, 3-(diphenylmethoxy)-8-methyl-, endo-, methanesulfonate (9 CI) **11106**

1H-Benz(e)indolium, 2-(7-(1,1-dimethyl-3-(4-sulfobutyl)benz(e)indolin-2-ylidene)-1,3,5-heptatrienyl) -1,1-dimethyl-3-(4-sulfobutyl)-, hydroxide, inner salt, sodium salt (8 CI); 1H-Benz (e)indolium; 2-(7-(1,3-dihydro-1,1-dimethyl-3-(4-sulfobutyl)-2H-benz(e)indol-2-ylidene)-1,3,5 -heptatrienyl)-1,1-dimethyl-3-(4-sulfobutyl)-, hydroxide, inner salt, sodium salt (9 CI) **11107**

1H-Benzimidazole, 2-(4-thiazolyl)- **8552**

1H-Imidazo(1,2-a)(1,4)benzodiazepin-1-one, 6-(2-chlorophenyl)-2,4-dihydro-2-((4-methyl-1-piperazinyl)methylene)-8-nitro- (9 CI) **11108, 11109**

1H-Imidazo(4,5-b)pyridine, 2-(2-methoxy-4-(methylsulfinyl)phenyl)- **7445, 7446**

1H-Imidazol-2-amine, N-(2,6-dichlorophenyl)-4,5-dihydro-N-2-propenyl- **8944, 8945**

1H-Imidazole-4-carboxamide, 5-hydroxy-1-beta-D-ribofuranosyl- (9 CI) **11110**

1H-Imidazole, 1-((1,1'-biphenyl)-4-ylphenylmethyl)- **11111-11113**

1H-Imidazole, 2-(2,2-diphenylcyclopropyl)-4,5-dihydro **11114-11117**

1H-Imidazole, 2-(2,4-difluorophenyl)-4,5-bis(4-methoxyphenyl)- **11118**

1H-Imidazole, 4,5-bis(4-fluorophenyl)-2-((1,1,2,2-tetrafluoroethyl)sulfonyl)- **11119-11121**

1H-Indazole-3-carboxylic acid, 1-(2,4-dichlorophenyl)methyl)- **11122, 11123**

1H-Indene-3-acetic acid, 5-fluoro-2-methyl-1-((4-methylsulfinyl)phenyl)methylene)-, (Z)- **7447, 7448, 8553, 8554, 11124-11126**

1H-Isodinol-1-one, 2,3-dihydro-3-(2-hydroxy-3-((1-methylethyl)amino)propoxy)-2-phenyl-, (R*,S*)-(+-)-, (E)-2-butenedioate (1:1) (salt) **3259**

1H-Purine-2,6-dione, 3,7-dihydro-7-(2-hydroxypropyl)-1,3-dimethyl- **8555, 8556**

1H-Pyrazolo(1,2-a)(1,2,4)benzotriazine-1,3(2H-dione, 5-(dimethylamino)-9-methyl-2-propyl- **7449**

1H-Pyrazolo(3,4-d)pyrimidine-4,6(5H,7H)-dione **3260**

1H-1,4-Benzodiazepine-3-carboxylic acid, 7-chloro-2,3-dihydro-2-oxo-5-phenyl-, monopotassium salt, compd. with potassium hydroxide (1:1) **5952, 8557, 11127, 11128**

1H-1,5-Benzodiazepine-2,4(3H,5H)-dione, 7-chloro-1-methyl-5-phenyl- **3261, 3262, 5953, 8958, 11129**

1H-2-Benzoxacyclotetradecin-1-one, 3,4,5,6,7,8,9,10,11,12-decahydro-7,14,16-trihydroxy-3-methyl-, (3S,7R)-(+)- (8 CI); 1H-2-Benzoxacyclotetradecin-1-one, 3,4,5,6,7,8,9,10,11,12-decahydro-7,14,16-trihydroxy-3-methyl-, (3S-(3R*,7S*))- (9 CI) **11130, 11131**

1H-2,5-Benzoxazocine, 3,4,5,6-tetrahydro-5-methyl-1-phenyl- (VAN) **1456**

10H-Phenothiazine-2-sulfonamide, 10-(3-(4-(2-hydroxyethyl)-1-piperidinyl)propyl)-N,N-dimethyl- **5954**

11-Nor-delta(9)-tetrahydrocannabinol-9-carboxylic acid (No postings in CHEMLINE). **11132, 11133**

11H-Pyrido(2,1-b)quinazoline-8-carboxylic acid, 2-methoxy-11-oxo- **7450**

17alpha-Estradiol (8 CI); Estra-1,3,5(10)-triene-3,17-diol, (17alpha)- (9 CI) **3263**

17alpha-Pregna-2,4-dien-20-yno(2,3-d)isoxazol-17-ol (8 CI); Pregna-2,4-dien-20-yno(2,3-d)isoxazol-17-ol, (17alpha)- (9 CI) **1457**

18,19-Dinor-17alpha-pregn-4-en-20-yn-3-one, 13-ethyl-17-hydroxy- (8 CI); 18,19-Dinorpregn-4-en-20-yn-3-one, 13-ethyl-17-hydroxy-, (17alpha)- (9 CI) **11134**

18,19-Dinor-17alpha-pregn-4-en-20-yn-3-one, 13-ethyl-17-hydroxy-, (+-)- (8 CI); 18,19-Dinorpregn-4-en-20-yn-3-one, 13-ethyl-17-hydroxy-, (17alpha)-(+-)- (9 CI) **5087, 5088**

19-Nor-17alpha-pregn-4-en-20-yn-3-one, 17-hydroxy- (8 CI); 19-Norpregn-4-en-20-yn-3-one, 17-hydroxy-, (17alpha)- (9 CI) **1458, 3264**

19-Nor-17alpha-pregna-1,3,5(10)-trien-20-yne-3,17-diol (8 CI); 19-Norpregna-1,3,5(10)-trien-20-yne-3,17-diol, (17alpha)- (9 CI) **11135, 11136**

2(1H)-Isoquinolinecarboxamidine, 3,4-dihydro- (8 CI); 2(1H)-Isoquinolinecarboximidamide, 3,4-dihydro- (9 CI) **5089, 5090, 11137, 11138**

2(1H)-Pyridone, 3,5,6-trichloro- (8 CI); 2(1H)-Pyridinone, 3,5,6-trichloro- (9 CI) **9970, 9971, 12747, 12748**

2(1H)-Pyrimidinone, tetrahydro-4-hydroxy-1-beta-D-ribofuranosyl- **3265, 3266**

2(1H)-Pyrimidinone, 4-amino-5-fluoro- **3267, 3268**

2(1H)-Quinazolinone, 1-isopropyl-7-methyl-4-phenyl- (8 CI); 2(1H)-Quinazolinone, 7-methyl-1-(1-methylethyl)-4-phenyl- (9 CI) **11139**

2(1H)-Quinolinone, 5-(3-((1,1-dimethylethyl)amino)-2-hydroxypropoxy)-3,4-dihydro- **11140**

2-Benzoxazolinone, 5-chloro- (8 CI); 2(3H)-Benzoxazolone, 5-chloro- (9 CI) **11141, 11142**

2-Butanol, 3-methyl- **4644, 7031**

2-Butanol, 4-(dimethylamino)-3-methyl-1,2-diphenyl-, propionate (ester), (2S,3R)- (8 CI); Benzeneethanol, alpha-(2-(dimethylamino)-1-methylethyl)-alpha-phenyl-, propanoate (ester), (S-(R*, S*))- (9 CI) **1459-1461, 3269-3279, 5091-5099, 7451-7456, 8558, 9015, 11143-11146**

2-Butanone **4645, 4646, 8243, 9972-9975**

2-Butanone, 3,3-dimethyl **4647, 7032**

2-Butene, (E)- **4648**

2-Butene, (Z)- **4649**

2-Ethyl-1-pentanol (No postings in CHEMLINE). **4650**

2-Heptenoic acid, 7-((2-amino-2-carboxyethyl)thio)-2-(((2,2-dimethylcyclopropyl)carbonyl)amino)-, monosodium salt, (R-(R*,S*-(Z)))- **11147-11150**

2-Hexanone **3280, 3281**

2-Hexene **4651**

2-Imidazolidinone, 1-(5-nitro-2-thiazolyl)- **11151**

2-Imidazoline, 2-(1-(2,6-dichlorophenoxy)ethyl)- (8 CI); 1H-Imidazole, 2-(1-(2,6-dichlorophenoxy) ethyl)-4,5-dihydro- (9 CI) **11152**

2-Imidazoline, 2-(2,6-dichloroanilino)- (8 CI); Benzenamine, 2,6-dichloro-N-2-imidazolidinylidene- (9 CI) **1462, 7457, 11153-11155**

2-Naphthacenecarboxamide, 4-(dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,5,10,12, 12a-pentahydroxy-6-me thyl-1,11-dioxo- (8 CI) (VAN) 2-Naphthacenecarboxamide, 4-(dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,5,10,12,12a-pentahydroxy-6-me thyl-1,11-dioxo-, (4S-(4alpha,4aalpha,5alpha,5aalpha,6alpha,12aalpha))- (9 CI) **3282-3286, 8559, 8560, 11156-11158**

2-Naphthaleneacetic acid, 6-methoxy-alpha-methyl-, (+)- (8 CI); 2-Naphthaleneacetic acid, 6-methoxy-alpha-methyl-, (S)- (9 CI) **3287, 5100, 5101, 8561-8563, 11159, 11160**

2-Octanol **4652, 4653, 7033**

2-Oxazolepropionic acid, 4,5-diphenyl- (8 CI); 2-Oxazolepropanoic acid, 4,5-diphenyl- (9 CI) **8564, 8565, 11161, 11162**

2-Oxazolidinone, 5-(hydroxymethyl)-3-m-tolyl- (8 CI); 2-Oxazolidinone, 5-(hydroxymethyl)-3-(3-methylphenyl)- (9 CI) **3288, 3289**

2-Pentanone, 4-methyl **4654**

2-Pinene (8 CI); Bicyclo(3.1.1)hept-2-ene, 2,6,6-trimethyl- (9 CI) **7034, 7035**

2-Piperidineacetic acid, alpha-phenyl- **5102, 5103, 11163**

2-Piperidineacetic acid, alpha-phenyl-, methyl ester **5104, 8566-8568, 11164-11166**

2-Piperidinemethanol, alpha-(3,4-dihydroxyphenyl)-, erythro- (8 CI); 1,2-Benzenediol, 4-(hydroxy-2-piperidinylmethyl)-, (R*,S*)- (9 CI) **3290, 3291**

2-Propanol, 1-((1-methylethyl)amino)-3-((2-methyl-1H-indol-4-yl)oxy)-, sulfate (2:1) (salt) **11167**

2-Propanol, 1-((1,1-dimethylethyl)amino)-3-((2-methyl-1H-indol-4-yl)oxy)-, benzoate(ester), (+-)- **11168**

2-Propanol, 1-(isopropylamino)-3-(1-naphthyloxy)- (8 CI); 2-Propanol, 1-((1-methylethyl)amino)-3-(1-naphthalenyloxy)- (9 CI) **1463, 3292-3300, 5105-5123, 5958-5960, 7458-7461, 8569-8580, 8697, 11169-11185**

2-Propanol, 1-(o-(allyloxy)phenoxy)-3-(isopropylamino)- (8 CI); 2-Propanol, 1-((1-methylethyl) amino)-3-(2-(2-propenyloxy)phenoxy)- (9 CI) **1464**

2-Propanol, 1-(o-allylphenoxy)-3-(isopropylamino)- (8 CI); 2-Propanol, 1-((1-methylethyl)amino)-3-(2-(2-propenyl)phenoxy)- (9 CI) **1465, 1466, 5124, 5125**

2-Propanol, 1-(tert-butylamino)-3-((4-morpholino-1,2,5-thiadiazol-3-yl)oxy)-, (S)-(-)- (8 CI) 2-Propanol, 1-((1,1-dimethylethyl)amino)-3-((4-(4-morpholinyl)-1,2,5-thiadiazol-3-yl)oxy)-, (S)- (9 CI) **1467, 3301-3307, 5126-5128, 7462, 8581**

2-Propanol, 1-(1H-indol-4-yloxy)-3-((1-methylethyl)amino)- **8950, 8951, 11186-11188**

2-Propanol, 1-(2-chloro-5-methylphenoxy)-3-((1,1-dimethylethyl)amino)- **8582-8584**

2-Propanol, 1-(2-cyclopentylphenoxy)-3-((1,1-dimethylethyl)amino)- **5129, 5130, 11189, 11190**

2-Propanol, 1-(2-methoxyphenoxy)-3-((1-methylethyl)amino)- **8954**

2-Propanol, 1-(4-(2-(cyclopropylmethoxy)ethyl)phenoxy)-3-((1-methylethyl)amino)- **11191**

2-Propanol, 1-(4-(2-methoxyethyl)phenoxy)-3-((1-methylethyl)amino)-, (+-)- **3308, 5131-5137, 7463, 8585-8590, 11192-11204**

2-Propanol, 1,1,1-trichloro-2-methyl- **3309**

2-Propanol, 1,3-dichloro-, phosphate (3:1) **12749**

2-Propen-1-amine, 3-(4-bromophenyl)-N-methyl-3-(3-pyridinyl)-, (Z)- **2731, 5138**

2-Propen-1-amine, 3-(4-bromophenyl)-N,N-dimethyl-3-(3-pyridinyl)-, (Z)- **3310, 3311, 5139, 5961, 5962, 7464, 7465, 11205-11211**

2-Pyridineacetamide, alpha-(2-(bis(1-methylethyl)amino)ethyl)-alpha-phenyl-, phosphate (1:1) **8244, 11212**

2-Pyridineacetamide, alpha-(2-(diisopropylamino)ethyl)-alpha-phenyl- (8 CI); 2-Pyridineacetamide, alpha-(2-(bis(1-methylethyl)amino)ethyl)-alpha-phenyl- (9 CI) **5140-5143, 9042-9045, 11213-11216**

2-Pyridinemethanol, alpha-(3-(2,6-dimethyl-1-piperidinyl)propyl)-alpha-phenyl-, cis-(+-)- **11217, 11218**

2-Pyridinemethanol, alpha-(3-(2,6-dimethyl-1-piperidinyl)propyl)-alpha-phenyl-, monohydrochloride, cis-(+-)- **8591**

2-Pyrrolidinone, 1-vinyl-, polymers, compd. with iodine (8 CI); 2-Pyrrolidinone, 1-ethenyl-, homopolymer, compd. with iodine (9 CI) **1468**

2-Thiophenacetic acid, 5-benzoyl-alpha-methyl- **11219**

2,2-Dimethyl-3-hexanone (No postings in CHEMLINE). **4655, 7036**

2,2-Dimethylhexanol (No postings in CHEMLINE). **4656, 7037**

2,2-Dimethyloctanol (No postings in CHEMLINE). **4657, 7038**

2,2,3,3-Tetramethylhexane (No postings in CHEMLINE). **4658, 7039**

2,3-Dibromopropanol (No postings in CHEMLINE). **3312**

2,3-Naphthalenediol, 5-(3,((1,1-dimethylethyl)amino)-2-hydroxypropoxy)-1,2,3,4-tetrahydro- **3313, 3314, 11220-11224**

2,3,3-Trimethylhexane (No postings in CHEMLINE). **4659, 7041**

2,3,3,4-Tetramethylpentane (No postings in CHEMLINE). **4660, 7042**

2,3,4,2',4',5'-Hexabromobiphenyl (No postings in CHEMLINE). **9976**

2,3,4,5,2',3',4'-Heptabromobiphenyl (No postings in CHEMLINE). **9977**

2,3,4,5,2',4',5'-Heptabromobiphenyl (No postings in CHEMLINE). **9978**

2,3,4,5,3',4'-Hexachlorobiphenyl (No postings in CHEMLINE). **9979, 12750, 12751**

2,3,4,5,6,2',5'-Heptachlorobiphenyl (No postings in CHEMLINE). **9980**

2,3,4,6-Tetrachlorobenzene (No postings in CHEMLINE). **9981**

2,3,4,6,2',3',4'-Heptachlorobiphenyl (No postings in CHEMLINE). **9982, 12752**

2,3,5,6,3',4',5'-Heptachlorobiphenyl (No postings in CHEMLINE). **9983**

2,3'-Bipyridine, 1,2,3,6-tetrahydro-1-nitroso-, (S)- **12753**

2,4(1H,3H)-Quinazolinedione, 3-(2-(4-(4-fluorobenzoyl)-1-piperidinyl)ethyl)- **11225, 11226**

2,4-Oxazolidinedione, 3,5,5-trimethyl- **8245**

2,4-Oxazolidinedione, 5,5-dimethyl- **5963**

2,4-Piperidinedione, 3,3-diethyl-5-methyl- **1469, 3315, 7466, 11227-11232**

2,4-Pyrimidinediamine, 5-((3,5-dimethoxy-4-(methylthio)phenyl)methyl)- **11233**

2,4-Pyrimidinediamine, 6-(1-piperidinyl)-, 3-oxide **7467**

2,4,5,2',3',6'-Hexachlorobiphenyl (No postings in CHEMLINE). **9984**

2,4,5,3',4',5'-Hexabromobiphenyl (No postings in CHEMLINE). **9985**

2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-ethyl-5-(3-methylbutyl)-, monosodium salt, mixt. with 5-(1-methylbutyl)-5-(2-propenyl)-2,4,6(1H,3H,5H)-pyrimidinetrione monosodium salt **7468**

2,5-Hexanedione **3316, 12754**

2,6-Methano-3-benzazocin-8-ol, 1,2,3,4,5,6-hexahydro-6,11-dimethyl-3-(3-methyl-2-butenyl)-, (2alpha,6alpha,11R*)- **3317, 11234, 11235**

2,7-(Epoxypentadeca(1,11,13)trienimino)naphtho(2,1-b)furan-1,11(2H)-dione, 5,6,9,17,19,21-hexahydroxy-23-methoxy-2,4,12,16,18,20,22-heptamethyl-8-(N-(4-met hyl-1-piperazinyl) formimidoyl)-, 21-acetate (8 CI) Rifamycin, 3-(((4-methyl-1-piperazinyl)imino)methyl)- (9 CI) **3318, 3319, 7469-7472, 11236-11238**

2',6'-Acetoxylidide, 2-(diethylamino)- (8 CI); Acetamide, 2-(diethylamino)-N-(2,6-dimethylphenyl)- (9 CI) **1470, 3320-3326, 5144-5146, 5964, 7473-7476, 8246, 8592, 8771, 11239-11256**

2',6'-Pipecoloxylidide, 1-butyl- (8 CI); 2-Piperidinecarboxamide, 1-butyl-N-(2,6-dimethylphenyl)- (9 CI) **11257, 11258**

2H-Benzimidazol-2-one, 1-(3-(4-(diphenylmethyl)-1-piperazinyl)propyl)-1,3-dihydro- **11259, 11260**

2H-Benzimidazol-2-one, 1,3-dihydro-1-(3-((2-hydroxy-3-(1-naphthalenyloxy)propyl)amino)-3-methylbutyl)-, monohydrochloride **11261**

2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl)-, (2R-(2R*(4R*, 8R*)))- **9986, 11262-11265, 12755**

2H-1,2-Benzothiazine-3-carboxamide, 4-hydroxy-2-methyl-N-2-pyridinyl-, 1,1-dioxide **3327, 11266**

2H-1,2,4-Benzothiadiazine-7-sulfonamide, 3,4-dihydro-3-(phenylmethyl)-6-(trifluoromethyl)-, 1,1-dioxide **8593, 8594**

2H-1,2,4-Benzothiadiazine-7-sulfonamide, 3,4-dihydro-6-(trifluoromethyl)-, 1,1-dioxide **3328, 8595**

2H-1,2,4-Benzothiadiazine-7-sulfonamide, 6-chloro-, 1,1-dioxide **3329, 7477-7479, 8596, 8597**

2H-1,2,4-Benzothiadiazine-7-sulfonamide, 6-chloro-3,4-dihydro-,1,1-dioxide **3330, 3331, 5147, 8598-8603, 11267, 11268**

2H-1,2,4-Benzothiadiazine-7-sulfonamide, 6-chloro-3,4-dihydro-2-methyl-3-(((2,2,2-trifluoroethyl) thio)methyl)-, 1,1-dioxide **5148, 5149**

2H-1,3,2-Oxazaphosphorine, 2-(bis(2-chloroethyl)amino)tetrahydro-, 2-oxide (8 CI); 2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide (9 CI) **1471, 5965, 8604-8606, 11269, 11270, 12756**

2H-1,4-Benzodiazepin-2-one, 1,3-dihydro-7-nitro-5-phenyl- **3332, 5966, 11271, 11272**

2H-1,4-Benzodiazepin-2-one, 5-(o-chlorophenyl)-1,3-dihydro-7-nitro- (8 CI); 2H-1,4-Benzodiazepin-2-one, 5-(2-chlorophenyl)-1,3-dihydro-7-nitro- (9 CI) **1472, 5150, 5151, 5967, 5968, 8247**

2H-1,4-Benzodiazepin-2-one, 5-(o-fluorophenyl)-1,3-dihydro-1-methyl-7-nitro- (8CI); 2H-1,4-Benzodiazepin-2-one, 5-(2-fluorophenyl)-1,3-dihydro-1-methyl-7-nitro- (9 CI) **7480, 11273**

2H-1,4-Benzodiazepin-2-one, 7-bromo-1,3-dihydro-5-(2-pyridyl)- (8 CI); 2H-1,4-Benzodiazepin-2-one, 7-bromo-1,3-dihydro-5-(2-pyridinyl)- (9 CI) **11274**

2H-1,4-Benzodiazepin-2-one, 7-chloro-1-(cyclopropylmethyl)-1,3-dihydro-5-phenyl- **5152, 5153, 11275**

2H-1,4-Benzodiazepin-2-one, 7-chloro-1-(2-(diethylamino)ethyl)-5-(o-fluorophenyl)-1,3-dihydro- (8 CI) 2H-1,4-Benzodiazepin-2-one, 7-chloro-1-(2-(diethylamino)ethyl)-5-(2-fluorophenyl)-1,3-dihydro- (9 CI) **1473, 1474, 3333-3340, 7481, 11276-11278**

2H-1,4-Benzodiazepin-2-one, 7-chloro-1,3-dihydro-1-methyl-5-phenyl- **1475-1484, 3341-3348, 5154-5164, 5969-5973, 7482-7489, 8607-8609, 11279-11302**

2H-1,4-Benzodiazepin-2-one, 7-chloro-1,3-dihydro-3-hydroxy-1-methyl-5-phenyl- **1485, 8610, 11303-11308**

2H-1,4-Benzodiazepin-2-one, 7-chloro-1,3-dihydro-3-hydroxy-5-phenyl- **1486, 3349, 3350, 5165-5168, 7490-7493, 8611-8613, 11309-11314**

2H-1,4-Benzodiazepin-2-one, 7-chloro-1,3-dihydro-5-phenyl- **1487, 3351-3355, 5169-5173, 5974, 7494, 11315-11319**

2H-1,4-Benzodiazepin-2-one, 7-chloro-1,3-dihydro-5-phenyl-1-(2,2,2-trifluoroethyl)- **11320**

2H-1,4-Benzodiazepin-2-one, 7-chloro-5-(o-chlorophenyl)-1,3-dihydro-3-hydroxy-1-methyl- (8 CI); 2H-1,4-Benzodiazepin-2-one, 7-chloro-5-(2-chlorophenyl)-1,3-dihydro-3-hydroxy-1-methyl- (9 CI) **7495, 7496**

2H-1,4-Benzodiazepin-2-one, 7-chloro-5-(o-chlorphenyl)-1,3-dihydro-3-hydroxy- (8 CI); 2H-1,4-Benzodiazepin-2-one, 7-chloro-5-(2-chlorophenyl)-1,3-dihydro-3-hydroxy- (9 CI) **3356, 3357, 5174-5177, 7497, 7498, 11321-11329**

2H-1,4-Benzodiazepin-2-one, 7-chloro-5-(o-fluorophenyl)-1,3-dihydro-1-methyl- (8 CI); 2H-1,4-Benzodiazepin-2-one, 7-chloro-5-(2-fluorophenyl)-1,3-dihydro-1-methyl- (9 CI) **1488**

2H-1,4-Benzodiazepine-2-thione, 7-chloro-5-(2-fluorophenyl)-1,3-dihydro-1-(2,2,2-trifluoroethyl)- **11330-11333**

3-Heptanol, 6-(dimethylamino)-4,4-diphenyl-, acetate (ester) (8 CI) (VAN); Benzeneethanol, beta-(2-(dimethylamino)propyl)-alpha-ethyl-beta-phenyl-, acetate (ester) (9 CI) (VAN) **5178, 7499**

3-Heptanone, 2-methyl- **4661, 7043**

3-Heptanone, 5-methyl- **4662, 7044**

3-Heptanone, 6-(dimethylamino)-4,4-diphenyl- **1489, 3358, 3359, 5179-5183, 5975, 5976, 7500-7519, 8614-8618, 11334-11341**

3-Heptanone, 6-(dimethylamino)-4,4-diphenyl-, (R)- **8619, 8620**

3-Heptanone, 6-(dimethylamino)-4,4-diphenyl-, (S)- **8621, 8622**

3-Hexanone, 2,4-dimethyl- **4663, 7045**

3-Hexen-1-ol, (E)- **4664, 7046**

3-Pentanone, 2-methyl- **4665, 7047**

3-Quinolinecarboxylic acid, 1-cyclopropyl-6-fluoro-1,4-dihydro-4-oxo-7-(1-piperazinyl)- **11342-11350**

3-Quinolinecarboxylic acid, 1-ethyl-1,4-dihydro-4-oxo-7-(4-pyridinyl)- **8796, 8965-8968**

3-Quinolinecarboxylic acid, 1-ethyl-6-fluoro-1,4-dihydro-4-oxo-7-(1-piperazinyl)- **11351-11354**

3-Quinolinecarboxylic acid, 1-ethyl-6-fluoro-1,4-dihydro-7-(4-methyl-1-piperazinyl)-4-oxo **11355-11357**

3-Thiopheneacetic acid, alpha-cyclohexyl-, 2-(hexahydro-1H-azepin-1-yl)ethyl ester **11358**

3,3-Diethylpentane (No postings in CHEMLINE). **4666, 7048**

3,4-Dimethylheptane (No postings in CHEMLINE). **4667, 7049**

3,5-Pyrazilidinedione, 1,2-diphenyl-4-(2-(phenylsulfinyl)ethyl)- **3360, 3361, 8623, 8624, 11359-11363**

3,5-Pyrazolidinedione, 4-butyl-1-(p-hydroxyphenyl)-2-phenyl- (8 CI); 3,5-Pyrazolidinedione, 4-butyl-1-(4-hydroxyphenyl)-2-phenyl- (9 CI) **11364**

3,5-Pyrazolidinedione, 4-butyl-1,2-diphenyl- **1490, 5184, 7520, 8625, 8626, 11365**

3,5-Pyridinedicarboxylic acid, 1,4-dihydro-2,6-dimethyl-4-(o-nitrophenyl)-, dimethyl ester (8 CI); 3,5-Pyridinedicarboxylic acid, 1,4-dihydro-2,6-dimethyl-4-(2-nitrophenyl)-, dimethyl ester (9 CI) **11366-11372**

3,5,6-Trichloropyridinol (No postings in CHEMLINE). **8248, 8249**

3,6-Pyridazinedione, 1,2-dihydro- **12757, 12758**

3'H-Cyclopropa(6,7)pregna-4,6-diene-21-carboxylic acid, 6,7-dihydro-17-hydroxy-3-oxo-, monopotassium salt, (6alpha,7alpha,17alpha)- **8627**

3H-Pyrazol-3-one- 2,4-dihydro-5-methyl-2-(2-(2-naphthalenyloxy(ethyl)- **11373**

3H-1,4-Benzodiazepin-2-amine, 7-chloro-N-methyl-5-phenyl-, 4-oxide, monohydrochloride, mixt. with 3-(10,11-dihydro-5H-dibenzo(a,d)cyclohepten-5-ylidene)-N,N-dimethyl-1-propanamin e hydrochloride (9 CI) **11374**

3H-1,4-Benzodiazepine, 7-chloro-2-(methylamino)-5-phenyl-, 4-oxide (8 CI); 3H-1,4-Benzodiazepin-2-amine, 7-chloro-N-methyl-5-phenyl-, 4-oxide (9 CI) **1491-1493, 3362-3366, 5185-5187, 7521, 7522, 11375, 11376**

4(1H)-Pyrimidinone, 5-(1,3-benzodioxol-5-ylmethyl)-2-((2-(((5-methyl-1H-imidazol-4-yl)methyl) thio)et hyl)amino)- **8915, 8916, 11377**

4(3H)-Quinazolinone, 2-methyl-3-o-tolyl- (8 CI); 4(3H)-Quinazolinone, 2-methyl-3-(2-methylphenyl)- (9 CI) **1494-1498, 3367, 3368, 5977-5979, 7523-7530, 8628, 11378-11381**

4-Amino-2-(4-butanoyl hexahydro-1H-1,4-diazepin-1-yl-6,7-dimethoxyquinazoline HCL (No postings in CHEMLINE). **8250**

4-Biphenylacetic acid, 2-fluoro-alpha-methyl- (8 CI); (1,1'-Biphenyl)-4-acetic acid, 2-fluoro-alpha-methyl- (9 CI) **11382**

4-Biphenylol (8 CI); (1,1'-Biphenyl)-4-ol (9 CI) **12759**

4-Cyclohexene-1,2-dicarboximide (8 CI); 1H-Isoindole-1,3-dione, 3a,4,7,7a-tetrahydro- (9 CI) **12760**

4-Cyclohexene-1,2-dicarboximide, N-((trichloromethyl)thio)- (8 CI); 1H-Isoindole-1,3(2H)-dione, 3a,4,7,7a-tetrahydro-2-((trichloromethyl)thio)- (9 CI) **9987**

4-Heptanone **4668, 4669**

4-Imidazoline-1-carboxylic acid, 3-methyl-2-thioxo-, ethyl ester (8 CI); 1H-Imidazole-1-carboxylic acid, 2,3-dihydro-3-methyl-2-thioxo-, ethyl ester (9 CI) **5188, 5189**

4-Morpholinecarboxamide, N-(2-((2-hydroxy-3-(4-hydroxyphenoxy)propyl)amino)ethyl)-, (+-)- **11383-11387**

4-Nonenal, (E)- **4532, 7050**

4-Oxa-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 3-(2-hydroxyethylidene)-7-oxo-, (2R-(2alpha, 3Z,5alpha))- **7531, 7532, 11388-11392**

4-Piperidinol, 1-(4,4-bis(p-fluorophenyl)butyl)-4-(4-chloro-alpha,alpha,alpha-trifluoro-m-tolyl)- (8 CI); 4-Piperidinol, 1-(4,4-bis(4-fluorophenyl)butyl)-4-(4-chloro-3-(trifluoromethyl)phenyl)- (9 CI) **5190**

4-Piperidinol, 1,3-dimethyl-4-phenyl-, propionate (ester) (8 CI); 4-Piperidinol, 1,3-dimethyl-4-phenyl-, propanoate (ester), cis- (9 CI) **3369**

4-Quinolinemethanol, alpha-2-piperidinyl-2,8-bis(trifluoromethyl)-, (R*,S*)-(+-)- **5191**

4-thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid 6-((aminophenylacetyl)amino)-3,3-dimethyl-7-oxo-, 1,3-dihydro-3-oxo-1-isobenzofuranyl ester, (2S-(2alpha,5alpha,6beta(S*)))- **3377**

4-Thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 3,3-dimethyl-6-(((((3-(methylsulfonyl)-2-oxo-1-imidazolidinyl)carbonyl)amino)phe nylacetyl)amino)-7-oxo-, (2S-(2alpha,5alpha,6beta(S*)))- **3370, 5192-5194, 11393-11401**

4-Thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 3,3-dimethyl-7-oxo-, 4,4-dioxide, (2S-cis)- **11402, 11403**

4-Thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 3,3-dimethyl-7-oxo-6-(((((2-oxo-1-imidazolidinyl)carbonyl)amino)phenylacetyl)ami no)-, (2S-(2alpha,5alpha,6beta(S*)))- **5195, 11404**

4-Thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 3,3-dimethyl-7-oxo-6-(2-phenoxyacetamido)-, monopotassium salt (8 CI) 4-Thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 3,3-dimethyl-7-oxo-6-((phenoxyacetyl)amino)-, monopotassium salt, (2S-(2alpha,5alpha,6beta))- (9 CI) **3371-3373**

4-Thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 3,3-dimethyl-7-oxo-6-(2-phenylacetamido)-, compd. with N,N'-dibenzylethylenediamine (2:1) (8 CI) 4-Thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 3,3-dimethyl-7-oxo-6-((phenylacetyl)amino)- (2S-(2alpha,5alpha,6beta))-, compd. with N,N'-bis(phenylmethyl)-1,2-ethanediamine (2:1) (9 CI) **8629, 8630**

4-Thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 3,3-dimethyl-7-oxo-6-(2-phenylacetamido)-, monosodium salt (8 CI) (VAN) 4-Thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 3,3-dimethyl-7-oxo-6-((phenylacetyl)amino)- (2S-(2alpha,5alpha,6beta))-, monosodium salt (9 CI) **3374-3376**

4-Thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 6-(((((3-((2-furanylmethylene)amino)-2-oxo-1-imidazolidinyl)carbonyl)amino)(4-hy droxyphenyl)acetyl)amino)-3,3-dimethyl-7-oxo-, (2S-(2alpha,5alpha,6beta(S*)))- **5196, 5197**

4-Thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 6-(((((4-ethyl-2,3-dioxo-1-piperazinyl) carbonyl)amino)phenylacetyl)amino)-3,3-di methyl-7-oxo-, (2S-(2alpha,5alpha,6beta(S*)))- **5198, 5199, 8631-8635, 11405-11411**

4-Thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 6-(((((4-hydroxy-1,5-naphthyridin-3-yl) carbonyl)amino)phenylacetyl)amino)-3,3-di methyl-7-oxo-, (2S-(2alpha,5alpha,6beta(S*)))- **11412**

4-Thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 6-(((hexahydro-1H-azepin-1-yl)methylene) amino)-3,3-dimethyl-7-oxo-, (+)- (8 CI); 4-Thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 6-(((hexahydro-1H-azepin-1-yl)methylene)amino)-3,3-dimethyl-7-oxo-, (2S-(2alpha,5alpha,6beta))- (9 CI) **11413**

4-Thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 6-(((hexahydro-1H-azepin-1-yl)methylene) amino)-3,3-dimethyl-7-oxo-, hydroxymethyl ester pivalate (ester), (+)- (8 CI); 4-Thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 6-(((hexahydro-1H-azepin-1-yl)methylene)amino)-3,3-dimethyl-7-oxo-, (2,2-dimethyl-1-oxopropoxy)methyl ester, (2S-(2alpha,5alpha,6beta))- (9 CI) **11414**

4-Thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 6-((aminophenylacetyl)amino)-3,3-dimethyl-7-oxo, 1-((ethoxycarbonyl)oxy)ethyl ester, monohydrochloride, (2S-(2alpha,5alpha,6beta(S*)))- **11415**

4-Thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 6-((carboxy-3-thienylacetyl)amino)-3,3-dimethyl-7-oxo-, (2S-(2alpha,5alpha,6beta(S*)))- **1501, 3378, 3379, 5980, 11416-11418**

4-Thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 6-(2-amino-2-(p-hydroxyphenyl)acetamido) -3,3-dimethyl-7-oxo-, D- (8 CI) 4-Thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 6-((amino (4-hydroxyphenyl)acetyl)amino)-3,3-dimethyl-7-oxo, (2S-(2alpha,5alpha,6beta(S*)))- (9 CI) **1502, 3380, 3381, 5200-5203, 7533-7537, 8792-8795, 11419**

4-Thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 6-(2-amino-2-phenylacetamide)-3,3-dimethyl-7-oxo-, hydroxymethyl ester pivalate (ester), D-(-)- (8 CI); 4-Thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 6-((aminophenylacetyl)amino)-3,3-dimethyl-7-oxo, (2,2-dimethyl-1-oxopropoxy) methyl ester, (2S-(2alpha,5alpha,6beta(S*)))- (9 CI) **11420**

4-Thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 6-(2-amino-2-phenylacetamido)-3,3-dimethyl-7-oxo, D-(-)- (8 CI) 4-Thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 6-((aminophenylacetyl) amino)-3,3-dimethyl-7-oxo-, (2S-(2alpha,5alpha,6beta(S*)))- (9 CI) **1503, 3382-3386, 5204-5207, 8636, 8637, 11421-11427**

4-Thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 6-(2-ethoxy-1-naphthamido)-3,3-dimethyl-7-oxo- (8 CI) 4-Thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 6-(((2-ethoxy-1-naphthalenyl) carbonyl)amino)-3,3-dimethyl-7-oxo-, (2S-(2alpha,5alpha,6beta))- (9 CI) **3387, 11428, 11429**

4-Thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 6-(3-(o-chlorophenyl)-5-methyl-4-isoxazolecarboxamido)-3,3-dimethyl-7-oxo- (8 CI); 4-Thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 6-(((3-(2-chlorophenyl)-5-methyl-4-isoxazolyl)carbonyl)amino)-3,3-dimethyl-7-oxo -, (2S-(2alpha,5alpha,6beta))- (9 CI) **11430, 11431**

4-Thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 6-(3-(2-chloro-6-fluorophenyl)-5-methyl-4-isoxazolecarboxamido)-3,3-dimethyl-7-o xo- (8 CI) 4-Thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 6-(((3-(2-chloro-6-fluorophenyl)-5-methyl-4-isoxazolyl)carbonyl)amino)-3,3-dimet hyl-7-oxo-, (2S-(2alpha,5alpha,6beta))- (9 CI) **1499, 1500**

4-Thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 6-(3-(2,6-dichlorophenyl)-5-methyl-4-isoxazolecarboxamido)-3,3-dimethyl-7-oxo- (8 CI) 4-Thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 6-(((3-(2,6-dichlorophenyl)-5-methyl-4-isoxazolyl)carbonyl)amino)-3,3-dimethyl-7 -oxo-, (2S-(2alpha,5alpha,6beta))- (9 CI) **3388**

4-Thiazolecarboxamide, 2-beta-D-ribofuranosyl- **11432**

4,4'-Bipyridinium, 1,1'-dimethyl- **3389-3399, 4670, 5770, 5771, 7051-7060, 8742, 8754, 8776, 9988-9991, 12761-12780**

4,4'-Bipyridinium, 1,1'-dimethyl-, dichloride **5208, 5209**

4,4'-Stilbenediol, alpha,alpha'-diethyl-, (E)- (8 CI); Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis-, (E)- (9 CI) **5981, 7538**

4,6(1H,5H)-Pyrimidinedione, 5-ethyldihydro-5-(1-methylbutyl)-2-thioxo- **8638, 8639, 11433, 11434**

4,6(1H,5H)-Pyrimidinedione, 5-ethyldihydro-5-phenyl- **1504, 5982-5984, 7539-7541, 8640, 11435, 11436**

4,7-Methano-1H-indene, 1,2,3,4,5,6,7,8,8-nonachloro-2,3,3a,4,7,7a-hexahydro-, (1alpha,2beta, 3alpha,3aalpha,4beta,7beta,7aalpha)- **1505-1510, 3400-3402, 5772, 8251, 8252, 8829, 9992-9995, 12781-12789**

4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-1,2-epoxy-3a,4,7,7a-tetrahydro- (8 CI) 2,5-Methano-2H-indeno(1,2-b)oxirene, 1a,2,3,4,5,6a,7,7-octachloro-1a,1b,5,5a,6,6a-hexahydro- (9 CI) **1511-1518, 3403-3407, 4671, 5773, 5774, 8253-8255, 8827, 9996-10003, 12790-12798**

4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI) **335, 1935, 3746, 9075-9083, 12799-12803**

4,7-Methanoindan, 1,4,5,6,7,8,8-heptachloro-2,3-epoxy-3a,4,7,7a-tetrahydro- (8 CI); 2,5-Methano-2H-indeno(1,2-b)oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a-hexahydro-, (1aalpha,1bbeta, 2alpha,5alpha,5abeta,6beta,6aalpha)- (9 CI) **1519-1537, 3408-3425, 4672-4675, 5775-5777, 8256-8261, 8828, 10004-10012, 12804-12811**

4,7-Methanoindan, 1alpha,2alpha,3alpha,4beta,5,6,7beta,8,8-nonachloro-3aalpha,4,7,7-aalpha-tetrahy dro- (8 CI) 4,7-Methano-1H-indene, 1,2,3,4,5,6,7,8,8-nonachloro-2,3,3a,4,7,7a-hexahydro-(1alpha,2alpha,3alpha,3aalp ha,4beta,7aalpha- (9 CI) **12812-12814**

4,7-Methanoindan, 1alpha,2alpha,4beta,5,6,7beta,8,8-octachloro-3aalpha,4,7,7aalpha-tetrahydro (8 CI) 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-, (1alpha,2alpha, 3aalpha,4beta,7beta,7aalpha)- (9 CI) **10013, 10014, 12815-12818**

4,7-Methanoindan, 1beta,2alpha,4alpha,5,6,7alpha,8,8-octachloro-3abeta,4,7,7abeta-tetrahydro- (8 CI) 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-, (1alpha,2beta, 3aalpha,4beta,7beta,7aalpha)- (9 CI) **10015, 12819-12822**

4,7-Methanoindene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- (9 CI) **3426, 3427, 4676, 5778, 12823-12827**

4'-Demethylepipodophyllotoxin ethylidene-beta-D-glucoside **5210, 5211, 11437-11442**

4'-Hydroxybutobarbitone (No postings in CHEMLINE). **11443**

4H-(1,2,4)Triazolo(4,3-a)(1,4)benzodiazepine-1-methanamine, 8-chloro-N,N-dimethyl-6-phenyl- **11444**

4H-Imidazo(1,5-a)(1,4)benzodiazepine, 8-chloro-6-(2-fluorophenyl)-1-methyl **8641, 11445-11450**

4H-Pyrano(2,3-b)(1,4)benzodioxin-4-one, decahydro-4a,7,9-trihydroxy-2-methyl-6,8-bis (methylamino)- (8 CI) 4H-Pyrano(2,3-b)(1,4)benzodioxin-4-one, decahydro-4a,7,9-trihydroxy-2-methyl-6,8-bis(methylamino)-, (2R-(2alpha,4abeta,5abeta,6beta,7beta,8beta,9alpha,9aalpha, 10abeta))- (9 CI) **5985, 5986**

4H-Pyrazolo(3,4-d)pyrimidin-4-one, 1,5-dihydro- **3428**

4H-s-Triazolo(4,3-a)(1,4)benzodiazepine, 8-chloro-1-methyl-6-phenyl- (8 CI); 4H-(1,2,4)Triazolo(4, 3-a)(1,4)benzodiazepine, 8-chloro-1-methyl-6-phenyl- (9 CI) **11451-11456**

4H-s-Triazolo(4,3-a)(1,4)benzodiazepine, 8-chloro-6-(o-chlorophenyl)-1-methyl- (8 CI); 4H-(1,2,4) Triazolo(4,3-a)(1,4)benzodiazepine, 8-chloro-6-(2-chlorophenyl)-1-methyl- (9 CI) **5212, 11457-11463**

4H-1,3,2-Oxazaphosphorin-4-one, 2-(bis(2-chloroethyl)amino)tetrahydro-, 2-oxide **1538**

5-Benzoxazoleacetic acid, 2-(4-chlorophenyl)-alpha-methyl- **3429, 3430, 8642**

5-beta-Card-20(22)-enolide, 3beta-((2,6-dideoxy-beta-D-ribo-hexopyranosyl)oxy)-14-hydroxy- (8 CI); Card-20(22)-enolide, 3-((2,6-dideoxy-beta-D-ribo-hexopyranosyl)oxy)-14-hydroxy-, (3beta, 5beta)- (9 CI) **11464, 11465**

5-Isobenzofurancarbonitrile, 1-(3-(dimethylamino)propyl)-1-(4-fluorophenyl)-1,3-dihydro- **5987, 5988**

5-Norbornene-2,3-dimethanol, 1,4,5,6,7,7-hexachloro-, cyclic sulfite (8 CI); 6,9-Methano-2,4,3-benzodioxathiepan, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide (9 CI) **1539-1543, 4677**

5-Oxa-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 7-((carboxy(4-hydroxyphenyl)acetyl)amino) -7-methoxy-3-(((1-methyl-1H-tetrazol-5- yl)thio)methyl)-8-oxo- **5989, 5990, 7542, 8643, 8644, 8769, 11466-11482**

5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 3-(((aminocarbonyl)oxy)methyl)-7-((2-furanyl(methoxyimino)acetyl)amino) 8-oxo, (6R-(6alpha,7beta(Z)))- **1544, 8645-8647, 11483-11487**

5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 3-(((aminocarbonyl)oxy)methyl)-7-((2-furanyl(methoxyimino)acetyl)amino)-8-oxo-, 1-(acetyloxy)ethyl ester, (6R-(6alpha,7beta(Z)))- **11488, 11489**

5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 3-(((aminocarbonyl)oxy)methyl)-7-methoxy-8-oxo-7-((2-thienylacetyl)amino)-, (6R-cis)- **1545, 1546, 5991-5994, 8648-8654, 11490-11492**

5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 3-(((5-methyl-1,3,4,-thiadiazol-2-yl)thio) methyl)-8-oxo-7-(2-(1H-tetrazol-1-yl)a cetamido)- (8 CI) 5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 3-(((5-methyl-1,3,4-thiadiazol-2-yl)thio)methyl)-8-oxo-7-((1H-tetrazol-1-ylacety l)amino)-, (6R-trans)- (9 CI) **1547, 3431, 3432, 5213-5217, 8655, 8656, 11493**

5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 3-((acetyloxy)methyl)-7-(((2-amino-4-thiazolyl)(methoxyimino)acetyl)amino)-8-oxo -, (6R-trans)- **326, 4778-4781, 5836-5839, 7543, 7544, 8657-8660, 8999, 9000, 10016**

5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 3-(hydroxymethyl)-8-oxo-7-(2-(2-thienyl) acetamido)- acetate (ester) (8 CI) 5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 3-((acetyloxy)methyl)-8-oxo-7-((2-thienylacetyl)amino)-, (6R-trans)- (9 CI) **3433-3437, 5218-5220, 8661-8664**

5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 3-(hydroxymethyl)-8-oxo-7-(2-(4-pyridylthio) acetamido)-, acetate (ester) (8 CI) 5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 3-((acetyloxy)methyl)-8-oxo-7-(((4-pyridinylthio)acetyl)amino)-, (6R-trans)- (9 CI) **5221-5224**

5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 7-(((((4-ethyl-2,3-dioxo-1-piperazinyl) carbonyl)amino)(4-hydroxyphenyl)acetyl)am ino)-3-(((1-methyl-1H-tetrazol-5-yl)thio)methyl)-8-oxo-, (6R-(6alpha,7beta(R*)))- **11494-11507**

5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 7-(((((4-hydroxy-6-methyl-3-pyridinyl) carbonyl)amino)(4-hydroxyphenyl)acetyl)ami no)-3-(((1-methyl-1H-tetrazol-5-yl)thio)methyl)-8-oxo-, (6R-(6alpha,7beta(R*)))- **11508, 11509**

5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 7-((((cyanomethyl)thio)acetyl)amino)-7-methoxy-3-(((1-methyl-1H-tetrazol-5-yl)th io)methyl)-8-oxo-, (6R-cis)- **11510-11513**

5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 7-(((2-(aminomethyl)phenyl)acetyl)amino)-3-(((1-(carboxymethyl)-1-H-tetrazol-5-y l)thio)methyl)-8-oxo-, (6R-trans)- **5225, 7545, 7546, 11514-11516**

5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 7-(((2-amino-4-thiazolyl)(methoxyimino) (acetyl)amino)-8-oxo-, (6R-(6alpha,7beta(Z)))- **8917, 8918, 11517-11524**

5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 7-(((2-amino-4-thiazolyl)(methoxyimino) acetyl)amino)-3-(((1-methyl-1H-tetrazol-5 -yl)thio)methyl)-8-oxo-, (6R-(6alpha,7beta(Z)))- **11525-11530**

5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 7-(((2-amino-4-thiazolyl)(methoxyimino) acetyl)amino)-8-oxo-3(((1,2,5,6-tetrahydr o-2-methyl-5,6-dioxo-1,2,4-triazin-3-yl)thio)methyl)-, (6R-(6alpha,7beta(Z)))- **11531-11543**

5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 7-(((2-amino-4-thiazolyl)acetyl)amino)-3-(((1-(2-(dimethylamino)ethyl)-1H-tetraz ol-5-yl)thio)methyl)-8-oxo-, (6R-trans)- **11514, 11545-11547**

5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 7-((amino(4-hydroxyphenyl)acetyl)amino)-3-methyl-8-oxo-, (6R-(6alpha,7beta(R*)))- **5226-5231, 8777, 8778, 11548, 11549**

5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 7-((amino-1,4-cyclohexadien-1-ylacetyl) amino)-3-methoxy-8-oxo-, (6R-(6alpha,7beta(R*)))- **1548**

5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 7-((amino-1,4-cyclohexadien-1-ylacetyl) amino)-3-methyl-8-oxo-, (6R-(6alpha,7beta(R*)))- **1549-1551, 3438, 3439, 5232, 5233, 11550, 11551**

5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 7-((aminophenylacetyl)amino)-3-chloro-8-oxo-, (6R-(6alpha,7beta(R*)))- **3440, 3441, 5995, 5996**

5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 7-((hydroxyphenylacetyl)amino)-3-(((1-methyl-1H-tetrazol-5-yl)thio)methyl)-8-oxo -, (6R-(6alpha,7beta(R*)))- **3442, 5234, 5235, 7547, 8665, 8666, 11552-11554**

5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 7-((hydroxyphenylacetyl)amino)-8-oxo-3-((1-(sulfomethyl)-1H-tetrazol-5-yl)thio) methyl)-, (6R-(6alpha,7beta(R*)))- **11555-11558**

5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 7-(2-amino-2-phenylacetamido)-3-methyl-8-oxo-, D- (8 CI) 5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 7-((aminophenylacetyl) amino)-3-methyl-8-oxo-, (6R-(6alpha,7beta(R*)))- (9 CI) **1552-1556, 3443-3449, 5236, 5237, 5997, 5998, 8667, 11559**

5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 7-(2-cyanoacetamido)-3-(hydroxymethyl)-8-oxo-, acetate (ester), monosodium salt (8 CI) 5-Thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid, 3-((acetyloxy)methyl)-7-((cyanoacetyl)amino)-8-oxo-, monosodium salt, (6R-trans)- (9 CI) **3450, 3451**

5-Thiazoleacetic acid, 4-(p-chlorophenyl)-2-phenyl- (8 CI); 5-Thiazoleacetic acid, 4-(4-chlorophenyl)-2-phenyl- (9 CI) **11560, 11561**

5,12-Naphthacenedione, 10-((3-amino-2,3,6-trideoxy-beta-L-arabino-hexopyranosyl)oxy)-7,8,9,10-tetrahydr o-6,8,11-trihydroxy-8-(hydroxyacetyl)-1-methoxy-, (8S-cis)- **11562**

5,12-Naphthacenedione, 9-acetyl-7-((3-amino-2,3,6-trideoxy-alpha-L-lyxo-hexopyranosyl)oxy)-7,8,9,10-tet rahydro-6,9,11-trihydroxy-, (7S-cis)- **11563**

5,8,11,14-Eicosatetraenoic acid, (all-Z)- **11564**

5beta-Card-20(22)-enolide, 3beta-((2,6-dideoxy-4-O-(2,6-dideoxy-beta-D-ribo-hexopyranosyl)-beta-D-ribo-hexo pyranosyl)oxy)-14-hydroxy- (8 CI); Card-20(22)-enolide, 3-((2,6-dideoxy-4-O-(2,6-dideoxy-beta-D-ribo-hexopyranosyl)-beta-D-ribo-hexopyra nosyl)oxy)-14-hydroxy-, (3beta,5beta)- (9 CI) **11565, 11566**

5beta-Cardanolide, 3beta-((O-2,6-dideoxy-beta-D-ribo-hexopyranosyl-(1-4)-O-2,6-dideoxy-beta-D-ribo- hexopyranosyl-(1-4)-2,6-dideoxy-beta-D-ribo-hexopyranosyl)oxy)-14-hydroxy- (8 CI) Cardanolide, 3-((O-2,6-dideoxy-beta-D-ribo-hexopyranosyl-(1-4)-O-2,6-dideoxy-beta-D-ribo-hexo pyranosyl-(1-4)-2,6-dideoxy-beta-D-ribo-hexopyranosyl)oxy)-14-hydroxy-, (3beta,5beta)- (9 CI) **3452**

5beta-Cholan-24-oic acid, 3alpha,7alpha-dihydroxy- (8 CI); Cholan-24-oic acid, 3,7-dihydroxy-, (3alpha,5beta,7alpha)- (9 CI) **1557**

5H-Cyclooct(b)indole, 5-(3-(dimethylamino)propyl)-6,7,8,9,10,11-hexahydro- (8 CI); 5H-Cyclooct (b)indole-5-propanamine, 6,7,8,9,10,11-hexahydro-N,N-dimethyl- (9 CI) **3453-3455**

5H-Dibenz(b,f)azepine-5-carboxamide **3456, 5238-5244, 5999, 7548, 7549, 8668, 11567-11576**

5H-Dibenz(b,f)azepine-5-carboxamide, 10,11-dihydro-10-oxo- **11577**

5H-Dibenz(b,f)azepine, 10,11-dihydro-5-(3-(methylamino)propyl)-, monohydrochloride (8 CI); 5H-Dibenz(b,f)azepine-5-propanamine, 10,11-dihydro-N-methyl-, monohydrochloride (9 CI) **5247-5249, 7550**

5H-Dibenz(b,f)azepine, 10,11-dihydro-5-(3-methylamino)propyl)- (8 CI); 5H-Dibenz(b,f)azepine-5-propanamine, 10,11-dihydro-N-methyl- (9 CI) **1558-1560, 3457-3461, 5245, 5246, 8669-8671, 8992, 8993, 8995, 8996, 11578-11583**

5H-Dibenz(b,f)azepine, 3-chloro-10,11-dihydro-5-(3-(methylamino)propyl)- (8 CI); 5H-Dibenz(b,f) azepine-5-propanamine, 3-chloro-10,11-dihydro-N-methyl- (9 CI) **5250, 5251**

5H-Dibenz(b,f)azepine, 3-chloro-5-(3-(dimethylamino)propyl)-10,11-dihydro- (8 CI); 5H-Dibenz(b, f)azepine-5-propanamine, 3-chloro-10,11-dihydro-N,N-dimethyl- (9 CI) **3462, 3463, 6000, 8847, 11584, 11585**

5H-Dibenz(b,f)azepine, 5-(3-(dimethylamino)-2-methylpropyl)-10,11-dihydro- (8 CI); 5H-Dibenz(b, f)azepine-5-propanamine, 10,11-dihydro-N,N,beta-trimethyl- (9 CI) **1561-1563, 11586-11588**

5H-Dibenz(b,f)azepine, 5-(3-(dimethylamino)propyl)-10,11-dihydro- (8 CI); 5H-Dibenz(b,f) azepine-5-propanamine, 10,11-dihydro-N,N-dimethyl- (9 CI) **1564-1566, 3464-3471, 5252, 5253, 7551-7557, 8672-8678, 8994, 11589-11595**

5H-Dibenz(b,f)azepine, 5-(3-(dimethylamino)propyl)-10,11-dihydro-, monohydrochloride (8 CI); 5H-Dibenz(b,f)azepine-5-propanamine, 10,11-dihydro-N,N-dimethyl-, monohydrochloride (9 CI) **5254**

5H-Dibenzo(a,d)cyclohepten-10-ol, 10,11-dihydro-5-(3-(methylamino)propylidene)- **11596, 11597**

5H-Dibenzo(a,d)cycloheptene-delta(5,gamma)-propylamine, 10,11-dihydro-N-methyl- (8 CI); 1-Propanamine, 3-(10,11-dihydro-5H-dibenzo(a,d)cyclohepten-5-ylidene)-N-methyl- (9 CI) **1567, 3472-3478, 5255-5257, 7558, 8679, 8680, 11598-11600**

5H-Dibenzo(a,d)cycloheptene-delta(5,gamma)-propylamine, 10,11-dihydro-N,N-dimethyl- (8 CI); 1-Propanamine, 3-(10,11-dihydro-5H-dibenzo(a,d)cyclohepten-5-ylidene)-N,N-dimethyl- (9 CI) **1568-1575, 3479-3491, 5258-5261, 6001-6003, 7559-7574, 8681-8688, 11601-11605**

5H-Dibenzo(a,d)cycloheptene-delta(5,gamma)-propylamine, 10,11-dihydro-N,N-dimethyl-, hydrochloride (8 CI); 1-Propanamine, 3-(10,11-dihydro-5H-dibenzo(a,d)cyclohepten-5-ylidene)-N,N-dimethyl-, hydrochloride (9 CI) **5262**

5H-Dibenzo(a,d)cycloheptene-5-propylamine, N-methyl- (8 CI); 5H-Dibenzo(a,d)cycloheptene-5-propanamine, N-methyl- (9 CI) **3492**

5H-2,3-Benzodiazepine, 1-(3,4-dimethoxyphenyl)-5-ethyl-7,8-dimethoxy-4-methyl- **6004**

6-Quinazolinesulfonamide, 7-chloro-1,2,3,4-tetrahydro-2-methyl-4-oxo-3-o-tolyl-(8 CI); 6-Quinazolinesulfonamide, 7-chloro-1,2,3,4-tetrahydro-2-methyl-3-(2-methylphenyl)-4-oxo- (9 CI) **6005, 6006**

6,10,14,18-Tetramethyl-5,9,13,17-nonadecatetraene-2-one (No postings in CHEMLINE). **11606, 11607**

6,14-Ethenomorphinan-7-methanol, 17-(cyclopropylmethyl)-alpha-(1,1-dimethylethyl)-4,5-epoxy-18,19-dihydro-3-hydro xy-6-methoxy-alpha-methyl-, (5alpha,7alpha(S))- **7575, 11608**

6aalpha-Aporphine, 1,2,9,10-tetramethoxy- (8 CI); 4H-Dibenzo(de,g)quinoline, 5,6,6a,7-tetrahydro-1,2,9,10-tetramethoxy-6-methyl-, (S)- (9 CI) **11609, 11610**

6H-Dibenz(b,f)oxireno(d)azepine-6-carboxamide, 1a,10b-dihydro- **11611, 11612**

6H-Dibenzo(b,d)pyran-1-ol, 3-(1,2-dimethylheptyl)-7,8,9,10-tetrahydro-6,6,9-trimethyl- **5263, 5264**

6H-Dibenzo(b,d)pyran-1-ol, 6a,7,8,10a-tetrahydro-6,6-9-trimethyl-3-pentyl-, (6aR-trans)- **3493, 3494, 6007, 6008, 7576-7583, 8689, 8690, 11613-11625, 12828**

6H-Dibenzo(b,d)pyran-9-carboxylic acid, 6a,7,8,10a-tetrahydro-1-hydroxy-6,6-dimethyl-3-pentyl- **11626**

6H-Purin-6-one, 2-amino-1,9-dihydro-9-((2-hydroxyethoxy)methyl)- **5265, 5266, 11627-11639**

7-Chloro-3-methyl-2H-1,2,4-benzothiadiazine 1,1-dioxide **8691**

7-N-(p-Hydroxyphenyl)mitomycin C (No postings in CHEMLINE). **11640**

7H-Furo(3,2-g)(1)benzopyran-7-one, 4-methoxy- **7584, 7585**

7H-Furo(3,2-g)(1)benzopyran-7-one, 9-methoxy- **5267, 5268, 11641, 11642**

8-Quinolinol, 5-nitro **6009, 6010**

9-beta-D-Arabinofuranosyl-2-fluoroadenine monophosphate (No postings in CHEMLINE). **11643**

9,10-Anthracenedicarboxaldehyde, bis((4,5-dihydro-1H-imidazol-2-yl)hydrazone) **11644, 11645**

9,10-Anthracenedione, 1,4-dihydroxy-5,8-bis((2-((2-hydroxyethyl)amino)ethyl)amino)- **8957**

9,10-Ethanoanthracene-9(10H)-ethanol, alpha-((methylamino)methyl)-, hydrochloride **11646, 11647**

9,10-Ethanoanthracene-9(10H)-propylamine, N-methyl- (8 CI); 9,10-Ethanoanthracene-9(10H)-propanamine, N-methyl- (9 CI) **1576-1579, 3495, 5269, 6011, 8693**

9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, (1alpha,3beta,5Z,7E)- **3496, 3497, 8262, 11648-11650**

9,10-Secocholesta-5,7,10(19)-triene-3,24,25-triol, (3beta,5Z,7E)- **11651**

9,10-Secocholesta-5,7,10(19)-triene-3beta,25-diol (8 CI); 9,10-Secocholesta-5,7,10(19)-triene-3,25-diol, (3beta,5Z,7E)- (9 CI) **1580, 3498-3500, 5270, 5271, 5779, 8263, 8694, 11652-11654**

9,10-Secocholesta-5,7,10(19)-triene-3beta,25,26-triol (8 CI); 9,10-Secocholesta-5,7,10(19)-triene-3,25,26-triol, (3beta,5Z,7E)- (9 CI) **11655**

9,10-Secoergosta-5,7,10(19),22-tetraene-3beta,25-diol (8 CI); 9,10-Secoergosta-5,7,10(19),22-tetraene-3,25-diol, (3beta,5Z,7E,22E)- (9 CI) **10017, 11656, 11657**

9H-Dibenzo(b,d)pyran-9-one, 3-(1,1-dimethylheptyl)-6,6a,7,8,10,10a-hexahydro-1-hydroxy-6,6-dimethyl-, trans-(+-)- **7586, 7587**

DATABASE RECORDS

11,658-12,828

(1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aalphaH)-one, 1,2,12,12aalpha-tetrahydro-2alpha-isopropenyl-8,9-dimethoxy- (8 CI); (1)Benzopyrano(3,4-b)furo(2,3-h)(1)benzopyran-6(6aH)-one, 1,2,12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-, (2R-(2alpha,6aalpha,12aalpha))- (9 CI)
83-79-4
C23-H22-O6
MW 394.41, MP 165-166 C, BP 210-220 C at 0.5 mm Hg, VP less than 1X10(E-5) mbar at 20 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11658 Kidney	1 Ingestion	Not applicable	3.90 ppm	Symptoms began within <0.5 hr of ingesting "mouthful" of "Gallicide", an insecticide containing rotenone and ethereal oils (latter may have caused the renal damage which prevented clearance and promoted uptake of rotenone by the g.i. tract). Estimated dose of 10 ml (0.6 g rotenone). 3.5 yr old female Vomiting, drowsiness, then coma. Bilateral mydriasis, anuria, lack of reflexes, blood pH=6.76. Death within about 8 hr. Anoxic hemorrhages in thymus, lung, heart. Pleural effusion, badly aerated lungs, stomach hemorrhage, bloody ascites, cerebral hypoxia. HPLC
11659 Liver	1 Ingestion	Not applicable	3.20 ppm	Symptoms began within <0.5 hr of ingesting "mouthful" of "Gallicide", an insecticide containing rotenone and ethereal oils (latter may have caused the renal damage which prevented clearance and promoted uptake of rotenone by the g.i. tract). Estimated dose of 10 ml (0.6 g rotenone). 3.5 yr old female Vomiting, drowsiness, then coma. Bilateral mydriasis, anuria, lack of reflexes, blood pH=6.76. Death within about 8 hr. Anoxic hemorrhages in thymus, lung, heart. Pleural effusion, badly aerated lungs, stomach hemorrhage, bloody ascites, cerebral hypoxia. HPLC

DELIBERATE EXPOSURE; BLOOD; KIDNEYS; LIVER; PESTICIDES; INSECTICIDES; BELGIUM; CASE HISTORIES; CHILDREN
De Wilde, A.-R.; Heyndrickx, A.; Carton, D. 1986 Journal of Forensic Sciences 31(4):1492-1498

Acenaphthene (8 CI); Acenaphthylene, 1,2-dihydro- (9 CI)
83-32-9
C12-H10
MW 154.21, MP 95 C, BP 279 C at 760 mm Hg, VP 10 mm Hg at 131.2 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11660 Aorta	2	a) 10 ppb-not detected b) Not detected-10 ppb	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Acetic acid, (2,4-dichlorophenoxy)-
94-75-7
C8-H6-Cl2-O3
MW 221.04, MP 138 C, BP 160 C at 0.4 mm Hg

Tissue	Cases Exposure Route	Range	Mean	General Information
11661 Urine	7	a) 0.012-3.06 ug b) 0.014-0.28 ug c) 0.007-0.18 ug d) 0.65-8.79 ug e) 0.11-3.90 ug f) 0 060-3.18 ug g) 0.82-0.61 ug /kg body wt/d	a) 2.55 ug b) 0.27 ug c) 0.12 ug d) 6.04 ug e) 2.88 ug f) 2.43 ug g) Not given /kg body wt/d	a) Female, mixing and loading spray, cleanup and repair, 8/81, max 9.59 ug/kg body weight/d b) Male, same duties as a), 8/81, max 0.94 ug/kg body weight/d c) Female, recording, supervising, assisting in mixing and loading, 8/81, max 0.30 ug/kg body weight/d d) Male, same duties as a), 7/82-8/82, max 22.2 ug/kg body weight/d e) Male, balloon man, marking swaths, providing ground guidance for helicopter, 7/82-8/82, max 8.37 ug/kg body weight/d f) Male, same duties as e), 7/82-8/82, max 7.73 ug/kg body weight/d g) Male bystander, exposed to single direct overspray, 8/82 Ranges of means for pre-spray and spray periods. Maxima were for post-spray periods. Means of total period including pre-spray, spray, and post-spray (15-30d). 20-38-yr-olds, wt 51-84 kg, Ontario, Canada GC-EC

OCCUPATIONAL EXPOSURE; CANADA; URINE; HERBICIDES; FORESTRY; PESTICIDES; OCCUPATIONAL HAZARDS; CHLORINE ORGANIC COMPOUNDS
Frank, R.; Campbell, R.A.; Sirons, G.J. 1985 Archives of Environmental Contamination and Toxicology 14:427-435

Tissue	Cases Exposure Route	Range	Mean	General Information
11662 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982). GC-EC

URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES
Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983

Acetic acid, (2,4,5-trichlorophenoxy)-
93-76-5
C8-H5-Cl3-O3
MW 255.49, MP 153 C (crystals from benzene)

Tissue	Cases Exposure Route	Range	Mean	General Information
11663 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982).

URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES
Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983

Acetic acid, ethoxy-
627-03-2
C4-H8-O3

Tissue	Cases Exposure Route	Range	Mean	General Information
11664 Urine	5 Inhalation	a) Not detected-0.41 mg/L b) 1.08-3.87 mg/L	a) Not applicable b) 2.39+/-1.03 mg/L	a) Before b) 1 hr after Metabolite. Exposed to 20 mg/cu m ethylene glycol monoethyl ether in air, 4X50 min, separated by 10-min break. b) significantly higher than a), $p<0.005$. Detection limit 0.007 mg/L. Improved analytical method. Healthy 24+/-4 yr old volunteers GC

URINE; DELIBERATE EXPOSURE; MEASUREMENT METHODS; INHALATION; METABOLITES; INDUSTRIAL CHEMICALS
Groeseneken, D.; Van Vlem, E.; Veulemans, H.; Masschelein, R. 1986 British Journal of Industrial Medicine 43:62-65

Acetic acid, trichloro-
76-03-9
C2-H-Cl3-O2
MW 163.40, MP 57-58 C, BP 196-197 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11665 Blood, serum	43	4.8-221.2 ug/L	23.8+/-2.4 ug/L Geometric mean	No occupational exposure to industrial solvents. Percentiles also reported. Analyzed as chloroform. Residents of Nordrhein-Westfalen, FRG GC-EC
11666 Urine	94	0.9-209.1 ug/L	6.4+/-3.3 ug/L	24 hr samples. No occupational exposure to industrial solvents. Percentiles also reported. Analyzed as chloroform. 60-66 yr old residents of Nordrhein-Westfalen, FRG GC-EC

BLOOD; BLOOD SERUM; URINE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; GERMANY; CHLORINATED HYDROCARBONS; INDUSTRIAL CHEMICALS; SOLVENTS; FLUORINE COMPOUNDS; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIAL SOLVENTS; INDUSTRIES; OCCUPATIONAL HAZARDS
Hajimiragha, H.; Ewers, U.; Jansen-Rosseck, R.; Brockhaus, A. 1986 International Archives of Occupational and Environmental Health 58:141-150

Aflatoxins
1402-68-2
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11667 Blood, serum				Review. Methodology of detection discussed, including immunological, HPLC, radioimmunological and chromatographic techniques. Risk associated with exposure examined. Potential future studies suggested.
11668 Urine				Review. Methodology of detection discussed, including immunological, HPLC, radioimmunological and chromatographic techniques. Risk associated with exposure examined. Potential future studies suggested.

URINE; BLOOD SERUM; ENVIRONMENTAL EXPOSURE; REVIEW; LIVER DISEASES; CARCINOMAS; AFLATOXINS; BIOACCUMULATION; HEALTH HAZARDS
Garner, C.; Ryder, R.; Montesano, R. 1985 Cancer Research 45:922-928

Alkylbenzene (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
11669 Aorta	2	a) 20 ppb-Not detected b) Not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES

Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Alkylhexadecanoic acid (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
11670 Aorta	2	a) 30 ppb-not detected b) Not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES

Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Aluminum
7429-90-5
Al
AtW 26.98154, MP 660 C, BP 2327 C, VP 1 mm Hg at 1540 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11671 Blood, plasma	a) 13 b) 10	a) 0.001-0.013 ug/l b) 0.002-0.014 ug/l	a) Not given b) Not given	a) Before dialysis b) After dialysis Estimated from graph. High correlation (r=0.943) with whole blood levels. New assay. Patients in dialysis unit of University Hospital, Leiden, Netherlands AAS

(next page)

Aluminum
7429-90-5
Al
AtW 26.98154, MP 660 C, BP 2327 C, VP 1 mm Hg at 1540 C

(continued)

Tissue	Cases Exposure Route	Range	Mean	General Information
11672 Blood, whole	a) 13 b) 10	a) 0.001-0.018 ug/l b) 0.002-0.015 ug/l	a) Not given b) Not given	a) Before dialysis b) After dialysis Estimated from graph. High correlation (r=0.943) with plasma levels. New assay. Patients in dialysis unit of University Hospital, Leiden, Netherlands AAS

BLOOD; BLOOD PLASMA; ENVIRONMENTAL EXPOSURE; NETHERLANDS; METAL POISONING; MEASUREMENT METHODS; ALUMINUM; METALS; BIOACCUMULATION; HEALTH HAZARDS; KIDNEY DISEASES; BIOLOGICAL MONITORING

van der Voet, G.B.; de Haas, E.J.M.; de Wolff, F.A. 1985 Journal of Analytical Toxicology 9:97-100

Tissue	Cases Exposure Route	Range	Mean	General Information
11673 Bone	12 Ingestion	a) 0-0.13 mm/sq mm b) 0.17-0.55 mm/sq mm c) 1.13-2.54 mm/sq mm d) 0-1.50 mm/sq mm e) 0.07-3.45 mm/sq mm	a) 0.02 mm/sq mm b) 0.34 mm/sq mm c) 1.71 mm/sq mm d) 0.36 mm/sq mm e) 1.16 mm/sq mm	a) With parathyroidectomy, first biopsy, 6 cases b) With parathyroidectomy, second biopsy c) With parathyroidectomy, third biopsy d) Without parathyroidectomy, first biopsy, 6 cases e) Without parathyroidectomy, second biopsy Parathyroidectomy was performed at or before second biopsy in a), b) and c). Adult males with chronic renal failure and on long term hemodialysis Increase in rate of deposition on surface of mineralized bone after parathyroidectomy, with decrease in rate of bone formation Histological

BONES; ADULTS; DRUGS; BIOPSIES; SURGERY; ALUMINUM; BIOACCUMULATION; DELIBERATE EXPOSURE

Andress, D.L.; Ott, S.M.; Maloney, N.A.; Sherrard, D.K. 1985 New England Journal of Medicine 312(8):468-473

Tissue	Cases Exposure Route	Range	Mean	General Information
11674 Hair	a) 10 b) 10	a) Not given b) Not given	a) 6.61+/-1.42 ug/g b) 8.32+/-2.70 ug/g	a) Patients with multiple sclerosis b) Controls Significant difference. Patients and controls, matched for sex and age. NA

BLOOD; HAIR; ENVIRONMENTAL EXPOSURE; UNITED KINGDOM; NEUROMUSCULAR DISEASES; TRACE ELEMENTS; BIOACCUMULATION; BIOINDICATORS; ALUMINUM; ANTIMONY; ARSENIC; BARIUM; BROMINE; CESIUM; GOLD; IODINE; MANGANESE; MOLYBDENUM; SELENIUM; VANADIUM; ZINC; COPPER; IRON; MAGNESIUM; POTASSIUM; SULFUR

Ward, N.I.; Bryce-Smith, D.; Minski, M.; Matthews, W.B. 1985 Biological Trace Element Research 7:153-159

Aluminum
7429-90-5
Al
AtW 26.98154, MP 660 C, BP 2327 C, VP 1 mm Hg at 1540 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11675 Hair	a) 1 b) 1	a) 2.0-22.0 ppm b) 3.0-19.9 ppm	a) 10.85+/-5.91 ppm b) 10.17+/-5.58 ppm	a) Subject 1 b) Subject 2 Samples sent to 13 commercial laboratories for analysis. Values here are combined from all. Considerable variance within same laboratory, among different laboratories and disagreement about what was "normal" or "unusual". Authors conclude commercial use of hair analysis for management of disease, nutrition unscientific, uneconomical, probably illegal. Healthy 17-yr old females

HAIR; ALUMINUM; ARSENIC; BERYLLIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; GOLD; IRON; LEAD; LITHIUM; MAGNESIUM; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; RUBIDIUM; SELENIUM; SILICON; SODIUM; TIN; VANADIUM; ZINC; ELEMENTS; TRACE ELEMENTS; METALS
Barrett, S. 1985 Journal of the American Medical Association 254(8):1041-1045

Tissue	Cases Exposure Route	Range	Mean	General Information
11676 Hair	a) 92 b) 55 c) 46 d) 457 e) 255	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 17.4 ppm b) 5.90 ppm c) 7.29 ppm d) 13.3 ppm e) 32.0 ppm	a) Canada b) U.S.A. c) Poland d) Japan e) India Part of international survey of 21 elements. Japanese, 2-80 yr olds. Rest were 30-60 yr old. ES

ENVIRONMENTAL EXPOSURE; HAIR; CANADA; UNITED STATES; POLAND; JAPAN; INDIA; MAGNESIUM; CALCIUM; PHOSPHORUS; SODIUM; POTASSIUM; IRON; COPPER; MANGANESE; ZINC; SELENIUM; CHROMIUM; NICKEL; COBALT; VANADIUM; LEAD; CADMIUM; ALUMINUM; ANTIMONY; MERCURY; TIN; ARSENIC; AGE; SEX; COMPARATIVE EVALUATIONS
Takagi, Y.; Matsuda, S.; Imai, S.; Ohmori, Y.; Masuda, T.; Vinson, J.A.; Mehra, M.C.; Puri, B.K.; Kaniewski, A. 1986 Bulletin of Environmental Contamination and Toxicology 36:793-800

Tissue	Cases Exposure Route	Range	Mean	General Information
11677 Lung	a) 3 b) 3 c) 10 d) 8 e) 5 f) 5	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 5.2+/-4.9 mg/g b) 5.2+/-3.7 mg/g c) 5.6+/-4.0 mg/g d) 2.9+/-2.7 mg/g e) 11.3+/-1.7 mg/g f) 1.6+/-0.8 mg/g	a) Smokers, 21+/-0.6 yr old b) Nonsmokers, 24+/-3 yr old c) Smokers, 50+/-6 yr old d) Nonsmokers, 52+/-6 yr old e) Smokers, 72+/-8 yr old f) Nonsmokers, 70+/-9 yr old. Autopsies. Death by trauma or cardiovascular disease. ES

LUNGS; ENVIRONMENTAL EXPOSURE; DELIBERATE EXPOSURE; ADULTS; VERMONT; RESPIRATORY DISEASES; AUTOPSIES; MINERALS; BIOACCUMULATION; ALUMINUM; SILICON; PARTICULATES; SMOKING; AGE
Vallyathan, V.; Hahn, L.H. 1985 Archives of Environmental Health 40(2):69-73

Americium, isotope of mass 241
14596-10-2
Am

Tissue	Cases Exposure Route	Range	Mean	General Information
11678 Body	1	Not applicable	327,300 dis/min, 147.4 nCi	From U.S. Transuranium Registry donor, a radiochemist who died in 1979 from metastatic melanoma initially diagnosed in 1975. Used unsealed Am source in 1952-54, first detection in urine in 1958. Estimated intake 0.23-1.1 uCi. Probable route a hand wound. Total body, systemic was 321,185 dis/min, 144.6 nCi. 49 yr old Caucasian male, California Malignant melanoma with metastasis to lung, liver Alpha spectrometry
11679 Bone	1	46-190 dis/min/g ash	105 dis/min/g ash	From U.S. Transuranium Registry donor, a radiochemist who died in 1979 from metastatic melanoma initially diagnosed in 1975. Used unsealed Am source in 1952-54, first detection in urine in 1958. Estimated intake 0.23-1.1 uCi. Probable route a hand wound. Values in range for teeth and cartilages, respectively. Mean=total skeletal [241]-Am/total ash excluding teeth, costal cartilages, hyoid. Total was 82% of whole-body content. Detailed analysis of individual bones was done. 49 yr old Caucasian male, California Malignant melanoma with metastasis to lung, liver Alpha spectrometry
11680 Brain	1	3.4-5.9 dis/min/g	0.1 dis/min/g	From U.S. Transuranium Registry donor, a radiochemist who died in 1979 from metastatic melanoma initially diagnosed in 1975. Used unsealed Am source in 1952-54, detection in urine first noted in 1958 urine sample. Estimated intake 0.23-1.1 uCi. Probable route a hand wound. Lowest level measured in soft tissues. 49 yr old Caucasian male, California Malignant melanoma with metastasis to lung, liver Alpha spectrometry
11681 Hand	1	Not applicable	6,160 dis/min, 2.8 nCi	From U.S. Transuranium Registry donor, a radiochemist who died in 1979 from metastatic melanoma initially diagnosed in 1975. Used unsealed Am source in 1952-54, first detection in urine in 1958. Estimated intake 0.23-1.1 uCi. Probable route a hand wound. Left hand. 49 yr old Caucasian male, California Malignant melanoma with metastasis to lung, liver Alpha spectrometry
11682 Kidney	1	Not applicable	801 dis/min, 0.36 nCi	From U.S. Transuranium Registry donor, a radiochemist who died in 1979 from metastatic melanoma initially diagnosed in 1975. Used unsealed Am source in 1952-54, first detection in urine in 1958. Estimated intake 0.23-1.1 uCi. Probable route a hand wound. 49 yr old Caucasian male, California Malignant melanoma with metastasis to lung, liver Alpha spectrometry
11683 Liver	1	Not applicable	20,680 dis/min, 9.32 nCi	From U.S. Transuranium Registry donor, a radiochemist who died in 1979 from metastatic melanoma initially diagnosed in 1975. Used unsealed Am source in 1952-54, first detection in urine in 1958. Estimated intake 0.23-1.1 uCi. Probable route a hand wound. 49 yr old Caucasian male, California Malignant melanoma with metastasis to lung, liver Alpha spectrometry

(next page)

Americium, isotope of mass 241
14596-10-2
Am

(continued)

Tissue	Cases Exposure Route	Range	Mean	General Information
11684 Lung	1	Not applicable	5.1 dis/min/g	From U.S. Transuranium Registry donor, a radiochemist who died in 1979 from metastatic melanoma initially diagnosed in 1975. Used unsealed Am source in 1952-54, first detection in urine in 1958. Estimated intake 0.23-1.1 uCi. Probable route a hand wound. Right lung. Level in lung tumor nodule was 0.5 dis/min/g. Entire respiratory tract: 4,980 dis/min/g or 2.24 nCi. 49 yr old Caucasian male, California Malignant melanoma with metastasis to lung, liver Alpha spectrometry
11685 Lymph node	1	3.4-5.9 dis/min/g	Not given	Tracheobronchial. From U.S. Transuranium Registry donor, a radiochemist who died in 1979 from metastatic melanoma initially diagnosed in 1975. Used unsealed Am source in 1952-54, first detection in urine in 1958. Estimated intake 0.23-1.1 uCi. Probable route a hand wound. Level in lung tumor nodule was 0.5 dis/min/g. Entire respiratory tract: 4,980 dis/min/g or 2.24 nCi. 49 yr old Caucasian male, California Malignant melanoma with metastasis to lung, liver Alpha spectrometry
11686 Muscle	1	a) Not applicable b) Not applicable	a) 1,700 dis/min, 0.76 nCi b) 28,000 dis/min, 12.7 nCi	a) Smooth muscle organs (intestines, bladder) b) Striated muscle and skin (includes heart, tongue, ears, nails, hair, nerves, blood vessels) From U.S. Transuranium Registry donor, a radiochemist who died in 1979 from metastatic melanoma initially diagnosed in 1975. Used unsealed Am source in 1952-54, first detection in urine in 1958. Estimated intake 0.23-1.1 uCi. Probable route a hand wound. 49 yr old Caucasian male, California Malignant melanoma with metastasis to lung, liver Alpha spectrometry
11687 Spleen	1	Not applicable	206 dis/min, 0.093 nCi	From U.S. Transuranium Registry donor, a radiochemist who died in 1979 from metastatic melanoma initially diagnosed in 1975. Used unsealed Am source in 1952-54, first detection in urine in 1958. Estimated intake 0.23-1.1 uCi. Probable route a hand wound. 49 yr old Caucasian male, California Malignant melanoma with metastasis to lung, liver Alpha spectrometry
11688 Testis	1	Not applicable	15 dis/min, 6.7X10(E-3) nCi	From U.S. Transuranium Registry donor, a radiochemist who died in 1979 from metastatic melanoma initially diagnosed in 1975. Used unsealed Am source in 1952-54, fist detection in urine in 1958. Estimated intake 0.23-1.1 uCi. Probable route a hand wound. 49 yr old Caucasian male, California Malignant melanoma with metastasis to lung, liver Alpha spectrometry

OCCUPATIONAL EXPOSURE; AMERICIUM; BODY; BONES; BRAIN; HAND; MUSCLES; TESTES; CALIFORNIA; RADIONUCLIDES; TRANSURANICS; NEOPLASMS; OCCUPATIONAL HAZARDS; AUTOPSIES; SPLEEN; LUNGS; LYMPH NODES; LIVER; KIDNEYS

Breitenstein, B.D.; Newton, C.E.; Norris, H.T.; Heid, K.R.; Robinson, B.; Palmer, H.E.; Reiksts, G.A.; Spitz, H.B.; McInroy, J.F.; Boyd, H.A.; Eutsler, B.C.; Romero, D.; Durbin, P.W.; Schmidt, C.T. 1985 Health Physics 49(4):587-661

Aniline, 4,4'-methylenebis(2-chloro- (8 CI); Benzenamine, 4,4'-methylenebis(2-chloro- (9 CI)
101-14-4
C13-H12-Cl2-N2
MW 267.2

Tissue	Cases Exposure Route	Range	Mean	General Information
11689 Urine	77 Dermal	a) Not given b) Not given c) 2-12 ug/l d) 75-940 ug/l e) 156-112 ug/l f) 25-18 ug/l g) 53-37 ug/l h) 236-175 ug/l	a) 600 ug/l b) 62 ug/l c) 7 ug/l d) 329 ug/l e) Not given f) Not given g) Not given h) Not given	a) Factory A, 1982, before improvement, 12 cases b) Factory A, 1983, improved handling techniques, 11 cases c) Factory B, 1982, before exposure, 4 cases d) After exposure, 4 cases e) Factory C, 1982, 11 cases f) Factory C, 1984, 12 cases g) Factory E, 1982, 13 cases h) Factory E, 1984, 14 cases Factories involved in production or use of "MOCA" in solution or as solid pellets. Factory workers HPLC

URINE; OCCUPATIONAL EXPOSURE; FRANCE; ADULTS; OCCUPATIONAL DISEASES; INDUSTRIAL HYGIENE; BIOACCUMULATION; OCCUPATIONAL HAZARDS; MEASUREMENT METHODS
Ducos, P.; Maire, C.; Gaudin, R. 1985 International Archives of Occupational and Environmental Health 55:159-167

Anthracene
120-12-7
C14-H10
MW 178.22, MP 218 C, BP 342 C, VP 1 mm Hg at 145.0 C (sublimes)

Tissue	Cases Exposure Route	Range	Mean	General Information
11690 Aorta	2	a) 30 ppb-not detected b) 10 ppb-not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Antimony
7440-36-0
Sb
AtW 121.75, MP 630 C, BP 1635 C, VP 1 mm Hg at 886 C, 10 mm Hg at 960 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11691 Bronchoalveolar lavage	1	Not applicable	0.5 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old NA

BRONCHOALVEOLAR LAVAGE; NAILS; OCCUPATIONAL EXPOSURE; CASE HISTORIES; PNEUMOCONIOSIS; OCCUPATIONAL DISEASES; RESPIRATORY DISEASES; LAVAGE; CERIUM; LANTHANUM; TERBIUM; YTTERBIUM; SILVER; ARSENIC; GOLD; CADMIUM; COBALT; CHROMIUM; CESIUM; IRON; MERCURY; INDIUM; IRIDIUM; MOLYBDENUM; NICKEL; RUBIDIUM; ANTIMONY; SCANDIUM; SELENIUM; TIN; THORIUM; URANIUM; ZINC; TRACE ELEMENTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; SMOKING

Sulotto, F.; Romano, C.; Berra, A.; Botta, G.C.; Rubino, G.F.; Sabbioni, E.; Pietra, R. 1986 American Journal of Industrial Medicine 9:567-575

Tissue	Cases Exposure Route	Range	Mean	General Information
11692 Hair	a) 10 b) 10	a) Not given b) Not given	a) 0.075+/-0.038 ug/g b) 0.054+/-0.022 ug/g	a) Patients with multiple sclerosis b) Controls Significant difference, borderline. Patients and controls, matched for sex and age. NA

BLOOD; HAIR; ENVIRONMENTAL EXPOSURE; UNITED KINGDOM; NEUROMUSCULAR DISEASES; TRACE ELEMENTS; BIOACCUMULATION; BIOINDICATORS; ALUMINUM; ANTIMONY; ARSENIC; BARIUM; BROMINE; CESIUM; GOLD; IODINE; MANGANESE; MOLYBDENUM; SELENIUM; VANADIUM; ZINC; COPPER; IRON; MAGNESIUM; POTASSIUM; SULFUR

Ward, N.I.; Bryce-Smith, D.; Minski, M.; Matthews, W.B. 1985 Biological Trace Element Research 7:153-159

Tissue	Cases Exposure Route	Range	Mean	General Information
11693 Hair	a) 92 b) 55 c) 46 d) 457 e) 255	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 0.86 ppm b) 0.096 ppm c) 0.11 ppm d) 0.67 ppm e) 0.40 ppm	a) Canada b) U.S.A. c) Poland d) Japan e) India Part of international survey of 21 elements. Japanese, 2-80 yr olds. Rest were 30-60 yr old. ES

ENVIRONMENTAL EXPOSURE; HAIR; CANADA; UNITED STATES; POLAND; JAPAN; INDIA; MAGNESIUM; CALCIUM; PHOSPHORUS; SODIUM; POTASSIUM; IRON; COPPER; MANGANESE; ZINC; SELENIUM; CHROMIUM; NICKEL; COBALT; VANADIUM; LEAD; CADMIUM; ALUMINUM; ANTIMONY; MERCURY; TIN; ARSENIC; AGE; SEX; COMPARATIVE EVALUATIONS

Takagi, Y.; Matsuda, S.; Imai, S.; Ohmori, Y.; Masuda, T.; Vinson, J.A.; Mehra, M.C.; Puri, B.K.; Kaniewski, A. 1986 Bulletin of Environmental Contamination and Toxicology 36:793-800

Antimony
7440-36-0
Sb
AtW 121.75, MP 630 C, BP 1635 C, VP 1 mm Hg at 886 C, 10 mm Hg at 960 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11694 Hair	10	0.027-0.36 mg/kg Dry wt	0.10 mg/kg Dry wt	Autopsy samples. Values in table given in parentheses. 48-62 yr old Caucasians, Sweden NA

HAIR; KIDNEYS; LIVER; SWEDEN; AUTOPSIES; SILVER; COBALT; CHROMIUM; IRON; MERCURY; ANTIMONY; SELENIUM; ZINC; MINERALS; TRACE ELEMENTS; BIOACCUMULATION
Muramatsu, Y.; Parr, R.M. 1985 International Atomic Energy Agency Report on the Second Research Co-ordination Meeting, Neuherberg, FRG, Sept 1985

Tissue	Cases Exposure Route	Range	Mean	General Information
11695 Lung		a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 450 ppb b) 376 ppb c) 480 ppb d) 181 ppb e) 355 ppb f) 100 ppb g) 280 ppb h) 32 ppb i) 19 ppb	a) Lung cancer, 7 cases b) GI cancer, 11 cases c) Other malignancies, 7 cases d) Cardiovascular disease, 8 cases f) Other causes, 5 cases g) All workers, 76 cases h) Matched controls from Burtrask and Jorn, 15 cases Controls from Stockholm, 10 cases. Values in all workers significantly different from control groups. Swedish Cu-smelter workers consecutively dead since 4/75. Means: age 68.1+/-9.1 (range 66.0+/-19.5-71.3+/-8.6), retired 7.2+/-5.9 yr (5.3+/-4.9-11.2+/-7.7), exposed 31.2+/-8.4 yr (25.8+/-10.5-32.1+/-9.3) NA

SWEDEN; OCCUPATIONAL EXPOSURE; LUNGS; SELENIUM; TIN; ARSENIC; CADMIUM; CHROMIUM; COBALT; LANTHANUM; LEAD; METALS; SMELTERS; OCCUPATIONAL HAZARDS; NEOPLASMS; AUTOPSIES; CARCINOGEN
Gerhardsson, L.; Brune, D.; Nordberg, I.G.F.; Wester, P.O. 1985 British Journal of Industrial Medicine 42:617-626

Arochlor 1242

53469-21-9

EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11696 Adipose	29	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 0.326+/-0.275 ug/g b) 0.397+/-0.327 ug/g c) 0.254+/-0.149 ug/g d) 0.324+/-0.319 ug/g e) 0.437+/-0.392 ug/g f) 0.197+/-0.048 ug/g g) 0.329+/-0.156 ug/g h) 0.323+/-0.116 ug/g i) 0.339+/-0.201 ug/g Wet wt	a) All cases, 29 b) Sudden deaths, 18 c) Others, 11 d) All male cases, 19 e) Male sudden deaths, 12 f) Others, male, 7 g) All female cases, 10 h) Female sudden deaths, 6 i) Others, female, 4 Data compared with previously reported levels in accident victims. Autopsy samples from nonaccidental death victims in Canada. GC; TLC

ADIPOSE TISSUE; CANADA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; CADAVERS; COMPARATIVE EVALUATIONS; POLYCHLORINATED BIPHENYLS; PESTICIDES; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; OXYCHLORDANE; NONACHLOR; HEPTACHLOR EPOXIDE; DIELDRIN; DDE; DDT; BIOLOGICAL MONITORING; POPULATION EXPOSURE; BIOCONCENTRATION

Mes, J.; Davies, D.J.; Turton, D. 1985 Ecotoxicology and Environmental Safety 10:70-74

Arochlor 1260

11096-82-5

EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11697 Adipose	29	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 0.928+/-0.542 ug/g b) 1.042+/-0.601 ug/g c) 0.844+/-0.444 ug/g d) 0.915+/-0.545 ug/g e) 1.068+/-0.648 ug/g f) 0.813+/-0.322 ug/g g) 0.956+/-0.534 ug/g h) 0.996+/-0.501 ug/g i) 0.926+/-0.663 ug/g Wet wt	a) All cases, 29 b) Sudden deaths, 18 c) Others, 11 d) All male cases, 19 e) Male sudden deaths, 12 f) Others, male, 7 g) All female cases, 10 h) Female sudden deaths, 6 i) Others, female, 4 Data compared with previously reported levels in accident victims. Autopsy samples from nonaccidental death victims in Canada. GC; TLC

ADIPOSE TISSUE; CANADA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; CADAVERS; COMPARATIVE EVALUATIONS; POLYCHLORINATED BIPHENYLS; PESTICIDES; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; OXYCHLORDANE; NONACHLOR; HEPTACHLOR EPOXIDE; DIELDRIN; DDE; DDT; BIOLOGICAL MONITORING; POPULATION EXPOSURE; BIOCONCENTRATION

Mes, J.; Davies, D.J.; Turton, D. 1985 Ecotoxicology and Environmental Safety 10:70-74

Arsenic
7440-38-2
As
AtW 74.9216, MP 817 C at 28 atm, BP 613 C (sublimes), VP 1 mm Hg at 380 C, 10 mm Hg at 440 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11698 Blood	1	0.6-0.1 mg/L	Not given	Days 2 and 16 after exposure and subsequent arsine poisoning while working on metal reduction process with HCL. 3/83. Became ill 6-8 hr after process. Treated with exchange transfusions. 36 yr old male, South Africa Hematuria, nausea, vomiting. Anuria, abdominal and general pain/tenderness, pallor, jaundice. AAS

ARSENIC; OCCUPATIONAL EXPOSURE; URINE; BLOOD; OCCUPATIONAL HAZARDS
Hesdorffer, C.S.; Milne, F.J.; Terblanche, J.; Meyers, A.M. 1986 British Journal of Industrial Medicine 43:353-355

Tissue	Cases Exposure Route	Range	Mean	General Information
11699 Blood, serum	1 Ingestion	Not applicable	345 mg/l	Treated asthma with Gay's solution (AsO3, tincture of digitalis, Na-phenobarbitone, K-iodide) for 10 yr. Normal As level <10 mg/l. First report of correlation between As and angioimmunoblastic lymphadenopathy. 64 yr old white heterosexual male. Death at 66 yr. Fever, rash, lymphadenopathy. Death from infectious complications. Hypergammaglobulinemia. Extensive anigioimmunoblastic lymphadenopathy diagnosed at necropsy.

ARSENIC; DELIBERATE EXPOSURE; BLOOD SERUM; IMMUNOLOGICAL DISORDERS
Offit, K.; Macris, N.T. 1985 Lancet 1(8422):220

Tissue	Cases Exposure Route	Range	Mean	General Information
11700 Bronchoalveolar lavage	1	Not applicable	0.2 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old NA

BRONCHOALVEOLAR LAVAGE; NAILS; OCCUPATIONAL EXPOSURE; CASE HISTORIES; PNEUMOCONIOSIS; OCCUPATIONAL DISEASES; RESPIRATORY DISEASES; LAVAGE; CERIUM; LANTHANUM; TERBIUM; YTTERBIUM; SILVER; ARSENIC; GOLD; CADMIUM; COBALT; CHROMIUM; CESIUM; IRON; MERCURY; INDIUM; IRIDIUM; MOLYBDENUM; NICKEL; RUBIDIUM; ANTIMONY; SCANDIUM; SELENIUM; TIN; THORIUM; URANIUM; ZINC; TRACE ELEMENTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; SMOKING
Sulotto, F.; Romano, C.; Berra, A.; Botta, G.C.; Rubino, G.F.; Sabbioni, E.; Pietra, R. 1986 American Journal of Industrial Medicine 9:567-575

Arsenic
7440-38-2
As
AtW 74.9216, MP 817 C at 28 atm, BP 613 C (sublimes), VP 1 mm Hg at 380 C, 10 mm Hg at 440 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11701 Hair	a) 10 b) 10	a) Not given b) Not given	a) 0.643+/-0.651 ug/g b) 0.382+/-0.230 ug/g	a) Patients with multiple sclerosis b) Controls Significant difference, borderline. Patients and controls, matched for sex and age. NA

BLOOD; HAIR; ENVIRONMENTAL EXPOSURE; UNITED KINGDOM; NEUROMUSCULAR DISEASES; TRACE ELEMENTS; BIOACCUMULATION; BIOINDICATORS; ALUMINUM; ANTIMONY; ARSENIC; BARIUM; BROMINE; CESIUM; GOLD; IODINE; MANGANESE; MOLYBDENUM; SELENIUM; VANADIUM; ZINC; COPPER; IRON; MAGNESIUM; POTASSIUM; SULFUR
Ward, N.I.; Bryce-Smith, D.; Minski, M.; Matthews, W.B. 1985 Biological Trace Element Research 7:153-159

Tissue	Cases Exposure Route	Range	Mean	General Information
11702 Hair	a) 1 b) 1	a) 0-3.1 ppm b) 0-3.1 ppm	a) 0.60+/-0.84 ppm b) 0.77+/-1.01 ppm	a) Subject 1 b) Subject 2 Samples sent to 13 commercial laboratories for analysis. Values here are combined from all. Considerable variance within same laboratory, among different laboratories and disagreement about what was "normal" or "unusual". Authors conclude commercial use of hair analysis for management of disease, nutrition unscientific, uneconomical, probably illegal.

HAIR; ALUMINUM; ARSENIC; BERYLLIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; GOLD; IRON; LEAD; LITHIUM; MAGNESIUM; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; RUBIDIUM; SELENIUM; SILICON; SODIUM; TIN; VANADIUM; ZINC; ELEMENTS; TRACE ELEMENTS; METALS
Barrett, S. 1985 Journal of the American Medical Association 254(8):1041-1045

Tissue	Cases Exposure Route	Range	Mean	General Information
11703 Hair	1	a) Not applicable b) Not applicable	a) 4.0 ug/g b) 5.1 ug/g	a) Distal shafts b) Proximal shafts Nuchal hair. During previous wk, exposure for several days while working, without required respiratory protection, within smelting furnace. History of chronic exposure. After chelation with BAL, levels returned to normal. Normal levels 0.03 to 0.32 ug/g. 50 yr old chemical plant engineer Nausea, vomiting, diarrhea, hallucinations, disorientation, agitation, emotional lability, memory loss, personality/behavior changes, deficient in learning ability

OCCUPATIONAL EXPOSURE; ARSENIC; URINE; HAIR; OCCUPATIONAL HAZARDS; NEUROLOGIC MANIFESTATIONS
Beckett, W S.; Moore, J.L.; Keogh, J.P.; Bleecker, M.L. 1986 British Journal of Industrial Medicine 43:66-67

Arsenic
7440-38-2
As
AtW 74.9216, MP 817 C at 28 atm, BP 613 C (sublimes), VP 1 mm Hg at 380 C, 10 mm Hg at 440 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11704 Hair	a) 92 b) 55 c) 46 d) 457 e) 255	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 0.016 ppm b) 0.019 ppm c) 0.022 ppm d) 0.053 ppm e) 0.61 ppm	a) Canada b) U.S.A. c) Poland d) Japan e) India Part of international survey of 21 elements. Japanese, 2-80 yr olds. Rest were 30-60 yr old. AAS

ENVIRONMENTAL EXPOSURE; HAIR; CANADA; UNITED STATES; POLAND; JAPAN; INDIA; MAGNESIUM; CALCIUM; PHOSPHORUS; SODIUM; POTASSIUM; IRON; COPPER; MANGANESE; ZINC; SELENIUM; CHROMIUM; NICKEL; COBALT; VANADIUM; LEAD; CADMIUM; ALUMINUM; ANTIMONY; MERCURY; TIN; ARSENIC; AGE; SEX; COMPARATIVE EVALUATIONS

Takagi, Y.; Matsuda, S.; Imai, S.; Ohmori, Y.; Masuda, T.; Vinson, J.A.; Mehra, M.C.; Puri, B.K.; Kaniewski, A. 1986 Bulletin of Environmental Contamination and Toxicology 36:793-800

Tissue	Cases Exposure Route	Range	Mean	General Information
11705 Lung		a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 40 ppm b) 51 ppm c) 49 ppm d) 34 ppm e) 40 ppm f) 29 ppm g) 38 ppm h) 7 ppm i) 5 ppm	a) Lung cancer, 7 cases b) GI cancer, 11 cases c) Other malignancies, 7 cases d) Cardiovascular disease, 8 cases f) Other causes, 5 cases g) All workers, 76 cases h) Matched controls from Burtrask and Jorn, 15 cases Controls from Stockholm, 10 cases. Values in all workers significantly different from control groups. Swedish Cu-smelter workers consecutively dead since 4/75. Means: age 68.1+/-9.1 (range 66.0+/-19.5-71.3+/-8.6), retired 7.2+/-5.9 yr (5.3+/-4.9-11.2+/-7.7), exposed 31.2+/-8.4 yr (25.8+/-10.5-32.1+/-9.3) NA

SWEDEN; OCCUPATIONAL EXPOSURE; LUNGS; SELENIUM; TIN; ARSENIC; CADMIUM; CHROMIUM; COBALT; LANTHANUM; LEAD; METALS; SMELTERS; OCCUPATIONAL HAZARDS; NEOPLASMS; AUTOPSIES, CARCINOGEN

Gerhardsson, L.; Brune, D.; Nordberg, I.G.F.; Wester, P.O. 1985 British Journal of Industrial Medicine 42:617-626

Tissue	Cases Exposure Route	Range	Mean	General Information
11706 Milk				Review of longitudinal changes of trace element components in human milk. Mean daily intakes of breast-fed, cow's milk-fed infants and recommended daily allowances compared. Determination of Se status and consequences of deficiency discussed.

MILK; REVIEW; TRACE ELEMENTS; IRON; COPPER; ZINC; MANGANESE; MOLYBDENUM; CHROMIUM; COBALT; ARSENIC; SELENIUM; ITALY; UNITED STATES; GREECE; INDIA; FINLAND; FRANCE

Roekens, E.; Deelstra, H.; Robberecht, H. 1985 Science of the Total Environment 42:91-108

Arsenic
7440-38-2
As
AtW 74.9216, MP 817 C at 28 atm, BP 613 C (sublimes), VP 1 mm Hg at 380 C, 10 mm Hg at 440 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11707 Urine	a) 609 b) 127	a) Not given b) Not given	a) 33.8+/-31.4 ug/l b) 21.4+/-23.1 ug/l	a) Active smelter workers, current and retired b) Miners, never employed in smelter Significantly different. Copper smelter workers less than 30->60 yr old, and copper miners less than 50->60 yr old working for Western Quebec firm. 14 symptoms reported. Memory problems, depression, paresthesia associated with higher levels.

URINE; BLOOD; OCCUPATIONAL EXPOSURE; ADULTS; CANADA; METAL POISONING; LEAD POISONING; LEAD; ARSENIC; PROTOPORPHYRINS; ZINC; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIES; INDUSTRIAL EMISSIONS; OCCUPATIONAL HAZARDS; MINING; POPULATION EXPOSURE
Lilis, R.; Valciukas, J.A.; Malkin, J.; Weber, J.-P. 1985 Archives of Environmental Health 40(1):38-47

Tissue	Cases Exposure Route	Range	Mean	General Information
11708 Urine	1	Not applicable	41 ug/l	During previous wk, exposure for several days while working, without required respiratory protection, within smelting furnace. History of chronic exposure. After chelation with BAL, levels returned to normal. Normal occupational exposure level <30 ug/l. 50 yr old chemical plant engineer Nausea, vomiting, diarrhea, hallucinations, disorientation, agitation, emotional lability, memory loss, personality/behavior changes, deficient in learning ability

OCCUPATIONAL EXPOSURE; ARSENIC; URINE; HAIR; OCCUPATIONAL HAZARDS; NEUROLOGIC MANIFESTATIONS
Beckett, W.S.; Moore, J.L.; Keogh, J.P.; Bleecker, M.L. 1986 British Journal of Industrial Medicine 43:66-67

Tissue	Cases Exposure Route	Range	Mean	General Information
11709 Urine	1	0.5-0.6 mg/L	Not given	Days 2 and 10 after exposure and subsequent arsine poisoning while working on metal reduction process with HCL. 3/83. Became ill 6-8 hr after process. Treated with exchange transfusions. 36 yr old male, South Africa Hematuria, nausea, vomiting. Anuria, abdominal and general pain/tenderness, pallor, jaundice. AAS

ARSENIC; OCCUPATIONAL EXPOSURE; URINE; BLOOD; OCCUPATIONAL HAZARDS
Hesdorffer, C.S.; Milne, F.J.; Terblanche, J.; Meyers, A.M. 1986 British Journal of Industrial Medicine 43:353-355

Arsenic
7440-38-2
As
AtW 74.9216, MP 817 C at 28 atm, BP 613 C (sublimes), VP 1 mm Hg at 380 C, 10 mm Hg at 440 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11710 Urine	6 Inhalation	a) 5-200 ug/g creatinine b) 15-326 ug/g creatinine c) 17-303 ug/g creatinine d) 21-335 ug/g creatinine e) 18-362 ug/g creatinine	a) Not given b) Not given c) Not given d) Not given e) Not given	a) Monday a.m. before start of work wk b) Monday evening c) Tuesday a.m. d) Tuesday evening e) Wednesday a.m. Exposure to 5-38 ug (mainly trioxide form)/cu m in inhaled air, as adjusted to 8 hr work period, Previously unexposed assistant who administered the sampling had lowest levels. 3 subjects working in trioxide refining department had higher levels throughout study than 2 metal plant workers (mean airborne levels 27 and 8 ug/cu m, respectively). Steady state reached after 24 hr. Total 24 hr excretion, from start of work day, correlated with level in morning urine, r=0.99. No correlation between urinary levels and duration of employment. Additional data on other workers indicated some oral exposure. Smelter workers, Sweden AAS

URINE; OCCUPATIONAL EXPOSURE; SWEDEN; ARSENIC; BIOACCUMULATION; INDUSTRIES; INHALATION; OCCUPATIONAL HAZARDS; SMELTERS
Vahter, M.; Friberg, L.; Rahnster, B.; Nygren, A.; Nolinder, P. 1986 International Archives of Occupational and Environmental Health 57:79-91

Asbestos
1332-21-4
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11711 Lung	a) 25 b) 50]nhalation	a) 0-128 bodies b) 0-933 bodies /g wet wt	a) 13 bodies b) 28 bodies /g wet wt	a) Fibrocaseous tuberculosis deaths b) Age-, sex-matched controls Means calculated. Exposure at environmental levels in area with history of heavy use found to be unassociated with risk of tuberculosis. Adults who died of tuberculosis between 1/1/77 and 12/31/82 and controls who died from other causes unrelated to asbestos exposure. Light microscopy

ENVIRONMENTAL EXPOSURE; ASBESTOS; LUNGS; AUTOPSIES; ITALY
Walker, A.M.; Stanta, G.; Delendi, M. 1985 Journal of Occupational Medicine 27(11):831-834

Asbestos
1332-21-4
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11712 Lung	a) 15 b) 13 Inhalation	a) 133-3700 b) 44-544 Fibers/mL bronchoalveolar lavage fluid	a) 793 b) 239 Fibers/mL BAL fluid	a) Determined by electron microscopy (EM) in exposed subjects b) Controls Mean ferruginous body count, light microscopy (LM), in a) was 52 (0-333)/ml BAL fluid. None detected in b). Fiber counts correlated with duration of previous exposure ($r=0.47$, $p<0.05$) and with % neutrophil counts ($r=0.53$, $p<0.025$). No relation found between EM counts of fibers and LM counts of ferruginous bodies. In 11 cases of a), microanalysis confirmed presence of asbestos, and, in 6, identified fiber type. Fibers were in all 5 who showed no asbestos by LM, and in 3, microanalysis confirmed these results. 36-68 yr old subjects with heavy occupational exposure, and controls 3 subjects (smokers) had asbestosis, 8 had pleural disease Microscopy; X-ray spectrom

LUNGS; OCCUPATIONAL EXPOSURE; PULMONARY DISEASES; COMPARATIVE EVALUATIONS; LAVAGE; MEASUREMENT METHODS; ASBESTOS; BIOACCUMULATION; FIBERS; HEALTH HAZARDS; INDUSTRIES; INHALATION; OCCUPATIONAL HAZARDS; SMOKING
Gellert, A.R.; Kitajewska, J.Y.; Uthayakumar, S.; Kirkham, J.B.; Rudd, R.M. 1986 British Journal of Industrial Medicine 43:170-176

Tissue	Cases Exposure Route	Range	Mean	General Information
11713 Lung	130 Inhalation	a) 2400-684,000 b) 24,500-1,400,000 c) 0.2-13,300 d) 0-84,200 e) 0.6-27,500 f) 900-65,00 g) 0.8-46,000 h) 450-51,000 i) 0.8-148 j) 0-580 k) 0.2-22 bodies/g	a) 106,000 b) 307,000 c) 550 d) 15,800 e) 110 f) 1700 g) 102 h) 13,900 i) 9 j) Not detected [sic] k) 3 bodies/g Median	a) Quantified by light microscopy (LM) in 30 asbestosis patients b) Same cases, by scanning electron microscopy (SEM) c) LM, 15 mesothelioma patients d) SEM e) LM, 48 patients with parietal pleural plaques f) SEM g) LM, 17 lung cancer patients h) SEM i) LM, 10 idiopathic pulmonary fibrosis patients j) SEM k) LM, 10 normal lungs Excellent correlation between LM and SEM counts ($r=0.94$, $p<0.001$), and between coated (asbestos body) and uncoated fiber ($>/=5$ um in length) counts by SEM ($r=0.90$, $p<0.001$). X-ray analysis of 407 asbestos bodies found commercial amphibole cores in 93.9%. Occupational and smoking histories discussed. Patients with asbestos associated diseases, idiopathic pulmonary fibrosis patients, and controls, 1980-1984 Light microscopy; EM; X-ray analysis

LUNGS; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; PULMONARY DISEASES; COMPARATIVE EVALUATIONS; MEASUREMENT METHODS; ASBESTOS; AIR POLLUTION; BIOACCUMULATION; FIBERS; HEALTH HAZARDS; INDUSTRIES; INHALATION; OCCUPATIONAL HAZARDS; SMOKING
Roggli, V.L.; Pratt, P.C.; Brody, A.R. 1986 British Journal of Industrial Medicine 43:18-28

Asbestos
1332-21-4
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11714 Lung	4 Inhalation	Not applicable	21 bodies	Tremolite or actinolite core type, comprising 25%, 29%, 33%, and 26%, respectively, of asbestos bodies isolated from autopsy cases. Mean body lenth 36+/-20(15-100) um. Tremolite or actinolite fibers in the 4 cases comprised 60%, 83%, 13%, and 81% of total uncoated fibers, respectively. 2 bodies had mixed (chrysotile and tremolite) cores. Long-term chrysotile miners and millers Diffuse interstitial fibrosis Microscopy

LUNGS; OCCUPATIONAL EXPOSURE; AUTOPSIES; ASBESTOS; BIOACCUMULATION; FIBERS; HEALTH HAZARDS; INDUSTRIES; INHALATION; MINING; OCCUPATIONAL HAZARDS
Holden, J.; Churg, A. 1986 Environmental Research 39:232-236

Tissue	Cases Exposure Route	Range	Mean	General Information
11715 Lung	a) 19 b) 36 c) 69 d) 49 e) 16 Inhalation	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 11% b) 10% c) 7% d) 4% e) 2% % of total fibers	a) No asbestosis. Mean (total asbestos) fiber count 23.010X(E+6) b) Minimal asbestosis, mean fiber count 42.1X10(E+6) c) Slight asbestosis, 59.5X10(E+6) d) Moderate asbestosis, 343.2X10(E+6) e) Marked/severe asbestosis, 2550.3X10(E+6) Autopsies. Direct correlation between pathological grading and asbestos exposure rating. Other asbestos, excluding amosite, crocidolite, chrysotile, and mullite. Former dockyard workers, mean ages 63-66 yr, United Kingdom 39% of deaths caused by mesothelioma, 26% by carcinoma of lung. EM

LUNGS; OCCUPATIONAL EXPOSURE; UNITED KINGDOM; AUTOPSIES; PULMONARY DISEASES; RESPIRATORY DISEASES; CARCINOMAS; NEOPLASMS; ASBESTOS; BIOACCUMULATION; FIBERS; HEALTH HAZARDS; INDUSTRIES; INHALATION; OCCUPATIONAL HAZARDS
Wagner, J.C.; Moncrieff, C.B.; Coles, R.; Griffiths, D.M.; Munday, D.E. 1986 British Journal of Industrial Medicine 43:391-395

Asbestos, grunerite
12172-73-5
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11716 Lung	4 Inhalation	Not applicable	3 bodies	Core type in 5% and 13% of asbestos bodies isolated from 2 autopsy cases. 2 cases had no amosite bodies. Amosite fibers found, as 1% of total uncoated fibers, in 1 of 4 cases. Mean body length 36+/-32 (range 16-72) um. Long-term chrysotile miners and millers Diffuse interstitial fibrosis Microscopy

LUNGS; OCCUPATIONAL EXPOSURE; AUTOPSIES; ASBESTOS; BIOACCUMULATION; FIBERS; HEALTH HAZARDS; INDUSTRIES; INHALATION; MINING; OCCUPATIONAL HAZARDS
Holden, J.; Churg, A. 1986 Environmental Research 39:232-236

Asbestos, grunerite
12172-73-5
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11717 Lung	a) 19 b) 36 c) 69 d) 49 e) 16 Inhalation	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 6% b) 6% c) 16% d) 28% e) 33%	a) No asbestosis. Mean (total asbestos) fiber count 23.0X10(E+6) b) Minimal asbestosis, mean fiber count 42.1X10(E+6) c) Slight asbestosis, 59.5X10(E+6) d) Moderate asbestosis, 343.2X10(E+6) e) Marked/severe asbestosis, 2550.3X10(E+6) Direct correlation between pathological grading and asbestos exposure rating. Autopsies. Former dockyard workers, mean ages 63-66 yr, United Kingdom 39% of deaths caused by mesothelioma, 26% by carcinoma of lung. EM

LUNGS; OCCUPATIONAL EXPOSURE; UNITED KINGDOM; AUTOPSIES; PULMONARY DISEASES; RESPIRATORY DISEASES; CARCINOMAS; NEOPLASMS; ASBESTOS; BIOACCUMULATION; FIBERS; HEALTH HAZARDS; INDUSTRIES; INHALATION; OCCUPATIONAL HAZARDS
Wagner, J.C.; Moncrieff, C.B.; Coles, R.; Griffiths, D.M.; Munday, D.E. 1986 British Journal of Industrial Medicine 43:391-395

Barium
7440-39-3
Ba
AtW 137.34, MP 710 C (approx), BP 1600 C (approx), VP 10 mm Hg at 1049 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11718 Blood, whole	a) 10 b) 10	a) Not given b) Not given	a) 0.144+/-0.019 ug/ml b) 0.126+/-0.022 ug/ml	a) Patients with multiple sclerosis b) Controls Significant difference. Patients and controls, matched for sex and age. NA

BLOOD; HAIR; ENVIRONMENTAL EXPOSURE; UNITED KINGDOM; NEUROMUSCULAR DISEASES; TRACE ELEMENTS; BIOACCUMULATION; BIOINDICATORS; ALUMINUM; ANTIMONY; ARSENIC; BARIUM; BROMINE; CESIUM; GOLD; IODINE; MANGANESE; MOLYBDENUM; SELENIUM; VANADIUM; ZINC; COPPER; IRON; MAGNESIUM; POTASSIUM; SULFUR
Ward, N.I.; Bryce-Smith, D.; Minski, M.; Matthews, W.B. 1985 Biological Trace Element Research 7:153-159

Barium
7440-39-3
Ba
AtW 137.34, MP 710 C (approx), BP 1600 C (approx), VP 10 mm Hg at 1049 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11719 Bone	a) 148 b) 18	a) 10+/-4-78+/-23 ug/g b) <0.5-15 ug/g	a) Not given b) 2.7+/-3.9 ug/g	a) Ranges of means. Ancient specimens, mostly limbs, from 10 sites. Bronze Age (3000 yr BP) to 18th century periods. Two bones from Neolithic and one from 800 yr BP excluded from calculations b) Contemporary femora, tibiae, vertebrae and ribs (29 bones) collected at autopsies, 2-3/1984, Paris Fragments collected for analysis from layers about 0.5-4 mm below surface of medullary cavity, from a 5-10 sq cm area. Levels increased with age of bones. Additional data on significance of concentration gradients within bone, conditions of burial site, fossilization changes, geography, and historical/cultural factors. France ICP-AES

BONES; FRANCE; AUTOPSIES; COMPARATIVE EVALUATIONS; CADMIUM; LEAD; ZINC; BARIUM; MAGNESIUM; CALCIUM; MINERALS; ENVIRONMENTAL EXPOSURE
Jaworowski, Z.; Barbalat, F.; Blain, C.; Peyre, E. 1985 Science of the Total Environment 43:103-126

Tissue	Cases Exposure Route	Range	Mean	General Information
11720 Hair	a) 10 b) 10	a) Not given b) Not given	a) 3.373+/-2.919 ug/g b) 1.677+/-0.713 ug/g	a) Patients with multiple sclerosis b) Controls Significant difference. Patients and controls, matched for sex and age. NA

BLOOD; HAIR; ENVIRONMENTAL EXPOSURE; UNITED KINGDOM; NEUROMUSCULAR DISEASES; TRACE ELEMENTS; BIOACCUMULATION; BIOINDICATORS; ALUMINUM; ANTIMONY; ARSENIC; BARIUM; BROMINE; CESIUM; GOLD; IODINE; MANGANESE; MOLYBDENUM; SELENIUM; VANADIUM; ZINC; COPPER; IRON; MAGNESIUM; POTASSIUM; SULFUR
Ward, N.I.; Bryce-Smith, D.; Minski, M.; Matthews, W.B. 1985 Biological Trace Element Research 7:153-159

Benzene
71-43-2
C6-H6
MW 78.11, MP 5.51 C, BP 80.093-80.094 C, VP 10 mm Hg at 26.1 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11721 Blood, whole	250	a) Not detected-59 ng/mL b) Not given c) 0.3-1.0 ng/mL	a) 0.8 ng/mL b) 1.0 ng/mL c) Not given	a) Cases, test populations screened for volatile organics. In 10 cases, levels were >2 S.D. above the mean, thus, most specimens not significantly different from one another b) 16 workers occupationally exposed at wire-manufacturing company c) Patient drinking contaminated water from municipal well in 1981. Contaminants included trichloroethane, ethylene. Range is of measurements on day 67 and day 0 after ceasing to drink contaminated water Values in b), c) estimated from graphs. Patients with high sensitivity to synthetic chemicals GC/MS

BLOOD; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; CHLORINATED HYDROCARBONS; BENZENES; STYRENES; INDUSTRIAL CHEMICALS; TOLUENE; XYLENE; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; WATER POLLUTION; DRINKING WATER

Antoine, S.R.; DeLeon, I.R.; O'dell-Smith, R.M. 1986 Bulletin of Environmental Contamination and Toxicology 36:364-371

Tissue	Cases Exposure Route	Range	Mean	General Information
11722 Breath		a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 6.8+/-3.0 ppb b) 2.5+/-0.8 ppb c) 12.1+/-9.6 ppb d) 1.8+/-0.2 ppb e) 2.5+/-1.3 ppb f) 4.8+/-2.3 ppb g) 1.3+/-0.3 ppb	a) Duplicate samples, on separate days from 15 smokers, 45-85 min after smoking. 40+/-12 cigarettes/d. Urban, San Francisco. 3.3+/-0.8 ppb in ambient air b) 15 nonsmokers, San Francisco. 1.4+/-0.1 ppb in ambient air c) Day 1, 8 smokers. 23.9+/-8.4 cigarettes/d. Pristine environment (Stinson Beach). 1.0+/-0.1 ppb in ambient air d) 6 nonsmokers e) 3 marijuana smokers f) Day 2, 6 smokers, Stinson Beach. 0.23+/-0.18 ppb in ambient air g) 6 nonsmokers Overall atmospheric levels 2.6+/-1.3 ppb in San Francisco, 0.38+/-0.39 ppb in Stinson Beach. Levels significantly higher in smokers than in corresponding nonsmokers. Breath levels significantly higher in smokers and nonsmokers than in ambient air. Volunteers, San Francisco and Stinson Beach, CA. GC/MS

BREATH; ENVIRONMENTAL EXPOSURE; CALIFORNIA; COMPARATIVE EVALUATIONS; BENZENES; AIR POLLUTION; BIOACCUMULATION; CIGARETTES; RURAL AREAS; SMOKING; URBAN AREAS

Wester, R.C.; Mailach, H.I.; Gruenke, L.D.; Craig, J.C. 1986 Journal of Toxicology and Environmental Health 18:567-573

Benzene
71-43-2
C6-H6
MW 78.11, MP 5.51 C, BP 80.093-80.094 C, VP 10 mm Hg at 26.1 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11723 Breath				Review. Studies of accumulation/decay and relationships with smoking, gasoline, occupational exposures. Several metabolic models postulated, with recommendations for research to clarify metabolism and improve the basis for risk assessment.

BREATH; DELIBERATE EXPOSURE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; SWEDEN; REVIEW; BENZENES; INHALATION; AIR POLLUTION; BIOACCUMULATION; FUEL ADDITIVES; GASOLINE; HEALTH HAZARDS; INDUSTRIES; POPULATION EXPOSURE; RISK ASSESSMENT; SMOKING; OCCUPATIONAL HAZARDS
Berlin, M. 1985 American Journal of Industrial Medicine 7:365-373

Benzene, alkenyl- (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
11724 Aorta	2	a) Not detected b) 7 ppb-Not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Benzene, dichloro-
25321-22-6
C6-H4-Cl2
MW 147.01, BP 173-180 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11725 Blood, whole	250	a) Not detected-31 ng/mL b) Not given c) Not detected-0.2 ng/mL	a) 0.6 ng/mL b) 2.8 ng/mL c) Not given	a) Cases, test populations screened for volatile organics. In 63 cases levels were >2 S.D. above the mean, thus, most specimens not significantly different from one another b) 16 workers occupationally exposed at wire-manufacturing company c) Patient drinking contaminated water from municipal well in 1981. Contaminants included trichloroethane, ethylene. Range is of measurements on day 67 and day 0 after ceasing to drink contaminated water Values in b), c) estimated from graphs. Patients with high sensitivity to synthetic chemicals GC/MS

BLOOD; ENVIRONMENTAL EXPOSURE, OCCUPATIONAL EXPOSURE; CHLORINATED HYDROCARBONS; BENZENES; STYRENES; INDUSTRIAL CHEMICALS; TOLUENE; XYLENE; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; WATER POLLUTION; DRINKING WATER
Antoine, S.R.; DeLeon, I.R.; O'dell-Smith, R.M. 1986 Bulletin of Environmental Contamination and Toxicology 36:364-371

Benzene, ethyl-
100-41-4
C8-H10
MW 106.16, MP -94.97 C, BP 136.25 C, VP 10 mm Hg at 25.9 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11726 Blood	35 Inhalation	23.4+/-20.0-72.7+/-105.1 ug/l	61.4+/-62.3 ug/l	Spraymen varnishing vehicles. Alkyl-, phenol- and polyester varnishes dissolved in solvent mixtures. Mean air level, o-xylene, 6 different areas, 4.0 ppm. Range of means. Also measured phenolic and carbonic metabolites of alkylbenzenes and benzene in urine. 24-52 yr olds (mean 38.8) employed 2-24 yr (mean 8.2). Summer, Autumn 1983 Altered blood cell counts, decreased hemoglobin level GC

OCCUPATIONAL EXPOSURE; BLOOD; URINE; OCCUPATIONAL HAZARDS; INHALATION; SOLVENTS; LEAD
Angerer, J.; Wulf, H. 1985 International Archives of Occupational and Environmental Health 56:307-321

Tissue	Cases Exposure Route	Range	Mean	General Information
11727 Blood, whole	250	a) Not detected-59 ng/mL b) Not given c) Not detected-0.2 ng/mL	a) 1.0 ng/mL b) 10.0 ng/mL c) Not given	a) Cases, test populations screened for volatile organics. In 3 cases, levels were >2 S.D. above the mean, thus, most specimens not significantly different from one another b) 16 workers occupationally exposed at wire-manufacturing company c) Patient drinking contaminated water from municipal well in 1981. Contaminants included trichloroethane, ethylene. Range is of measurements on day 67 and day 0 after ceasing to drink contaminated water Values in b), c) estimated from graphs. Patients with high sensitivity to synthetic chemicals GC/MS

BLOOD; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; CHLORINATED HYDROCARBONS; BENZENES; STYRENES; INDUSTRIAL CHEMICALS; TOLUENE; XYLENE; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; WATER POLLUTION; DRINKING WATER
Antoine, S.R.; DeLeon, I.R.; O'dell-Smith, R.M. 1986 Bulletin of Environmental Contamination and Toxicology 36:364-371

Benzene, hexachloro-
118-74-1
C6-Cl6
MW 284.80, MP 231 C, BP 323-326 C, VP 1 mm Hg at 114.4 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11728 Adipose	29	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 0.106+/-0.074 ug/g b) 0.110+/-0.058 ug/g c) 0.118+/-0.096 ug/g d) 0.098+/-0.071 ug/g e) 0.104+/-0.049 ug/g f) 0.114+/-0.103 ug/g g) 0.122+/-0.076 ug/g h) 0.121+/-0.069 ug/g i) 0.156+/-0.076 ug/g Wet wt	a) All cases, 29 b) Sudden deaths, 18 c) Others, 11 d) All male cases, 19 e) Male sudden deaths, 12 f) Others, male, 7 g) All female cases, 10 h) Female sudden deaths, 6 i) Others, female, 4 Data compared with previously reported levels in accident victims. Autopsy samples from nonaccidental death victims in Canada. GC; TLC

ADIPOSE TISSUE; CANADA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; CADAVERS; COMPARATIVE EVALUATIONS; POLYCHLORINATED BIPHENYLS; PESTICIDES; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; OXYCHLORDANE; NONACHLOR; HEPTACHLOR EPOXIDE; DIELDRIN; DDE; DDT; BIOLOGICAL MONITORING; POPULATION EXPOSURE; BIOCONCENTRATION

Mes, J.; Davies, D.J.; Turton, D. 1985 Ecotoxicology and Environmental Safety 10:70-74

Tissue	Cases Exposure Route	Range	Mean	General Information
11729 Adipose	a) 3 b) 2 c) 3 d) 15 e) 12 f) 15 g) 16 h) 24 i) 14 j) 5	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given	a) 18+/-15 ng/gm b) 18+/-5 ng/gm c) 22+/-3 ng/gm d) 24+/-4 ng/gm e) 35+/-13 ng/gm f) 24+/-5 ng/gm g) 23+/-3 ng/gm h) 27+/-4 ng/gm i) 24+/-3 ng/gm j) 31+/-10 ng/gm S.E.	a) 0-4 yr olds b) 4-9 c) 10-19 d) 20-29 e) 30-39 f) 40-49 g) 50-59 h) 60-69 i) 70-79 j) 80-89 Autopsy samples from anterior abdominal wall. Texas Gulf Coast residents GC-EC

ADIPOSE TISSUE; ENVIRONMENTAL EXPOSURE; TEXAS; AGE; AUTOPSIES; CHLORINE ORGANIC COMPOUNDS; PESTICIDES; HEXACHLOROBENZENE; DDE; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; PESTICIDE RESIDUES; POPULATION EXPOSURE

Ansari, G.A.S.; James, G.P.; Hu, L.A.; Reynolds, E.S. 1986 Bulletin of Environmental Contamination and Toxicology 36:311-316

Benzene, hexachloro-
118-74-1
C6-Cl6
MW 284.80, MP 231 C, BP 323-326 C, VP 1 mm Hg at 114.4 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11730 Adipose	26	1.29+/-0.81-2.78+/-2.82 ug/g	2.26+/-2.41 ug/g	1983 and 1984, range of means. Subcutaneous samples. 1983 subjects 45+/-13, 1984 subjects 60+/-16 yr old. Mean levels 1.73+/-1.41 ug/g for males, 2.84+/-3.18 ug/g for females. Surgical patients, University of Siena, Italy GC-EC

ADIPOSE TISSUE; ENVIRONMENTAL EXPOSURE; ITALY; SEX; AGE; HEXACHLOROBENZENE; DDE; DDT; LINDANE; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; PESTICIDE RESIDUES
Focardi, S.; Fossi, C.; Leonzio, C.; Romei, R. 1986 Bulletin of Environmental Contamination and Toxicology 36:644-650

Tissue	Cases Exposure Route	Range	Mean	General Information
11731 Aorta	2	a) 6 ppb-Not detected b) 2 ppb-Not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Tissue	Cases Exposure Route	Range	Mean	General Information
11732 Blood, serum	3	Not given	1.2+/-0.09 ppb S.E.	Sampled during spray season. 20% of cases had >trace amounts. During harvest season no samples had >trace amounts. Citrus fieldworkers in Florida, 1981

BLOOD SERUM; OCCUPATIONAL EXPOSURE; LINDANE; HEXACHLOROBENZENE; OXYCHLORDANE; HEPTACHLOR EPOXIDE; DDE; DDT; DIELDRIN; PESTICIDES; INSECTICIDES; BIOACCUMULATION; HEALTH HAZARDS; AGRICULTURE; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES
Griffith, J.; Duncan, R.C. 1985 Bulletin of Environmental Contamination and Toxicology 35:411-417

Benzene, hexachloro-
118-74-1
C6-Cl6
MW 284.80, MP 231 C, BP 323-326 C, VP 1 mm Hg at 114.4 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11733 Blood, serum	2269	a) Not given b) Not given c) Not given d) 1-17 ppb	a) 1.7 ppb b) 1.6 ppb c) 1.7 ppb d) 1.7 ppb	12-24 yr, 3.0%, 685 cases b) 25-44 yr, 3.0%, 627 cases c) 45-74 yr, 3.9%, 957 cases d) 12-74 yr, 3.3%, 2269 cases Age group and % population exposed. Limit of detection 1 ppb. Subjects participating in the Second National Health and Nutrition Examination Survey, 1976-80. GC-EC

BLOOD SERUM; ENVIRONMENTAL EXPOSURE; UNITED STATES; ADOLESCENTS; ADULTS; AGE; DDT; DDE; DIELDRIN; HEXACHLOROBENZENE; NONACHLOR; HEPTACHLOR EPOXIDE; OXYCHLORDANE; BIOACCUMULATION; POPULATION EXPOSURE; PESTICIDE RESIDUES; PESTICIDES
Murphy, R.; Harvey, C. 1985 Environmental Health Perspectives 60:115-120

Tissue	Cases Exposure Route	Range	Mean	General Information
11734 Milk	40	Not given	0.52+/-0.1 ng/g	One of 22 congeners (all =/>0.19 ng/g <1.0 ng/g) accounting for 30% of mean total PCB residue of 26.5+/-2.5 ng/g (S.E.). Survey from urban and rural areas on Lake Ontario (Rochester, Oswego) and mixed area on Hudson River (Albany). Total of 8 other congeners (not the 22) and p,p'-DDE comprised 88% of detected chlorinated hydrocarbons with latter as primary pollutant (mean 78 ng/g wet wt). Mothers, 3 wk postpartum, New York, collections in 1979. Lake Ontario areas contaminated with Aroclor 1254 and 1260 type mixture and Hudson River with Aroclor 1242-type mixture. GC

MILK; NEW YORK; ENVIRONMENTAL EXPOSURE; URBAN AREAS; RURAL AREAS; WATER POLLUTION; DRINKING WATER
Bush, B.; Snow, J.; Connor, S.; Koblintz, R. 1985 Archives of Environmental Contamination and Toxicology 14:443-450

Tissue	Cases Exposure Route	Range	Mean	General Information
11735 Milk, fat		Not given	0.09 mg/kg	From 10 kg sample collected in 1978 and 1979 as part of WHO Collaborative Study on the Quantity and Quality of Breast Milk. New methodology. Lactating mothers, Uppsala, Sweden GC/MS

MILK; ENVIRONMENTAL EXPOSURE; ADULTS; SWEDEN; HEXACHLOROCYCLOHEXANE; DDE; DDD; DDT; OXYCHLORDANE; NONACHLOR; POLYCHLORINATED BIPHENYLS; INSECTICIDES; BIOACCUMULATION; LACTATION; PESTICIDE RESIDUES
Vaz, R.; Blomkvist, G. 1985 Chemosphere 14(2):223-231

Benzene, hexachloro-
118-74-1
C6-Cl6
MW 284.80, MP 231 C, BP 323-326 C, VP 1 mm Hg at 114.4 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11736 Milk, fat	99	0.01-0.70 mg/kg	0.08 mg/kg	Median was 0.05 mg/kg and mean, on whole milk basis, 2.56 ug/kg. General trend of decreasing levels shows effectiveness of restrictions or bans on use of these substances. 19-36 yr olds (mean 26), 2-12 wk post-parturition. Jerusalem, Israel GC-EC

MILK; ENVIRONMENTAL EXPOSURE; ISRAEL; POLYCHLORINATED BIPHENYLS; PESTICIDES; CHLORINE ORGANIC COMPOUNDS
Weisenberg, E.; Arad, I.; Grauer, F.; Sahm, Z. 1985 Archives of Environmental Contamination and Toxicology 14:517-521

Tissue	Cases Exposure Route	Range	Mean	General Information
11737 Milk, whole	a) 45 b) 95	a) 0.002-0.017 ppm b) 0.002-0.019 ppm	a) 0.008+/-0.004 ppm b) 0.007+/-0.003 ppm	a) Urban area, 130 samples b) Rural area, 137 samples 50 ml samples collected at different stages during feeding and from several feedings. 19-41 yr old breast-feeding mothers, Western Australia. 1979-80. TLC/GC

MILK; ENVIRONMENTAL EXPOSURE; AUSTRALIA; DDT; HEXACHLOROBENZENE; ALDRIN; DIELDRIN; PESTICIDES; BIOLOGICAL MONITORING; BIOACCUMULATION; LACTATION; PESTICIDE RESIDUES; RURAL AREAS; URBAN AREAS
Stacey, C.I.; Perriman, W.S.; Whitney, S. 1985 Archives of Environmental Health 40(2):102-108

Tissue	Cases Exposure Route	Range	Mean	General Information
11738 Milk, whole	14	a) 1-33 ng/g b) 3-9 ng/g	a) 9+/-7 ng/g b) Not applicable	a) 74 samples collected in 1980-81, 14 cases b) 3 mo prior-15 wk after residence sprayed with heptachlor, peak (23 ng/g) 5 wk after spraying, 1 case Residences sprayed with heptachlor, chlordane, aldrin, or non-organochlorine pesticide to control termites. Nursing mothers living in Perth GC

MILK; ENVIRONMENTAL EXPOSURE; ADULTS; AUSTRALIA; HEXACHLOROBENZENE; HEPTACHLOR EPOXIDE; DIELDRIN; DDE; DDT; PESTICIDES; BIOACCUMULATION; PESTICIDE RESIDUES
Stacey, C.I.; Tatum, T. 1985 Bulletin of Environmental Contamination and Toxicology 35:202-208

Benzene, trichloro-
12002-48-1
C6-H3-Cl3
MW 181.46

Tissue	Cases Exposure Route	Range	Mean	General Information
11739 Aorta	2	a) Not detected-10 ppb b) Not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES

Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Benzene, trimethyl-
25551-13-7
C9-H12
MW 120.2, MP -25.37 C, BP 176.1 C, VP 100 mm Hg at 108.8 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11740 Blood, whole	250	a) Not detected-46 ng/mL b) Not given c) 0.3-0.52 ng/mL	a) 0.8 ng/mL b) 2.2 ng/mL c) Not given	a) Cases, test populations screened for volatile organics. In 3 cases levels were >2 S.D. above the mean, thus, most specimens not significantly different from one another b) 16 workers occupationally exposed at wire-manufacturing company c) Patient drinking contaminated water from municipal well in 1981. Contaminants included trichloroethane, ethylene. Range is of measurements on day 67 and day 0 after ceasing to drink contaminated water Values in b), c) estimated from graphs. Patients with high sensitivity to synthetic chemicals GC/MS

BLOOD; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; CHLORINATED HYDROCARBONS; BENZENES; STYRENES; INDUSTRIAL CHEMICALS; TOLUENE; XYLENE; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; WATER POLLUTION; DRINKING WATER

Antoine, S.R.; DeLeon, I.R.; O'dell-Smith, R.M. 1986 Bulletin of Environmental Contamination and Toxicology 36:364-371

Benzilic acid, 4,4'-dichloro-, ethyl ester (8 CI); Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester (9 CI)
510-15-6
C16-H14-Cl2-O3
MW 325, BP 148 C at 0.04 mm Hg

Tissue	Cases Exposure Route	Range	Mean	General Information
11741 Body	10 Dermal	277+/-51-2085+/-151	Not given	Ranges of means during 4 d harvesting oranges treated about 10 d previously with 2 lb/250 gal water/acre. Total body exposure estimated from individual exposure pads. Accumulation rate one hands range was 30+/-12-113+/-58 ug/hr. Correlation coefficients reported between harvester exposure and foliar, fruit, or soil residues. Florida citrus harvesters, 4-5/83 GC

BODY; URINE; OCCUPATIONAL EXPOSURE; FLORIDA; PESTICIDES; PESTICIDE RESIDUES; ABSORPTION; AGRICULTURE; BIOACCUMULATION; OCCUPATIONAL HAZARDS; ORCHARDS
Stamper, J.H.; Nigg, H.N.; Queen, R.M. 1986 Bulletin of Environmental Contamination and Toxicology 36:693-700

Tissue	Cases Exposure Route	Range	Mean	General Information
11742 Urine	a) 61 b) 15 c) 15 d) 3	a) 0.00-63.6 ppm b) 0.00-1.71 ppm c) 0.00-0.08 ppm d) 0.33-6.2 ppm	a) 2.670+/-9.919 ppm b) 0.304+/-0.414 ppm c) 0.026+/-0.026 ppm d) 1.543+/-1.213 ppm	a) Texas spray season workers. 75.4% had detectable levels b) Florida spray season workers. 86.7% had detectable levels c) Florida harvest season workers. 60.0% had detectable levels d) Florida applicators (average for each worker, observed daily over 2 wk). All had detectable levels (analyzed as p,p'-dichlorobenzophenone). Spray season workers include some general combination workers not involved in pesticide application. b) significantly higher than c), $p<.0002$. d) significantly higher than a) ($p<.04$) and b) ($p<.01$). Exposed citrus fieldworkers, Florida and Texas

URINE; OCCUPATIONAL EXPOSURE; FLORIDA; TEXAS; CHLORINE ORGANIC COMPOUNDS; PESTICIDES; AGRICULTURE; BIOACCUMULATION; FOODS; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; ORCHARDS; PESTICIDE RESIDUES
Griffith, J.; Duncan, R.C. 1985 Bulletin of Environmental Contamination and Toxicology 35:496-499

Tissue	Cases Exposure Route	Range	Mean	General Information
11743 Urine	10	5.9+/-1.2-100.7+/-27.9 ppb S.E.	Not given	Range of means on days 1 and 4 harvesting oranges treated about 10 d previously with 2 lb/250 gal water/acre. Levels correlated well with field residues sampled the previous day. Calculated as chlorobenzilate equivalent of 4,4'dichlorobenzilic acid oxidized to dichlorobenzophenone for GC analysis. Florida citrus harvesters, 4-5/83 GC

BODY; URINE; OCCUPATIONAL EXPOSURE; FLORIDA; PESTICIDES; PESTICIDE RESIDUES; ABSORPTION; AGRICULTURE; BIOACCUMULATION; OCCUPATIONAL HAZARDS; ORCHARDS
Stamper, J.H.; Nigg, H.N.; Queen, R.M. 1986 Bulletin of Environmental Contamination and Toxicology 36:693-700

Benzo(a)pyrene
50-32-8
C20-H12
MW 252.3, MP 179 C, BP 372 C at 10 mm Hg

Tissue	Cases Exposure Route	Range	Mean	General Information
11744 Blood, cells	a) 7 b) 7	a) 2->100 fmol/50 ug DNA b) 3-20 fmol/50 ug DNA	a) Not given b) Not given	a) Roofers b) Foundry workers Measured carcinogenic metabolite 7beta,8alpha-diol-9alpha,10alpha-benzo(a)pyrene epoxide (BPDE):DNA. Roofers and foundry workers RIA; ELISA
LEUKOCYTES; ENVIRONMENTAL EXPOSURE; ADULTS; MEASUREMENT METHODS; BIOACCUMULATION; CARCINOGEN; HEALTH HAZARDS; OCCUPATIONAL HAZARDS Shamsuddin, A.K.M.; Sinopoli, N.T.; Hemminki, K.; Boesch, R.R.; Harris, C.C. 1985 Cancer Research 45:66-68				

Benzoic acid, 2,4-dinitro-
610-30-0
C7-H4-N2-O6

Tissue	Cases Exposure Route	Range	Mean	General Information
11745 Urine	4	a) 0.36-0.45 mg/l b) 1.5-17 mg/l c) 5-24 mg/l d) 2.8-31 mg/l e) 13-18 mg/l f) 19-104 mg/l	a) 0.39 mg/l b) 10.0 mg/l c) 17.5 mg/l d) 14.2 mg/l e) 16.0 mg/l f) 43.8 mg/l	a) Monday, beginning of shift b) Monday, end of shift c) Tuesday d) Wednesday e) Thursday f) Friday Representatives from 28 participants, results from 1-wk period. Major routes dermal and inhalation. Workers in an explosives factory. Headache, fatigue, vertigo, moderate cyanosis Anemia GC-EC
URINE; BLOOD PLASMA; OCCUPATIONAL EXPOSURE; ADULTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; INDUSTRIAL PLANTS; INDUSTRIES Woollen, B.H.; Hall, M.G.; Craig, R.; Steel, G.T. 1985 International Archives of Occupational and Environmental Health 55:319-330				

Benzoic acid, 4-(2-(1H-imidazol-1-yl)ethoxy)-
78218-09-4
C12-H12-N2-O3
MW 232.23

Tissue	Cases Exposure Route	Range	Mean	General Information
11746 Liver	a) 71 b) 64	a) <=0.1-1.6 mg/kg b) <=0.1-1.7 mg/kg Wet wt	a) 0.4 mg/kg b) 0.4 mg/kg Wet wt Median	a) Kingston b) Ottawa Detection limit 0.1 mg/kg wet wt. Autopsy samples from normal subjects, Kingston and Ottawa, Ontario AAS

KIDNEYS; LIVER; CANADA; AUTOPSIES; CALCIUM; POTASSIUM; MAGNESIUM; SODIUM; PHOSPHORUS; COPPER; IRON; MANGANESE; SELENIUM; ZINC; CADMIUM; MERCURY; LEAD
Subramanian, K.S.; Meranger, J.C.; Burnett, R.T. 1985 Science of the Total Environment 42:223-235

Benzophenone, 4-chloro- (8 CI); Methanone, (4-chlorophenyl)phenyl- (9 CI)
134-85-0
C13-H9-Cl-O
MW 216.67, MP 78 C, BP 332 C at 771 mm Hg

Tissue	Cases Exposure Route	Range	Mean	General Information
11747 Aorta	2	a) Not detected b) Not detected-10 ppb	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Benzothiazole
95-16-9
C7-H5-N-S
MW 135.18, MP 2 C, BP 227-228 C at 765 mm Hg

Tissue	Cases Exposure Route	Range	Mean	General Information
11748 Aorta	2	a) Not detected-10 ppb b) Not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Benzothiophene
11095-43-5
C8-H6-S

Tissue	Cases Exposure Route	Range	Mean	General Information
11749 Aorta	2	a) Not detected b) 20 ppb-Not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Beryllium
7440-41-7
Be
AtW 9.01218, MP 1287 C, BP 2500 C, VP 1 mm Hg at 1520 C, 10 mm Hg at 1860 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11750 Hair	a) 1 b) 1	a) 0.032-0.054 ppm b) 0.019-0.069 ppm	a) 0.043+/-0.015 ppm b) 0.044+/-0.035 ppm	a) Subject 1 b) Subject 2 Samples sent to 13 commercial laboratories for analysis. Values here are combined from all. Considerable variance within same laboratory, among different laboratories and disagreement about what was "normal" or "unusual". Authors conclude commercial use of hair analysis for management of disease, nutrition unscientific, uneconomical, probably illegal.

HAIR; ALUMINUM; ARSENIC; BERYLLIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; GOLD; IRON; LEAD; LITHIUM; MAGNESIUM; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; RUBIDIUM; SELENIUM; SILICON; SODIUM; TIN; VANADIUM; ZINC; ELEMENTS; TRACE ELEMENTS; METALS
Barrett, S. 1985 Journal of the American Medical Association 254(8):1041-1045

BHC, total (No postings in CHEMLINE).
C6-H6-Cl6
MW 290.85

Tissue	Cases Exposure Route	Range	Mean	General Information
11751 Milk, whole	14	0-4 ng/g	1 ng/g	74 samples taken in 1980-81. Residences sprayed with heptachlor, chlordane, aldrin, or non-organochlorine pesticide to control termites. Nursing mothers living in Perth GC

MILK; ENVIRONMENTAL EXPOSURE; ADULTS, AUSTRALIA; HEXACHLOROBENZENE; HEPTACHLOR EPOXIDE; DIELDRIN; DDE; DDT; PESTICIDES; BIOACCUMULATION; PESTICIDE RESIDUES
Stacey, C.I.; Tatum, T. 1985 Bulletin of Environmental Contamination and Toxicology 35:202-208

Biphenyl (8 CI); 1,1'-Biphenyl (9 CI)
92-52-4
C12-H10
MW 154.2, MP 70 C, BP 255 C, VP 1 mm Hg at 70.6 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11752 Aorta	2	a) 10-50 ppb b) Not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Biphenyl, chloro (8 Cl); 1,1'-Biphenyl, chloro derivs (9 Cl)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11753 Adipose	29	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 0.002+/-0.002 ug/g b) 0.002+/-0.002 ug/g c) 0.002+/-0.003 ug/g d) 0.002+/-0.002 ug/g e) 0.002+/-0.002 ug/g f) 0.001+/-0.000 ug/g g) 0.003+/-0.003 ug/g h) 0.002+/-0.002 ug/g i) 0.002+/-0.001 ug/g Wet wt	a) All cases, 29 b) Sudden deaths, 18 c) Others, 11 d) All male cases, 19 e) Male sudden deaths, 12 f) Others, male, 7 g) All female cases, 10 h) Female sudden deaths, 6 i) Others, female, 4 Data compared with previously reported levels in accident victims. Autopsy samples from nonaccidental death victims in Canada. GC; TLC

ADIPOSE TISSUE; CANADA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; CADAVERS; COMPARATIVE EVALUATIONS; POLYCHLORINATED BIPHENYLS; PESTICIDES; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; OXYCHLORDANE; NONACHLOR; HEPTACHLOR EPOXIDE; DIELDRIN; DDE; DDT; BIOLOGICAL MONITORING; POPULATION EXPOSURE; BIOCONCENTRATION
Mes, J.; Davies, D.J.; Turton, D. 1985 Ecotoxicology and Environmental Safety 10:70-74

Tissue	Cases Exposure Route	Range	Mean	General Information
11754 Adipose				Review. Occupational exposure to lower and higher chlorinated biphenyls, bioaccumulation, comparison to general population, and cumulative body burdens are discussed.

BLOOD; ADIPOSE TISSUE; OCCUPATIONAL EXPOSURE; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; HEALTH HAZARDS; FOOD CONTAMINATION; INDUSTRIES; OCCUPATIONAL HAZARDS; REVIEW
Wolff, M.S. 1985 Environmental Health Perspectives 60:133-138

Tissue	Cases Exposure Route	Range	Mean	General Information
11755 Adipose	a) 1 b) 1 c) 14 Ingestion	a) Not applicable b) Not applicable c) Not given	a) 5090 ppb b) 6091 ppb c) 803 ppb	a) 1 yr b) 4 yr c) Controls After ingestion of contaminated rice oil in 1968. Autopsies. Controls and patients from Fukuoka, Japan GC-EC

LIVER; INTESTINES; ADIPOSE TISSUE; MILK; ENVIRONMENTAL EXPOSURE; JAPAN; TAIWAN; ADULTS; AUTOPSIES; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUARTERPHENYLS; CHLORINE ORGANIC COMPOUNDS; ACCIDENTAL POISONING; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; RICE
Miyata, H.; Fukushima, S.; Kashimoto, T.; Kunita, N. 1985 Environmental Health Perspectives 59:67-72

Biphenyl, chloro (8 Cl); 1,1'-Biphenyl, chloro derivs (9 Cl)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11756 Adipose	1 Ingestion	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable g) Not applicable	a) 1.84 ppm b) 1.47 ppm c) 3.44 ppm d) 1.57 ppm e) 1.28 ppm f) 1.21 ppm g) 10.81 ppm	a) 2,4,2',4',5'-PCB b) 2,4,5,2',4',5'-PCB c) 2,3,4,2',4',5'-PCB d) 2,3,4,5,3',4'-PCB e) 2,3,4,5,2',4',5'-PCB f) 2,3,4,5,3',4'-PCB g) Total Autopsy data. Patient who died 2 yr after onset of PCB-poisoning. GC-EC

BLOOD; ADIPOSE TISSUE; BRONCHUS; INTESTINES; HEART; STOMACH; LIVER; KIDNEYS; LUNGS; BRAIN; SPLEEN; CONSUMER EXPOSURE; TAIWAN; NUTRITIONAL DISORDERS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUARTEPHENYLS; BIOACCUMULATION; FOOD CONTAMINATION; RICE; ACCIDENTAL POISONING; HEALTH HAZARDS; AUTOPSIES
Chen, P.H.; Wong, C.-K.; Rappe, C.; Nygren, M. 1985 Environmental Health Perspectives 59:59-65

Tissue	Cases Exposure Route	Range	Mean	General Information
11757 Adipose	5 Ingestion	a) 880-2170 ppb b) 0.5-1.0 ppb c) 0.7-1.0 ppb d) 160-180 ppb e) Not detected f) 0.05-0.2 ppb	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) Yusho patients, 3 cases b) Methylthio metabolite, 3 cases c) Methylsulfone metabolite, 3 cases d) Controls, 2 cases e) Methylthio metabolite, 2 cases f) Methylsulfone metabolite, 2 cases Exposed to contaminated rice oil in western Japan in 1968. Limit of detection 0.01 ppb. Fukuoka, Japan Acneform eruptions, hypersecretion of Meibomian glands, hyperpigmentation of the face, eyelids, gingiva, nails and mucous membrane, abdominal pain, headache, general fatigue. GC-EC

BLOOD; LIVER; ADIPOSE TISSUE; LUNGS; ENVIRONMENTAL EXPOSURE; JAPAN; TAIWAN; AUTOPSIES; INFANTS; ADULTS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUATERPHENYLS; CHLORINE ORGANIC COMPOUNDS; ACCIDENTAL POISONING; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; RICE
Masuda, Y.; Kuroki, H.; Haraguchi, K.; Nagayama, J. 1985 Environmental Health Perspectives 59:53-58

Tissue	Cases Exposure Route	Range	Mean	General Information
11758 Adipose	a) 36 b) 16 c) 52	a) 0.2-33 ppm b) 0.3-5.1 ppm c) 0.2-3 ppm	a) 2.1 ppm b) 0.83 ppm c) 0.6 ppm Geometric	a) Current exposure b) Previous exposure c) Controls. Predominant exposure to Arochlor 1260. Some exposure to Arochlors 1254 and 1242. Switchgear shop employees engaged in transformer maintenance. GC/MS

BLOOD SERUM; ADIPOSE TISSUE; OCCUPATIONAL EXPOSURE; ADULTS; OCCUPATIONAL DISEASES; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIAL PLANTS; INDUSTRIES; OCCUPATIONAL HAZARDS
Emmett, E.A. 1985 Environmental Health Perspectives 60:185-192

Biphenyl, chloro (8 Cl); 1,1'-Biphenyl, chloro derivs (9 Cl)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11759 Adipose				Review of effects, in both laboratory animals and humans, of halogenated aromatics.

REVIEW; BIPHENYL COMPOUNDS; CHLORINE ORGANIC COMPOUNDS; POLYCHLORINATED BIPHENYLS; ADIPOSE TISSUE; BLOOD; MILK
Kimbrough, R.D. 1985 Environmental Health Perspectives 59:99-106

Tissue	Cases Exposure Route	Range	Mean	General Information
11760 Adipose	a) 10 b) 46 c) 10	a) 0.65-20.9 ppm b) 0.16-4.17 ppm c) 0.28-1.59 ppm	a) 4.03+/-6.02 ppm b) 0.95+/-0.70 ppm c) 0.73+/-0.39 ppm	a) Collected 1980, deceased hospital patients, Ontario b) Collected 1976, accident victims, Canada c) Collected 1972, accident victims, British Columbia and Quebec Values based on Arodor 1260. Mean age in a) 60 yr vs 37 in b-c). Accident (automobile, drownings, trauma, suicides) from Canada. No known abnormal occupational or accidental exposures. GC

ENVIRONMENTAL EXPOSURE; CANADA; UNITED STATES; NEW YORK; ADIPOSE TISSUE; AUTOPSIES; BIOPSIES; DIOXINS; POLYCHLORINATED BIPHENYLS; CHLORINE ORGANIC COMPOUNDS
Ryan, J.J.; Lizotte, R.; Lau, B.P.-Y. 1985 Chemosphere 14(6/7):697-706

Tissue	Cases Exposure Route	Range	Mean	General Information
11761 Adipose	a) 8 b) 10	a) 0.38-2.33 ppm b) 0.65-1.96 ppm	a) 1.04 ppm 1.23 ppm	a) 1980 b) 1984 Biopsies. 31-78 yr old patients, St. Francis Hospital, Monroe, Louisiana GC-EC

ADIPOSE TISSUE; ENVIRONMENTAL EXPOSURE; LOUISIANA; BIOPSIES; DDD; DDE; DDT; DIELDRIN; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE; POLYCHLORINATED BIPHENYLS; PESTICIDES; INDUSTRIAL CHEMICALS; BIOACCUMULATION; PESTICIDE RESIDUES; POPULATION EXPOSURE
Holt, R.L.; Cruse, S.; Greer, S. 1986 Bulletin of Environmental Contamination and Toxicology 36:651-655

Tissue	Cases Exposure Route	Range	Mean	General Information
11762 Adipose	26	1.52+/-0.34-1.85+/-0.67 ug/g	1.75+/-0.59 ug/g	1983 and 1984, range of means. Subcutaneous samples. 1983 subjects 45+/-13, 1984 subjects 60+/-16 yr old. PCB/DDT ratio negatively correlated with age, $p<0.02$. Mean levels in males 1.72+/-0.56 ug/g, in females 1.79+/-0.64 ug/g. Surgical patients, University of Siena, Italy GC-EC

ADIPOSE TISSUE; ENVIRONMENTAL EXPOSURE; ITALY; SEX; AGE; HEXACHLOROBENZENE; DDE; DDT; LINDANE; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; PESTICIDE RESIDUES
Focardi, S.; Fossi, C.; Leonzio, C.; Romei, R. 1986 Bulletin of Environmental Contamination and Toxicology 36:644-650

Biphenyl, chloro (8 Cl); 1,1'-Biphenyl, chloro derivs (9 Cl)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11763 Bladder	1 Ingestion	Not applicable	10,208 ppm [sic]	At autopsy Victim treated prior to death with 13-cis-retinoic acid, Terramycin, Airol topical, Hostacycline, and Multivita. 23 yr old, hospitalized for treatment of poisoning, sudden death from unknown cause Multiple acneform lesions GC-EC

BLOOD; LUNGS; TONGUE; KIDNEYS; LIVER; STOMACH; HEART; BLADDER; BRAIN; GASTROINTESTINAL SYSTEM; SPLEEN; BLOOD VESSELS; CONSUMER EXPOSURE; TAIWAN; ADULTS; INFECTION; LIVER DISEASES; SKIN DISEASES; POLYCHLORINATED BIPHENYLS; INDUSTRIAL CHEMICALS; ACCIDENTAL POISONING; BIOLOGICAL MONITORING; FOOD CONTAMINATION; AUTOPSIES; POPULATION EXPOSURE

Hsu, S.-T.; Ma, C.-I.; Hsu, S.K.-H.; Wu, S.-S.; Hsu, N.H.-M.; Yeh, C.-C.; Wu, S.-B. 1985 Environmental Health Perspectives 59:5-10

Tissue	Cases Exposure Route	Range	Mean	General Information
11764 Blood				Review. Occupational exposure to lower and higher chlorinated biphenyls, bioaccumulation, comparison to general population, and cumulative body burdens are discussed.

BLOOD; ADIPOSE TISSUE; OCCUPATIONAL EXPOSURE; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; HEALTH HAZARDS; FOOD CONTAMINATION; INDUSTRIES; OCCUPATIONAL HAZARDS; REVIEW

Wolff, M.S. 1985 Environmental Health Perspectives 60:133-138

Tissue	Cases Exposure Route	Range	Mean	General Information
11765 Blood	a) 56 b) 69 c) 3 d) 113 e) 60	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 6+/-4 ppb b) 45+/-49 ppb c) 19+/-11 ppb d) 39+/-17 ppb e) 2+/-1 ppb	a) Yusho patients, 1979, 11 yr after termination of exposure b) Workers charging transformers with fresh Kanechlor (42-54% chlorine), 1979-81, 9 yr after c) Workers reclaiming products used as heat exchanger, 1979, 9 yr after d) Yu-Cheng patients, teachers and students at a school, 1979-81, 6 mo after e) Unexposed individuals Discussion of GC patterns with respect to sources of and time elapsed since exposure. Presence of related compounds, and sex difference, also examined. Individuals exposed to PCB-related compounds, Japan and Taiwan. Controls. GC/MS

BLOOD; CONSUMER EXPOSURE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; JAPAN; TAIWAN; CASE HISTORIES; SKIN DISEASES; COMPARATIVE EVALUATIONS; CHLORINE ORGANIC COMPOUNDS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUATERPHENYLS; INDUSTRIAL CHEMICALS; ACCIDENTAL POISONING; FOOD CONTAMINATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; POLYCHLORINATED DIBENZOFURANS

Kashimoto, T.; Miyata, H.; Fukushima, S.; Kunita, N.; Ohi, G.; Tungt, T.-C. 1985 Environmental Health Perspectives 59:73-78

Biphenyl, chloro (8 Cl); 1,1'-Biphenyl, chloro derivs (9 Cl)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11766 Blood	Ingestion			Review of health status of Yu-Cheng patients in Japan and Taiwan who had, in 1979, consumed cooking oil contaminated with PCBs, PCDFs and PCQs. GC

BLOOD; CONSUMER EXPOSURE; JAPAN; NUTRITIONAL DISORDERS; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; HEALTH HAZARDS; FOOD CONTAMINATION; REVIEW
Masuda, Y. 1985 Environmental Health Perspectives 60:321-325

Tissue	Cases Exposure Route	Range	Mean	General Information
11767 Blood	a) 3 b) 22 c) 39 d) 50 e) 20 Ingestion	a) 88-157 ppb b) 6-316 ppb c) 8-347 ppb d) 1-152 ppb e) 18-128 ppb	a) 116.7+/-36.0 ppb b) 72.4+/-72.7 ppb c) 73.3+/-72.3 ppb d) 71.4+/-30.2 ppb e) 77.8+/-29.7 ppb	a) Ocular symptoms b) Same as a), and pigmentary changes c) Same as b), with comedones and follicular accentuation d) Same as c), with localized acneform lesions and cysts e) All of the above, with widespread lesions and often secondary infections PCB poisoning caused by ingestion of contaminated rice bran oil. Patients from Tai-Chung Prefecture, Taiwan, age 7 d-78 yr old. Suppressed immune system

BLOOD; CONSUMER EXPOSURE; TAIWAN; ADULTS; ADOLESCENTS; CHILDREN; INFANTS; DERMATITIS; SKIN DISEASES; POLYCHLORINATED BIPHENYLS; ACCIDENTAL POISONING; BIOLOGICAL MONITORING; FOOD CONTAMINATION; POPULATION EXPOSURE
Lu, Y.-C.; Wu, Y.-C. 1985 Environmental Health Perspectives 59:17-29

Tissue	Cases Exposure Route	Range	Mean	General Information
11768 Blood	a) 25 b) 34 Ingestion	a) Not given b) Not given	a) 5.1+/-2.3 ppb b) 6.4+/-5.3 ppb	a) Males, 57+/-10 yr old b) Females, 56+/-10 yr old Levels not positively related to age. No association with blood pressure, either in this study or in an 8 yr study of 20 patients. Also independent of obesity and alcohol consumption. Yusho patients, not receiving antihypertensive treatment. Fukuoka Prefecture, Japan. 1981. GC

BLOOD; CONSUMER EXPOSURE; ENVIRONMENTAL EXPOSURE; JAPAN; AGE; INDUSTRIAL CHEMICALS; POLYCHLORINATED BIPHENYLS; ACCIDENTAL POISONING; FOOD CONTAMINATION; POPULATION EXPOSURE
Akagi, K.; Okumura, M. 1985 Environmental Health Perspectives 59:37-39

Biphenyl, chloro (8 Cl); 1,1'-Biphenyl, chloro derivs (9 Cl)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11769 Blood	110 Ingestion	a) 80-<90 ppb b) 70-<80 ppb c) 60-<70 ppb d) 50-<60 ppb e) 40-<50 ppb f) 30-<40 ppb g) 20-<30 ppb h) 10-<20 ppb i) 0-<10 ppb j) 2.8-84.3 ppb	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) 39.3+/-16.6 ppb	a) 0.9% of total cases, 1 patient b) 3.6%, 4 patients c) 8.2%, 9 d) 10.9%, 12 e) 24.6%, 27 f) 20.9%, 23 g) 20.0%, 22 h) 9.1%, 10 i) 1.8%, 2 j) All cases Patients ate daily at a kitchen serving rice oil contaminated with PCB 9/78 to 4/79. Neurological evaluations and blood sampled 11/79-4/80. Taiwan, 2-66 yr olds. Headaches Nerve damage GC

BLOOD; CONSUMER EXPOSURE; TAIWAN; ADULTS; ADOLESCENTS; CHILDREN; NEUROLOGIC MANIFESTATIONS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUATERPHENYLS; ACCIDENTAL POISONING; BIOLOGICAL MONITORING; FOOD CONTAMINATION
Chen, R.; Tang, S.; Miyata, H.; Kashimoto, T.; Chang, Y.; Chang, K.; Tung, T. 1985 Environmental Research 37:340-348

Tissue	Cases Exposure Route	Range	Mean	General Information
11770 Blood	a) 29 b) 57 c) 39 d) 14 e) 22 f) 4 Ingestion	a) 10-19 ppb b) 20-29 ppb c) 30-39 ppb d) 40-49 ppb e) 50-100 ppb f) 100-800 ppb	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 17.6% b) 34.6% c) 23.6% d) 8.5% e) 13.3% f) 2.4% Distribution with patient population. Samples collected 9-18 mo after ingestion of contaminated oil. Estimated dose over 9 mo was 973 mg PCBs, 3.8 mg PCDFs, and 586 mg PCQs. Patients from Taichung and Changhwa in central Taiwan. GC-EC

BLOOD; ADIPOSE TISSUE; BRONCHUS; INTESTINES; HEART; STOMACH; LIVER; KIDNEYS; LUNGS; BRAIN; SPLEEN; CONSUMER EXPOSURE; TAIWAN; NUTRITIONAL DISORDERS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUARTEPHENYLS; BIOACCUMULATION; FOOD CONTAMINATION; RICE; ACCIDENTAL POISONING; HEALTH HAZARDS; AUTOPSIES
Chen, P.H.; Wong, C.-K.; Rappe, C.; Nygren, M. 1985 Environmental Health Perspectives 59:59-65

Biphenyl, chloro (8 Cl); 1,1'-Biphenyl, chloro derivs (9 Cl)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11771 Blood	a) 7 b) 9 c) 10 Ingestion	a) Not given b) Not given c) Not given	a) 0.86 ppb b) 2.3 ppb c) 16.53 ppb	a) Controls b) Yusho patients exposed in western Japan in 1968 c) Yu-Cheng patients exposed in central Taiwan in 1979 Subjects ingested contaminated rice oil. Limit of detection 0.01 ppb. Controls and patients from Taiwan and Fukuoka, Japan. Acneform eruptions, hypersecretion of Meibomian glands, hyperpigmentation of the face, eyelids, gingiva, nails and mucous membrane, abdominal pain, headache, general fatigue. GC-EC

BLOOD; LIVER; ADIPOSE TISSUE; LUNGS; ENVIRONMENTAL EXPOSURE; JAPAN; TAIWAN; AUTOPSIES; INFANTS; ADULTS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUATERPHENYLS; CHLORINE ORGANIC COMPOUNDS; ACCIDENTAL POISONING; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; RICE

Masuda, Y.; Kuroki, H.; Haraguchi, K.; Nagayama, J. 1985 Environmental Health Perspectives 59:53-58

Tissue	Cases Exposure Route	Range	Mean	General Information
11772 Blood	1 Ingestion	a) Not applicable b) Not applicable	a) 85 ppm [sic] b) 80.7 ppb	a) At autopsy b) During hospitalization Victim treated prior to death with 13-cis-retinoic acid, Terramycin, Airol topical, Hostacycline, and Multivita. Long term effects of poisoning, 10/79-2/83, are discussed for all demographic groups. 23 yr old, hospitalized for treatment of poisoning, sudden death from unknown cause Multiple acneform lesions GC-EC

BLOOD; LUNGS; TONGUE; KIDNEYS; LIVER; STOMACH; HEART; BLADDER; BRAIN; GASTROINTESTINAL SYSTEM; SPLEEN; BLOOD VESSELS; CONSUMER EXPOSURE; TAIWAN; ADULTS; INFECTION; LIVER DISEASES; SKIN DISEASES; POLYCHLORINATED BIPHENYLS; INDUSTRIAL CHEMICALS; ACCIDENTAL POISONING; BIOLOGICAL MONITORING; FOOD CONTAMINATION; AUTOPSIES; POPULATION EXPOSURE

Hsu, S.-T.; Ma, C.-I.; Hsu, S.K.-H.; Wu, S.-S.; Hsu, N.H.-M.; Yeh, C.-C.; Wu, S.-B. 1985 Environmental Health Perspectives 59:5-10

Tissue	Cases Exposure Route	Range	Mean	General Information
11773 Blood	36	a) 0.5-4.0 ng/ml b) 0.1-2.1 ng/ml	a) Not given b) Not given	a) Maternal blood b) Cord blood Maternal samples collected during 7th mo of pregnanacy, cord samples immediately after delivery. Estimated from graph. Healthy volunteers from rural area of Ibaraki Prefecture in central Japan. GC/MS

PLACENTA; BLOOD; MILK; ENVIRONMENTAL EXPOSURE; JAPAN; ADULTS; NEWBORN; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; LACTATION; TRANSPLACENTAL TRANSFER

Ando, M.; Saito, H.; Wakisaka, I. 1985 Archives of Environmental Contamination and Toxicology 14:51-57

Biphenyl, chloro (8 CI); 1,1'-Biphenyl, chloro derivs (9 CI)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11774 Blood				Review of effects, in both laboratory animals and humans, of halogenated aromatics.

REVIEW; BIPHENYL COMPOUNDS; CHLORINE ORGANIC COMPOUNDS; POLYCHLORINATED BIPHENYLS; ADIPOSE TISSUE; BLOOD; MILK
Kimbrough, R.D. 1985 Environmental Health Perspectives 59:99-106

Tissue	Cases Exposure Route	Range	Mean	General Information
11775 Blood, plasma	230	a) 0-99 ppb b) 100-199 ppb c) >200 ppb d) 0-24 ppb e) 25-74 ppb f) >75 ppb g) 0-24 ppb h) 25-74 ppb i) >75 ppb	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) LPCB, total (males and females), 65%, 151 cases b) 20%, 45 cases c) 15%, 34 cases d) HPCB, male, 50%, 68 cases e) 37%, 50 cases f) 13%, 18 cases g) HPCB, female, 64%, 60 cases h) 26%, 24 cases i) 10%, 10 cases % of population with lower (LPCB) or higher (HPCB) homologs within indicated range. Workers in capacitor and transformer manufacturing plants. GC

BLOOD PLASMA; OCCUPATIONAL EXPOSURE; SEX; OCCUPATIONAL DISEASES; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIES; INDUSTRIAL PLANTS; OCCUPATIONAL HAZARDS
Fischbein, A. 1985 Environmental Health Perspectives 60:145-150

Tissue	Cases Exposure Route	Range	Mean	General Information
11776 Blood, plasma	1976	a) <1-37 ppb b) <1-26 ppb c) 1-15 ppb d) Not given e) Not given	a) 5+/-4.37 ppb b) 4+/-3.52 ppb c) 4+/-2.79 ppb d) 3+/-3.43 ppb e) 20+/-5.10	a) 738 cases, newly hired preemployment controls b) 1058 cases, current employment c) Subgroup of 220 from b), working with highest potential exposure, 1979-84, mean exposure=14 yr (range 1-15) d) 198 from b), requested analysis e) 40, (25 from a), 15 from b), 0 from c)), with values >15 ppb. Employees at Southern California Edison Company. GC

OCCUPATIONAL EXPOSURE; OCCUPATIONAL HAZARDS; POLYCHLORINATED BIPHENYLS; BLOOD PLASMA; CALIFORNIA
Sahl, J.D.; Crocker, T.T.; Gordon, R.J.; Faeder, E.J. 1985 Journal of Occupational Medicine 27(9):639-643

Biphenyl, chloro (8 Cl); 1,1'-Biphenyl, chloro derivs (9 Cl)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11777 Blood, plasma	a) 5 b) 3 c) 5 d) 14 e) 7 f) 40	a) 2.0-11.0 ppb b) 48.0-78.0 ppb c) 26.0-71.8 ppb d) 6-403 ppb e) 12-196 ppb f) 1.3-5.8 ppb	a) 6.3+/-4.1 ppb b) 62.6+/-15.0 ppb c) 55.4+/-18.7 ppb d) 111.5+/-117.3 ppb e) 64.3+/-62.2 ppb f) 3.4+/-1.1 ppb	a) 14 yr after termination of exposure, in one family of Japanese Yusho patients b) 1 yr after, in Taiwanese patients c) 1.5-2 yr after, in Taiwanese patients d) Subjects previously exposed for unknown period to contaminated machine oil (containing 8-10,000 ppm PCB) used in silk thread production e) 10 yr after termination of exposure to Kanechlor 600 (60% chlorine) used in paint manufacturing f) Controls Significant decrease in children in a), during 10 yr follow-up study. Yusho patients, Japan and Taiwan. Occupationally exposed subjects and controls, Japan. In a) adults had dermal manifestations typical of Yusho, as well as abdominal pain, fatigue, headache. Children had muscosal pigmentation and increased eye discharge. Symptoms milder and fewer in workers [d), e)], indicating PCB alone less toxic than PCQ and PCDF. Levels in e) significantly correlated with triglycerides, total cholesterol, and beta-lipoprotein ($p<0.05$) GC

BLOOD PLASMA; CONSUMER EXPOSURE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; JAPAN; TAIWAN; AGE; SKIN DISEASES; COMPARATIVE EVALUATIONS; POLYCHLORINATED DIBENZOFURANS; INDUSTRIAL CHEMICALS; ACCIDENTAL POISONING; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; INDUSTRIES; METABOLISM; OCCUPATIONAL HAZARDS

Takamatsu, M.; Oki, M.; Maeda, K.; Inoue, Y.; Hirayama, H.; Yoshizuka, K. 1985 Environmental Health Perspectives 59:91-97

Tissue	Cases Exposure Route	Range	Mean	General Information
11778 Blood, plasma	738	<1-37 ppb	5+/-4 ppb	Pre-employment sample of Southern California Edison Company employees. No occupational exposure. Median 4 ppb. Levels also reported by demographic groupings. Adults, Southern California GC-EC

BLOOD PLASMA; ENVIRONMENTAL EXPOSURE; CALIFORNIA; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; POPULATION EXPOSURE

Sahl, J.D.; Crocker, T.T.; Gordon, R.J.; Faeder, E.J. 1986 Science of the Total Environment 46:9-18

Tissue	Cases Exposure Route	Range	Mean	General Information
11779 Blood, serum		a) Not given b) <3-50 ug/l	a) 1.2+/-0.6 ug/l b) Not given	a) 47 workers with no known exposure b) Workers in accidents with capacitors (leaks, fires, explosions) New methodology described. Workers in metal industry and forestry, Finland GC-EC

BLOOD SERUM; OCCUPATIONAL EXPOSURE; FINLAND; POLYCHLORINATED BIPHENYLS; MEASUREMENT METHODS; BIOACCUMULATION

Luotamo, M.; Jarvisalo, J.; Aitoio, A. 1985 Environmental Health Perspectives 60:327-332

Biphenyl, chloro (8 Cl); 1,1'-Biphenyl, chloro derivs (9 Cl)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11780 Blood, serum				Review. Baseline levels (no known exposure) are compared with subpopulations known to be exposed occupationally or through consumption of contaminated fish. Health effects and proposed risk assessment studies are discussed.

BLOOD SERUM; OCCUPATIONAL EXPOSURE; UNITED STATES; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; REVIEW
Kreiss, K. 1985 Environmental Health Perspectives 60:193-199

Tissue	Cases Exposure Route	Range	Mean	General Information
11781 Blood, serum	194	a) 234-9262 ppb b) 57-2269 ppb c) 6-142 ppb d) 2-34 ppm e) 48.1-1598.1 ppb f) 11.8-391.6 ppb g) 3.6-107.7 ppb h) 1.1-22.7 ppm	a) 1471 ppb b) 363 ppb c) 30 ppb d) 8 ppm e) 277.1 ppb f) 67.9 ppb g) 19.3 ppb h) 5.0 ppm	a) Measured in 1976, Arochlor 1242 b) 1976, lower PCB (LPCB) c) 1976, higher PCB (HPCB) d) 1976, lipid HPCB e) 1979, Arochlor 1242 f) 1979, LPCB g) 1979, HPCB h) 1979, lipid HPCB Exposure ceased after 6/30/77. Extensive hematological data given. No evidence of health impairment. Workers in capacitor manufacturing plant, 152 males, 42 females, mean service 17 yr, mean age 40 yr. GC

BLOOD SERUM; OCCUPATIONAL EXPOSURE; NEW YORK; OCCUPATIONAL DISEASES; DDE; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; INDUSTRIES; INDUSTRIAL PLANTS; INDUSTRIAL ATMOSPHERES; HEALTH HAZARDS; OCCUPATIONAL HAZARDS
Lawton, R.W.; Ross, M.R.; Feingold, J.; Brown, J.F. 1985 Environmental Health Perspectives 60:165-184

Tissue	Cases Exposure Route	Range	Mean	General Information
11782 Blood, serum	12	a) Not given b) Not given c) Not given d) Not given	a) 19 ppb b) 303 ppb c) 1093 ppb d) 1905 ppb	a) National Human Monitoring Program, calculation procedure for "human PCB" b) Total PCBs actually present c) Total non-overlapping "arochlors" calculated by sum-of-the-peak-heights d) Total minimum initial concentrations calculation from most persistent peaks Heavily exposed workers. Broad spread of reportable values related to distribution/clearance patterns. Employees of capacitor manufacturing plant, 11 males, 1 female, 32-61 yr old, 7-28 yr employment. GC

BLOOD SERUM; OCCUPATIONAL EXPOSURE; ADULTS; INDUSTRIAL DISEASES; MEASUREMENT METHODS; INDUSTRIAL MEDICINE; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; INDUSTRIAL PLANTS; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; POPULATION EXPOSURE
Lawton, R.W.; Brown, J.F.; Ross, M.R.; Feingold, J. 1985 Archives of Environmental Health 40(1):29-37

Biphenyl, chloro (8 Cl); 1,1'-Biphenyl, chloro derivs (9 Cl)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11783 Blood, serum	a) 37 b) 17 c) 54	a) 1-300 ppb b) 1-30 ppb c) 1-15 ppb	a) 12.2 ppb b) 5.9 ppb c) 4.6 ppb Geometric	a) Current exposure b) Previous exposure c) Controls. Predominant exposure to Arochlor 1260. Some exposure to Arochlors 1254 and 1242. Switchgear shop employees engaged in transformer maintenance. GC/MS

BLOOD SERUM; ADIPOSE TISSUE; OCCUPATIONAL EXPOSURE; ADULTS; OCCUPATIONAL DISEASES; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIAL PLANTS; INDUSTRIES; OCCUPATIONAL HAZARDS
Emmett, E.A. 1985 Environmental Health Perspectives 60:185-192

Tissue	Cases Exposure Route	Range	Mean	General Information
11784 Blood, serum	2	Not given	3 ppb	Subjects exposed to oil-filled devices contaminated with 460 and 860,000 ppm. Serum levels considered normal. Amateur radio operators, 37 and 40 yr old.

BLOOD SERUM; ENVIRONMENTAL EXPOSURE; POLYCHLORINATED BIPHENYLS; ACCIDENTAL POISONING; BIOACCUMULATION
Stehr, P.A.; Forney, D.L.; Liddle, J.A. 1985 Archives of Environmental Health 40(1):18-19

Tissue	Cases Exposure Route	Range	Mean	General Information
11785 Blood, serum	a) 1 b) 1 c) 1 d) 1	a) 6.3-7.3 ppb b) 4.0-5.97 ppb c) 21.4-6.0 ppb d) 47-60 ppb	a) Not given b) Not given c) Not given d) Not given	a) Sampled 2/15 and 12/3/81 b) 10/14 and 11/16/82 c) 3/12 and 11/2/81 d) Highest levels of any subject in Binghamton medical surveillance program Exposure to fluid containing 65% PCBs (Aroclor 1254) and 35% tri-and tetra-chlorinated benzene. a), b), and d) exposed repeatedly. Fat biopsy data on various dioxin and furan isomers also reported. Victims of 1981 Binghamton State Office Building PCB exposure, New York Liver biopsy findings: mitochondrial alterations, lipid droplets in cells, and dilated smooth endoplasmic reticulum. Hypertension and elevated serum cholesterol, triglycerides in d).

BLOOD SERUM; OCCUPATIONAL EXPOSURE; NEW YORK; CASE HISTORIES; BIOPSIES; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; INDUSTRIAL CHEMICALS
Schecter, A.; Tiernan, T.; Schaffner, F.; Taylor, M.; Gitlitz, G.; VanNess, G.F.; Garrett, J.H.; Wagel, D.J. 1985 Environmental Health Perspectives 60:241-254

Biphenyl, chloro (8 Cl); 1,1'-Biphenyl, chloro derivs (9 Cl)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11786 Blood, serum		a) Not given b) Not given c) Not given	a) <4.27 ppb b) 9.06 ppb c) 6.98 ppb Median	a) Cord. 744 cases, maximum 410.00 ppb, 88% below detection limit (ND) b) Maternal, at birth. 872 cases, maximum 88.80 ppb, 13% ND c) Maternal, 6 wk postpartum. 802 cases, maximum 44.60 ppb, 26% ND Improved analytical method. 18-41 (median 27) yr old North Carolina residents GLC

MILK; BLOOD SERUM; PLACENTA; ENVIRONMENTAL EXPOSURE; CONSUMER EXPOSURE; NORTH CAROLINA; NEWBORN; COMPARATIVE EVALUATIONS; MEASUREMENT METHODS; POLYCHLORINATED BIPHENYLS; INSECTICIDES; BIOACCUMULATION; LACTATION; PESTICIDE RESIDUES; POPULATION EXPOSURE; SMOKING; TRANSPLACENTAL TRANSFER

Rogan, W.J.; Gladen, B.C.; McKinney, J.D.; Carreras, N.; Hardy, P.; Thullen, J.; Tingelstad, J.; Tully, M. 1986 American Journal of Public Health 76(2):172-177

Tissue	Cases Exposure Route	Range	Mean	General Information
11787 Blood, serum	55	a) 2.0-20 ppb b) 1.0-8.0 ppb c) 3.0-97.0 ppb d) 2.0-20.0 ppb e) 1.0-8.0 ppb f) 3.0-97.0 ppb g) 4.8-13.0 ppb h) 2.0-15.0 ppb i) 3.1-65.0 ppb	a) 6.4+/-5.9 ppb b) 3.3+/-2.5 ppb c) 14.4+/-18.1 ppb d) 7.0+/-4.7 ppb e) 3.0+/-2.5 ppb f) 14.7+/-19.3 ppb g) 7.5+/-3.2 ppb h) 5.5+/-4.9 ppb i) 15.3+/-15.0 ppb	a) 8 male office workers, tested in 1983 only b) 9 females c) 38 male production workers d) 6 male office workers, 2-yr study, 1983 e) 6 females f) 32 male production workers g) 6 male office workers, 2-yr study, 1984 h) 6 females i) 32 male production workers Worked at contaminated site for 3 yr. Mean levels in soil, stream sediment, production, and office areas were, respectively: 1,279 mg/kg, 4,714 mg/kg, 161 ug/100 sq cm, 23 ug/100 sq cm. None detected in air samples. Workers in gear plant which had been previously contaminated with PCBs. GC-EC

ENVIRONMENTAL EXPOSURE; OCCUPATIONAL HAZARDS; POLYCHLORINATED BIPHENYLS; BLOOD SERUM; INDUSTRIAL CHEMICALS; MASSACHUSETTS

Christiani, D.C.; Kriebel, D.; Fox, N.J.; Baker, E.L. 1986 American Journal of Industrial Medicine 10:143-151

Tissue	Cases Exposure Route	Range	Mean	General Information
11788 Blood, vessels	1 Ingestion	Not applicable	5320 ppm [sic]	Vein and arterial jugulars, at autopsy. Victim treated prior to death with 13-cis-retinoic acid, Terramycin, Airol topical, Hostacycline, and Multivita. 23 yr old, hospitalized for treatment of poisoning, sudden death from unknown cause Multiple acneform lesions GC-EC

BLOOD; LUNGS; TONGUE; KIDNEYS; LIVER; STOMACH; HEART; BLADDER; BRAIN; GASTROINTESTINAL SYSTEM; SPLEEN; BLOOD VESSELS; CONSUMER EXPOSURE; TAIWAN; ADULTS; INFECTION; LIVER DISEASES; SKIN DISEASES; POLYCHLORINATED BIPHENYLS; INDUSTRIAL CHEMICALS; ACCIDENTAL POISONING; BIOLOGICAL MONITORING; FOOD CONTAMINATION; AUTOPSIES; POPULATION EXPOSURE

Hsu, S.-T.; Ma, C.-I.; Hsu, S.K.-H.; Wu, S.-S.; Hsu, N.H.-M.; Yeh, C.-C.; Wu, S.-B. 1985 Environmental Health Perspectives 59:5-10

Biphenyl, chloro (8 Cl); 1,1'-Biphenyl, chloro derivs (9 Cl)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11789 Blood, whole	About 35-40	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 28.8+/-11.8 ppb b) 121.9+/-76.1 ppb c) 68.2+/-31.8 ppb d) 11.2+/-5.7 ppb e) 88.3+/-64.1 ppb f) 64.7+/-37.7 ppb	a) 1973 level. Kanechlor-300 (chlorine content 43%) handled until 1972 b) KC-300 and KC-500 (55% chlorine) handled until 1972 c) KC-300 and KC-500 handled until 1971 d) 1980 level. KC-300 handled until 1972 e) KC-300 and KC-500 handled until 1971 Follow-up study (use of PCB's stopped in 1972). Level after exposure to both compounds significantly higher, and rate of decline lower, than after KC-300 alone. Significantly correlated (0.83, $p<0.001$) with duration of exposure. Active and retired workers in electric capacitor factory, Shiga Prefecture, Japan Mild dermatologic complaints in some workers Serum triglyceride level significantly correlated with levels ($p<0.05$) in 1974 GC

BLOOD; MILK; OCCUPATIONAL EXPOSURE; JAPAN; POLYCHLORINATED BIPHENYLS; INDUSTRIAL CHEMICALS; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS
Hara, I. 1985 Environmental Health Perspectives 59:85-90

Tissue	Cases Exposure Route	Range	Mean	General Information
11790 Brain	1 Ingestion	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable g) Not applicable	a) 0.01 ppm b) 0.01 ppm c) 0.03 ppm d) 0.01 ppm e) 0.01 ppm f) 0.01 ppm g) 0.08 ppm	a) 2,4,2',4',5'-PCB b) 2,4,5,2',4',5'-PCB c) 2,3,4,2',4',5'-PCB d) 2,3,4,5,3',4'-PCB e) 2,3,4,5,2',4',5'-PCB f) 2,3,4,5,3',4'-PCB g) Total Autopsy data. Patient who died 2 yr after onset of PCB-poisoning. GC-EC

BLOOD; ADIPOSE TISSUE; BRONCHUS; INTESTINES; HEART; STOMACH; LIVER; KIDNEYS; LUNGS; BRAIN; SPLEEN; CONSUMER EXPOSURE; TAIWAN; NUTRITIONAL DISORDERS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUARTEPHENYLS; BIOACCUMULATION; FOOD CONTAMINATION; RICE; ACCIDENTAL POISONING; HEALTH HAZARDS; AUTOPSIES
Chen, P.H.; Wong, C.-K.; Rappe, C.; Nygren, M. 1985 Environmental Health Perspectives 59:59-65

Biphenyl, chloro (8 Cl); 1,1'-Biphenyl, chloro derivs (9 Cl)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11791 Brain	1 Ingestion	Not applicable	222 ppm [sic]	At autopsy Victim treated prior to death with 13-cis-retinoic acid, Terramycin, Airol topical, Hostacycline, and Multivita. 23 yr old, hospitalized for treatment of poisoning, sudden death from unknown cause Multiple acneform lesions GC-EC

BLOOD; LUNGS; TONGUE; KIDNEYS; LIVER; STOMACH; HEART; BLADDER; BRAIN; GASTROINTESTINAL SYSTEM; SPLEEN; BLOOD VESSELS; CONSUMER EXPOSURE; TAIWAN; ADULTS; INFECTION; LIVER DISEASES; SKIN DISEASES; POLYCHLORINATED BIPHENYLS; INDUSTRIAL CHEMICALS; ACCIDENTAL POISONING; BIOLOGICAL MONITORING; FOOD CONTAMINATION; AUTOPSIES; POPULATION EXPOSURE

Hsu, S.-T.; Ma, C.-I.; Hsu, S.K.-H.; Wu, S.-S.; Hsu, N.H.-M.; Yeh, C.-C.; Wu, S.-B. 1985 Environmental Health Perspectives 59:5-10

Tissue	Cases Exposure Route	Range	Mean	General Information
11792 Bronchus	1 Ingestion	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable g) Not applicable	a) 0.92 ppm b) 0.75 ppm c) 1.79 ppm d) 0.86 ppm e) 0.63 ppm f) 0.61 ppm g) 5.56 ppm	a) 2,4,2',4',5'-PCB b) 2,4,5,2',4',5'-PCB c) 2,3,4,2',4',5'-PCB d) 2,3,4,5,3',4'-PCB e) 2,3,4,5,2',4',5'-PCB f) 2,3,4,5,3',4'-PCB g) Total Autopsy data. Patient who died 2 yr after onset of PCB-poisoning. GC-EC
11793 Heart	1 Ingestion	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable g) Not applicable	a) 0.41 ppm b) 0.32 ppm c) 0.80 ppm d) 0.38 ppm e) 0.29 ppm f) 0.28 ppm g) 2.48 ppm	a) 2,4,2',4',5'-PCB b) 2,4,5,2',4',5'-PCB c) 2,3,4,2',4',5'-PCB d) 2,3,4,5,3',4'-PCB e) 2,3,4,5,2',4',5'-PCB f) 2,3,4,5,3',4'-PCB g) Total Autopsy data. Patient who died 2 yr after onset of PCB-poisoning. GC-EC

BLOOD; ADIPOSE TISSUE; BRONCHUS; INTESTINES; HEART; STOMACH; LIVER; KIDNEYS; LUNGS; BRAIN; SPLEEN; CONSUMER EXPOSURE; TAIWAN; NUTRITIONAL DISORDERS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUARTEPHENYLS; BIOACCUMULATION; FOOD CONTAMINATION; RICE; ACCIDENTAL POISONING; HEALTH HAZARDS; AUTOPSIES

Chen, P.H.; Wong, C.-K.; Rappe, C.; Nygren, M. 1985 Environmental Health Perspectives 59:59-65

Biphenyl, chloro (8 Cl); 1,1'-Biphenyl, chloro derivs (9 Cl)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11794 Heart	1 Ingestion	Not applicable	3317 ppm [sic]	At autopsy Victim treated prior to death with 13-cis-retinoic acid, Terramycin, Airol topical, Hostacycline, and Multivita. 23 yr old, hospitalized for treatment of poisoning, sudden death from unknown cause Multiple acneform lesions GC-EC

BLOOD; LUNGS; TONGUE; KIDNEYS; LIVER; STOMACH; HEART; BLADDER; BRAIN; GASTROINTESTINAL SYSTEM; SPLEEN; BLOOD VESSELS; CONSUMER EXPOSURE; TAIWAN; ADULTS; INFECTION; LIVER DISEASES; SKIN DISEASES; POLYCHLORINATED BIPHENYLS; INDUSTRIAL CHEMICALS; ACCIDENTAL POISONING; BIOLOGICAL MONITORING; FOOD CONTAMINATION; AUTOPSIES; POPULATION EXPOSURE

Hsu, S.-T.; Ma, C.-I.; Hsu, S.K.-H.; Wu, S.-S.; Hsu, N.H.-M.; Yeh, C.-C.; Wu, S.-B. 1985 Environmental Health Perspectives 59:5-10

Tissue	Cases Exposure Route	Range	Mean	General Information
11795 Intestine	1 Ingestion	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable g) Not applicable	a) 0.60 ppm b) 0.49 ppm c) 1.12 ppm d) 0.51 ppm e) 0.44 ppm f) 0.39 ppm g) 3.55 ppm	a) 2,4,2',4',5'-PCB b) 2,4,5,2',4',5'-PCB c) 2,3,4,2',4',5'-PCB d) 2,3,4,5,3',4'-PCB e) 2,3,4,5,2',4',5'-PCB f) 2,3,4,5,3',4'-PCB g) Total Autopsy data. Includes large and small intestine. Large intestine levels approximately 10-fold higher than small intestine levels. Patient who died 2 yr after onset of PCB-poisoning. GC-EC

BLOOD; ADIPOSE TISSUE; BRONCHUS; INTESTINES; HEART; STOMACH; LIVER; KIDNEYS; LUNGS; BRAIN; SPLEEN; CONSUMER EXPOSURE; TAIWAN; NUTRITIONAL DISORDERS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUARTEPHENYLS; BIOACCUMULATION; FOOD CONTAMINATION; RICE; ACCIDENTAL POISONING; HEALTH HAZARDS; AUTOPSIES

Chen, P.H.; Wong, C.-K.; Rappe, C.; Nygren, M. 1985 Environmental Health Perspectives 59:59-65

Tissue	Cases Exposure Route	Range	Mean	General Information
11796 Intestine	1 Ingestion	a) Not applicable b) Not applicable	a) 656 ppm [sic] b) 5889 ppm [sic]	a) Small intestines b) Colon At autopsy. Victim treated prior to death with 13-cis-retinoic acid, Terramycin, Airol topical, Hostacycline, and Multivita. 23 yr old, hospitalized for treatment of poisoning, sudden death from unknown cause Multiple acneform lesions GC-EC

BLOOD; LUNGS; TONGUE; KIDNEYS; LIVER; STOMACH; HEART; BLADDER; BRAIN; GASTROINTESTINAL SYSTEM; SPLEEN; BLOOD VESSELS; CONSUMER EXPOSURE; TAIWAN; ADULTS; INFECTION; LIVER DISEASES; SKIN DISEASES; POLYCHLORINATED BIPHENYLS; INDUSTRIAL CHEMICALS; ACCIDENTAL POISONING; BIOLOGICAL MONITORING; FOOD CONTAMINATION; AUTOPSIES; POPULATION EXPOSURE

Hsu, S.-T.; Ma, C.-I.; Hsu, S.K.-H.; Wu, S.-S.; Hsu, N.H.-M.; Yeh, C.-C.; Wu, S.-B. 1985 Environmental Health Perspectives 59:5-10

Biphenyl, chloro (8 Cl); 1,1'-Biphenyl, chloro derivs (9 Cl)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11797 Intestine	a) 1 b) 1 c) 1 Ingestion	a) Not applicable b) Not applicable c) Not applicable	a) 3472 ppb b) 3630 ppb c) 1273 ppb	a) 7 yr b) 9 yr c) 9 yr After ingestion of contaminated rice oil in 1968. Autopsies. Patients from Fukuoka, Japan GC-EC

LIVER; INTESTINES; ADIPOSE TISSUE; MILK; ENVIRONMENTAL EXPOSURE; JAPAN; TAIWAN; ADULTS; AUTOPSIES; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUARTERPHENYLS; CHLORINE ORGANIC COMPOUNDS; ACCIDENTAL POISONING; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; RICE
Miyata, H.; Fukushima, S.; Kashimoto, T.; Kunita, N. 1985 Environmental Health Perspectives 59:67-72

Tissue	Cases Exposure Route	Range	Mean	General Information
11798 Kidney	1 Ingestion	Not applicable	443 ppm [sic]	At autopsy Victim treated prior to death with 13-cis-retinoic acid, Terramycin, Airol topical, Hostacycline, and Multivita. 23 yr old, hospitalized for treatment of poisoning, sudden death from unknown cause Multiple acneform lesions GC-EC

BLOOD; LUNGS; TONGUE; KIDNEYS; LIVER; STOMACH; HEART; BLADDER; BRAIN; GASTROINTESTINAL SYSTEM; SPLEEN; BLOOD VESSELS; CONSUMER EXPOSURE; TAIWAN; ADULTS; INFECTION; LIVER DISEASES; SKIN DISEASES; POLYCHLORINATED BIPHENYLS; INDUSTRIAL CHEMICALS; ACCIDENTAL POISONING; BIOLOGICAL MONITORING; FOOD CONTAMINATION; AUTOPSIES; POPULATION EXPOSURE
Hsu, S.-T.; Ma, C.-I.; Hsu, S.K.-H.; Wu, S.-S.; Hsu, N.H.-M.; Yeh, C.-C.; Wu, S.-B. 1985 Environmental Health Perspectives 59:5-10

Biphenyl, chloro (8 Cl); 1,1'-Biphenyl, chloro derivs (9 Cl)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11799 Kidney	1 Ingestion	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable g) Not applicable	a) 0.04 ppm b) 0.03 ppm c) 0.08 ppm d) 0.04 ppm e) 0.03 ppm f) 0.03 ppm g) 0.25 ppm	a) 2,4,2',4',5'-PCB b) 2,4,5,2',4',5'-PCB c) 2,3,4,2',4',5'-PCB d) 2,3,4,5,3',4'-PCB e) 2,3,4,5,2',4',5'-PCB f) 2,3,4,5,3',4'-PCB g) Total Autopsy data. Patient who died 2 yr after onset of PCB-poisoning. GC-EC
11800 Liver	1 Ingestion	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable g) Not applicable	a) 0.11 ppm b) 0.08 ppm c) 0.21 ppm d) 0.10 ppm e) 0.08 ppm f) 0.07 ppm g) 0.65 ppm	a) 2,4,2',4',5'-PCB b) 2,4,5,2',4',5'-PCB c) 2,3,4,2',4',5'-PCB d) 2,3,4,5,3',4'-PCB e) 2,3,4,5,2',4',5'-PCB f) 2,3,4,5,3',4'-PCB g) Total Autopsy data. Patient who died 2 yr after onset of PCB-poisoning. GC-EC

BLOOD; ADIPOSE TISSUE; BRONCHUS; INTESTINES; HEART; STOMACH; LIVER; KIDNEYS; LUNGS; BRAIN; SPLEEN; CONSUMER EXPOSURE; TAIWAN; NUTRITIONAL DISORDERS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUARTEPHENYLS; BIOACCUMULATION; FOOD CONTAMINATION; RICE; ACCIDENTAL POISONING; HEALTH HAZARDS; AUTOPSIES

Chen, P.H.; Wong, C.-K.; Rappe, C.; Nygren, M. 1985 Environmental Health Perspectives 59:59-65

Tissue	Cases Exposure Route	Range	Mean	General Information
11801 Liver	1 Ingestion	Not applicable	668 ppm [sic]	At autopsy Victim treated prior to death with 13-cis-retinoic acid, Terramycin, Airol topical, Hostacycline, and Multivita. 23 yr old, hospitalized for treatment of poisoning, sudden death from unknown cause Multiple acneform lesions GC-EC

BLOOD; LUNGS; TONGUE; KIDNEYS; LIVER; STOMACH; HEART; BLADDER; BRAIN; GASTROINTESTINAL SYSTEM; SPLEEN; BLOOD VESSELS; CONSUMER EXPOSURE; TAIWAN; ADULTS; INFECTION; LIVER DISEASES; SKIN DISEASES; POLYCHLORINATED BIPHENYLS; INDUSTRIAL CHEMICALS; ACCIDENTAL POISONING; BIOLOGICAL MONITORING; FOOD CONTAMINATION; AUTOPSIES; POPULATION EXPOSURE

Hsu, S.-T.; Ma, C.-I.; Hsu, S.K.-H.; Wu, S.-S.; Hsu, N.H.-M.; Yeh, C.-C.; Wu, S.-B. 1985 Environmental Health Perspectives 59:5-10

Biphenyl, chloro (8 Cl); 1,1'-Biphenyl, chloro derivs (9 Cl)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11802 Liver	5 Ingestion	a) 28-100 ppb b) 0.1-0.5 ppb c) 0.3-0.7 ppb d) 9-56 ppb e) Not detected f) 0.04-0.05 ppb	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) Yusho patients, 3 cases b) Methylthio metabolite, 3 cases c) Methylsulfone metabolite, 3 cases d) Controls, 2 cases e) Methylthio metabolite, 2 cases f) Methylsulfone metabolite, 2 cases Exposed to contaminated rice oil in western Japan in 1968. Limit of detection 0.01 ppb. Fukuoka, Japan Acneform eruptions, hypersecretion of Meibomian glands, hyperpigmentation of the face, eyelids, gingiva, nails and mucous membrane, abdominal pain, headache, general fatigue. GC-EC

BLOOD; LIVER; ADIPOSE TISSUE; LUNGS; ENVIRONMENTAL EXPOSURE; JAPAN; TAIWAN; AUTOPSIES; INFANTS; ADULTS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUATERPHENYLS; CHLORINE ORGANIC COMPOUNDS; ACCIDENTAL POISONING; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; RICE
Masuda, Y.; Kuroki, H.; Haraguchi, K.; Nagayama, J. 1985 Environmental Health Perspectives 59:53-58

Tissue	Cases Exposure Route	Range	Mean	General Information
11803 Liver	a) 1 b) 1 c) 1 d) 1 e) 1 f) 14 Ingestion	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not given	a) 226 ppb b) 68 ppb c) 114 ppb d) 64 ppb e) 18 ppb f) 3.3 ppb	a) 1 yr b) 4 yr c) 7 yr d) 9 yr e) 9 yr f) Controls After ingestion of contaminated rice oil in 1968. Autopsies. Controls and patients from Fukuoka, Japan GC-EC

LIVER; INTESTINES; ADIPOSE TISSUE; MILK; ENVIRONMENTAL EXPOSURE; JAPAN; TAIWAN; ADULTS; AUTOPSIES; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUARTERPHENYLS; CHLORINE ORGANIC COMPOUNDS; ACCIDENTAL POISONING; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; RICE
Miyata, H.; Fukushima, S.; Kashimoto, T.; Kunita, N. 1985 Environmental Health Perspectives 59:67-72

Biphenyl, chloro (8 Cl); 1,1'-Biphenyl, chloro derivs (9 Cl)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11804 Lung	1 Ingestion	Not applicable	94 ppm [sic]	At autopsy Victim treated prior to death with 13-cis-retinoic acid, Terramycin, Airol topical, Hostacycline, and Multivita. 23 yr old, hospitalized for treatment of poisoning, sudden death from unknown cause Multiple acneform lesions GC-EC

BLOOD; LUNGS; TONGUE; KIDNEYS; LIVER; STOMACH; HEART; BLADDER; BRAIN; GASTROINTESTINAL SYSTEM; SPLEEN; BLOOD VESSELS; CONSUMER EXPOSURE; TAIWAN; ADULTS; INFECTION; LIVER DISEASES; SKIN DISEASES; POLYCHLORINATED BIPHENYLS; INDUSTRIAL CHEMICALS; ACCIDENTAL POISONING; BIOLOGICAL MONITORING; FOOD CONTAMINATION; AUTOPSIES; POPULATION EXPOSURE

Hsu, S.-T.; Ma, C.-I.; Hsu, S.K.-H.; Wu, S.-S.; Hsu, N.H.-M.; Yeh, C.-C.; Wu, S.-B. 1985 Environmental Health Perspectives 59:5-10

Tissue	Cases Exposure Route	Range	Mean	General Information
11805 Lung	1 Ingestion	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable g) Not applicable	a) 0.03 ppm b) 0.02 ppm c) 0.06 ppm d) 0.03 ppm e) 0.02 ppm f) 0.02 ppm g) 0.18 ppm	a) 2,4,2',4',5'-PCB b) 2,4,5,2',4',5'-PCB c) 2,3,4,2',4',5'-PCB d) 2,3,4,5,3',4'-PCB e) 2,3,4,5,2',4',5'-PCB f) 2,3,4,5,3',4'-PCB g) Total Autopsy data. Patient who died 2 yr after onset of PCB-poisoning. GC-EC

BLOOD; ADIPOSE TISSUE; BRONCHUS; INTESTINES; HEART; STOMACH; LIVER; KIDNEYS; LUNGS; BRAIN; SPLEEN; CONSUMER EXPOSURE; TAIWAN; NUTRITIONAL DISORDERS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUARTEPHENYLS; BIOACCUMULATION; FOOD CONTAMINATION; RICE; ACCIDENTAL POISONING; HEALTH HAZARDS; AUTOPSIES

Chen, P.H.; Wong, C.-K.; Rappe, C.; Nygren, M. 1985 Environmental Health Perspectives 59:59-65

Biphenyl, chloro (8 Cl); 1,1'-Biphenyl, chloro derivs (9 Cl)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11806 Lung	5 Ingestion	a) 18-66 ppb b) 0.2-1.4 ppb c) 1.0-2.5 ppb d) 7-18 ppb e) 0.05-0.07 ppb f) 0.2-0.9 ppb	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) Yusho patients, 3 cases b) Methylthio metabolite, 3 cases c) Methylsulfone metabolite, 3 cases d) Controls, 2 cases e) Methylthio metabolite, 2 cases f) Methylsulfone metabolite, 2 cases Exposed to contaminated rice oil in western Japan in 1968. Limit of detection 0.01 ppb. Fukuoka, Japan Acneform eruptions, hypersecretion of Meibomian glands, hyperpigmentation of the face, eyelids, gingiva, nails and mucous membrane, abdominal pain, headache, general fatigue. GC-EC

BLOOD; LIVER; ADIPOSE TISSUE; LUNGS; ENVIRONMENTAL EXPOSURE; JAPAN; TAIWAN; AUTOPSIES; INFANTS; ADULTS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUATERPHENYLS; CHLORINE ORGANIC COMPOUNDS; ACCIDENTAL POISONING; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; RICE
Masuda, Y.; Kuroki, H.; Haraguchi, K.; Nagayama, J. 1985 Environmental Health Perspectives 59:53-58

Tissue	Cases Exposure Route	Range	Mean	General Information
11807 Milk	36	3-30 ng/ml	Not given	Collected 1 wk after parturition. Positively correlated (r=0.745) with placental levels. Estimated from graph. Healthy volunteers from rural area of Ibaraki Prefecture in central Japan. GC/MS

PLACENTA; BLOOD; MILK; ENVIRONMENTAL EXPOSURE; JAPAN; ADULTS; NEWBORN; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; LACTATION; TRANSPLACENTAL TRANSFER
Ando, M.; Saito, H.; Wakisaka, I. 1985 Archives of Environmental Contamination and Toxicology 14:51-57

Tissue	Cases Exposure Route	Range	Mean	General Information
11808 Milk	8	30-400 ppb	Not given	Levels correlated with blood levels ($r=0.98$, $p<0.001$). Lactating mothers. Births after PCB-exposure, Shiga Prefecture, Japan GC

BLOOD; MILK; OCCUPATIONAL EXPOSURE; JAPAN; POLYCHLORINATED BIPHENYLS; INDUSTRIAL CHEMICALS; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS
Hara, I. 1985 Environmental Health Perspectives 59:85-90

Biphenyl, chloro (8 Cl); 1,1'-Biphenyl, chloro derivs (9 Cl)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11809 Milk	40	Not given	26.5+/-2.5 ng/g S.E.	Survey from urban and rural areas on Lake Ontario (Rochester, Oswego) and mixed area on Hudson River (Albany). Total of 8 PCB congeners and p,p'-DDE comprised 88% of detected chlorinated hydrocarbons with latter as primary pollutant (mean 78 ng/g wet wt). Mothers, 3 wk postpartum, New York, collections in 1979. Lake Ontario areas contaminated with Aroclor 1254 and 1260 type mixture and Hudson River with Aroclor 1242-type mixture. GC

MILK; NEW YORK; ENVIRONMENTAL EXPOSURE; URBAN AREAS; RURAL AREAS; WATER POLLUTION; DRINKING WATER
Bush, B.; Snow, J.; Connor, S.; Koblintz, R. 1985 Archives of Environmental Contamination and Toxicology 14:443-450

Tissue	Cases Exposure Route	Range	Mean	General Information
11810 Milk, fat		Not given	1.3 mg/kg	From 10 kg sample collected in 1978 and 1979 as part of WHO Collaborative Study on the Quantity and Quality of Breast Milk. New methodology. Lactating mothers, Uppsala, Sweden GC/MS

MILK; ENVIRONMENTAL EXPOSURE; ADULTS; SWEDEN; HEXACHLOROCYCLOHEXANE; DDE; DDD; DDT; OXYCHLORDANE; NONACHLOR; POLYCHLORINATED BIPHENYLS; INSECTICIDES; BIOACCUMULATION; LACTATION; PESTICIDE RESIDUES
Vaz, R.; Blomkvist, G. 1985 Chemosphere 14(2):223-231

Tissue	Cases Exposure Route	Range	Mean	General Information
11811 Milk, fat	Ingestion	Not applicable	6241 ppb	11 yr after exposure in 1977. Asymptomatic after discontinuation of exposure. Occupationally exposed worker, Japan Dermal lesions, chloracne, dark-colored pigmentation. GC-EC

LIVER; INTESTINES; ADIPOSE TISSUE; MILK; ENVIRONMENTAL EXPOSURE; JAPAN; TAIWAN; ADULTS; AUTOPSIES; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUARTERPHENYLS; CHLORINE ORGANIC COMPOUNDS; ACCIDENTAL POISONING; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; RICE
Miyata, H.; Fukushima, S.; Kashimoto, T.; Kunita, N. 1985 Environmental Health Perspectives 59:67-72

Biphenyl, chloro (8 Cl); 1,1'-Biphenyl, chloro derivs (9 Cl)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11812 Milk, fat	a) 47 b) 52 c) 204 d) 58 e) 50 f) 50 g) 81	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 0.8 mg/kg b) 0.4 mg/kg c) 0.3 mg/kg d) 1.0 mg/kg e) 0.6 mg/kg f) <1 mg/kg g) 2.1 mg/kg	a) Belgium b) Israel c) Japan d) Sweden e) Yugoslavia f) USA g) Germany Medians. Levels determined by Sawyer method, except that reported by Germany. Not detected in China, India, or Mexico. Limit of detection 1 mg/kg in USA. Estimated from graph. Participants in UNEP/WHO pilot project on biological monitoring.

MILK; ENVIRONMENTAL EXPOSURE; BELGIUM; CHINA; GERMANY; INDIA; ISRAEL; JAPAN; MEXICO; SWEDEN; YUGOSLAVIA; UNITED STATES; ADULTS; DDT; DDE; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; LACTATION
Slorach, S.A.; Vaz, R. 1985 Environmental Health Perspectives 60:121-126

Tissue	Cases Exposure Route	Range	Mean	General Information
11813 Milk, fat				Review of effects, in both laboratory animals and humans, of halogenated aromatics.

REVIEW; BIPHENYL COMPOUNDS; CHLORINE ORGANIC COMPOUNDS; POLYCHLORINATED BIPHENYLS; ADIPOSE TISSUE; BLOOD; MILK
Kimbrough, R.D. 1985 Environmental Health Perspectives 59:99-106

Tissue	Cases Exposure Route	Range	Mean	General Information
11814 Milk, fat	95	0.06-3.80 mg/kg	0.54 mg/kg	Median was 0.40 mg/kg and mean, on whole milk basis, 16.50 ug/kg. General trend of decreasing levels shows effectiveness of restrictions or bans on use of these substances. 19-36 yr olds (mean 26), 2-12 wk post-parturition. Jerusalem, Israel GC-EC

MILK; ENVIRONMENTAL EXPOSURE; ISRAEL; POLYCHLORINATED BIPHENYLS; PESTICIDES; CHLORINE ORGANIC COMPOUNDS
Weisenberg, E.; Arad, I.; Grauer, F.; Sahm, Z. 1985 Archives of Environmental Contamination and Toxicology 14:517-521

Biphenyl, chloro (8 Cl); 1,1'-Biphenyl, chloro derivs (9 Cl)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11815 Milk, fat				Review of clinical features in children, and of fetal and infant development, as related to mothers' consumption of contaminated oil and levels in mother's milk. Some studies found a high incidence of inappropriately light birth weight for gestation period. This was especially true in females in whom this incidence was correlated with grades of PCB levels in mothers' milk. From published and unpublished data. Japan

MILK; ENVIRONMENTAL EXPOSURE; JAPAN; CHILDREN; FETUS; INFANTS; NEWBORN; SKIN DISEASES; REVIEW; POLYCHLORINATED BIPHENYLS; INDUSTRIAL CHEMICALS; ACCIDENTAL POISONING; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; POPULATION EXPOSURE; TRANSPLACENTAL TRANSFER
Yamashita, F.; Hayashi, M. 1985 Environmental Health Perspectives 59:41-45

Tissue	Cases Exposure Route	Range	Mean	General Information
11816 Milk, fat		a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 1.77 ppm b) 1.53 ppm c) 1.46 ppm d) 1.38 ppm e) 1.18 ppm f) 1.17 ppm g) 1.02 ppm Median	a) At birth. 733 cases, maximum 16.00 ppm, 13% below detection limit (ND) b) 6 wk postpartum. 617 cases, maximum 14.80 ppm, 6% ND c) 3 mo. 498 cases, maximum 15.00 ppm, 9% ND d) 6 mo. 362 cases, maximum 17.10 ppm, 12% ND e) 9 mo. 62 cases, maximum 3.20 ppm, 6% ND f) 1 yr. 101 cases, maximum 2.54 ppm, 11% ND g) 18 mo. 32 cases, maximum 3.28 ppm, 16% ND Levels increased with age and showed effects of occupation. Women consuming >/=1 alcoholic drink/wk had 13% higher levels. Data on siblings showed median 26% drop in levels between first and second lactations. Improved analytical method. 18-41 (median 27) yr old North Carolina residents GLC

MILK; BLOOD SERUM; PLACENTA; ENVIRONMENTAL EXPOSURE; CONSUMER EXPOSURE; NORTH CAROLINA; NEWBORN; COMPARATIVE EVALUATIONS; MEASUREMENT METHODS; POLYCHLORINATED BIPHENYLS; INSECTICIDES; BIOACCUMULATION; LACTATION; PESTICIDE RESIDUES; POPULATION EXPOSURE; SMOKING; TRANSPLACENTAL TRANSFER
Rogan, W.J.; Gladen, B.C.; McKinney, J.D.; Carreras, N.; Hardy, P.; Thullen, J.; Tingelstad, J.; Tully, M. 1986 American Journal of Public Health 76(2):172-177

Tissue	Cases Exposure Route	Range	Mean	General Information
11817 Milk, whole				Review of clinical features in children, and of fetal and infant development, as related to mothers' consumption of contaminated oil and levels in mother's milk. Some studies found a high incidence of inappropriately light birth weight for gestation period. This was especially true in females in whom this incidence was correlated with grades of PCB levels in mothers' milk. From published and unpublished data. Japan

MILK; ENVIRONMENTAL EXPOSURE; JAPAN; CHILDREN; FETUS; INFANTS; NEWBORN; SKIN DISEASES; REVIEW; POLYCHLORINATED BIPHENYLS; INDUSTRIAL CHEMICALS; ACCIDENTAL POISONING; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; POPULATION EXPOSURE; TRANSPLACENTAL TRANSFER
Yamashita, F.; Hayashi, M. 1985 Environmental Health Perspectives 59:41-45

Biphenyl, chloro (8 Cl); 1,1'-Biphenyl, chloro derivs (9 Cl)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11818 Placenta	36	4-23 ng/g Dry wt	Not given	Samples collected immediately after delivery. Positive correlation with milk (r=0.745) and maternal blood (r=0.715). Not significantly correlated with cord blood. Estimated from graph. Healthy volunteers from rural area of Ibaraki Prefecture in central Japan. GC/MS

PLACENTA; BLOOD; MILK; ENVIRONMENTAL EXPOSURE; JAPAN; ADULTS; NEWBORN; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; LACTATION; TRANSPLACENTAL TRANSFER
Ando, M.; Saito, H.; Wakisaka, I. 1985 Archives of Environmental Contamination and Toxicology 14:51-57

Tissue	Cases Exposure Route	Range	Mean	General Information
11819 Placenta		Not given	<12.00 ppb Median	790 cases, maximum 33.00 ppb, 97% below detection limit. Improved analytical method. 18-41 (median 27) yr old North Carolina residents GLC

MILK; BLOOD SERUM; PLACENTA; ENVIRONMENTAL EXPOSURE; CONSUMER EXPOSURE; NORTH CAROLINA; NEWBORN; COMPARATIVE EVALUATIONS; MEASUREMENT METHODS; POLYCHLORINATED BIPHENYLS; INSECTICIDES; BIOACCUMULATION; LACTATION; PESTICIDE RESIDUES; POPULATION EXPOSURE; SMOKING; TRANSPLACENTAL TRANSFER
Rogan, W.J.; Gladen, B.C.; McKinney, J.D.; Carreras, N.; Hardy, P.; Thullen, J.; Tingelstad, J.; Tully, M. 1986 American Journal of Public Health 76(2):172-177

Tissue	Cases Exposure Route	Range	Mean	General Information
11820 Spleen	1 Ingestion	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable g) Not applicable	a) 0.01 ppm b) 0.01 ppm c) 0.02 ppm d) 0.01 ppm e) 0.01 ppm f) 0.01 ppm g) 0.07 ppm	a) 2,4,2',4',5'-PCB b) 2,4,5,2',4',5'-PCB c) 2,3,4,2',4',5'-PCB d) 2,3,4,5,3',4'-PCB e) 2,3,4,5,2',4',5'-PCB f) 2,3,4,5,3',4'-PCB g) Total Autopsy data. Patient who died 2 yr after onset of PCB-poisoning. GC-EC

BLOOD; ADIPOSE TISSUE; BRONCHUS; INTESTINES; HEART; STOMACH; LIVER; KIDNEYS; LUNGS; BRAIN; SPLEEN; CONSUMER EXPOSURE; TAIWAN; NUTRITIONAL DISORDERS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUARTEPHENYLS; BIOACCUMULATION; FOOD CONTAMINATION; RICE; ACCIDENTAL POISONING; HEALTH HAZARDS; AUTOPSIES
Chen, P.H.; Wong, C.-K.; Rappe, C.; Nygren, M. 1985 Environmental Health Perspectives 59:59-65

Biphenyl, chloro (8 Cl); 1,1'-Biphenyl, chloro derivs (9 Cl)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11821 Spleen	1 Ingestion	Not applicable	222 ppm [sic]	At autopsy Victim treated prior to death with 13-cis-retinoic acid, Terramycin, Airol topical, Hostacycline, and Multivita. 23 yr old, hospitalized for treatment of poisoning, sudden death from unknown cause Multiple acneform lesions GC-EC

BLOOD; LUNGS; TONGUE; KIDNEYS; LIVER; STOMACH; HEART; BLADDER; BRAIN; GASTROINTESTINAL SYSTEM; SPLEEN; BLOOD VESSELS; CONSUMER EXPOSURE; TAIWAN; ADULTS; INFECTION; LIVER DISEASES; SKIN DISEASES; POLYCHLORINATED BIPHENYLS; INDUSTRIAL CHEMICALS; ACCIDENTAL POISONING; BIOLOGICAL MONITORING; FOOD CONTAMINATION; AUTOPSIES; POPULATION EXPOSURE

Hsu, S.-T.; Ma, C.-I.; Hsu, S.K.-H.; Wu, S.-S.; Hsu, N.H.-M.; Yeh, C.-C.; Wu, S.-B. 1985 Environmental Health Perspectives 59:5-10

Tissue	Cases Exposure Route	Range	Mean	General Information
11822 Stomach	1 Ingestion	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable g) Not applicable	a) 0.12 ppm b) 0.09 ppm c) 0.21 ppm d) 0.09 ppm e) 0.08 ppm f) 0.07 ppm g) 0.66 ppm	a) 2,4,2',4',5'-PCB b) 2,4,5,2',4',5'-PCB c) 2,3,4,2',4',5'-PCB d) 2,3,4,5,3',4'-PCB e) 2,3,4,5,2',4',5'-PCB f) 2,3,4,5,3',4'-PCB g) Total Autopsy data. Patient who died 2 yr after onset of PCB-poisoning. GC-EC

BLOOD; ADIPOSE TISSUE; BRONCHUS; INTESTINES; HEART; STOMACH; LIVER; KIDNEYS; LUNGS; BRAIN; SPLEEN; CONSUMER EXPOSURE; TAIWAN; NUTRITIONAL DISORDERS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUARTEPHENYLS; BIOACCUMULATION; FOOD CONTAMINATION; RICE; ACCIDENTAL POISONING; HEALTH HAZARDS; AUTOPSIES

Chen, P.H.; Wong, C.-K.; Rappe, C.; Nygren, M. 1985 Environmental Health Perspectives 59:59-65

Tissue	Cases Exposure Route	Range	Mean	General Information
11823 Stomach	1 Ingestion	Not applicable	629 ppm [sic]	At autopsy Victim treated prior to death with 13-cis-retinoic acid, Terramycin, Airol topical, Hostacycline, and Multivita. 23 yr old, hospitalized for treatment of poisoning, sudden death from unknown cause Multiple acneform lesions GC-EC

(next page)

Biphenyl, chloro (8 Cl); 1,1'-Biphenyl, chloro derivs (9 Cl)
1336-36-3
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

(continued)

Tissue	Cases Exposure Route	Range	Mean	General Information
11824 Tongue	1 Ingestion	Not applicable	640 ppm [sic]	At autopsy Victim treated prior to death with 13-cis-retinoic acid, Terramycin, Airol topical, Hostacycline, and Multivita. 23 yr old, hospitalized for treatment of poisoning, sudden death from unknown cause Multiple acneform lesions GC-EC
BLOOD; LUNGS; TONGUE; KIDNEYS; LIVER; STOMACH; HEART; BLADDER; BRAIN; GASTROINTESTINAL SYSTEM; SPLEEN; BLOOD VESSELS; CONSUMER EXPOSURE; TAIWAN; ADULTS; INFECTION; LIVER DISEASES; SKIN DISEASES; POLYCHLORINATED BIPHENYLS; INDUSTRIAL CHEMICALS; ACCIDENTAL POISONING; BIOLOGICAL MONITORING; FOOD CONTAMINATION; AUTOPSIES; POPULATION EXPOSURE Hsu, S.-T.; Ma, C.-I.; Hsu, S.K.-H.; Wu, S.-S.; Hsu, N.H.-M.; Yeh, C.-C.; Wu, S.-B. 1985 Environmental Health Perspectives 59:5-10				

Biphenyl, 2-chloro- (8 Cl); 1,1'-Biphenyl, 2-chloro- (9 Cl)
2051-60-7
C12-H9-Cl

Tissue	Cases Exposure Route	Range	Mean	General Information
11825 Milk	40	Not given	0.2+/-0.06 ng/g S.E.	0.8% of total level from 22 congeners (all =/>0.19 ng/g <1.0 ng/g) accounting for 30% of mean total PCB residue of 26.5+/-2.5 ng/g (S.E.). Survey from urban and rural areas on Lake Ontario (Rochester, Oswego) and mixed area on Hudson River (Albany). Total of 8 other congeners (not the 22) and p,p'-DDE comprised 88% of detected chlorinated hydrocarbons with latter as primary pollutant (mean 78 ng/g wet wt). Mothers, 3 wk postpartum, New York, collections in 1979. Lake Ontario areas contaminated with Aroclor 1254 and 1260 type mixture and Hudson River with Aroclor 1242-type mixture. GC
MILK; NEW YORK; ENVIRONMENTAL EXPOSURE; URBAN AREAS; RURAL AREAS; WATER POLLUTION; DRINKING WATER Bush, B.; Snow, J.; Connor, S.; Koblintz, R. 1985 Archives of Environmental Contamination and Toxicology 14:443-450				

Biphenyl, 2,2'-dichloro- (8 CI); 1,1'-Biphenyl, 2,2'-dichloro- (9 CI)
13029-08-8
C12-H8-Cl2

Tissue	Cases Exposure Route	Range	Mean	General Information
11826 Milk	40	Not given	0.2+/-0.04 ng/g S.E.	0.8% of total level from 22 congeners (all =/>0.19 ng/g <1.0 ng/g) accounting for 30% of mean total PCB residue of 26.5+/-2.5 ng/g (S.E.). Survey from urban and rural areas on Lake Ontario (Rochester, Oswego) and mixed area on Hudson River (Albany). Total of 8 other congeners (not the 22) and p,p'-DDE comprised 88% of detected chlorinated hydrocarbons with latter as primary pollutant (mean 78 ng/g wet wt). Mothers, 3 wk postpartum, New York, collections in 1979. Lake Ontario areas contaminated with Aroclor 1254 and 1260 type mixture and Hudson River with Aroclor 1242-type mixture. GC

MILK; NEW YORK; ENVIRONMENTAL EXPOSURE; URBAN AREAS; RURAL AREAS; WATER POLLUTION; DRINKING WATER
Bush, B.; Snow, J.; Connor, S.; Koblintz, R. 1985 Archives of Environmental Contamination and Toxicology 14:443-450

Biphenyl, 2,3,3',4,4'-pentachloro- (8 CI); 1,1'-Biphenyl, 2,3,3',4,4'-pentachloro- (9 CI)
32598-14-4
C12-H5-Cl5
MW 316

Tissue	Cases Exposure Route	Range	Mean	General Information
11827 Blood	a) 7 b) 9 c) 10 Ingestion	a) Not given b) Not given c) Not given	a) 0.05+/-0.02 ppb b) Not detected c) 1.20+/-1.03 ppb	a) Controls b) Yusho patients exposed in western Japan in 1968 c) Yu-Cheng patients exposed in central Taiwan in 1979 Subjects ingested contaminated rice oil. Limit of detection 0.01 ppb. Controls and patients from Taiwan and Fukuoka, Japan. Acneform eruptions, hypersecretion of Meibomian glands, hyperpigmentation of the face, eyelids, gingiva, nails and mucous membrane, abdominal pain, headache, general fatigue. GC-EC

BLOOD; LIVER; ADIPOSE TISSUE; LUNGS; ENVIRONMENTAL EXPOSURE; JAPAN; TAIWAN; AUTOPSIES; INFANTS; ADULTS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUATERPHENYLS; CHLORINE ORGANIC COMPOUNDS; ACCIDENTAL POISONING; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; RICE
Masuda, Y.; Kuroki, H.; Haraguchi, K.; Nagayama, J. 1985 Environmental Health Perspectives 59:53-58

Biphenyl, 2,3,3',4,4'-pentachloro- (8 CI); 1,1'-Biphenyl, 2,3,3',4,4'-pentachloro- (9 CI)
32598-14-4
C12-H5-Cl5
MW 316

Tissue	Cases Exposure Route	Range	Mean	General Information
11828 Milk	40	Not given	0.97+/-0.2 ng/g S.E.	3.7% of total level from 8 congeners (all=/>1 ng/g) accounting for 52% of mean total PCB residue of 26.5+/-2.5 ng/g (S.E.). Survey from urban and rural areas on Lake Ontario (Rochester, Oswego) and mixed area on Hudson River (Albany). Total of 8 congeners and p,p'-DDE comprised 88% of detected chlorinated hydrocarbons with latter as primary pollutant (mean 78 ng/g wet wt). Mothers, 3 wk postpartum, New York, collections in 1979. Lake Ontario areas contaminated with Aroclor 1254 and 1260 type mixture and Hudson River with Aroclor 1242-type mixture. GC

MILK; NEW YORK; ENVIRONMENTAL EXPOSURE; URBAN AREAS; RURAL AREAS; WATER POLLUTION; DRINKING WATER
Bush, B.; Snow, J.; Connor, S.; Koblintz, R. 1985 Archives of Environmental Contamination and Toxicology 14:443-450

Biphenyl, 2,3,4,4'-tetrachloro- (8 CI); 1,1'-Biphenyl, 2,3,4,4'-tetrachloro- (9CI)
33025-41-1
C12-H6-Cl4
MW 291.98

Tissue	Cases Exposure Route	Range	Mean	General Information
11829 Milk	40	Not given	0.47+/-0.05 ng/g S.E.	1.8% of total level from 22 congeners (all =/>0.19 ng/g <1.0 ng/g) accounting for 30% of mean total PCB residue of 26.5+/-2.5 ng/g (S.E.). Survey from urban and rural areas on Lake Ontario (Rochester, Oswego) and mixed area on Hudson River (Albany). Total of 8 other congeners (not the 22) and p,p'-DDE comprised 88% of detected chlorinated hydrocarbons with latter as primary pollutant (mean 78 ng/g wet wt). Mothers, 3 wk postpartum, New York, collections in 1979. Lake Ontario areas contaminated with Aroclor 1254 and 1260 type mixture and Hudson River with Aroclor 1242-type mixture. GC

MILK; NEW YORK; ENVIRONMENTAL EXPOSURE; URBAN AREAS; RURAL AREAS; WATER POLLUTION; DRINKING WATER
Bush, B.; Snow, J.; Connor, S.; Koblintz, R. 1985 Archives of Environmental Contamination and Toxicology 14:443-450

Biphenyl, 2,3',4,4',5-pentachloro- (8 CI); 1,1'-Biphenyl, 2,3',4,4',5-pentachloro (9 CI)
31508-00-6
C12-H5-Cl5
MW 316

Tissue	Cases Exposure Route	Range	Mean	General Information
11830 Blood	a) 7 b) 9 c) 10 Ingestion	a) Not given b) Not given c) Not given	a) 0.22+/-0.09 ppb b) 0.13+/-0.05 ppb c) 3.46+/-2.37 ppb	a) Controls b) Yusho patients exposed in western Japan in 1968 c) Yu-Cheng patients exposed in central Taiwan in 1979 Subjects ingested contaminated rice oil. Limit of detection 0.01 ppb. Controls and patients from Taiwan and Fukuoka, Japan. Acneform eruptions, hypersecretion of Meibomian glands, hyperpigmentation of the face, eyelids, gingiva, nails and mucous membrane, abdominal pain, headache, general fatigue. GC-EC

BLOOD; LIVER; ADIPOSE TISSUE; LUNGS; ENVIRONMENTAL EXPOSURE; JAPAN; TAIWAN; AUTOPSIES; INFANTS; ADULTS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUATERPHENYLS; CHLORINE ORGANIC COMPOUNDS; ACCIDENTAL POISONING; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; RICE

Masuda, Y.; Kuroki, H.; Haraguchi, K.; Nagayama, J. 1985 Environmental Health Perspectives 59:53-58

Biphenyl, 2,3',4',5-tetrachloro- (8 CI); 1,1'Biphenyl, 2,3',4',5-tetrachloro- (9 CI)
32598-11-1
C12-H6-Cl4
MW 291.98

Tissue	Cases Exposure Route	Range	Mean	General Information
11831 Milk	40	Not given	1.7+/-0.2 ng/g S.E.	6.6% of total level from 8 congeners (all=/>1 ng/g) accounting for 52% of mean total PCB residue of 26.5+/-2.5 ng/g (S.E.). Survey from urban and rural areas on Lake Ontario (Rochester, Oswego) and mixed area on Hudson River (Albany). Total of 8 congeners and p,p'-DDE comprised 88% of detected chlorinated hydrocarbons with latter as primary pollutant (mean 78 ng/g wet wt). Mothers, 3 wk postpartum, New York, collections in 1979. Lake Ontario areas contaminated with Aroclor 1254 and 1260 type mixture and Hudson River with Aroclor 1242-type mixture. GC

MILK; NEW YORK; ENVIRONMENTAL EXPOSURE; URBAN AREAS; RURAL AREAS; WATER POLLUTION; DRINKING WATER

Bush, B.; Snow, J.; Connor, S.; Koblintz, R. 1985 Archives of Environmental Contamination and Toxicology 14:443-450

Biphenyl, 2,4'-dichloro- (No postings in CHEMLINE).
C12-H8-Cl2

Tissue	Cases Exposure Route	Range	Mean	General Information
11832 Milk	40	Not given	0.2+/-0.05 ng/g S.E.	0.8% of total level from 22 congeners (all =/>0.19 ng/g <1.0 ng/g) accounting for 30% of mean total PCB residue of 26.5+/-2.5 ng/g (S.E.). Survey from urban and rural areas on Lake Ontario (Rochester, Oswego) and mixed area on Hudson River (Albany). Total of 8 other congeners (not the 22) and p,p'-DDE comprised 88% of detected chlorinated hydrocarbons with latter as primary pollutant (mean 78 ng/g wet wt). Mothers, 3 wk postpartum, New York, collections in 1979. Lake Ontario areas contaminated with Aroclor 1254 and 1260 type mixture and Hudson River with Aroclor 1242-type mixture. GC

MILK; NEW YORK; ENVIRONMENTAL EXPOSURE; URBAN AREAS; RURAL AREAS; WATER POLLUTION; DRINKING WATER
Bush, B.; Snow, J.; Connor, S.; Koblintz, R. 1985 Archives of Environmental Contamination and Toxicology 14:443-450

Biphenyl, 2,4',5-trichloro- (8 CI); 1,1'-Biphenyl, 2,4',5-trichloro- (9 CI)
16606-02-3
C12-H7-Cl3
MW 257.54

Tissue	Cases Exposure Route	Range	Mean	General Information
11833 Milk	40	Not given	0.2+/-0.03 ng/g S.E.	0.8% of total level from 22 congeners (all =/>0.19 ng/g <1.0 ng/g) accounting for 30% of mean total PCB residue of 26.5+/-2.5 ng/g (S.E.). Survey from urban and rural areas on Lake Ontario (Rochester, Oswego) and mixed area on Hudson River (Albany). Total of 8 other congeners (not the 22) and p,p'-DDE comprised 88% of detected chlorinated hydrocarbons with latter as primary pollutant (mean 78 ng/g wet wt). Mothers, 3 wk postpartum, New York, collections in 1979. Lake Ontario areas contaminated with Aroclor 1254 and 1260 type mixture and Hudson River with Aroclor 1242-type mixture. GC

MILK; NEW YORK; ENVIRONMENTAL EXPOSURE; URBAN AREAS; RURAL AREAS; WATER POLLUTION; DRINKING WATER
Bush, B.; Snow, J.; Connor, S.; Koblintz, R. 1985 Archives of Environmental Contamination and Toxicology 14:443-450

Bismuth, isotope of mass 207
13982-38-2
Bi

Tissue	Cases Exposure Route	Range	Mean	General Information
11834 Body	a) 1 b) 1 Injection	a) 41.4-39.2 kBq b) 60.3-57.0 kBq	a) Not given b) Not given	a) 23 and 24 yr after intravenous administration of 900 MBq [206-Bi] b) 29 and 30 yr after [206-Bi] injections, exact activity unknown Concentration found in liver, spleen and lungs, and to lesser degree in kidneys. Slight contamination of [206-Bi] with [206-Bi] indicated. 56-58 yr old subjects treated previously for seminoma Whole-body counter

BODY; DELIBERATE EXPOSURE; CASE HISTORIES; BISMUTH; BIOACCUMULATION; IRRADIATION; RADIONUCLIDES
Buijs, W.C.; Corstens, F.H.; Beentjes, L.B. 1985 Health Physics 49(6):1267-1269

Bromide
24959-67-9
Br
MW 79.90, MP -7.2 C, BP 58.78 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11835 Blood, serum	1	27-102 mEq/L	Not given	During 16 d hospitalization after discharging into the atmosphere several aircraft engine fire extinguishers containing methyl bromide. Therapy with diazapem, phenytoin, intravenous chlormethiazole and inhaled nitrous oxide was unsuccessful. Convulsions stopped by muscle paralysis, induced with pancuronium, and positive pressure ventilation. 68 yr old accidental poisoning victim Ataxia, convulsions. Death 16 d after admission. Tachycardia, vein thrombosis. Pulmonary emboli noted at necropsy.

BLOOD SERUM; CASE HISTORIES; NEUROLOGIC MANIFESTATIONS; CARDIAC EFFECTS; PULMONARY DISEASES; ANTICONVULSANTS; MUSCLE RELAXANTS; BROMIDE ORGANIC COMPOUNDS; ACCIDENTAL POISONING; HEALTH HAZARDS
Behrens, R.H.; Dukes, D.C.D. 1986 British Journal of Industrial Medicine 43:561-562

Bromine
7726-95-6
Br
AtW 79.904, MP -7.25 C, BP 59.47 C, VP 1 mm Hg at -60 C, 10 mm Hg at -30 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11836 Blood, whole	a) 10 b) 10	a) Not given b) Not given	a) 4.09+/-0.62 ug/ml b) 3.70+/-0.41 ug/ml	a) Patients with multiple sclerosis b) Controls Significant difference, borderline. Patients and controls, matched for sex and age. NA
11837 Hair	a) 10 b) 10	a) Not given b) Not given	a) 9.81+/-4.12 ug/g b) 13.68+/-3.92 ug/g	a) Patients with multiple sclerosis b) Controls Significant difference. Patients and controls, matched for sex and age. NA

BLOOD; HAIR; ENVIRONMENTAL EXPOSURE; UNITED KINGDOM; NEUROMUSCULAR DISEASES; TRACE ELEMENTS; BIOACCUMULATION; BIOINDICATORS; ALUMINUM; ANTIMONY; ARSENIC; BARIUM; BROMINE; CESIUM; GOLD; IODINE; MANGANESE; MOLYBDENUM; SELENIUM; VANADIUM; ZINC; COPPER; IRON; MAGNESIUM; POTASSIUM; SULFUR
Ward, N.I.; Bryce-Smith, D.; Minski, M.; Matthews, W.B. 1985 Biological Trace Element Research 7:153-159

Cadmium
7440-43-9
Cd
AtW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11838 Adipose	a) 21 b) 9 c) 9 d) 9 e) 2 Inhalation	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 6.8+/-8.0 ng/g b) 2.5+/-2.5 ng/g c) 5.7+/-3.4 ng/g d) 10.1+/-9.1 ng/g e) 6.5+/-8.5 ng/g	a) Non-smokers, females b) Males c) Smokers, females <1 pack for 10 yr to 1-2 packs for 10 yr d) Males, 1-2 packs for 10 yr to >2 packs for 10 yr e) Ex-smokers, stopped 10 or more yr ago Contents of trace metals and pesticides in cigarettes (tobaccos, papers, smoke, etc) also measured and discussed. 22-81 yr old patients having surgery for various diseases or injuries. Finland. AAS

CONSUMER EXPOSURE; CADMIUM; BLOOD SERUM; SMOKING; INHALATION; TOBACCOS; FINLAND; METALS; PESTICIDES; SEX
Mussalo-Rauhamaa, H.; Salmela, S.S.; Leppanen, A.; Pyysalo, H. 1986 Archives of Environmental Health 41(1):49-55

Tissue	Cases Exposure Route	Range	Mean	General Information
11839 Blood		a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 0.13 ug/dl b) 0.12 ug/dl c) 0.12 ug/dl d) 0.11 ug/dl e) 0.13 ug/dl f) 0.11 ug/dl g) 0.13 ug/dl h) 0.12 ug/dl Geometric	a) 307 males, 16-25 yr old b) 804 females c) 479 males, 36-45 yr old d) 500 females e) 555 males, 56-65 yr old f) 473 females g) Total, 2883 males, 0->/=66 yr old h) Total, 3552 females Additional data plus statistically based statements about effects of age, smoking, alcohol consumption on blood level included. Males, females from group of 6437 having general check-ups from 11/82-1/83 at 25 labs in Lorraine and Brittany, France AAS

LEAD; CADMIUM; BLOOD; SMOKING; ALCOHOLS; FRANCE
Grasmick, C.; Huel, G.; Moreau, T.; Sarmini, H. 1985 Science of the Total Environment 41:207-217

Cadmium
7440-43-9
Cd
AtW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11840 Blood	83 Inhalation	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 1.64+/-2.3 ug/l b) 2.91+/-2.2 ug/l c) 5.91+/-1.7 ug/l d) 6.70+/-2.0 ug/l e) 1.52+/-1.9 ug/l f) 2.26+/-1.9 ug/l g) 5.12+/-2.2 ug/l h) 4.54+/-2.3 ug/l i) 6.84+/-1.9 ug/l	a) Current exposure, 0-1 ug/sq m, 27 cases b) 1-10 ug/sq m, 31 cases c) 10-50 ug/sq m, 16 cases d) >50 ug/sq m, 9 cases e) Cumulative exposure, <50 ug/sq m yr, 23 cases f) 51-250 ug/sq m yr, 18 cases g) 251-500 ug/sq m yr, 17 cases h) 501-3000 ug/sq m yr, 14 cases i) >3000 ug/sq m yr, 11 cases Employees in production of alloys. Factory workers, 23-58 yr old. AAS

BLOOD; URINE; OCCUPATIONAL EXPOSURE; ADULTS; ITALY; METAL POISONING; INDUSTRIAL DISEASES; KIDNEY DISEASES; OCCUPATIONAL DISEASES; INDUSTRIAL MEDICINE; CADMIUM; METALS; BIOACCUMULATION; BIOLOGICAL MONITORING; INDUSTRIAL ATMOSPHERES; INDUSTRIES; HEALTH HAZARDS; OCCUPATIONAL HAZARDS
Ghezzi, I.; Toffoletto, F.; Sesana, G.; Fagioli, M.G.; Micheli, A.; Di Silvestro, P.; Zocchetti, C.; Alessio, L. 1985 International Archives of Occupational and Environmental Health 55:133-140

Tissue	Cases Exposure Route	Range	Mean	General Information
11841 Blood	a) 21 b) 26 Ingestion	a) Not given b) Not given	a) 4.33+/-1.43 ng/ml b) 3.49+/-1.46 ng/ml Geometric mean	a) Dietary cadmium intake >80 ug/d b) <20 ug/d Nonsmokers, in unpolluted areas of Japan

BLOOD; ENVIRONMENTAL EXPOSURE; JAPAN; ADULTS; COMPARATIVE EVALUATIONS; CADMIUM; DIETS; FOODS; POPULATION EXPOSURE; RURAL AREAS
Watanabe, T.; Koizumi, A.; Fujita, H.; Kumai, M.; Ikeda, M. 1985 Environmental Research 37:33-43

Tissue	Cases Exposure Route	Range	Mean	General Information
11842 Blood	a) 99 b) 101 c) 86	a) 0.2-5.5 ug/l b) 0.2-3.3 ug/l c) 0.2-3.8 ug/l	a) 0.86+/-2.1 ug/l b) 0.58+/-1.9 ug/l c) 0.53+/-2.0 ug/l	a) Stolberg b) Duisburg c) Duesseldorf Stolberg and Duisburg both industrial cities with documented heavy metal pollution, Duesseldorf used as control. No relationship between age-related kidney dysfunction and body burden found. Elderly women, residents for average of 50 yr. AAS

URINE; BLOOD; ENVIRONMENTAL EXPOSURE; GERMANY; ADULTS; AGE; KIDNEY DISEASES; METAL POISONING; CADMIUM; LEAD; BIOACCUMULATION; INDUSTRIAL POLLUTION; INDUSTRIAL EMISSIONS
Ewers, U.; Brockhaus, A.; Dolgner, R.; Freier, I.; Jermann, E.; Bernard, A.; Stiller-Winkler, R.; Hahn, R.; Manojlovic, N. 1985 International Archives of Occupational and Environmental Health 55:217-239

Cadmium
7440-43-9
Cd
AtW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11843 Blood	13 Inhalation	a) 125-775 nmol/l b) 50-200 nmol/l	a) Not given b) Not given	a) Late 1975. High exposure, about 0.5 mg/cu m air b) 1981. No exposure since July 1978. Rapid decline in levels during first month after cessation of exposure. Very slow decrease thereafter. Factory workers AAS

BLOOD; URINE; OCCUPATIONAL EXPOSURE; SWEDEN; KIDNEY DISEASES; METAL POISONING; CADMIUM; BIOACCUMULATION; INDUSTRIAL ATMOSPHERES; INHALATION; OCCUPATIONAL HAZARDS
Elinder, C.G.; Edling, C.; Lindberg, E.; Kagedal, B.; Vesterberg, O. 1985 American Journal of Industrial Medicine 8:553-564

Tissue	Cases Exposure Route	Range	Mean	General Information
11844 Blood	20	0.01-0.18 ug/dL	0.07 ug/dL	Gun metal foundry workers (males) employed 2-17 (mean 10) yr, no histories of renal disease. 34-59 (mean 49) yr-olds occupationally exposed to Pb, Zn, Cu AAS

OCCUPATIONAL EXPOSURE; LEAD; MERCURY; CADMIUM; ZINC; COPPER; MANGANESE; CHROMIUM; URINE; BLOOD; BLOOD PLASMA; BLOOD CELLS; CHELATING AGENTS; OCCUPATIONAL HAZARDS; METALS
Araki, S.; Aono, H.; Murata, K. 1986 British Journal of Industrial Medicine 43:636-641

Tissue	Cases Exposure Route	Range	Mean	General Information
11845 Blood	a) 27 b) 3 c) 30 d) 45 e) 3 f) 84 g) 30 b) 22	a) 0.2-13.2 ug/L b) 0.3-1.6 ug/L c) 0.1-1.5 ug/L d) 0.1-12.7 ug/L e) 0.2-1.1 ug/L f) 0.1-2.0 ug/L g) <0.1-0.6 ug/L h) <0.1-0.8 ug/L	a) 3.6 ug/L b) 0.5 ug/L c) 0.6 ug/L d) 2.7 ug/L e) 0.5 ug/L f) 0.5 ug/L g) 0.2 ug/L h) 0.2 ug/L Median	a) Adult male smokers, mean 39 yr old b) Ex-smokers, mean 49 yr old c) Nonsmokers, mean 47.5 yr old d) Adult female smokers, mean 39 yr old e) Ex-smokers, mean 36 yr old f) Nonsmokers, mean 42 yr old g) Boys, mean 9 yr old h) Girls, mean 9 yr old Significantly higher in adult nonsmokers than in children ($p<0.001$), possibly due to longer exposure. 1-4 ug Cd/g tobacco in Yugoslavian cigarettes. Teachers (20-65 yr old) and schoolchildren (8-10 yr old), Zagreb, Yugoslavia AAS

BLOOD; ENVIRONMENTAL EXPOSURE; CONSUMER EXPOSURE; DELIBERATE EXPOSURE; YUGOSLAVIA; AGE; ADULTS; CHILDREN; COMPARATIVE EVALUATIONS; CADMIUM; BIOACCUMULATION; SMOKING; TOBACCOS
Telisman, S.; Azaric, J.; Prpic-Majic, D. 1986 Bulletin of Environmental Contamination and Toxicology 36:491-495

Cadmium
7440-43-9
Cd
AtW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11846 Blood	a) 12 b) 21 c) 5 d) 6 e) 22 f) 23	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 1.88 ug/L b) 2.39 ug/L c) 2.11 ug/L d) 2.00 ug/l e) 1.60 ug/L f) 1.57 ug/L	a) Seal meat eaten at least 6 x/wk, Angmagssalik b) Same diet group, Isortoq c) Seal eaten 2-5 x/wk, Angmagssalik d) Same diet group, Isortoq e) Seal eaten 0-1 x/wk, Angmagssalik f) Same diet group, Denmark Mean level 2.12 ug/L in smokers, 1.05 ug/L in non-smokers. Positively correlated with age. Eskimos living in Angmagssalik (main town) or Isortoq, Angmagssalik district, Greenland, or in Denmark Positively correlated with sister chromatid exchange.

BLOOD; ESKIMOS; GREENLAND; DENMARK; COMPARATIVE EVALUATIONS; CADMIUM; LEAD; MERCURY; SELENIUM; BIOACCUMULATION; DIETS; SMOKING; ENVIRONMENTAL EXPOSURE
Wulf, H.C.; Kromann, N.; Kousgaard, N.; Hansen, J.C.; Niebuhr, E.; Alboge, K. 1986 Science of the Total Environment 48:81-94

Tissue	Cases Exposure Route	Range	Mean	General Information
11847 Blood, cells	20	0.20-1.20 ug/dL	0.68 ug/dL	Gun metal foundry workers (males) employed 2-17 (mean 10) yr, no histories of renal disease. 34-59 (mean 49) yr-olds occupationally exposed to Pb, Zn, Cu AAS

OCCUPATIONAL EXPOSURE; LEAD; MERCURY; CADMIUM; ZINC; COPPER; MANGANESE; CHROMIUM; URINE; BLOOD; BLOOD PLASMA; BLOOD CELLS; CHELATING AGENTS; OCCUPATIONAL HAZARDS; METALS
Araki, S.; Aono, H.; Murata, K. 1986 British Journal of Industrial Medicine 43:636-641

Tissue	Cases Exposure Route	Range	Mean	General Information
11848 Blood, plasma	274	Not given	21.8(+/-5%, S.E.) nmole/L Geometric mean	Workers employed for mean of 20.4 yr at Pb, Zn, Cd smelter. Significant positive correlations with age ($p<0.001$) and with current smoking. Levels also reported by degree of current and past exposure. Airborne (plant) levels within 50 ug/cu m since 1970. Workers, mean age 47.6, England Electrothermal atomization; AAS

BLOOD; BLOOD PLASMA; URINE; OCCUPATIONAL EXPOSURE; UNITED KINGDOM; AGE; COMPARATIVE EVALUATIONS; CADMIUM; LEAD; AIR POLLUTION; INDUSTRIAL ATMOSPHERES; INDUSTRIES; OCCUPATIONAL HAZARDS; SMELTERS; SMOKING
Kazantzis, G.; Armstrong, B.G. 1984 Environmental Health Perspectives 54:193-199

Cadmium
7440-43-9
Cd
AtW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11849 Bone	a) 148 b) 18	a) 0.09+/-0.50-0.23+/-0.14 ug/g b) 0.07-8.0 ug/g	a) Not given b) 2.2+/-2.2 ug/g	a) Ranges of means. Ancient specimens, mostly limbs, from 10 sites. Bronze Age (3000 yr BP) to 18th century periods. Two bones from Neolithic and one from 800 yr BP excluded from calculations b) Contemporary femora, tibiae, vertebrae and ribs (29 bones) collected at autopsies, 2-3/1984, Paris Fragments collected for analysis from layers about 0.5-4 mm below surface of medullary cavity, from a 5-10 sq cm area. Increase in 20th century to about 10X above pre-industrial level. Additional data on significance of concentration gradients within bone, conditions of burial site, fossilization changes, geography, and historical/cultural factors. France AAS

BONES; FRANCE; AUTOPSIES; COMPARATIVE EVALUATIONS; CADMIUM; LEAD; ZINC; BARIUM; MAGNESIUM; CALCIUM; MINERALS; ENVIRONMENTAL EXPOSURE
Jaworowski, Z.; Barbalat, F.; Blain, C.; Peyre, E. 1985 Science of the Total Environment 43:103-126

Tissue	Cases Exposure Route	Range	Mean	General Information
11850 Bronchoalveolar lavage	1	Not applicable	4.0 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old NA

BRONCHOALVEOLAR LAVAGE; NAILS; OCCUPATIONAL EXPOSURE; CASE HISTORIES; PNEUMOCONIOSIS; OCCUPATIONAL DISEASES; RESPIRATORY DISEASES; LAVAGE; CERIUM; LANTHANUM; TERBIUM; YTTERBIUM; SILVER; ARSENIC; GOLD; CADMIUM; COBALT; CHROMIUM; CESIUM; IRON; MERCURY; INDIUM; IRIDIUM; MOLYBDENUM; NICKEL; RUBIDIUM; ANTIMONY; SCANDIUM; SELENIUM; TIN; THORIUM; URANIUM; ZINC; TRACE ELEMENTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; SMOKING
Sulotto, F.; Romano, C.; Berra, A.; Botta, G.C.; Rubino, G.F.; Sabbioni, E.; Pietra, R. 1986 American Journal of Industrial Medicine 9:567-575

Tissue	Cases Exposure Route	Range	Mean	General Information
11851 Hair	10	0.2+/-0.0-0.3+/-0.1 ppm Dry wt	0.2+/-0.0 ppm Dry wt	Hair from 4 parts of scalp. Range of means. Mean for each case is average of levels measured monthly for 10-12 mo. Healthy adult Japanese, age 27-47 yr. AAS

HAIR; NAILS; ENVIRONMENTAL EXPOSURE; JAPAN; ADULTS; METALS; MERCURY; LEAD; CADMIUM; COPPER; NICKEL; IRON; ZINC; MANGANESE; BIOLOGICAL MONITORING; POPULATION EXPOSURE
Nishihara, T.; Watabe, K.; Ichikawa, T.; Kondo, M.; Fujii, M. 1985 Chemosphere 14(8):1133-1141

Cadmium
7440-43-9
Cd
AtW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11852 Hair	239	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 1.56+/-0.17 ppm b) 1.09+/-0.14 ppm c) 0.82+/-0.13 ppm d) 1.84+/-0.18 ppm e) 0.70+/-0.17 ppm f) 0.93+/-0.18 ppm g) 2.43+/-0.30 ppm h) 1.25+/-0.20 ppm Dry wt	a) Male, 109 cases b) Female, 130 cases c) White, 150 cases d) Black, 89 cases e) White male, 82 cases f) White female, 68 cases g) Black male, 27 cases h) Black female, 62 cases Correlations of systolic, diastolic, and pulse blood pressure discussed. 13-19 yr olds at 4-H conference, Mississippi State University. AAS

HAIR; ENVIRONMENTAL EXPOSURE; MISSISSIPPI; METAL POISONING; CADMIUM; LEAD; COPPER; ZINC; SEX; RACIAL STUDIES; ADOLESCENTS; BIOACCUMULATION; BLOOD PRESSURE
Medeiros, D.M.; Pellum, L.K. 1985 Bulletin of Environmental Contamination and Toxicology 34:163-169

Tissue	Cases Exposure Route	Range	Mean	General Information
11853 Hair	a) 1 b) 1	a) 0-2.2 ppm b) 0-1.5 ppm	a) 0.95+/-0.52 ppm b) 0.59+/-0.40 ppm	a) Subject 1 b) Subject 2 Samples sent to 13 commercial laboratories for analysis. Values here are combined from all. Considerable variance within same laboratory, among different laboratories and disagreement about what was "normal" or "unusual". Authors conclude commercial use of hair analysis for management of disease, nutrition unscientific, uneconomical, probably illegal.

HAIR; ALUMINUM; ARSENIC; BERYLLIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; GOLD; IRON; LEAD; LITHIUM; MAGNESIUM; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; RUBIDIUM; SELENIUM; SILICON; SODIUM; TIN; VANADIUM; ZINC; ELEMENTS; TRACE ELEMENTS; METALS
Barrett, S. 1985 Journal of the American Medical Association 254(8):1041-1045

Tissue	Cases Exposure Route	Range	Mean	General Information
11854 Hair	a) 92 b) 55 c) 46 d) 457 e) 255	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 0.503 ppm b) 0.97 ppm c) 0.31 ppm d) 0.28 ppm e) 0.32 ppm	a) Canada b) U.S.A. c) Poland d) Japan e) India Part of international survey of 21 elements. Japanese, 2-80 yr olds. Rest were 30-60 yr old. ES; AAS

ENVIRONMENTAL EXPOSURE; HAIR; CANADA; UNITED STATES; POLAND; JAPAN; INDIA; MAGNESIUM; CALCIUM; PHOSPHORUS; SODIUM; POTASSIUM; IRON; COPPER; MANGANESE; ZINC; SELENIUM; CHROMIUM; NICKEL; COBALT; VANADIUM; LEAD; CADMIUM; ALUMINUM; ANTIMONY; MERCURY; TIN; ARSENIC; AGE; SEX; COMPARATIVE EVALUATIONS
Takagi, Y.; Matsuda, S.; Imai, S.; Ohmori, Y.; Masuda, T.; Vinson, J.A.; Mehra, M.C.; Puri, B.K.; Kaniewski, A. 1986 Bulletin of Environmental Contamination and Toxicology 36:793-800

Cadmium
7440-43-9
Cd
AtW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11855 Kidney	a) 80 b) 10	a) 0.9-57 mg b) 0.4-11.8 mg	a) Not given b) 3.7 mg Geometric	a) Occupationally exposed workers b) Controls, no known industrial exposure Detection limit 2.2 mg. Occupationally exposed workers at production plant and controls NA

OCCUPATIONAL EXPOSURE; CADMIUM; LIVER; KIDNEYS; OCCUPATIONAL HAZARDS
Ellis, K.J.; Morgan, W.D.; Yasumura, S.; Vartsky, D.; Zanzi, I.; Cohn, S.H. 1981 CONF-810238-2 (BNL-29066)

Tissue	Cases Exposure Route	Range	Mean	General Information
11856 Kidney	a) 33 b) 8 c) 18 d) 23 Inhalation	a) 10-472 ug/g b) 42-320 ug/g c) 57-589 ug/g d) 45-361 ug/g	a) 125+/-2.8 ug/g b) 148+/-2.1 ug/g c) 230+/-2.0 ug/g d) 169+/-1.7 ug/g Geometric mean	a) 42.6 yr old active workers, normal renal function, exposed 141+/-118 mo (range 1-378) b) 69.0 yr old retired workers, normal renal function, exposed 342+/-75 mo (range 3200-435) c) 53.6 yr old active workers, abnormal renal function, exposed 264+/-105 mo (range 124-406) d) 67.9 yr old retired workers, abnormal renal function, exposed 329+/-103 mo (range 170-550) Cumulative exposure indices (geometric means for log normal distribution) 105, 379, 1690, 3143 ug/cu m. yr, respectively. Workers involved in Cd production, office and laboratory work. NA

KIDNEYS; LIVER; OCCUPATIONAL EXPOSURE; ADULTS; KIDNEY DISEASES; IN VIVO ANALYSIS; CADMIUM; BIOACCUMULATION; AIR POLLUTION; HEALTH HAZARDS; INDUSTRIAL ATMOSPHERES; INDUSTRIES; INDUSTRIAL POLLUTION; INHALATION; OCCUPATIONAL HAZARDS
Ellis, K.J.; Cohn, S.H.; Smith, T.J. 1985 Journal of Toxicology and Environmental Health 15:173-187

Tissue	Cases Exposure Route	Range	Mean	General Information
11857 Kidney	a) 16 b) 78 c) 8	a) Not given b) Not given c) Not given	a) 6.42+/-2.34 ug/g b) 15.61+/-1.50 ug/g c) 11.07+/-1.53 ug/g Wet wt Geometric mean	a) Below age 20 b) Age 20-59 c) Age 60 and over Cortex, autopsy samples. Levels by age decile and correlation with Zn levels also presented. Sudden accidental deaths, Ahmedabad, Bangalore, and Calcutta, India AAS

KIDNEYS; INDIA; AGE; AUTOPSIES; CADMIUM; ZINC
Pandya, C.B.; Parikh, D.J.; Patel, T.S.; Kulkarni, P.K.; Sathawara, N.G.; Shah, G.M.; Chatterjee, B.B. 1985 Environmental Research 36:81-88

Cadmium
7440-43-9
Cd
AtW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11858 Kidney	1	a) Not applicable b) Not applicable	a) 44.97 ug/g b) 7.71 ug/g Wet wt	a) Cortex homogenate b) Medulla homogenate Predominantly in low-molecular (metallothionein) fraction. Exposed 20 yrs, worked in all phases of NI-Cd battery production. Air levels as high as 0.5 mg/cu m in last 6 yrs of part-time work. Nephrectomy due to pyelonephritis. Relationship between exposure and kidney condition unclear. 61 yr old female non-smoker AAS

KIDNEYS; URINE; OCCUPATIONAL EXPOSURE; CASE HISTORIES; KIDNEY DISEASES; CADMIUM; INDUSTRIAL CHEMICALS; BIOACCUMULATION; INDUSTRIES; OCCUPATIONAL HAZARDS
Cikrt, M.; Hurych, J.; Kuklova, D.; Havrdova, J.; Lepsi, P.; Kopecky, J.; Malek, B.; Naus, A. 1985 International Archives of Occupational and Environmental Health 55:241-246

Tissue	Cases Exposure Route	Range	Mean	General Information
11859 Kidney	263	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 19.8 mg b) 22.6 mg c) 14.8 mg d) 27.7 mg e) 47.4 mg	a) Female, 125 cases, combined kidney-liver mean 17.1 mg b) Male, 138 cases, kidney-liver mean 18.7 mg c) Non-smokers, 33 cases, kidney-liver mean 13.5 mg d) Moderate smokers, 1-20 cig/d, 20 cases, kidney-liver mean 22.5 mg e) Heavy smokers, >20 cig/d, 21 cases, kidney-liver mean 33.2 mg 1 g samples taken at autopsy. Renal cortex reflected long-term burden. Liver reflects medium and short term burden. 138 males, 125 females 0-90 yr old. Mean age 42.4 yr, Bavaria AAS

KIDNEYS; LIVER; ENVIRONMENTAL EXPOSURE; GERMANY; AUTOPSIES; FORENSIC MEDICINE; CADMIUM; BIOACCUMULATION; URBAN AREAS; RURAL AREAS; BAVARIA
Drasch, G.; Kauert, G.; von Meyer, L. 1985 International Archives of Occupational and Environmental Health 55:141-148

Tissue	Cases Exposure Route	Range	Mean	General Information
11860 Kidney		a) 5.1-109.0 mg/kg b) 4.8-96.0 mg/kg c) 1.0-71.5 mg/kg d) 2.2-97.5 mg/kg Wet wt	a) 31.0 mg/kg b) 30.1 mg/kg c) 16.7 mg/kg d) 15.1 mg/kg Wet wt Median	a) Cortex, Kingston, 75 cases b) Ottawa, 64 cases c) Medulla, Kingston, 71 d) Ottawa, 62 Autopsy samples from normal subjects, Kingston and Ottawa, Ontario AAS

KIDNEYS; LIVER; CANADA; AUTOPSIES; CALCIUM; POTASSIUM; MAGNESIUM; SODIUM; PHOSPHORUS; COPPER; IRON; MANGANESE; SELENIUM; ZINC; CADMIUM; MERCURY; LEAD
Subramanian, K.S.; Meranger, J.C.; Burnett, R.T. 1985 Science of the Total Environment 42:223-235

Cadmium
7440-43-9
Cd
AtW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11861 Kidney	20	a) Not given b) Not given c) Not given d) Not given	a) 18.4+/-12.2 ug/g b) 6.9+/-4.8 ug/g c) 3.2+/-2.2 ug/g d) 14.4+/-9.7 ug/g Wet wt	a) Cortex, 65% of kidney wt b) Medulla, 27% of kidney wt c) Remainder, renal pelvis, fatty tissue, 8% of wt d) Whole kidney Autopsy samples, 1983, Sweden 30-59 yr old males, victims of sudden/unexpected deaths AAS

ENVIRONMENTAL EXPOSURE; KIDNEYS; CADMIUM; SWEDEN; AUTOPSIES
Svartengren, M.; Elinder, C.G.; Friberg, L.; Lind, B. 1986 Environmental Research 39:1-7

Tissue	Cases Exposure Route	Range	Mean	General Information
11862 Kidney	1	Not applicable	167+/-2 ug/g Wet wt	Autopsy sample. Normal range 12.0-33.1 ug/g. Worked 20 yr in assembly of Ni-Cd batteries. Last years of work monitoring showed blood Cd of 69 ug/L (normal <10), beta2-microglobulin 10,700 ug/L (normal <4-370). Breathing zone in area had 64-320 ug/cu m (NIOSH criterion for Cd=129 ug/cu m). Levels 15 mo later were 20.5, 26.5, 31,751 ug/L respectively. 57 yr old woman, heavy smoker for >20 yr, found to have metastatic carcinoma of the lung, death within 7 mo. Morphologic lessions in stomach, lung, liver, kidneys NA

OCCUPATIONAL EXPOSURE; CADMIUM; METALLOTHIONEIN; LIVER; KIDNEYS; BIOLOGICAL MONITORING; NEOPLASMS
Garry, V.F.; Pohlman, B.L.; Wick, M.R.; Garvey, J.S.; Zeisler, R. 1986 American Journal of Industrial Medicine 10:153-161

Tissue	Cases Exposure Route	Range	Mean	General Information
11863 Kidney	a) 7 b) 11 c) 8 d) 46 e) 8 f) 6 g) 16	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 13,950 ppb b) 14,000 ppb c) 10,185 ppb d) 17,300 ppb e) 19,725 ppb f) 27,600 ppb g) 3,025 ppb Medians	a) Deaths from lung cancer b) From gastrointestinal cancer c) From other malignancies d) From cardiovascular diseases e) From cerebrovascular diseases f) From other causes g) Controls, residents of rural area 50 km from smelter Median, all workers 17,300 ppb. Copper smelter workers who died after after April 1975, and controls, Sweden. NA

LUNGS; LIVER; KIDNEYS; OCCUPATIONAL EXPOSURE; SWEDEN; NEOPLASMS; CADMIUM; LEAD; ZINC; METALS; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; SMELTERS; SMOKING
Gerhardsson, L.; Brune, D.; Nordberg, G.F.; Wester, P.O. 1986 Science of the Total Environment 50:65-85

Cadmium
7440-43-9
Cd
AtW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11864 Liver	a) 80 b) 10	a) 0.8-120 ppm b) 0.7-7.9 ppm	a) Not given b) 2.7 ppm Geometric	a) Occupationally exposed workers b) Controls, no known industrial exposure Detection limit 1.5 mg. *Workers at production plant and controls* NA

OCCUPATIONAL EXPOSURE; CADMIUM; LIVER; KIDNEYS; OCCUPATIONAL HAZARDS
Ellis, K.J.; Morgan, W.D.; Yasumura, S.; Vartsky, D.; Zanzi, I.; Cohn, S.H. 1981 CONF-810238-2 (BNL-29066)

Tissue	Cases Exposure Route	Range	Mean	General Information
11865 Liver	a) 33 b) 8 c) 18 d) 23 Inhalation	a) 1-52 ppm b) 3-50 ppm c) 22-111 ppm d) 4-120 ppm	a) 11.3+/-2.8 ppm b) 14.0+/-3.1 ppm c) 63.9+/-1.5 ppm d) 33.6+/-2.9 ppm	a) 42.6 yr old active workers, normal renal function, exposed 141+/-118 mo (range 1-378) b) 69.0 yr old retired workers, normal renal function, exposed 342+/-75 mo (range 3200-435) c) 53.6 yr old active workers, abnormal renal function, exposed 264+/-105 mo (range 124-406) d) 67.9 yr old retired workers, abnormal renal function, exposed 329+/-103 mo (range 170-550) Cumulative exposure indices (geometric means for log normal distribution) 105, 379, 1690, 3143 ug/cu m. yr, respectively. Workers involved in Cd production, office and laboratory work. NA

KIDNEYS; LIVER; OCCUPATIONAL EXPOSURE; ADULTS; KIDNEY DISEASES; IN VIVO ANALYSIS; CADMIUM; BIOACCUMULATION; AIR POLLUTION; HEALTH HAZARDS; INDUSTRIAL ATMOSPHERES; INDUSTRIES; INDUSTRIAL POLLUTION; INHALATION; OCCUPATIONAL HAZARDS
Ellis, K.J.; Cohn, S.H.; Smith, T.J. 1985 Journal of Toxicology and Environmental Health 15:173-187

Tissue	Cases Exposure Route	Range	Mean	General Information
11866 Liver	a) 72 b) 63	a) 0.1-9.0 mg/kg b) 0.1-9.1 mg/kg Wet wt	a) 1.8 mg/kg b) 1.5 mg/kg Wet wt Median	a) Kingston b) Ottawa Autopsy samples from normal subjects, Kingston and Ottawa, Ontario ICP-AES

KIDNEYS; LIVER; CANADA; AUTOPSIES; CALCIUM; POTASSIUM; MAGNESIUM; SODIUM; PHOSPHORUS; COPPER; IRON; MANGANESE; SELENIUM; ZINC; CADMIUM; MERCURY; LEAD
Subramanian, K.S.; Meranger, J.C.; Burnett, R.T. 1985 Science of the Total Environment 42:223-235

Cadmium
7440-43-9
Cd
AtW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11867 Liver	1	Not applicable	138+/-2 ug/g Wet wt	Autopsy sample. Normal range 0.2-5.7 ug/g. Worked 20 yr in assembly of Ni-Cd batteries. Last years of work monitoring showed blood Cd of 69 ug/L (normal <10), beta2-microglobulin 10,700 ug/L (normal <4-370). Breathing zone in area had 64-320 ug/cu m (NIOSH criterion for Cd=129 ug/cu m). Levels 15 mo later were 20.5, 26.5, 31,751 ug/L respectively. 57 yr old woman, heavy smoker for >20 yr, found to have metastatic carcinoma of the lung, death within 7 mo. Morphologic lessions in stomach, lung, liver, kidneys NA

OCCUPATIONAL EXPOSURE; CADMIUM; METALLOTHIONEIN; LIVER; KIDNEYS; BIOLOGICAL MONITORING; NEOPLASMS
Garry, V.F.; Pohlman, B.L.; Wick, M.R.; Garvey, J.S.; Zeisler, R. 1986 American Journal of Industrial Medicine 10:153-161

Tissue	Cases Exposure Route	Range	Mean	General Information
11868 Liver	a) 7 b) 11 c) 8 d) 46 e) 8 f) 16	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 2005 ppb b) 310 ppb c) 1025 ppb d) 660 ppb e) 1605 ppb f) 350 ppb Medians	a) Deaths from lung cancer b) From gastrointestinal cancer c) From other malignancies d) From cardiovascular diseases e) From cerebrovascular diseases f) Controls, residents of rural area 50 km from smelter Median, all workers 965 ppb. Copper smelter workers who died after after April 1975, and controls, Sweden. NA

LUNGS; LIVER; KIDNEYS; OCCUPATIONAL EXPOSURE; SWEDEN; NEOPLASMS; CADMIUM; LEAD; ZINC; METALS; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; SMELTERS; SMOKING
Gerhardsson, L.; Brune, D.; Nordberg, G.F.; Wester, P.O. 1986 Science of the Total Environment 50:65-85

Cadmium

7440-43-9
Cd
AtW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11869 Lung		a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 390 ppm b) 76 ppm c) 63 ppm d) 246 ppm e) 114 ppm f) 108 ppm g) 162 ppm h) 39 ppm i) 79 ppm	a) Lung cancer, 7 cases b) GI cancer, 11 cases c) Other malignancies, 7 cases d) Cardiovascular disease, 8 cases f) Other causes, 5 cases g) All workers, 76 cases h) Matched controls from Burtrask and Jorn, 15 cases Controls from Stockholm, 10 cases. Values in all workers significantly different from control groups and a) from b), e) ($p<0.02$), from c) $<p<0.05$), from f) ($p<0.03$). Swedish Cu-smelter workers consecutively dead since 4/75. Means: age 68.1+/-9.1 (range 66.0+/-19.5-71.3+/-8.6), retired 7.2+/-5.9 yr (5.3+/-4.9-11.2+/-7.7), exposed 31.2+/-8.4 yr (25.8+/-10.5-32.1+/-9.3) NA

SWEDEN; OCCUPATIONAL EXPOSURE; LUNGS; SELENIUM; TIN; ARSENIC; CADMIUM; CHROMIUM; COBALT; LANTHANUM; LEAD; METALS; SMELTERS; OCCUPATIONAL HAZARDS; NEOPLASMS; AUTOPSIES; CARCINOGEN

Gerhardsson, L.; Brune, D.; Nordberg, I.G.F.; Wester, P.O. 1985 British Journal of Industrial Medicine 42:617-626

Tissue	Cases Exposure Route	Range	Mean	General Information
11870 Lung	a) 7 b) 11 c) 8 d) 46 e) 8 f) 6 g) 16 h) 10	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 390 ppb b) 76 ppb c) 65 ppb d) 246 ppb e) 114 ppb f) 108 ppb g) 40 ppb h) 79 ppb Medians	a) Deaths from lung cancer b) From gastrointestinal cancer c) From other malignancies d) From cardiovascular diseases e) From cerebrovascular diseases f) From other causes g) Controls, residents of rural area 50 km from smelter h) Controls, residents of Stockholm (800 km from smelter) Median, all workers 166 ppb. Median significantly higher, $p<0.001$, among smokers (460 ppb) than ex-smokers (150 ppb) or non-smokers (73 ppb). Copper smelter workers who died after after April 1975, and controls, Sweden. NA

LUNGS; LIVER; KIDNEYS; OCCUPATIONAL EXPOSURE; SWEDEN; NEOPLASMS; CADMIUM; LEAD; ZINC; METALS; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; SMELTERS; SMOKING

Gerhardsson, L.; Brune, D.; Nordberg, G.F.; Wester, P.O. 1986 Science of the Total Environment 50:65-85

Cadmium
7440-43-9
Cd
AtW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11871 Urine	a) 69 b) 31 c) 25 d) 13 e) 42 f) 69 g) 23	a) 0.1-1.6 ug/g b) 0.3-1.9 ug/g c) 0.5-1.9 ug/g d) 0.6-1.7 ug/g e) 2.0-103.6 ug/g f) 0.1-1.9 ug/g g) 2-19.2 ug/g Creatinine basis	a) 0.6+/-0.4 ug/g b) 0.9+/-0.4 ug/g c) 1.0+/-0.5 ug/g d) 1.1+/-0.4 ug/g e) 12.4+/-16.5 ug/g f) 0.5+/-0.4 ug/g g) 7.7+/-5.9 ug/g Creatinine basis	a) Matched, unexposed controls, males b) Matched unexposed controls, females c) Pb-exposed, males, smelter, ceramic factory workers d) Pb-exposed, females, smelter, ceramic factory workers e) Cd-exposed, males primary Cd/Zn smelter workers f) Hg-exposed, males, chlor-alkaline plant or battery plant workers g) Pb-Cd exposed, males, non-ferrous smelter workers Examined relationship of exposure to erythrocytic enzymes. Pyrimidine 5'-nucleotidase inhibited by Pb, not by Cd or Hg.

BLOOD; URINE; OCCUPATIONAL EXPOSURE; BELGIUM; METAL POISONING; LEAD POISONING; LEAD; CADMIUM; MERCURY; ENZYMES; METALS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS
Mohammed-Brahim, B.; Buchet, J.P.; Lauwerys, R. 1985 International Archives of Occupational and Environmental Health 55:247-252

Tissue	Cases Exposure Route	Range	Mean	General Information
11872 Urine	a) 99 b) 101 c) 86	a) 0.2-5.2 ug/g b) 0.1-2.3 ug/g c) 0.1-1.6 ug/g Creatinine basis	a) 1.15+/-1.7 ug/g b) 0.65+/-1.7 ug/g c) 0.63+/-1.7 ug/g Creatinine basis	a) Stolberg b) Duisburg c) Duesseldorf Stolberg and Duisburg both industrial cities with documented heavy metal pollution, Duesseldorf used as control. No relationship between age-related kidney dysfunction and body burden found. Elderly women, residents for average of 50 yr. AAS

URINE; BLOOD; ENVIRONMENTAL EXPOSURE; GERMANY; ADULTS; AGE; KIDNEY DISEASES; METAL POISONING; CADMIUM; LEAD; BIOACCUMULATION; INDUSTRIAL POLLUTION; INDUSTRIAL EMISSIONS
Ewers, U.; Brockhaus, A.; Dolgner, R.; Freier, I.; Jermann, E.; Bernard, A.; Stiller-Winkler, R.; Hahn, R.; Manojlovic, N. 1985 International Archives of Occupational and Environmental Health 55:217-239

Cadmium
7440-43-9
Cd
AtW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11873 Urine	83 Inhalation	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 5.09+/-2.8 ug/l b) 5.06+/-2.7 ug/l c) 10.45+/-2.6 ug/l d) 11.68+/-2.1 ug/l e) 2.77+/-2.5 ug/l f) 4.41+/-2.6 ug/l g) 9.23+/-2.3 ug/l h) 8.80+/-2.0 ug/l i) 17.96+/-1.5 ug/l	a) Current exposure, 0-1 ug/sq m, 27 cases b) 1-10 ug/sq m, 31 cases c) 10-50 ug/sq m, 16 cases d) >50 ug/sq m, 9 cases e) Cumulative exposure, <50 ug/sq m yr, 23 cases f) 51-250 ug/sq m yr, 18 cases g) 251-500 ug/sq m yr, 17 cases h) 501-3000 ug/sq m yr, 14 cases i) >3000 ug/sq m yr, 11 cases 24 hr samples. Employees in production of alloys. Factory workers, 23-58 yr old. AAS

BLOOD; URINE; OCCUPATIONAL EXPOSURE; ADULTS; ITALY; METAL POISONING; INDUSTRIAL DISEASES; KIDNEY DISEASES; OCCUPATIONAL DISEASES; INDUSTRIAL MEDICINE; CADMIUM; METALS; BIOACCUMULATION; BIOLOGICAL MONITORING; INDUSTRIAL ATMOSPHERES; INDUSTRIES; HEALTH HAZARDS; OCCUPATIONAL HAZARDS
Ghezzi, I.; Toffoletto, F.; Sesana, G.; Fagioli, M.G.; Micheli, A.; Di Silvestro, P.; Zocchetti, C.; Alessio, L. 1985 International Archives of Occupational and Environmental Health 55:133-140

Tissue	Cases Exposure Route	Range	Mean	General Information
11874 Urine	60 Inhalation	<=2.1->15.1 nmol/mmol creatinine	Not given	In December 1983. Previous high air exposure (approx 0.5 mg/cu m) until at least 1976. No exposure after 1978. 27-78 (mean 48) yr old factory workers, exposed for 4-24 yr 24 had [Beta2]-microglobulin levels >0.034 mg/mmol creatinine, and 14 were >0.1. Prevalence related to increasing U-Cd, exposure duration, cululative dose. Tubular damage AAS

BLOOD; URINE; OCCUPATIONAL EXPOSURE; SWEDEN; KIDNEY DISEASES; METAL POISONING; CADMIUM; BIOACCUMULATION; INDUSTRIAL ATMOSPHERES; INHALATION; OCCUPATIONAL HAZARDS
Elinder, C.G.; Edling, C.; Lindberg, E.; Kagedal, B.; Vesterberg, O. 1985 American Journal of Industrial Medicine 8:553-564

Tissue	Cases Exposure Route	Range	Mean	General Information
11875 Urine	1	<10-39 ug/l	Not given	All samples <10 ug/l except one. Exposed 20 yrs, worked in all phases of Ni-Cd battery production. Air levels as high as 0.5 mg/cu m in last 6 yrs of part-time work. Nephrectomy due to pyelonephritis. Dysfunction not indicated in other kidney. Air concentration about 0.5 mg/cu m. 61 yr old female non-smoker AAS

KIDNEYS; URINE; OCCUPATIONAL EXPOSURE; CASE HISTORIES; KIDNEY DISEASES; CADMIUM; INDUSTRIAL CHEMICALS; BIOACCUMULATION; INDUSTRIES; OCCUPATIONAL HAZARDS
Cikrt, M.; Hurych, J.; Kuklova, D.; Havrdova, J.; Lepsi, P.; Kopecky, J.; Malek, B.; Naus, A. 1985 International Archives of Occupational and Environmental Health 55:241-246

Cadmium
7440-43-9
Cd
AtW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11876 Urine	a) 274 b) 48	a) Not given b) Not given	a) 2.0(+/-5%, S.E.) nmole b) 0.69(8+/-%, S.E.) nmole /m mole creatinine Geometric mean	a) Workers employed for mean of 20.4 yr at Pb, Zn, Cd smelter b) Controls Significantly different, p<0.001. Age significantly positively correlated to control (p approx 0.01) and worker (p<0.001) levels. Difference between levels in smokers and nonsmokers much greater in workers (1.0 nmole/m mole creatinine). Mean total protein in urine 20% higher in workers (p approx 0.01). Levels also reported by degree of current and past exposure. Airborne (plant) levels within 50 ug/cu m since 1970. Workers, mean age 47.6, Controls. England Electrothermal atomization; AAS

BLOOD; BLOOD PLASMA; URINE; OCCUPATIONAL EXPOSURE; UNITED KINGDOM; AGE; COMPARATIVE EVALUATIONS; CADMIUM; LEAD; AIR POLLUTION; INDUSTRIAL ATMOSPHERES; INDUSTRIES; OCCUPATIONAL HAZARDS; SMELTERS; SMOKING
Kazantzis, G.; Armstrong, B.G. 1984 Environmental Health Perspectives 54:193-199

Tissue	Cases Exposure Route	Range	Mean	General Information
11877 Urine	92	a) </=2->15 nmol/mmol creatinine b) Not given	a) Not given b) <1.0 nmol/mmol creatinine	a) Exposed at least 5 yr before 1978. Workers used Cd-containing solder b) Unexposed, industrial workers 1 nmol/mmol=1 ug/g creatinine. 58 27-78 yr old men, 2 29-30 yr old women, mean age overall 48 yr. 32 controls Increased excretion of low mol wt proteins. Possible that stones more common in exposed group AAS

OCCUPATIONAL EXPOSURE; CADMIUM; URINE; OCCUPATIONAL HAZARDS
Elinder, C.G.; Edling, C.; Lindberg, E.; Kagedal, B.; Vesterberg, O. 1985 British Journal of Industrial Medicine 42:754-760

Tissue	Cases Exposure Route	Range	Mean	General Information
11878 Urine	20	a) 0.0016-0.008 mg/24 hr b) 0.006-0.02 mg/24 hr	a) 0.004 mg/24 hr b) 0.015 mg/24 hr	a) Before treatment, samples during 24 hr b) After treatment with 20 mg/kg (I.V. in 250 ml 5% glucose) of CaEDTA, 24 hr samples Values estimated from graph. Gun metal foundry workers (males) employed 2-17 (mean 10) yr, no histories of renal disease. 34-59 (mean 49) yr-olds occupationally exposed to Pb, Zn, Cu AAS

OCCUPATIONAL EXPOSURE; LEAD; MERCURY; CADMIUM; ZINC; COPPER; MANGANESE; CHROMIUM; URINE; BLOOD; BLOOD PLASMA; BLOOD CELLS; CHELATING AGENTS; OCCUPATIONAL HAZARDS; METALS
Araki, S.; Aono, H.; Murata, K. 1986 British Journal of Industrial Medicine 43:636-641

Cadmium
7440-43-9
Cd
AtW 112.40, MP 321 C, BP 765 C, VP 1 mm Hg at 394 C, 10 mm Hg at 486 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11879 Urine	a) 220 b) 76 c) 154 d) 93 e) 147 f) 199 g) 199	a) 1.22+/-1.69-2.26+/-1.65 ug/L b) 1.26+/-1.78-3.25+/-2.04 ug/L c) 0.84+/-1.72-2.36+/-1.52 ug/L d) 0.97+/-1.78-1.33+/-1.67 ug/L e) 1.51+/-1.71-0.94+/-2.35 ug/L f) 0.74+/-1.20-1.47+/-1.59 ug/L g) 1.51+/-1.85-2.20+/-1.64 ug/L Geometric mean	a) 1.80+/-1.78 ug/L b) 2.75+/-2.01 ug/l c) 1.44+/-1.96 ug/L d) 1.18+/-1.86 ug/L e) 1.25+/-1.86 ug/L f) 1.33+/-1.82 ug/L g) 1.86+/-1.90 ug/L	a) 30-39 and 60-69 yr olds, Sapporo b) 20-29 and 40-49 yr olds, Sendi c) 20-29 and 50-59 yr olds, Nigata d) 40-49 and 60-69 yr olds, Matsumoto e) 60-69 and 80-84 yr olds, Kochi f) 20-29 and 60-69 yr olds Miyako Ranges of means, by decades of ages, of samples collected in winters 1982 and 1983. Adjusted for specific gravity 1.016 of urine. No known heavy metal pollution. Geometric mean levels for males in Matsumoto 1.26+/-1.92 ug/L (69 cases), in Kochi 1.22+/-2.22 ug/L (56 cases). Smoking and dietary factors also discussed. Primarily nonsmoking adult women, Japan AAS

URINE; ENVIRONMENTAL EXPOSURE; JAPAN; CADMIUM; BIOACCUMULATION
Abe, H.; Watanabe, T.; Ikeda, M. 1986 Journal of Toxicology and Environmental Health 18:357-367

Calcium
7440-70-2
Ca
AtW 40.08, MP 850 C, BP 1440 C, VP 10 mm Hg at 983 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11880 Blood, serum	60	a) Not given b) Not given c) Not given d) Not given	a) 1.47+/-0.05 mmol/l b) 2.34+/-0.09 mmol/l c) 2.28+/-0.08 mmol/l d) 1.19+/-0.04 mmol/l	a) Dialysable Ca b) Total c) Albumin adjusted d) Ionised Measurements in males. Significant sex differences in total and albumin adjusted forms (2.29+/-0.08 and 2.22+/-0.08 mmol/l, respectively for females). Validation of new method for measuring biologically active form. Healthy volunteers, 18-65 yr old Colorimetry

BLOOD SERUM; ENVIRONMENTAL EXPOSURE; AUSTRALIA; MEASUREMENT METHODS; CALCIUM; MINERALS; BIOACCUMULATION; BIOLOGICAL MONITORING
Prince, R.L.; Langton, S.R. 1985 British Medical Journal 290:735-739

Calcium
7440-70-2
Ca
AtW 40.08, MP 850 C, BP 1440 C, VP 10 mm Hg at 983 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11881 Bone	a) 148 b) 18	a) 25.7+/-1.8-32.7+/-3.0% b) 7.3-22.6%	a) Not given b) 18.5+/-3.4%	a) Ranges of means. Ancient specimens, mostly limbs, from 10 sites. Bronze Age (3000 yr BP) to 18th century periods. Two bones from Neolithic and one from 800 yr BP excluded from calculations b) Contemporary femora, tibiae, vertebrae and ribs (29 bones) collected at autopsies, 2-3/1984, Paris Fragments collected for analysis from layers about 0.5-4 mm below surface of medullary cavity, from a 5-10 sq cm area. Levels increased with age of bones. Additional data on significance of concentration gradients within bone, conditions of burial site, fossilization changes, geography, and historical/cultural factors. France ICP-AES

BONES; FRANCE; AUTOPSIES; COMPARATIVE EVALUATIONS; CADMIUM; LEAD; ZINC; BARIUM; MAGNESIUM; CALCIUM; MINERALS; ENVIRONMENTAL EXPOSURE
Jaworowski, Z.; Barbalat, F.; Blain, C.; Peyre, E. 1985 Science of the Total Environment 43:103-126

Tissue	Cases Exposure Route	Range	Mean	General Information
11882 Bone marrow	9	a) 30.13-97.5 ug/g b) 23.5-67.4 ug/g Wet wt	a) 60.6+/-19.7 ug/g b) 39.4+/-17.0 ug/g Wet wt	a) Neoplastic samples from surgically resected tissues, 9 cases b) Samples from normal-looking areas outside the tumor, 5 cases. Patients at Tata Memorial Hospital Pathology Dept, India. AAS
11883 Esophagus	7	a) 158.5-388.1 ug/g b) 150.4-201 ug/g c) Not given Wet wt	a) 236.9+/-87.3 ug/g b) 164.80+/-36.5 ug/g c) 390+/-10 ug/g Wet wt	a) Neoplastic samples from surgically resected tissues, 4 cases b) Samples from normal-looking areas outside the tumor, 4 cases c) Normal samples, control subjects, 3 cases. Patients at Tata Memorial Hospital Pathology Dept, India. AAS

ORAL TISSUE; BREAST; LUNGS; ESOPHAGUS; STOMACH; INTESTINES; REPRODUCTIVE ORGANS; BONES; BONE MARROW; INDIA; CARCINOMAS; NEOPLASMS; SARCOMAS; BIOPSIES; COMPARATIVE EVALUATIONS; CALCIUM; MAGNESIUM; POTASSIUM; SODIUM; SURGERY
Ranade, S.S.; Panday, V.K. 1985 Science of the Total Environment 41:79-89

Tissue	Cases Exposure Route	Range	Mean	General Information
11884 Hair	a) 1 b) 1	a) 302-5,803 ppm b) 160-2,938 ppm	a) 2,124+/-1,337 b) 1,231+/-677	a) Subject 1 b) Subject 2 Samples sent to 13 commercial laboratories for analysis. Values here are combined from all. Considerable variance within same laboratory, among different laboratories and disagreement about what was "normal" or "unusual". Authors conclude commercial use of hair analysis for management of disease, nutrition unscientific, uneconomical, probably illegal.

HAIR; ALUMINUM; ARSENIC; BERYLLIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; GOLD; IRON; LEAD; LITHIUM; MAGNESIUM; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; RUBIDIUM; SELENIUM; SILICON; SODIUM; TIN; VANADIUM; ZINC; ELEMENTS; TRACE ELEMENTS; METALS
Barrett, S. 1985 Journal of the American Medical Association 254(8):1041-1045

Calcium
7440-70-2
Ca
AtW 40.08, MP 850 C, BP 1440 C, VP 10 mm Hg at 983 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11885 Hair	a) 92 b) 55 c) 46 d) 457 e) 255	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 452 ppm b) 479 ppm c) 1139 ppm d) 700 ppm e) 895 ppm	a) Canada b) U.S.A. c) Poland d) Japan e) India Part of international survey of 21 elements. Japanese, 2-80 yr olds. Rest were 30-60 yr old. ES; AAS

ENVIRONMENTAL EXPOSURE; HAIR; CANADA; UNITED STATES; POLAND; JAPAN; INDIA; MAGNESIUM; CALCIUM; PHOSPHORUS; SODIUM; POTASSIUM; IRON; COPPER; MANGANESE; ZINC; SELENIUM; CHROMIUM; NICKEL; COBALT; VANADIUM; LEAD; CADMIUM; ALUMINUM; ANTIMONY; MERCURY; TIN; ARSENIC; AGE; SEX; COMPARATIVE EVALUATIONS

Takagi, Y.; Matsuda, S.; Imai, S.; Ohmori, Y.; Masuda, T.; Vinson, J.A.; Mehra, M.C.; Puri, B.K.; Kaniewski, A. 1986 Bulletin of Environmental Contamination and Toxicology 36:793-800

Tissue	Cases Exposure Route	Range	Mean	General Information
11886 Kidney		a) 70-383 mg/kg b) 63-428 mg/kg c) 71-427 mg/kg d) 63-408 mg/kg Wet wt	a) 147 mg/kg b) 135 mg/kg c) 166 mg/kg d) 145 mg/kg Wet wt Median	a) Cortex, Kingston, 71 cases b) Ottawa, 63 cases c) Medulla, Kingston, 71 d) Ottawa, 63 Autopsy samples from normal subjects, Kingston and Ottawa, Ontario ICP-AES
11887 Liver	a) 74 b) 62	a) 40-181 mg/kg b) 33-119 mg/kg Wet wt	a) 66 mg/kg b) 60 mg/kg Wet wt Median	a) Kingston b) Ottawa Autopsy samples from normal subjects, Kingston and Ottawa, Ontario ICP-AES

KIDNEYS; LIVER; CANADA; AUTOPSIES; CALCIUM; POTASSIUM; MAGNESIUM; SODIUM; PHOSPHORUS; COPPER; IRON; MANGANESE; SELENIUM; ZINC; CADMIUM; MERCURY; LEAD

Subramanian, K.S.; Meranger, J.C.; Burnett, R.T. 1985 Science of the Total Environment 42:223-235

Tissue	Cases Exposure Route	Range	Mean	General Information
11888 Lung	22	a) 57.7-247 ug/g b) 76.0-288 ug/g c) Not given Wet wt	a) 151.4+/-77.3 ug/g b) 206.8+/-77.9 ug/g c) 150+/-80 ug/g Wet wt	a) Neoplastic samples from surgically resected tissues, 4 cases b) Samples from normal-looking areas outside the tumor, 6 cases c) Normal samples, control subjects, 18 cases. Patients at Tata Memorial Hospital Pathology Dept, India. AAS

ORAL TISSUE; BREAST; LUNGS; ESOPHAGUS; STOMACH; INTESTINES; REPRODUCTIVE ORGANS; BONES; BONE MARROW; INDIA; CARCINOMAS; NEOPLASMS; SARCOMAS; BIOPSIES; COMPARATIVE EVALUATIONS; CALCIUM; MAGNESIUM; POTASSIUM; SODIUM; SURGERY

Ranade, S.S.; Panday, V.K. 1985 Science of the Total Environment 41:79-89

Calcium
7440-70-2
Ca
AtW 40.08, MP 850 C, BP 1440 C, VP 10 mm Hg at 983 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11889 Milk	52 Ingestion	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 6.1 mM b) 6.2 mM c) 5.3 mM d) 5.7 mM e) 4.9 mM f) 5.6 mM g) 4.4 mM h) 4.7 mM i) 3.4 mM	a) 1 month b) 2 months c) 4 months d) 7 months e) 8 months f) 11 months g) 13 months h) 15 months i) 20 months Times postpartum. Half on normal diet, half on vegetarian diet. No significant differences due to diet. Lactating women, mean age 29 yr. AAS

MILK; ADULTS; DIETS; COMPARATIVE EVALUATIONS; IRON; COPPER; ZINC; SODIUM; POTASSIUM; CALCIUM; MAGNESIUM; MINERALS; TRACE ELEMENTS; LACTATION
Finley, D.A.; Lonnerdal, B.; Dewey, K.G.; Grivetti, L.E. 1985 Journal of Nutrition 115:772-781

Tissue	Cases Exposure Route	Range	Mean	General Information
11890 Oral	20	a) 76.8-169.9 ug/g b) 84-203.6 ug/g c) Not given Wet wt	a) 125.2+/-36.3 ug/g b) 126.1+/-50 ug/g c) 160+/-80 ug/g Wet wt	a) Neoplastic samples from surgically resected tissues, 5 cases b) Samples from normal-looking areas outside the tumor, same 5 c) Normal samples, control subjects, 15 cases. Patients at Tata Memorial Hospital Pathology Dept, India. AAS
11891 Reproductive organs	18	a) 69.2-706 ug/g b) 83-774 ug/g c) Not given Wet wt	a) 193.7+/-231.8 ug/g b) 297+/-249.6 ug/g c) 130+/-80 ug/g Wet wt	a) Neoplastic samples from surgically resected tissues, 7 cases b) Samples from normal-looking areas outside the tumor, 17 cases c) Normal samples, control subjects, 11 cases. Patients at Tata Memorial Hospital Pathology Dept, India. AAS

ORAL TISSUE; BREAST; LUNGS; ESOPHAGUS; STOMACH; INTESTINES; REPRODUCTIVE ORGANS; BONES; BONE MARROW; INDIA; CARCINOMAS; NEOPLASMS; SARCOMAS; BIOPSIES; COMPARATIVE EVALUATIONS; CALCIUM; MAGNESIUM; POTASSIUM; SODIUM; SURGERY
Ranade, S.S.; Panday, V.K. 1985 Science of the Total Environment 41:79-89

Cannabinoids (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
11892 Blood	a) 5 b) 5 Inhalation	a) <13-30 ng/ml b) 16-30 ng/ml	a) Not given b) Not given	a) Passive smokers b) Smokers Measurements after 30-min passive or active exposure to smoke from cigarettes containing either hashish or marijuana. Theoretical amount delta 9-tetrahydrocannabinol smoked was 90 mg. Values for a) estimated from graph. 35-50 yr old healthy volunteers, no previous Cannabis smoking RIA
11893 Urine	3 Inhalation	a) Not detected b) 17-26 ng/ml c) 14-30 ng/ml d) 14-23 ng/ml e) Not detected-21 ng/ml f) Not detected	a) Not detected b) 21 ng/ml c) 22 ng/ml d) 17.7 ng/ml e) 7 ng/ml f) Not detected	a) Same day, before exposure b) Same day, after exposure c) Morning, day 2 d) Morning, day 3 e) Morning, day 4 f) Morning, day 5 Means calculated. Detection ("cutoff") limit 13 ng/ml. Times after 30-min passive inhalation of smoke from marijuana cigarettes. Theoretical amount delta 9-tetrahydrocannabinol smoked was 90 mg. From group of 35-50 yr old healthy volunteers, no previous Cannabis smoking RIA
BLOOD; URINE; INHALATION; SMOKING; PASSIVE SMOKING; DRUGS; DELIBERATE EXPOSURE Morland, J.; Bugge, A.; Skuterud, B.; Steen, A.; Wethe, G.H.; Kjeldsen, T. 1985 Journal of Forensic Sciences 30(4):997-1002				

Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)
63-25-2
C12-H11-N-O2
MW 201.72, MP 145 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11894 Blood	1 Ingestion	Not applicable	6 mg/L	At autopsy, dose estimated minimum of 15 g of insecticide mixture. Victim ingested unknown amount of garden spray containing 107 g/kg carbaryl, 37 g/kg dimethoate, 150 g/kg mancozeb, and 354 g/kg sulfur. 48 yr old female suicide victim HPLC
11895 Liver	1 Ingestion	Not applicable	12 mg/kg	At autopsy, dose estimated minimum of 15 g of insecticide mixture. Victim ingested unknown amount of garden spray containing 107 g/kg carbaryl, 37 g/kg dimethoate, 150 g/kg mancozeb, and 354 g/kg sulfur. 48 yr old female suicide victim HPLC
11896 Stomach	1 Ingestion	Not applicable	2400 mg/kg	At autopsy, dose estimated minimum of 15 g of insecticide mixture. Victim ingested unknown amount of garden spray containing 107 g/kg carbaryl, 37 g/kg dimethoate, 150 g/kg mancozeb, and 354 g/kg sulfur. 48 yr old female suicide victim HPLC

(next page)

Carbamic acid, methyl-, 1-naphthyl ester (8 CI); 1-Naphthalenol, methylcarbamate (9 CI)
63-25-2
C12-H11-N-O2
MW 201.72, MP 145 C

(continued)

Tissue	Cases Exposure Route	Range	Mean	General Information
11897 Urine	1 Ingestion	Not applicable	Trace	At autopsy, dose estimated minimum of 15 g of insecticide mixture. Victim ingested unknown amount of garden spray containing 107 g/kg carbaryl, 37 g/kg dimethoate, 150 g/kg mancozeb, and 354 g/kg sulfur. 48 yr old female suicide victim HPLC
BLOOD; URINE; LIVER; STOMACH; DELIBERATE EXPOSURE; SUICIDE; AUTOPSIES; MEASUREMENT METHODS; PESTICIDES; POISONING Duck, B.J.; Woolias, M. 1985 Journal of Analytical Toxicology 9:177-179				

Carbamic acid, methyl-, 4-(dimethylamino)-m-tolyl ester (8 CI); Phenol, 4-(dimethylamino)-3-methyl-, methylcarbamate (ester) (9 CI)
2032-59-9
C11-H16-N2-O2
MW 208, MP 93-94 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11898 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982). GC
URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983				

Carbon disulfide
75-15-0
C-S2
MW 76.14, MP -110.8 C, BP 46.5 C at 760 mm Hg, VP 360 mm Hg at 25 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11899 Blood	23 Inhalation	a) Undetectable b) 1.97-8.29 umol/L c) 0.66-4.61 umol/L d) 1.36-6.58 umol/L	a) Undetectable b) 4.37 umol/L c) 1.87 umol/L d) 3.0 umol/L	a) Day 1 of 5 d shift, before work. After 48 hr break. 13 cases b) Day 1, after work c) Day 5, before work d) Day 5, after work Acid-labile CS-2 in exposed workers. (No free CS-2 detected). None in 10 unexposed workers matched for age, smoking habits, and alcohol consumption. Detection limit=0.2 umol/L. New assay method, using specific S detector. Workers in viscose rayon factory GC

(next page)

Carbon disulfide
75-15-0
C-S2
MW 76.14, MP -110.8 C, BP 46.5 C at 760 mm Hg, VP 360 mm Hg at 25 C

(continued)

Tissue	Cases Exposure Route	Range	Mean	General Information
11900 Breath	23 Inhalation	a) Undetectable b) 75-1955 ug/cu m c) Undetectable-58 ug/cu m d) 85-610 ug/cu m	a) Undetectable b) 603 ug/cu m c) 24 ug/cu m d) 324 ug/cu m	a) Day 1 of 5 d shift, before work. After 48 hr break. 13 cases b) Day 1, after work c) Day 5, before work d) Day 5, after work End-expired air of exposed workers. None found in 10 unexposed workers matched for age, smoking habits, and alcohol consumption. Detection limit=5 ug/cu m. Wide range of postshift results probably due to fluctuating exposure levels toward end of shift. Workers in viscose rayon factory MS
11901 Urine	23 Inhalation	a) Undetectable b) Undetectable-9.6 c) 0.49-2.1 d) 0.92-7.3 umol/mmol creatinine	a) Undetectable b) 4.8 c) 0.6 d) 2.7 umol/mmol creatinine	a) Day 1 of 5 d shift, before work. After 48 hr break. 13 cases b) Day 1, after work c) Day 5, before work d) Day 5, after work Excretion of metabolite, 2-thiothiazolidine-4-carboxylic acid (TTCA), in exposed workers. None found in 10 unexposed workers matched for age, smoking habits, and alcohol consumption. Detection limit=0.5 umol/L. Workers in viscose rayon factory HPLC

BLOOD; BREATH; URINE; OCCUPATIONAL EXPOSURE; MEASUREMENT METHODS; SULFUR; INDUSTRIAL CHEMICALS; INDUSTRIES; INHALATION
Campbell, L.; Jones, A.H.; Wilson, H.K. 1985 American Journal of Industrial Medicine 8:143-153

Carbon monoxide
630-08-0
C-O
MW 28.01, MP -205 C, BP -191.5 C, VP 10 mm Hg at -215 C, 100 mm Hg at -205.7 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11902 Blood	a) 1 b) 1 c) 1 d) 4 Inhalation	a) Not given b) 21.5-24.1% c) Not given d) 4.1-12.8%	a) 30% b) Not given c) 35% d) Not given	a) Worker with coronary artery disease, steel dye reconditioning plant, died at work b) Worker with coronary artery disease and global subendocardial ischemia, clothing company, died at work c) Hospitalized, worker at used clothing company d) Workers at used clothing company Measured as carboxyhemoglobin. Exposed to CO from heaters and forklift exhausts. Workplace of b)-d) had 60-310 ppm on day after worker's death. Industrial workers in poorly ventilated workplaces, 1980, Massachusetts. Nausea, light-headedness, headache. Possibly CO contributing cause in death of workers with heart disease.

CARBON MONOXIDE; BLOOD; OCCUPATIONAL EXPOSURE; HEALTH HAZARDS; ACCIDENTAL POISONING; MASSACHUSETTS; CARDIOVASCULAR DISEASES; OCCUPATIONAL DISEASES; AIR POLLUTION; INHALATION; INDUSTRIAL AREAS; INDUSTRIAL ACCIDENTS; INDUSTRIAL PLANTS; INDUSTRIAL ATMOSPHERES; OCCUPATIONAL HAZARDS
Atkins, E.H.; Baker, E.L. 1985 American Journal of Industrial Medicine 7:73-79

Carbon tetrachloride (8 CI); Methane, tetrachloro- (9 CI)
56-23-5
C-Cl4
MW 153.84, MP -22.6 C, BP 76.8 C, VP 100 mm Hg at 23.0 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11903 Blood	16 Oral Inhalation	0.1-31.5 mg/l	4.7 mg/l	Admissions during 1981-84. From group of 19 cases in whom CCl4 poisoning was confirmed. Mean calculated from table. 3-79 yr old patients Drowsiness, vomiting, coma, abdominal pain, agitation, confusion, headache, diarrhea, hypotonic were some clinical features GC
DELIBERATE EXPOSURE; ACCIDENTAL EXPOSURE; BLOOD; CHLORINATED HYDROCARBONS; INHALATION; INGESTION Ruprah, M.; Mant, T.G.K. 1985 Lancet 1(8436):1027-1028				

Carbonylhemoglobin
9061-29-4
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11904 Blood	a) 3 b) 12	a) 16-32% b) Not given	a) 22% b) 35.6%	a) 7-9 yr old children b) Adults from same three households Poisoning caused by inhalation of CO produced by poorly maintained gas stoves. In a), abdominal pain, vomiting, fever, headache. Patchy erythema on one child's chest and back.
BLOOD; ENVIRONMENTAL EXPOSURE; ADULTS; CHILDREN; AGE; CASE HISTORIES; CARBON MONOXIDE; HEMOGLOBINS; ACCIDENTAL POISONING; HEALTH HAZARDS; INHALATION Gemelli, F.; Cattani, R. 1985 British Medical Journal 291(6503):1197				

Tissue	Cases Exposure Route	Range	Mean	General Information
11905 Blood	16 Inhalation	<12-67% saturation	54% saturation	From fatalities resulting from accidental carbon monoxide intoxication. Mean calculated from individual values. 3-83 yr olds
ACCIDENTAL POISONING; ENVIRONMENTAL EXPOSURE; CARBON MONOXIDE; BLOOD; INHALATION Caplan, Y.H.; Thompson, B.C.; Levine, B.; Masemore, W. 1986 Journal of Forensic Sciences 31(1):117-121				

Carbonylhemoglobin
9061-29-4
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11906 Blood	6	a) Not given b) Not given c) Not given	a) 0.57+/-0.04% b) 0.55+/-0.05% c) 3.38+/-0.54% S.E.	a) After nonsmoking period b) Passive smoking c) Active smoking Pooled values. Exposed in exposure chamber during 2 wk study. 3 subjects smoking for 2 successive days in wk 1, the other 3 smoking for 2 days wk 2. 2 cigarettes (filtered, self-burning, low tar brand)/person/hr. 30 cigarettes smoked during each 5 hr experimental day. Samples in a) collected before study. Detection limit 0.5%. 21-31 yr old volunteers Urinary mutagenicity highest after active smoking, lowest in nonsmokeing periods Spectrophotometry

BLOOD PLASMA; DELIBERATE EXPOSURE; ENVIRONMENTAL EXPOSURE; FINLAND; INHALATION; METABOLITES; SMOKE; SMOKING; BLOOD; URINE; HEMOGLOBINS; THIOCYANATES; THIOETHERS

Sorsa, M.; Einisto, P.; Husgafvel-Pursiainen, K.; Jarventaus, H.; Kivisto, H.; Peltonen, Y.; Tuomi, T.; Valkonen, S. 1986 Journal of Toxicology and Environmental Health 16:523-534

Cerium
7440-45-1
Ce
AtW 140.12, MP 795 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11907 Blood, plasma	15	45.0-71.0 ng/mL	58.1+/-7.0 ng/mL	Before patients received therapy. 43-76 yr old laryngeal carcinoma patients NA

BLOOD PLASMA; BLOOD; LARYNX; CARCINOMAS; COMPARATIVE EVALUATIONS; LANTHANUM; CERIUM; YTTERBIUM; TRACE ELEMENTS

Esposito, M.; Collecchi, P.; Brera, S.; Mora, E.; Mazzucotelli, A.; Cutolo, M.; Oddone, M. 1986 Science of the Total Environment 50:55-63

Tissue	Cases Exposure Route	Range	Mean	General Information
11908 Bronchoalveolar lavage	1	Not applicable	757 pb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old Rare-earth pneumoconiosis Micronodular lung changes, restrictive spirometric impairment NA; X-ray spectrom

BRONCHOALVEOLAR LAVAGE; NAILS; OCCUPATIONAL EXPOSURE; CASE HISTORIES; PNEUMOCONIOSIS; OCCUPATIONAL DISEASES; RESPIRATORY DISEASES; LAVAGE; CERIUM; LANTHANUM; TERBIUM; YTTERBIUM; SILVER; ARSENIC; GOLD; CADMIUM; COBALT; CHROMIUM; CESIUM; IRON; MERCURY; INDIUM; IRIDIUM; MOLYBDENUM; NICKEL; RUBIDIUM; ANTIMONY; SCANDIUM; SELENIUM; TIN; THORIUM; URANIUM; ZINC; TRACE ELEMENTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; SMOKING

Sulotto, F.; Romano, C.; Berra, A.; Botta, G.C.; Rubino, G.F.; Sabbioni, E.; Pietra, R. 1986 American Journal of Industrial Medicine 9:567-575

Cerium
7440-45-1
Ce
AtW 140.12, MP 795 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11909 Larynx	15	a) 39-91 ng/g b) 34-94 ng/g	a) 64.0+/-16.2 ng/g b) 71.1+/-22.6 ng/g	a) Malignant tissue b) Normal adjacent tissue 43-76 yr old laryngeal carcinoma patients NA
BLOOD PLASMA; BLOOD; LARYNX; CARCINOMAS; COMPARATIVE EVALUATIONS; LANTHANUM; CERIUM; YTTERBIUM; TRACE ELEMENTS Esposito, M.; Collecchi, P.; Brera, S.; Mora, E.; Mazzucotelli, A.; Cutolo, M.; Oddone, M. 1986 Science of the Total Environment 50:55-63				

Tissue	Cases Exposure Route	Range	Mean	General Information
11910 Nail	1	Not applicable	8,880 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old Rare-earth pneumoconiosis Micronodular lung changes, restrictive spirometric impairment NA
BRONCHOALVEOLAR LAVAGE; NAILS; OCCUPATIONAL EXPOSURE; CASE HISTORIES; PNEUMOCONIOSIS; OCCUPATIONAL DISEASES; RESPIRATORY DISEASES; LAVAGE; CERIUM; LANTHANUM; TERBIUM; YTTERBIUM; SILVER; ARSENIC; GOLD; CADMIUM; COBALT; CHROMIUM; CESIUM; IRON; MERCURY; INDIUM; IRIDIUM; MOLYBDENUM; NICKEL; RUBIDIUM; ANTIMONY; SCANDIUM; SELENIUM; TIN; THORIUM; URANIUM; ZINC; TRACE ELEMENTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; SMOKING Sulotto, F.; Romano, C.; Berra, A.; Botta, G.C.; Rubino, G.F.; Sabbioni, E.; Pietra, R. 1986 American Journal of Industrial Medicine 9:567-575				

Cesium
7440-46-2
Cs
AtW 132.9054, MP 28.5 C, BP 705 C, VP 1 mm Hg at 279 C, 10 mm Hg at 373 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11911 Bronchoalveolar lavage	1	Not applicable	1.3 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old NA
BRONCHOALVEOLAR LAVAGE; NAILS; OCCUPATIONAL EXPOSURE; CASE HISTORIES; PNEUMOCONIOSIS; OCCUPATIONAL DISEASES; RESPIRATORY DISEASES; LAVAGE; CERIUM; LANTHANUM; TERBIUM; YTTERBIUM; SILVER; ARSENIC; GOLD; CADMIUM; COBALT; CHROMIUM; CESIUM; IRON; MERCURY; INDIUM; IRIDIUM; MOLYBDENUM; NICKEL; RUBIDIUM; ANTIMONY; SCANDIUM; SELENIUM; TIN; THORIUM; URANIUM; ZINC; TRACE ELEMENTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; SMOKING Sulotto, F.; Romano, C.; Berra, A.; Botta, G.C.; Rubino, G.F.; Sabbioni, E.; Pietra, R. 1986 American Journal of Industrial Medicine 9:567-575				

Cesium
7440-46-2
Cs
AtW 132.9054, MP 28.5 C, BP 705 C, VP 1 mm Hg at 279 C, 10 mm Hg at 373 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11912 Hair	a) 10 b) 10	a) Not given b) Not given	a) 0.146+/-0.031 ug/g b) 0.174+/-0.063 ug/g	a) Patients with multiple sclerosis b) Controls Significant difference, borderline. Patients and controls, matched for sex and age. NA

BLOOD; HAIR; ENVIRONMENTAL EXPOSURE; UNITED KINGDOM; NEUROMUSCULAR DISEASES; TRACE ELEMENTS; BIOACCUMULATION; BIOINDICATORS; ALUMINUM; ANTIMONY; ARSENIC; BARIUM; BROMINE; CESIUM; GOLD; IODINE; MANGANESE; MOLYBDENUM; SELENIUM; VANADIUM; ZINC; COPPER; IRON; MAGNESIUM; POTASSIUM; SULFUR

Ward, N.I.; Bryce-Smith, D.; Minski, M.; Matthews, W.B. 1985 Biological Trace Element Research 7:153-159

Cesium, isotope of mass 137
10045-97-3
Cs
AtW 137, MP 28.5 C, BP 705 C, VP 1 mm Hg at 279 C, 10 mm Hg at 373 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11913 Body	3	a) 42.09-0.21 uCi b) 13.30-0.59 uCi c) 8.90-0.63 uCi	a) Not given b) Not given c) Not given	a) Worker A, no gloves, picked up broken capsule, dose 13 rem b) Worker B, dose 2.7 rem c) Worker C, dose 0.11 rem Ranges of activity on day 0 (estimated) and d 51. Workers exposed when drill bit pierced Cs-137 source capsule during attempt to remove it from steel housing. Measurements were not evaluated until 66 hr after accident and decontamination by showering. No localized radiation effects. Whole-body counter; Gamma camera

OCCUPATIONAL EXPOSURE; BODY; ADULTS; CESIUM; IRRADIATION; INDUSTRIAL ACCIDENTS; RADIONUCLIDES

Nishiyama, H.; Saenger, E.L.; Grossman, L.W.; Lukes, S.J. 1985 Radiology 154:513-517

Chlorinated paraffins
63449-39-8
EXACT COMPOSITION UNKNONWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11914 Adipose	1	Not applicable	200 ppb	New analytical procedure. Detection limit 5 ng. 65 yr old GC/MS

ADIPOSE TISSUE; ENVIRONMENTAL EXPOSURE; MEASUREMENT METHODS; CHLORINATED HYDROCARBONS; INDUSTRIAL CHEMICALS; INDUSTRIAL AREAS

Schmid, P.P.; Muller, M.D. 1985 Journal of the Association of Official Analytical Chemists 68(3):427-430

Chlorinated phenoxy acids (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
11915 Urine	16 Dermal Inhalation	a) 0.324-28.5 umol/L b) 0.435-12.7 umol/L c) 0.324-28.5 umol/L	a) 5.73+/-1.96 umol/L b) 7.91+/-3.79 umol/L c) 5.41+/-2.48 umol/L S.E.	a) All formulations b) Powders, three cases c) Liquids, thirteen cases Excretion (peak levels) 12 hr after spraying solutions (mean concentration 7.0 g/L) of various herbicides, all containing 4-chloro-2-methylphenoxyacetic acid. Application rate 1.4 kg/ha. Dermal dose: 26.4+/-8.39 mg/hr measured on skin patches on outer aspect of clothes, 1.51+/-0.85 mg/hr on inner aspect. Mean level in breathing zone 0.027 mg/cu m. 88% of amt excreted was from percutaneous absorption. 19-65 (mean 33) yr old herbicide applicators Increased excretion of Na and K ions after exposure GC
URINE; OCCUPATIONAL EXPOSURE; FINLAND; HERBICIDES; AGRICULTURE; BIOACCUMULATION; FARMS; PESTICIDES; OCCUPATIONAL HAZARDS Manninen, A.; Kangas, J.; Klen, T.; Savolainen, H. 1986 Archives of Environmental Contamination and Toxicology 15:107-111				

Chloroform (8 CI); Methane, trichloro- (9 CI)
67-66-3
C-H-Cl3
MW 119.39, MP -63.5 C, VP 100 mm Hg at 10.4 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11916 Blood, cells	a) 200 b) 210	a) Not detected-50.0 nmol/L b) Not detected-55.0 nmol/L	a) Not given b) Not given	a) Healthy subjects b) Patients Ranges of means. 14-18 subjects sampled/mo for 1 yr. Higher than trace levels found in 4% of samples in a), 3% in b). Tap water C-Cl3 monthly levels 11.7+/-0.3 (January)-106.2+/-1.2 ug/L (November). None detected in controls or in their non-chlorinated well water. Healthy subjects, patients, and controls, Finland GC-EC
11917 Blood, plasma	a) 200 b) 210	a) Not detected-25.1+/-4.6 nmol/L b) Not detected-25.0 nmol/L	a) Not given b) Not given	a) Healthy subjects b) Patients Ranges of means. 14-18 subjects sampled/mo for 1 yr. Higher than trace levels found in 4% of samples in a), 3% in b. Tap water with monthly C-Cl3 levels 11.7+/-0.3 (January)-106.2+/-1.2 ug/L (November). None detected in controls or in their non-chlorinated well water. Healthy subjects, patients, and controls, Finland GC-EC
BLOOD PLASMA; BLOOD; ENVIRONMENTAL EXPOSURE; FINLAND; COMPARATIVE EVALUATIONS; CHLORINE ORGANIC COMPOUNDS; BIOACCUMULATION; DRINKING WATER Kroneld, R. 1986 Bulletin of Environmental Contamination and Toxicology 36:477-483				

Chloroform (8 CI); Methane, trichloro- (9 CI)
67-66-3
C-H-Cl3
MW 119.39, MP -63.5 C, VP 100 mm Hg at 10.4 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11918 Blood, whole	250	a) Not detected-7.0 ng/mL b) Not given c) 0.6-3.0 ng/mL	a) 1.5 ng/mL b) 0.5 ng/mL c) Not given	a) Cases, test populations screened for volatile organics. In 9 cases levels were >2 S.D. above the mean, thus, most specimens not significantly different from one another b) 16 workers occupationally exposed at wire-manufacturing company c) Patient drinking contaminated water from municipal well in 1981. Contaminants included trichloroethane, ethylene. Range is of measurements on day 67 and day 0 after ceasing to drink contaminated water Values in b), c) estimated from graphs. Patients with high sensitivity to synthetic chemicals GC/MS

BLOOD; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; CHLORINATED HYDROCARBONS; BENZENES; STYRENES; INDUSTRIAL CHEMICALS; TOLUENE; XYLENE; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; WATER POLLUTION; DRINKING WATER
Antoine, S.R.; DeLeon, I.R.; O'dell-Smith, R.M. 1986 Bulletin of Environmental Contamination and Toxicology 36:364-371

Tissue	Cases Exposure Route	Range	Mean	General Information
11919 Blood, whole	a) 39 b) 9 c) 3 d) 3 e) 3 f) 3	a) Not detected-1.7 ug/L b) Not detected-0.6 ug/L c) Not detected-0.2 ug/L d) 0.4-32.7 ug/L e) 3.3-51.2 ug/L f) 0.2-3.1 ug/L	a) 0.2 ug/L b) Not given c) Not given d) Not given e) Not given f) Not given Median	a) Subjects with no occupational exposure to volatile halogenated hydrocarbons b) Motor vehicle mechanics c) Painters d) Precision instrument makers e) Dry-cleaners and pressers, shop A f) Dry-cleaners and pressers, shop B Detected in 26 cases of group a), upper normal limit (95th percentile) 1.3 ug/L. b)-f) sampled during work day after 4-6 hr potential exposure. Shop A used tetrachloroethylene as dry-cleaning agent. Detection limit 0.1 ug/L. 23-54 yr old normal subjects, Dusseldorf area, and members of various occupational groups, FRG GC-EC

BLOOD; BLOOD SERUM; URINE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; GERMANY; CHLORINATED HYDROCARBONS; INDUSTRIAL CHEMICALS; SOLVENTS; FLUORINE COMPOUNDS; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIAL SOLVENTS; INDUSTRIES; OCCUPATIONAL HAZARDS
Hajimiragha, H.; Ewers, U.; Jansen-Rosseck, R.; Brockhaus, A. 1986 International Archives of Occupational and Environmental Health 58:141-150

Chlorophenols (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
11920 Urine	a) 7 b) 4 c) 4 d) 1 e) 26 f) 2 g) 16 h) 7 i) 14 j) 5 Inhalation Dermal	a) 0.07-0.90 umol/l b) 0.06-0.12 umol/l c) 0.25-0.97 umol/l d) 0.26 umol/l e) 0.50-17 umol/l f) 0.50-1.1 umol/l g) 0.07-1.0 umol/l h) 0.05-0.60 umol/l i) 0.02-0.69 umol/l j) 0.10-0.69 umol/l	a) 0.51 umol/l b) 0.10 umol/l c) 0.59 umol/l d) Not given e) 3.49 umol/l f) 0.80 umol/l g) 0.34 umol/l h) 0.23 umol/l i) 0.20 umol/l j) 0.30 umol/l	a) Preparation treatment solution, mean in air=66 ug/cu m b) Outdoor vat dipping, nearest worksites, mean in air=24 ug/cu m c) Spraying chamber, nearest worksite, range in air 57-100 ug/cu m d) Spraying in bundles nearest worksite, mean in air=24 ug/cu m e) Trough-dipping, loading, mean in air=55 ug/cu m f) Trough-dipping, load inspection g) Machine stacking, mean in air=75 ug/cu m h) Kiln controlling i) Trimming and grading and longitudinal packaging, mean as vapor=3 ug/cu m, as dust=4 ug/cu m j) Transport of treated timber with a motor truck Workers in different processes within the plant. Sawmill workers. GC
URINE; OCCUPATIONAL EXPOSURE; FINLAND; OCCUPATIONAL DISEASES; INDUSTRIAL HYGIENE; CHLORINE ORGANIC COMPOUNDS; HALOGENS; FUNGICIDES; INDUSTRIAL CHEMICALS; PENTACHLOROPHENOL; BIOACCUMULATION; CARCINOGEN; DUST; HEALTH HAZARDS; INDUSTRIAL ATMOSPHERES; INDUSTRIAL PLANTS; INHALATION; OCCUPATIONAL HAZARDS Kauppinen, T.; Lindroos, L. 1985 American Industrial Hygiene Association Journal 46(1):34-38				

Cholesterol (8 CI); Cholest-5-en-3-ol (3beta)- (9 CI)
57-88-5
C27-H46-O
MW 386.64, MP 148.5 C (anhydrous), BP 233 C at 0.5 mm Hg, 360 C at 760 mm Hg (some decomp)

Tissue	Cases Exposure Route	Range	Mean	General Information
11921 Blood, serum	12 Ingestion	a) Not given b) Not given c) Not given d) Not given	a) 195+/-3 mg/dl b) 199+/-3 mg/dl c) 51+/-1 mg/dl d) 48+/-1 mg/dl	a) Control period b) Treatment period c) Control, HDL-form d) Treatment, HDL-form Controls, after 1 g/d lactose for 2 wk. Treated 1 g/d orotic acid for 4 wk. No hypolipidemia induction. Healthy volunteers, 11 females, 1 male, 24-59 yr old (mean 39 yr). All were on weight reduction program.
BLOOD SERUM; DELIBERATE EXPOSURE; NUTRITIONAL DISORDERS; CHOLESTEROLS; LIPIDS; BIOACCUMULATION; DIETS Robinson, J.L.; Dombrowski, D.B.; Tauss, L.R.; Jones, L.R. 1985 American Journal of Clinical Nutrition 41:605-608				

Chromium
7440-47-3
Cr
AtW 51.996, MP 1900 C, BP 2642 C, VP 1 mm Hg at 1616 C, 10 mm Hg at 1840 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11922 Blood	20	3.4-6.6 ug/dL	4.8 ug/dL	Gun metal foundry workers (males) employed 2-17 (mean 10) yr, no histories of renal disease. 34-59 (mean 49) yr-olds occupationally exposed to Pb, Zn, Cu AAS

(next page)

Chromium
7440-47-3
Cr
AtW 51.996, MP 1900 C, BP 2642 C, VP 1 mm Hg at 1616 C, 10 mm Hg at 1840 C

(continued)

Tissue	Cases Exposure Route	Range	Mean	General Information
11923 Blood, cells	20	0.1-0.4 ug/dL	0.2 ug/dL	Gun metal foundry workers (males) employed 2-17 (mean 10) yr, no histories of renal disease. 34-59 (mean 49) yr-olds occupationally exposed to Pb, Zn, Cu AAS

OCCUPATIONAL EXPOSURE; LEAD; MERCURY; CADMIUM; ZINC; COPPER; MANGANESE; CHROMIUM; URINE; BLOOD; BLOOD PLASMA; BLOOD CELLS; CHELATING AGENTS; OCCUPATIONAL HAZARDS; METALS
Araki, S.; Aono, H.; Murata, K. 1986 British Journal of Industrial Medicine 43:636-641

Tissue	Cases Exposure Route	Range	Mean	General Information
11924 Blood, plasma	47	Not given	0.82+/-0.52 ug/L	Standard-additions procedure with electrothermal AAS. Levels in males and females not significantly different. Healthy volunteers, ages 18-79 yr AAS

BLOOD PLASMA; URINE; ENVIRONMENTAL EXPOSURE; ADULTS; MEASUREMENT METHODS; CHROMIUM
Morris, B.W.; Kemp, G.J. 1985 Clinical Chemistry 31(1):171-172

Tissue	Cases Exposure Route	Range	Mean	General Information
11925 Bronchoalveolar lavage	1	Not applicable	5.5 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old NA

BRONCHOALVEOLAR LAVAGE; NAILS; OCCUPATIONAL EXPOSURE; CASE HISTORIES; PNEUMOCONIOSIS; OCCUPATIONAL DISEASES; RESPIRATORY DISEASES; LAVAGE; CERIUM; LANTHANUM; TERBIUM; YTTERBIUM; SILVER; ARSENIC; GOLD; CADMIUM; COBALT; CHROMIUM; CESIUM; IRON; MERCURY; INDIUM; IRIDIUM; MOLYBDENUM; NICKEL; RUBIDIUM; ANTIMONY; SCANDIUM; SELENIUM; TIN; THORIUM; URANIUM; ZINC; TRACE ELEMENTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; SMOKING
Sulotto, F.; Romano, C.; Berra, A.; Botta, G.C.; Rubino, G.F.; Sabbioni, E.; Pietra, R. 1986 American Journal of Industrial Medicine 9:567-575

Chromium
7440-47-3
Cr
AtW 51.996, MP 1900 C, BP 2642 C, VP 1 mm Hg at 1616 C, 10 mm Hg at 1840 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11926 Hair	a) 1 b) 1	a) 0.20-2.45 ppm b) 0.1-3.60 ppm	a) 1.10+/-0.71 ppm b) 0.91+/-0.83 ppm	a) Subject 1 b) Subject 2 Samples sent to 13 commercial laboratories for analysis. Values here are combined from all. Considerable variance within same laboratory, among different laboratories and disagreement about what was "normal" or "unusual". Authors conclude commercial use of hair analysis for management of disease, nutrition unscientific, uneconomical, probably illegal.

HAIR; ALUMINUM; ARSENIC; BERYLLIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; GOLD; IRON; LEAD; LITHIUM; MAGNESIUM; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; RUBIDIUM; SELENIUM; SILICON; SODIUM; TIN; VANADIUM; ZINC; ELEMENTS; TRACE ELEMENTS; METALS
Barrett, S. 1985 Journal of the American Medical Association 254(8):1041-1045

Tissue	Cases Exposure Route	Range	Mean	General Information
11927 Hair	a) 92 b) 55 c) 46 d) 457 e) 255	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 0.35 ppm b) 0.234 ppm c) 0.27 ppm d) 0.23 ppm e) 1.02 ppm	a) Canada b) U.S.A. c) Poland d) Japan e) India Part of international survey of 21 elements. Japanese, 2-80 yr olds. Rest were 30-60 yr old. ES

ENVIRONMENTAL EXPOSURE; HAIR; CANADA; UNITED STATES; POLAND; JAPAN; INDIA; MAGNESIUM; CALCIUM; PHOSPHORUS; SODIUM; POTASSIUM; IRON; COPPER; MANGANESE; ZINC; SELENIUM; CHROMIUM; NICKEL; COBALT; VANADIUM; LEAD; CADMIUM; ALUMINUM; ANTIMONY; MERCURY; TIN; ARSENIC; AGE; SEX; COMPARATIVE EVALUATIONS
Takagi, Y.; Matsuda, S.; Imai, S.; Ohmori, Y.; Masuda, T.; Vinson, J.A.; Mehra, M.C.; Puri, B.K.; Kaniewski, A. 1986 Bulletin of Environmental Contamination and Toxicology 36:793-800

Tissue	Cases Exposure Route	Range	Mean	General Information
11928 Hair	10	0.19-0.86 mg/kg Dry wt	0.42 mg/kg Dry wt	Autopsy samples. 48-62 yr old Caucasians, Sweden NA

HAIR; KIDNEYS; LIVER; SWEDEN; AUTOPSIES; SILVER; COBALT; CHROMIUM; IRON; MERCURY; ANTIMONY; SELENIUM; ZINC; MINERALS; TRACE ELEMENTS; BIOACCUMULATION
Muramatsu, Y.; Parr, R.M. 1985 International Atomic Energy Agency Report on the Second Research Co-ordination Meeting, Neuherberg, FRG, Sept 1985

Chromium
7440-47-3
Cr
AtW 51.996, MP 1900 C, BP 2642 C, VP 1 mm Hg at 1616 C, 10 mm Hg at 1840 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11929 Lung		a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 330 ppm b) 470 ppm c) 650 ppm d) 400 ppm e) 455 ppm f) 400 ppm g) 410 ppm b) 110 ppm i) 199 ppm	a) Lung cancer, 7 cases b) GI cancer, 11 cases c) Other malignancies, 7 cases d) Cardiovascular disease, 8 cases f) Other causes, 5 cases g) All workers, 76 cases h) Matched controls from Burtrask and Jorn, 15 cases Controls from Stockholm, 10 cases. Values in all workers significantly different from control groups. Swedish Cu-smelter workers consecutively dead since 4/75. Means: age 68.1+/-9.1 (range 66.0+/-19.5-71.3+/-8.6), retired 7.2+/-5.9 yr (5.3+/-4.9-11.2+/-7.7), exposed 31.2+/-8.4 yr (25.8+/-10.5-32.1+/-9.3) NA

SWEDEN; OCCUPATIONAL EXPOSURE; LUNGS; SELENIUM; TIN; ARSENIC; CADMIUM; CHROMIUM; COBALT; LANTHANUM; LEAD; METALS; SMELTERS; OCCUPATIONAL HAZARDS; NEOPLASMS; AUTOPSIES; CARCINOGEN
Gerhardsson, L.; Brune, D.; Nordberg, I.G.F.; Wester, P.O. 1985 British Journal of Industrial Medicine 42:617-626

Tissue	Cases Exposure Route	Range	Mean	General Information
11930 Milk				Review of longitudinal changes of trace element components in human milk. Mean daily intakes of breast-fed, cow's milk-fed infants and recommended daily allowances compared. Determination of Se status and consequences of deficiency discussed.

MILK; REVIEW; TRACE ELEMENTS; IRON; COPPER; ZINC; MANGANESE; MOLYBDENUM; CHROMIUM; COBALT; ARSENIC; SELENIUM; ITALY; UNITED STATES; GREECE; INDIA; FINLAND; FRANCE
Roekens, E.; Deelstra, H.; Robberecht, H. 1985 Science of the Total Environment 42:91-108

Tissue	Cases Exposure Route	Range	Mean	General Information
11931 Urine	47	Not given	<1.0 ug/L	Standard-additions procedure with electrothermal AAS. Levels in males and females not significantly different. Healthy volunteers, ages 18-79 yr AAS

BLOOD PLASMA; URINE; ENVIRONMENTAL EXPOSURE; ADULTS; MEASUREMENT METHODS; CHROMIUM
Morris, B.W.; Kemp, G.J. 1985 Clinical Chemistry 31(1):171-172

Chromium
7440-47-3
Cr
AtW 51.996, MP 1900 C, BP 2642 C, VP 1 mm Hg at 1616 C, 10 mm Hg at 1840 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11932 Urine	6 Inhalation	a) 1.3-10 ug/l b) 1.6-15 ug/l c) 3.6-34 ug/l	a) 4.4 ug/l b) 4.9 ug/l c) 10 ug/l	a) Monday a.m. of wk 1, after 1 mo without welding b) Monday a.m., wk 2-6 c) Thursday p.m., wk 1-6 Average air level during welding 0.10 mg/cu m. Hand shields and portable exhaust devices used. Statistically significant difference between Monday a.m. and Thursday p.m. levels ($p<0.0001$). No correlation between air and urine levels. Levels also reported in ug/mmol creatinine. High-Ni (75% Ni, 15% Cr) alloy welders, median age 33 (22-59) yr, median welding time 10 (15-17) yr. One or more symptoms (irritation of upper airways, headache, tiredness) occurred more often in all cases than when welding ordinary stainless steel. AAS

URINE; OCCUPATIONAL EXPOSURE; CHROMIUM; NICKEL; METALS; HEALTH HAZARDS; INDUSTRIAL ATMOSPHERES; INDUSTRIAL PLANTS; INHALATION; MINERAL METABOLISM; OCCUPATIONAL HAZARDS

Akesson, B.; Skerfving, S. 1985 International Archives of Occupational and Environmental Health 56:111-117

Tissue	Cases Exposure Route	Range	Mean	General Information
11933 Urine	20	a) 0.007-0.018 mg/24 hr b) 0.0055-0.0165 mg/24 hr	a) 0.010 mg/24 hr b) 0.0115 mg/24 hr	a) Before treatment, samples during 24 hr b) After treatment with 20 mg/kg (I.V. in 250 ml 5% glucose) of CaEDTA, 24 hr samples Values estimated from graph. Gun metal foundry workers (males) employed 2-17 (mean 10) yr, no histories of renal disease. 34-59 (mean 49) yr-olds occupationally exposed to Pb, Zn, Cu AAS

OCCUPATIONAL EXPOSURE; LEAD; MERCURY; CADMIUM; ZINC; COPPER; MANGANESE; CHROMIUM; URINE; BLOOD; BLOOD PLASMA; BLOOD CELLS; CHELATING AGENTS; OCCUPATIONAL HAZARDS; METALS

Araki, S.; Aono, H.; Murata, K. 1986 British Journal of Industrial Medicine 43:636-641

Chromium, ion (Cr(6+))
18540-29-9
Cr

Tissue	Cases Exposure Route	Range	Mean	General Information
11934 Blood, cells	17	1-20 ug/l	8.1 ug/l	Exposed to 0.045 mg/cu m airborne concentration. Workers and maintenance personnel in chromate manufacturing plant, 30-62 yr old. AAS

(next page)

Chromium, ion (Cr(6+))
18540-29-9
Cr

(continued)

Tissue	Cases Exposure Route	Range	Mean	General Information
11935 Blood, plasma	17	3-15 ug/l	6.2 ug/l	Exposed to 0.045 mg/cu m airborne concentration. Workers and maintenance personnel in chromate manufacturing plant, 30-62 yr old. AAS
11936 Blood, whole	17	5-36 ug/l	14.7 ug/l	Exposed to 0.045 mg/cu m airborne concentration. Workers and maintenance personnel in chromate manufacturing plant, 30-62 yr old. AAS

BLOOD; BLOOD PLASMA; ERYTHROCYTES; OCCUPATIONAL EXPOSURE; ADULTS; GERMANY; METAL POISONING; METALS; CHROMIUM; BIOACCUMULATION; BIOLOGICAL MONITORING; MEASUREMENT METHODS
Lewalter, J.; Korallus, U.; Harzdorf, C.; Wiedemann, H. 1985 International Archives of Occupational and Environmental Health 55:305-318

Chrysotile (8 CI) (VAN); Chrysotile [H4Mg3(Si2O9)] (9 CI)
12001-29-5
H4-Mg3-O9-Si2
MW 282

Tissue	Cases Exposure Route	Range	Mean	General Information
11937 Lung	4 Inhalation	Not applicable	46 bodies	Core type in 65%, 65%, 53% and 74%, respectively, of asbestos bodies isolated from autopsy cases. Mean body length 35+/-18(8-120) um. Chrysotile fibers in the 4 cases comprised 39%, 17%, 87%, and 19% of total uncoated fibers, respectively. 2 bodies had mixed (chrysotile and tremolite) cores. Long-term chrysotile miners and millers Diffuse interstitial fibrosis Microscopy

LUNGS; OCCUPATIONAL EXPOSURE; AUTOPSIES; ASBESTOS; BIOACCUMULATION; FIBERS; HEALTH HAZARDS; INDUSTRIES; INHALATION; MINING; OCCUPATIONAL HAZARDS
Holden, J.; Churg, A. 1986 Environmental Research 39:232-236

Chrysotile (8 CI) (VAN); Chrysotile [H4Mg3(Si2O9)] (9 CI)
12001-29-5
H4-Mg3-O9-Si2
MW 282

Tissue	Cases Exposure Route	Range	Mean	General Information
11938 Lung	a) 19 b) 36 c) 69 d) 49 e) 16 Inhalation	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 39% b) 36% c) 24% d) 17% e) 7% % of total fibers	a) No asbestosis. Mean (total asbestos) fiber count 23.0X10(E+6) b) Minimal asbestosis, mean fiber count 42.1X10(E+6) c) Slight asbestosis, 59.5X10(E+6) d) Moderate asbestosis, 343.2X10(E+6) e) Marked/severe asbestosis, 2550.3X10(E+6) Direct correlation between pathological grading and asbestos exposure rating. Autopsies. Former dockyard workers, mean ages 63-66 yr, United Kingdom 39% of deaths caused by mesothelioma, 26% by carcinoma of lung. EM

LUNGS; OCCUPATIONAL EXPOSURE; UNITED KINGDOM; AUTOPSIES; PULMONARY DISEASES; RESPIRATORY DISEASES; CARCINOMAS; NEOPLASMS; ASBESTOS; BIOACCUMULATION; FIBERS; HEALTH HAZARDS; INDUSTRIES; INHALATION; OCCUPATIONAL HAZARDS
Wagner, J.C.; Moncrieff, C.B.; Coles, R.; Griffiths, D.M.; Munday, D.E. 1986 British Journal of Industrial Medicine 43:391-395

Tissue	Cases Exposure Route	Range	Mean	General Information
11939 Lung	a) 20 b) 21 c) 20	a) 0-1.3X10(E+6) fibers/g b) 0.1-97X10(E+6) fibers/g c) 3.3-470X10(E+6) fibers/g Dry wt	a) 0.3X10(E+6) fibers/g b) 11X10(E+6) fibers/g c) 94X10(E+6) fibers/g Dry wt	a) Controls, general population, Vancouver. No occupational dust exposures b) Processors of various chrysotile ore types c) Long-term chrysotile miners, Quebec Data on fiber sizes and levels by specific occupation also given. Autopsy data. Unexposed controls. Workers whose occupations were involved with shipyards, insulation, brakes, textiles, manufacturing, mining. Canada In processed-ore-exposed cases: mesothelioma (12), asbestosis (1), lung cancer (6), myocardial infarct (1) EM

OCCUPATIONAL EXPOSURE; ASBESTOS; LUNGS; CANADA; NEOPLASMS; AUTOPSIES; OCCUPATIONAL HAZARDS; FIBERS; DUST
Churg, A.; Wiggs, B. 1986 American Journal of Industrial Medicine 9:143-152

Tissue	Cases Exposure Route	Range	Mean	General Information
11940 Urine	a) 6 b) 6 Inhalation Ingestion	a) 0.2-69.2 ugX10(E-3)/sq cm b) 0.002-0.038 ugX10(E-3)/sq cm	a) Not given b) Not given	a) Workers occupationally exposed in factory producing roof coating b) Unexposed workers Ranges of means. Significantly different. 1st morning void samples. Workers in roofing tar and asphalt scaler factory, Chicago, IL EM

URINE; OCCUPATIONAL EXPOSURE; ADULTS; ILLINOIS; OCCUPATIONAL DISEASES; ASBESTOS; BIOACCUMULATION; BIOINDICATORS; INDUSTRIAL ATMOSPHERES; INDUSTRIES; HEALTH HAZARDS; OCCUPATIONAL HAZARDS
Finn, M.B.; Hallenbeck, W.H. 1985 American Industrial Hygiene Association Journal 46(3):162-169

Cobalt
7440-48-4
Co
AtW 58.9332, MP 1493 C, BP 3100 C, VP 1 mm Hg at 1910 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11941 Blood	195	a) 0.88-1.28 ug/dl b) 0.40-5.30 ug/dl c) 0.10-0.95 ug/dl d) 0.14-1.34 ug/dl e) 0.15-1.15 ug/dl f) 0.09-0.45 ug/dl g) 0.10-1.30 ug/dl h) 0.16-0.52 ug/dl i) 0.12-1.90 ug/dl j) 0.10-1.00 ug/dl k) 0.20-3.90 ug/dl l) 0.08-0.40 ug/dl	a) 1.08+/-0.28 ug/dl b) 1.87+/-1.96 ug/dl c) 0.57+/-0.53 ug/dl d) 0.67+/-0.44 ug/dl e) 0.52+/-0.31 ug/dl f) 0.26+/-0.10 ug/dl g) 0.42+/-0.31 ug/dl h) 0.33+/-0.10 ug/dl i) 0.43+/-0.39 ug/dl j) 0.35+/-0.20 ug/dl k) 0.65+/-0.86 ug/dl l) 0.19+/-0.11 ug/dl	a) Power handlers, 2 cases b) Rubber press operators, 6 c) Automatic press operators, 11 d) Shapers (lathing), 7 e) Shapers (sawing), 21 f) Sintering workers, 21 g) Wet grinders A, 27 h) Wet grinders, B, 18 i) Wet grinders C, 12 j) Wet grinders D, 25 k) Workers using respirators, 25 l) Office workers, 20 controls Samples taken during workshift. Workers exposed in a hard metal tool producing plant. Controls were office workers in the same plant. Age 18-55 yr. Time worked 0.5-23 yr. AAS

BLOOD; URINE; OCCUPATIONAL EXPOSURE; ADULTS; COBALT; BIOLOGICAL MONITORING; INDUSTRIAL ATMOSPHERES; INDUSTRIES; INHALATION
Ichikawa, Y.; Kusaka, Y.; Goto, S. 1985 International Archives of Occupational and Environmental Health 55:269-276

Tissue	Cases Exposure Route	Range	Mean	General Information
11942 Bronchoalveolar lavage	1	Not applicable	2.4 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old NA

BRONCHOALVEOLAR LAVAGE; NAILS; OCCUPATIONAL EXPOSURE; CASE HISTORIES; PNEUMOCONIOSIS; OCCUPATIONAL DISEASES; RESPIRATORY DISEASES; LAVAGE; CERIUM; LANTHANUM; TERBIUM; YTTERBIUM; SILVER; ARSENIC; GOLD; CADMIUM; COBALT; CHROMIUM; CESIUM; IRON; MERCURY; INDIUM; IRIDIUM; MOLYBDENUM; NICKEL; RUBIDIUM; ANTIMONY; SCANDIUM; SELENIUM; TIN; THORIUM; URANIUM; ZINC; TRACE ELEMENTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; SMOKING
Sulotto, F.; Romano, C.; Berra, A.; Botta, G.C.; Rubino, G.F.; Sabbioni, E.; Pietra, R. 1986 American Journal of Industrial Medicine 9:567-575

Tissue	Cases Exposure Route	Range	Mean	General Information
11943 Hair	a) 1 b) 1	a) 0.10-3.48 ppm b) 0.2-9.8 ppm	a) 1.75+/-2.63 ppm b) 1.88+/-2.90 ppm	a) Subject 1 b) Subject 2 Samples sent to 13 commercial laboratories for analysis. Values here are combined from all. Considerable variance within same laboratory, among different laboratories and disagreement about what was "normal" or "unusual". Authors conclude commercial use of hair analysis for management of disease, nutrition unscientific, uneconomical, probably illegal.

HAIR; ALUMINUM; ARSENIC; BERYLLIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; GOLD; IRON; LEAD; LITHIUM; MAGNESIUM; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; RUBIDIUM; SELENIUM; SILICON; SODIUM; TIN; VANADIUM; ZINC; ELEMENTS; TRACE ELEMENTS; METALS
Barrett, S. 1985 Journal of the American Medical Association 254(8):1041-1045

Cobalt
7440-48-4
Co
AtW 58.9332, MP 1493 C, BP 3100 C, VP 1 mm Hg at 1910 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11944 Hair	a) 92 b) 55 c) 46 d) 457 e) 255	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 0.043 ppm b) 0.047 ppm c) 0.022 ppm d) 0.18 ppm e) 0.051 ppm	a) Canada b) U.S.A. c) Poland d) Japan e) India Part of international survey of 21 elements. Japanese, 2-80 yr olds. Rest were 30-60 yr old. ES

ENVIRONMENTAL EXPOSURE; HAIR; CANADA; UNITED STATES; POLAND; JAPAN; INDIA; MAGNESIUM; CALCIUM; PHOSPHORUS; SODIUM; POTASSIUM; IRON; COPPER; MANGANESE; ZINC; SELENIUM; CHROMIUM; NICKEL; COBALT; VANADIUM; LEAD; CADMIUM; ALUMINUM; ANTIMONY; MERCURY; TIN; ARSENIC; AGE; SEX; COMPARATIVE EVALUATIONS

Takagi, Y.; Matsuda, S.; Imai, S.; Ohmori, Y.; Masuda, T.; Vinson, J.A.; Mehra, M.C.; Puri, B.K.; Kaniewski, A. 1986 *Bulletin of Environmental Contamination and Toxicology* 36:793-800

Tissue	Cases Exposure Route	Range	Mean	General Information
11945 Hair	10	0.026-3.6 mg/kg Dry wt	0.55 mg/kg Dry wt	Autopsy samples. 48-62 yr old Caucasians, Sweden NA
11946 Kidney	10	0.029-0.091 mg/kg Dry wt	0.059 mg/kg Dry wt	Autopsy samples. Cortex. 48-62 yr old Caucasians, Sweden NA
11947 Liver	10	0.031-0.21 mg/kg Dry wt	0.11 mg/kg Dry wt	Autopsy samples. 48-62 yr old Caucasians, Sweden NA

HAIR; KIDNEYS; LIVER; SWEDEN; AUTOPSIES; SILVER; COBALT; CHROMIUM; IRON; MERCURY; ANTIMONY; SELENIUM; ZINC; MINERALS; TRACE ELEMENTS; BIOACCUMULATION

Muramatsu, Y.; Parr, R.M. 1985 International Atomic Energy Agency Report on the Second Research Co-ordination Meeting, Neuherberg, FRG, Sept 1985

Cobalt
7440-48-4
Co
AtW 58.9332, MP 1493 C, BP 3100 C, VP 1 mm Hg at 1910 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11948 Lung		a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 15 ppm b) 23 ppm c) 21 ppm d) 16 ppm e) 16 ppm f) 15 ppm g) 16 ppm b) 7 ppm i) 11 ppm	a) Lung cancer, 7 cases b) GI cancer, 11 cases c) Other malignancies, 7 cases d) Cardiovascular disease, 8 cases f) Other causes, 5 cases g) All workers, 76 cases h) Matched controls from Burtrask and Jorn, 15 cases Controls from Stockholm, 10 cases. Values in all workers significantly different from control groups. Swedish Cu-smelter workers consecutively dead since 4/75. Means: age 68.1+/-9.1 (range 66.0+/-19.5-71.3+/-8.6), retired 7.2+/-5.9 yr (5.3+/-4.9-11.2+/-7.7), exposed 31.2+/-8.4 yr (25.8+/-10.5-32.1+/-9.3) NA

SWEDEN; OCCUPATIONAL EXPOSURE; LUNGS; SELENIUM; TIN; ARSENIC; CADMIUM; CHROMIUM; COBALT; LANTHANUM; LEAD; METALS; SMELTERS; OCCUPATIONAL HAZARDS; NEOPLASMS; AUTOPSIES; CARCINOGEN
Gerhardsson, L.; Brune, D.; Nordberg, I.G.F.; Wester, P.O. 1985 British Journal of Industrial Medicine 42:617-626

Tissue	Cases Exposure Route	Range	Mean	General Information
11949 Milk				Review of longitudinal changes of trace element components in human milk. Mean daily intakes of breast-fed, cow's milk-fed infants and recommended daily allowances compared. Determination of Se status and consequences of deficiency discussed.

MILK; REVIEW; TRACE ELEMENTS; IRON; COPPER; ZINC; MANGANESE; MOLYBDENUM; CHROMIUM; COBALT; ARSENIC; SELENIUM; ITALY; UNITED STATES; GREECE; INDIA; FINLAND; FRANCE
Roekens, E.; Deelstra, H.; Robberecht, H. 1985 Science of the Total Environment 42:91-108

Cobalt
7440-48-4
Co
AtW 58.9332, MP 1493 C, BP 3100 C, VP 1 mm Hg at 1910 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11950 Urine	195	a) 138-158 ug/l b) 41-392 ug/l c) 4-73 ug/l d) 11-95 ug/l e) 6-266 ug/l f) 2-46 ug/l g) 2-180 ug/l h) 2-67 ug/l i) 3-265 ug/l j) 1-69 ug/l k) 1-119 ug/l l) 1-4 ug/l	a) 148+/-14 ug/l b) 235+/-182 ug/l c) 34+/-43 ug/l d) 33+/-30 ug/gl e) 41+/-60 ug/l f) 10+/-10 ug/l g) 35+/-34 ug/l h) 19+/-15 ug/l i) 68+/-87 ug/l j) 17+/-16 ug/l k) 26+/-30 ug/l l) 2+/-1 ug/l	a) Power handlers, 2 cases b) Rubber press operators, 6 c) Automatic press operators, 11 d) Shapers (lathing), 7 e) Shapers (sawing), 21 f) Sintering workers, 21 g) Wet grinders A, 27 h) Wet grinders, B, 18 i) Wet grinders C, 12 j) Wet grinders D, 25 k) Workers using respirators, 25 l) Office workers, 20 controls Samples taken during workshift. Workers exposed in a hard metal tool producing plant. Controls were office workers in the same plant. Age 18-55 yr. Time worked 0.5-23 yr. AAS

BLOOD; URINE; OCCUPATIONAL EXPOSURE; ADULTS; COBALT; BIOLOGICAL MONITORING; INDUSTRIAL ATMOSPHERES; INDUSTRIES; INHALATION
Ichikawa, Y.; Kusaka, Y.; Goto, S. 1985 International Archives of Occupational and Environmental Health 55:269-276

Tissue	Cases Exposure Route	Range	Mean	General Information
11951 Urine	26	a) 0.25-0.6 ug b) 0.4-2.1 ug c) 1.0-3.0 ug d) 2.1-3.0 ug e) Not given /g creatinine	a) Not given b) Not given c) Not given d) Not given e) 0.28+/-0.18 ug/g creatinine	a) Wk 1, Monday and Friday, 0.5 ug on Wednesday b) Wk 2, Monday and Wednesday, 0.8 ug on Friday c) Wk 3, Monday and Wednesday, 2.0 ug on Friday d) Wk 4, Monday and Friday, 2.2 ug on Wednesday e) White-collar control group Workers processed pre-milled, pre-mixed powders. Measurements at ends of shifts. Values estimated from graph. Workers in hard metal manufacturing plant AAS

OCCUPATIONAL EXPOSURE; URINE; COBALT; OCCUPATIONAL HAZARDS
Scansetti, G.; Lamon, S.; Talarico, S.; Botta, G.C.; Spinelli, P.; Sulotto, F.; Fantoni, F. 1985 International Archives of Occupational and Environmental Health 57:19-26

Copper
7440-50-8
Cu
AtW 63.546, MP 1083 C, BP 2595 C, VP 1 mm Hg at 1628 C, 10 mm Hg at 1870 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11952 Blood	20	64-126 ug/dL	90 ug/dL	Gun metal foundry workers (males) employed 2-17 (mean 10) yr, no histories of renal disease. 34-59 (mean 49) yr-olds occupationally exposed to Pb, Zn, Cu AAS
11953 Blood, cells	20	75-124 ug/dL	91 ug/dL	Gun metal foundry workers (males) employed 2-17 (mean 10) yr, no histories of renal disease. 34-59 (mean 49) yr-olds occupationally exposed to Pb, Zn, Cu AAS

OCCUPATIONAL EXPOSURE; LEAD; MERCURY; CADMIUM; ZINC; COPPER; MANGANESE; CHROMIUM; URINE; BLOOD; BLOOD PLASMA; BLOOD CELLS; CHELATING AGENTS; OCCUPATIONAL HAZARDS; METALS
Araki, S.; Aono, H.; Murata, K. 1986 British Journal of Industrial Medicine 43:636-641

Tissue	Cases Exposure Route	Range	Mean	General Information
11954 Blood, serum	1 Ingestion	Not applicable	1423 ug/dl	24 hr after approximately 250 g as copper sulfate. Normal value <100 ug/dl. Treated with 4 mg/kg IM dimercaprol, activated charcoal, magnesium sulfate, and 250 mg q.i.d. oral penicillamine. Normal recovery. 42 yr old black male who attempted suicide. BP 130/100 mm Hg, pulse 100/min, temperature 37 deg C, vomiting, normal blood count, blood pH 7.29, pCO2 32, pO2 153 mm Hg. Microscopic hematuria.

URINE; BLOOD SERUM; CONSUMER EXPOSURE; SUICIDE; METAL POISONING; BIOACCUMULATION; HEALTH HAZARDS
Jantsch, W.; Kulig, K.; Rumack, B.H. 1985 Clinical Toxicology 22(6):585-588

Tissue	Cases Exposure Route	Range	Mean	General Information
11955 Blood, serum	a) 215 b) 13 c) 195 d) 16	a) 1.4+/-0.5-2.8+/-0.7 ug/ml b) Not given c) 2.3+/-0.7-3.3+/-0.8 ug/ml d) Not given 2 S.D.	a) Not given b) 1.5+/-0.3 ug/ml c) Not given d) 2.4+/-0.6 ug/ml 2 S.D.	a) Yankton area (southeastern), 6 and 43 wk gestation b) Non-pregnant women c) Rosebud Indian Reservation, 12 and 43 wk gestation d) Non-pregnant women Gradual increase with gestational age in both populations. Levels in c) and d) significantly higher (p<.001) as compared to a) and b). This may be due to significantly higher level in drinking water (.029+/-.004 ug/ml in Rosebud, .009+/-.003 ug/ml in Yankton area.) a), c) ranges of means. Values estimated from figures. Pregnant and non-pregnant subjects, South Dakota AAS

BLOOD SERUM; ENVIRONMENTAL EXPOSURE; SOUTH DAKOTA; COMPARATIVE EVALUATIONS; COPPER; SELENIUM; ZINC; DRINKING WATER; PREGNANCY
Kundu, N.; Parke, P.; Petersen, L.P.; Palmer, I.S.; Olson, O. 1985 Archives of Environmental Health 40(5):268-273

Copper
7440-50-8
Cu
AtW 63.546, MP 1083 C, BP 2595 C, VP 1 mm Hg at 1628 C, 10 mm Hg at 1870 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11956 Blood, whole	a) 10 b) 10	a) Not given b) Not given	a) 1.06+/-0.22 ug/ml b) 1.28+/-0.46 ug/ml	a) Patients with multiple sclerosis b) Controls Significant difference, borderline. Patients and controls, matched for sex and age. NA

BLOOD; HAIR; ENVIRONMENTAL EXPOSURE; UNITED KINGDOM; NEUROMUSCULAR DISEASES; TRACE ELEMENTS; BIOACCUMULATION; BIOINDICATORS; ALUMINUM; ANTIMONY; ARSENIC; BARIUM; BROMINE; CESIUM; GOLD; IODINE; MANGANESE; MOLYBDENUM; SELENIUM; VANADIUM; ZINC; COPPER; IRON; MAGNESIUM; POTASSIUM; SULFUR

Ward, N.I.; Bryce-Smith, D.; Minski, M.; Matthews, W.B. 1985 Biological Trace Element Research 7:153-159

Tissue	Cases Exposure Route	Range	Mean	General Information
11957 Hair	10	17.0+/-7.6-45.5+/-23.6 ppm	22.6+/-9.5 ppm	Hair from 4 parts of scalp. Range of means. Mean for each case is average of levels measured monthly for 10-12 mo. Healthy adult Japanese, age 27-47 yr. AAS

HAIR; NAILS; ENVIRONMENTAL EXPOSURE; JAPAN; ADULTS; METALS; MERCURY; LEAD; CADMIUM; COPPER; NICKEL; IRON; ZINC; MANGANESE; BIOLOGICAL MONITORING; POPULATION EXPOSURE

Nishihara, T.; Watabe, K.; Ichikawa, T.; Kondo, M.; Fujii, M. 1985 Chemosphere 14(8):1133-1141

Tissue	Cases Exposure Route	Range	Mean	General Information
11958 Hair	239	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 77+/-10 ppm b) 80+/-8 ppm c) 77+/-10 ppm d) 72+/-8 ppm e) 54+/-10 ppm f) 91+/-11 ppm g) 100+/-18 ppm h) 69+/-12 ppm Dry wt	a) Male, 109 cases b) Female, 130 cases c) White, 150 cases d) Black, 89 cases e) White male, 82 cases f) White female, 68 cases g) Black male, 27 cases h) Black female, 62 cases Correlations of systolic, diastolic, and pulse blood pressure discussed. 13-19 yr olds at 4-H conference, Mississippi State University. AAS

HAIR; ENVIRONMENTAL EXPOSURE; MISSISSIPPI; METAL POISONING; CADMIUM; LEAD; COPPER; ZINC; SEX; RACIAL STUDIES; ADOLESCENTS; BIOACCUMULATION; BLOOD PRESSURE

Medeiros, D.M.; Pellum, L.K. 1985 Bulletin of Environmental Contamination and Toxicology 34:163-169

Copper
7440-50-8
Cu
AtW 63.546, MP 1083 C, BP 2595 C, VP 1 mm Hg at 1628 C, 10 mm Hg at 1870 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11959 Hair	a) 53 b) 60 c) 60	a) Not given b) Not given c) Not given	a) 24.0+/-10.9 ug/g b) 5.5+/-3.7 ug/g c) 8.8+/-5.2 ug/g	a) General population b) Zinc mines, end of 8 hr underground shift c) Zinc smelter, during work shift Collected from nape of neck. Udaipur, Rajasthan, India AAS

HAIR; OCCUPATIONAL EXPOSURE; ENVIRONMENTAL EXPOSURE; INDIA; COPPER; ZINC; SMELTERS; INDUSTRIAL PLANTS; MINING; POPULATION EXPOSURE; URBAN AREAS
Raghupathy, L.; Sharma, V.N. 1985 Science of the Total Environment 41:73-78

Tissue	Cases Exposure Route	Range	Mean	General Information
11960 Hair	a) 1 b) 1	a) 23.9-113 ppm b) 13.1-106 ppm	a) 65.3+/-20.8 ppm b) 59.38+/-23.66 ppm	a) Subject 1 b) Subject 2 Samples sent to 13 commercial laboratories for analysis. Values here are combined from all. Considerable variance within same laboratory, among different laboratories and disagreement about what was "normal" or "unusual". Authors conclude commercial use of hair analysis for management of disease, nutrition unscientific, uneconomical, probably illegal.

HAIR; ALUMINUM; ARSENIC; BERYLLIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; GOLD; IRON; LEAD; LITHIUM; MAGNESIUM; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; RUBIDIUM; SELENIUM; SILICON; SODIUM; TIN; VANADIUM; ZINC; ELEMENTS; TRACE ELEMENTS; METALS
Barrett, S. 1985 Journal of the American Medical Association 254(8):1041-1045

Tissue	Cases Exposure Route	Range	Mean	General Information
11961 Hair	a) 92 b) 55 c) 46 d) 457 e) 255	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 63.1 ppm b) 108 ppm c) 9.42 ppm d) 10.7 ppm e) 20.0 ppm	a) Canada b) U.S.A. c) Poland d) Japan e) India Part of international survey of 21 elements. Japanese, 2-80 yr olds. Rest were 30-60 yr old. ES; AAS

ENVIRONMENTAL EXPOSURE; HAIR; CANADA; UNITED STATES; POLAND; JAPAN; INDIA; MAGNESIUM; CALCIUM; PHOSPHORUS; SODIUM; POTASSIUM; IRON; COPPER; MANGANESE; ZINC; SELENIUM; CHROMIUM; NICKEL; COBALT; VANADIUM; LEAD; CADMIUM; ALUMINUM; ANTIMONY; MERCURY; TIN; ARSENIC; AGE; SEX; COMPARATIVE EVALUATIONS
Takagi, Y.; Matsuda, S.; Imai, S.; Ohmori, Y.; Masuda, T.; Vinson, J.A.; Mehra, M.C.; Puri, B.K.; Kaniewski, A. 1986 Bulletin of Environmental Contamination and Toxicology 36:793-800

Copper
7440-50-8
Cu
AtW 63.546, MP 1083 C, BP 2595 C, VP 1 mm Hg at 1628 C, 10 mm Hg at 1870 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11962 Kidney		a) 1.0-5.1 mg/kg b) 1.6-4.9 mg/kg c) 1.0-15.9 mg/kg d) 0.8-5.2 mg/kg Wet wt	a) 2.4 mg/kg b) 2.4 mg/kg c) 2.3 mg/kg d) 1.9 mg/kg Wet wt Median	a) Cortex, Kingston, 74 cases b) Ottawa, 64 cases c) Medulla, Kingston, 76 d) Ottawa, 63 Autopsy samples from normal subjects, Kingston and Ottawa, Ontario ICP-AES
11963 Liver	a) 68 b) 66	a) 1.6-11.9 mg/kg b) 1.0-12.8 mg/kg Wet wt	a) 5.4 mg/kg b) 4.9 mg/kg Wet wt Median	a) Kingston b) Ottawa Autopsy samples from normal subjects, Kingston and Ottawa, Ontario ICP-AES

KIDNEYS; LIVER; CANADA; AUTOPSIES; CALCIUM; POTASSIUM; MAGNESIUM; SODIUM; PHOSPHORUS; COPPER; IRON; MANGANESE; SELENIUM; ZINC; CADMIUM; MERCURY; LEAD
Subramanian, K.S.; Meranger, J.C.; Burnett, R.T. 1985 Science of the Total Environment 42:223-235

Tissue	Cases Exposure Route	Range	Mean	General Information
11964 Milk				Review of longitudinal changes of trace element components in human milk. Mean daily intakes of breast-fed, cow's milk-fed infants and recommended daily allowances compared. Determination of Se status and consequences of deficiency discussed.

MILK; REVIEW; TRACE ELEMENTS; IRON; COPPER; ZINC; MANGANESE; MOLYBDENUM; CHROMIUM; COBALT; ARSENIC; SELENIUM; ITALY; UNITED STATES; GREECE; INDIA; FINLAND; FRANCE
Roekens, E.; Deelstra, H.; Robberecht, H. 1985 Science of the Total Environment 42:91-108

Tissue	Cases Exposure Route	Range	Mean	General Information
11965 Milk	52 Ingestion	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 0.74 uM b) 0.51 uM c) 0.43 uM d) 0.35 uM e) 0.35 uM f) 0.30 uM g) 0.26 uM	a) 1 month b) 2 months c) 3 months d) 4 months e) 5 months f) 6 months g) 7-20 months Times postpartum. Half on normal diet, half on vegetarian diet. No significant differences due to diet. Lactating women, mean age 29 yr. AAS

MILK; ADULTS; DIETS; COMPARATIVE EVALUATIONS; IRON; COPPER; ZINC; SODIUM; POTASSIUM; CALCIUM; MAGNESIUM; MINERALS; TRACE ELEMENTS; LACTATION
Finley, D.A.; Lonnerdal, B.; Dewey, K.G.; Grivetti, L.E. 1985 Journal of Nutrition 115:772-781

Copper
7440-50-8
Cu
AtW 63.546, MP 1083 C, BP 2595 C, VP 1 mm Hg at 1628 C, 10 mm Hg at 1870 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11966 Urine	1 Ingestion	Not applicable	8160 ug	24 hr recovery after approximately 250 g as copper sulfate. Normal value 15-50 ug. Treated with 4 mg/kg IM dimercaprol, activated charcoal, magnesium sulfate, and 250 mg q.i.d. oral penicillamine. Normal recovery. 42 yr old black male who attempted suicide. BP 130/100 mm Hg, pulse 100/min, temperature 37 deg C, vomiting, normal blood count, blood pH 7.29, pCO2 32, pO2 153 mm Hg. Microscopic hematuria.

URINE; BLOOD SERUM; CONSUMER EXPOSURE; SUICIDE; METAL POISONING; BIOACCUMULATION; HEALTH HAZARDS
Jantsch, W.; Kulig, K.; Rumack, B.H. 1985 Clinical Toxicology 22(6):585-588

Tissue	Cases Exposure Route	Range	Mean	General Information
11967 Urine	20	a) 0.012-0.024 mg/24 hr b) 0.0196-0.032 mg/24 hr	a) 0.019 mg/24 hr b) 0.0236 mg/24 hr	a) Before treatment, samples during 24 hr b) After treatment with 20 mg/kg (I.V. in 250 ml 5% glucose) of CaEDTA, 24 hr samples Values estimated from graph. Gun metal foundry workers (males) employed 2-17 (mean 10) yr, no histories of renal disease. 34-59 (mean 49) yr-olds occupationally exposed to Pb, Zn, Cu AAS

OCCUPATIONAL EXPOSURE; LEAD; MERCURY; CADMIUM; ZINC; COPPER; MANGANESE; CHROMIUM; URINE; BLOOD; BLOOD PLASMA; BLOOD CELLS; CHELATING AGENTS; OCCUPATIONAL HAZARDS; METALS
Araki, S.; Aono, H.; Murata, K. 1986 British Journal of Industrial Medicine 43:636-641

Cotinine (8 CI); 2-Pyrrolidinone, 1-methyl-5-(3-pyridinyl-,(S)- (9 CI)
486-56-6
C10-H12-N2-O
MW 176.21, 210-211 C at 6 mm Hg

Tissue	Cases Exposure Route	Range	Mean	General Information
11968 Blood, plasma	9	Not given	9.00+/-4.88 ng/ml	At end of 3 hr exposure to side-stream smoke from smoking machine, in exposure chamber. 24 packs cigarettes consumed. Levels appropriate for estimating exposure by passive smoking and validating questionnaires. 18-65 yr old non-smoking volunteers RIA

BLOOD PLASMA; SALIVA; URINE; DELIBERATE EXPOSURE; MEASUREMENT METHODS; NICOTINE; INHALATION; METABOLITES; SMOKE; SMOKING
Johnson, L.C.; Letzel, H.; Kleinschmidt, J. 1985 International Archives of Occupational and Environmental Health 56:99-110

Cotinine (8 CI); 2-Pyrrolidinone, 1-methyl-5-(3-pyridinyl-,(S)- (9 CI)
486-56-6
C10-H12-N2-O
MW 176.21, 210-211 C at 6 mm Hg

Tissue	Cases Exposure Route	Range	Mean	General Information
11969 Blood, plasma	6 Inhalation	a) Not given b) Not given c) Not given	a) 1.4+/-0.2 ng/mL b) 2.1+/-0.4 ng/mL c) 52.4+/-11.4 ng/mL S.E.	a) After nonsmoking period b) Passive smoking c) Active smoking Pooled values. Exposed in exposure chamber during 2 wk study. 3 subjects smoking for 2 successive days in wk 1, the other 3 smoking for 2 days wk 2. Two cigarettes (filtered, self-burning, low tar brand)/person/hr. 30 cigarettes smoked during each 5 hr experimental day. Samples in a) collected before study. Passive smoking levels for the second successive day were about twice those in nonexposed. 21-31 yr old volunteers Urinary mutagenicity highest after active smoking, lowest in nonsmokeing periods GC-EC

BLOOD PLASMA; DELIBERATE EXPOSURE; ENVIRONMENTAL EXPOSURE; FINLAND; INHALATION; METABOLITES; SMOKE; SMOKING; BLOOD; URINE; HEMOGLOBINS; THIOCYANATES; THIOETHERS

Sorsa, M.; Einisto, P.; Husgafvel-Pursiainen, K.; Jarventaus, H.; Kivisto, H.; Peltonen, Y.; Tuomi, T.; Valkonen, S. 1986 Journal of Toxicology and Environmental Health 16:523-534

Tissue	Cases Exposure Route	Range	Mean	General Information
11970 Saliva	a) 269 b) 96 c) 76 d) 128 Inhalation	a) Not detected-0.50 ng/ml b) 0.40-1.80 ng/ml c) 0.73-2.68 ng/ml d) 1.53-4.40 ng/ml	a) 0.44+/-0.68 ng/ml b) 1.31+/-1.21 ng/ml c) 1.95+/-1.71 ng/ml d) 3.38+/-2.45 ng/ml	a) Children from homes in which neither parent smoked cigarettes b) Only father smoked c) Only mother smoked d) Both parents smoked Effects of parental smoking highly significant, $p<0.001$. Also small independent effect of smoking by siblings, $p<0.01$. No effect of age, sex, socioeconomic background, or past smoking history. Social class distribution and prevalence of parental smoking in study sample both similar to that found nationally. Dose of nicotine received in b) estimated as equivalent to active smoking of 30 cigarettes/yr, in b) to 50/yr, and in c) to 80/yr. Limit of detection 0.1 ng/ml. Non-smoking (</=11 ng/ml cotinine) 11-16 yr old secondary schoolchildren from area of Bristol, England. GC

SALIVA; ENVIRONMENTAL EXPOSURE; UNITED KINGDOM; ADOLESCENTS; COMPARATIVE EVALUATIONS; NICOTINE; HEALTH HAZARDS; INHALATION; METABOLITES; SMOKING

Jarvis, M.J.; Russell, M.A.H.; Feyerabend, C.; Eiser, J.R.; Morgan, M.; Gammage, P.; Gray, E.M. 1985 British Medical Journal 291:927-929

Cotinine (8 CI); 2-Pyrrolidinone, 1-methyl-5-(3-pyridinyl-,(S)- (9 CI)
486-56-6
C10-H12-N2-O
MW 176.21, 210-211 C at 6 mm Hg

Tissue	Cases Exposure Route	Range	Mean	General Information
11971 Saliva	10	a) Not detected-12 ng/ml b) 14-29 ng/ml c) 8-20 ng/ml	a) 6 ng/ml b) 19.5 ng/ml, median c) 14 ng/ml	a) Immediately before exposure b) 3 hr after end of 3 hr exposure c) 21 hr after exposure Side-stream smoke, from smoking machine, in exposure chamber. 24 packs cigarettes consumed. Stimulation of saliva secretion with lemon juice and water did not change levels in repeated samples. Levels appropriate for estimating exposure by passive smoking and validating questionnaires. Some values estimated from figure. 18-65 yr old non-smoking volunteers RIA

BLOOD PLASMA; SALIVA; URINE; DELIBERATE EXPOSURE; MEASUREMENT METHODS; NICOTINE; INHALATION; METABOLITES; SMOKE; SMOKING
Johnson, L.C.; Letzel, H.; Kleinschmidt, J. 1985 International Archives of Occupational and Environmental Health 56:99-110

Tissue	Cases Exposure Route	Range	Mean	General Information
11972 Urine	a) 14 b) 45 c) 73 d) 39 e) 22 Inhalation	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 0.32+/-0.57 ug/mg b) 0.55+/-0.92 ug/mg c) 1.21+/-0.78 ug/mg d) 1.50+/-0.93 ug/mg e) 1.75+/-1.10 ug/mg Creatinine basis	a) 1-9 cigarettes/day b) 10-19 cigarettes/day c) 20-29 cigarettes/day d) 30-39 cigarettes/day e) >40 cigarettes/day 24 hr excretion levels.

URINE; CONSUMER EXPOSURE; NICOTINE; BIOACCUMULATION; HEALTH HAZARDS; INHALATION; SMOKING; TOBACCOS
Adlkofer, F.; Scherer, G.; Hees, U.V. 1985 New England Journal of Medicine 312(11):719-720

Tissue	Cases Exposure Route	Range	Mean	General Information
11973 Urine	a) 11 b) 12 Transplacental	a) 14-3891 ng/mg b) 0-40.6 ng/mg Creatinine basis	a) 1233 ng/mg b) 14.5 ng/mg Median Creatinine basis	a) Infants of smoking mothers b) Infants of non-smoking mothers Collected during 1st day of life. No clear relationship between Number of cigarettes smoked 24 hr prior to delivery and levels. Infants delivered at North Carolina Memorial Hospital in Chapel Hill. RIA

URINE; CONSUMER EXPOSURE; NEWBORN; BIOACCUMULATION; HEALTH HAZARDS; SMOKING; TOBACCOS; TRANSPLACENTAL TRANSFER
Etzel, R.A.; Greenberg, R.A.; Haley, N.J.; Loda, F.A. 1985 Journal of Pediatrics 107(1):146-148

Cotinine (8 CI); 2-Pyrrolidinone, 1-methyl-5-(3-pyridinyl-,(S)- (9 CI)

486-56-6
C10-H12-N2-O
MW 176.21, 210-211 C at 6 mm Hg

Tissue	Cases Exposure Route	Range	Mean	General Information
11974 Urine	10	a) Not given b) Not given	a) 110.21+/-54.75 ug b) 82.83+/-47.3 ug	a) Recovery 0-24 hr. RIA analysis b) GC analysis Exposure 0-3 hr to side-stream smoke from smoking machine, in exposure chamber. 24 packs cigarettes consumed. Means significantly different, $p<0.05$. Levels appropriate for estimating exposure by and validating questionnaires. 18-65 yr old non-smoking volunteers RIA; GC

BLOOD PLASMA; SALIVA; URINE; DELIBERATE EXPOSURE; MEASUREMENT METHODS; NICOTINE; INHALATION; METABOLITES; SMOKE; SMOKING

Johnson, L.C.; Letzel, H.; Kleinschmidt, J. 1985 International Archives of Occupational and Environmental Health 56:99-110

Cresol (8 CI) (VAN); Phenol, methyl- (9 CI)

1319-77-3
C7-H8-O
MW 108.10, MP 10.9-35.5 C, BP 191-203 C, VP 1 mm Hg at 38-53 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11975 Urine				Review. The occurrence and analysis of priority toxic pollutants in human urine, covering the ten-year period 1973-1983, is discussed.

URINE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; DELIBERATE EXPOSURE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PHTHALLIC ACIDS; PHENOLS; BIOACCUMULATION; PESTICIDES

Fatiadi, A.J. 1984 Environment International 10:175-205

Crocidolite

12001-28-4
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
11976 Lung	a) 19 b) 36 c) 69 d) 49 e) 16 Inhalation	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 11% b) 25% c) 36% d) 36% e) 52% % of total fibers	a) No asbestosis. Mean (total asbestos) fiber count 23.0X10(E+6) b) Minimal asbestosis, mean fiber count 42.1X10(E+6) c) Slight asbestosis, 59.5X10(E+6) d) Moderate asbestosis, 343.2X10(E+6) e) Marked/severe asbestosis, 2550.3X10(E+6) Direct correlation between pathological grading and asbestos exposure rating. Autopsies. Former dockyard workers, mean ages 63-66 yr, United Kingdom 39% of deaths caused by mesothelioma, 26% by carcinoma of lung. EM

LUNGS; OCCUPATIONAL EXPOSURE; UNITED KINGDOM; AUTOPSIES; PULMONARY DISEASES; RESPIRATORY DISEASES; CARCINOMAS; NEOPLASMS; ASBESTOS; BIOACCUMULATION; FIBERS; HEALTH HAZARDS; INDUSTRIES; INHALATION; OCCUPATIONAL HAZARDS

Wagner, J.C.; Moncrieff, C.B.; Coles, R.; Griffiths, D M.; Munday, D.E. 1986 British Journal of Industrial Medicine 43:391-395

Cyanide
57-12-5
C-N
MW 26.02

Tissue	Cases Exposure Route	Range	Mean	General Information
11977 Blood	1	Not applicable	3.45 mg/L	Victim stricken while in active production area of silver-reclaiming facility. Value consistant with other postmortem findings in which death caused by cyanide intoxication.
BLOOD; SPLEEN; CYANIDE; OCCUPATIONAL EXPOSURE; OCCUPATIONAL HAZARDS; AUTOPSIES Blanc, P.; Hryhorczuk, D. 1985 Journal of the American Medical Association 254(20):2889				

Tissue	Cases Exposure Route	Range	Mean	General Information
11978 Blood, cells	a) 10 b) 5 Inhalation	a) Not given b) Not given	a) 0.24+/-0.22 umol/L b) 0.68+/-0.20 umol/L	a) Nonsmokers b) Smokers Erythrocytes. Normal adults Konig reaction, colorimetry
11979 Blood, plasma	a) 10 b) 5 Inhalation	a) Not given b) Not given	a) 0.02+/-0.02 umol/L b) 0.03+/-0.03 umol/L	a) Nonsmokers b) Smokers Normal adults Konig reaction, colorimetry
11980 Blood, whole	a) 10 b) 5 Inhalation	a) Not given b) Not given	a) 0.13+/-0.08 umol/L b) 0.33+/-0.12 umol/L	a) Nonsmokers b) Smokers Normal adults MAS
BLOOD; ERYTHROCYTES; BLOOD PLASMA; ADULTS; MEASUREMENT METHODS; CYANIDE; SMOKING Lundquist, P.; Rosling, H.; Sorbo, B. 1985 Clinical Chemistry 31(4):591-595				

Tissue	Cases Exposure Route	Range	Mean	General Information
11981 Spleen	1	Not applicable	1.90 mg/L	Victim stricken while in active production area of silver-reclaiming facility. Value consistant with other postmortem findings in which death caused by cyanide intoxication.
BLOOD; SPLEEN; CYANIDE; OCCUPATIONAL EXPOSURE; OCCUPATIONAL HAZARDS; AUTOPSIES Blanc, P.; Hryhorczuk, D. 1985 Journal of the American Medical Association 254(20):2889				

Cyclohexane, 1,2,3,4,5,6-hexachloro-, alpha- (8 Cl); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5beta,6beta)- (9 Cl)
319-84-6
C6-H6-Cl6
MW 290.83, MP 159.5-160 C, BP 288 C, VP 0.02 mm Hg at 20 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11982 Adipose	29	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 0.005+/-0.002 ug/g b) 0.005+/-0.002 ug/g c) 0.005+/-0.003 ug/g d) 0.004+/-0.002 ug/g e) 0.004+/-0.002 ug/g f) 0.005+/-0.003 ug/g g) 0.005+/-0.003 ug/g h) 0.005+/-0.003 i) 0.007+/-0.002 ug/g Wet wt	a) All cases, 29 b) Sudden deaths, 18 c) Others, 11 d) All male cases, 19 e) Male sudden deaths, 12 f) Others, male, 7 g) All female cases, 10 h) Female sudden deaths, 6 i) Others, female, 4 Data compared with previously reported levels in accident victims. Autopsy samples from nonaccidental death victims in Canada. GC; TLC

ADIPOSE TISSUE; CANADA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; CADAVERS; COMPARATIVE EVALUATIONS; POLYCHLORINATED BIPHENYLS; PESTICIDES; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; OXYCHLORDANE; NONACHLOR; HEPTACHLOR EPOXIDE; DIELDRIN; DDE; DDT; BIOLOGICAL MONITORING; POPULATION EXPOSURE; BIOCONCENTRATION

Mes, J.; Davies, D.J.; Turton, D. 1985 Ecotoxicology and Environmental Safety 10:70-74

Tissue	Cases Exposure Route	Range	Mean	General Information
11983 Blood, serum	a) 14 b) 19 c) 26 d) 19	a) 0-0.2600 ppm b) 0.0040-0.1040 ppm c) 0.0040-0.1600 ppm d) 0.024-0.1800 ppm	a) 0.0221 ppm b) 0.0218 ppm c) 0.0412 ppm d) 0.1000 ppm	a) Controls, no occupational contact b) Maintenance workers, 11-30 yr exposure c) Non-handlers, 0-30 yr exposures d) Handlers, 0-30 yr exposures Workers in HCH manufacturing plant and unexposed controls, India Majority in c,d) had paresthesia, headache, giddiness and some had malaise, tremors, apprehension, confusion, sleep loss, impaired memory, libido loss. Similar, but less severe in b) and in fewer cases. GLC

OCCUPATIONAL EXPOSURE; BLOOD SERUM; PESTICIDES; PESTICIDE RESIDUES; INDIA; HEXACHLOROCYCLOHEXANE; NEUROLOGIC MANIFESTATIONS

Nigam, S.K.; Karnik, A.B.; Majumder, S.K.; Visweswariah, K.; Raju, G.S.; Bai, K.M.; Lakkad, B.C.; Thakore, K.N.; Chatterjee, B.B. 1986 International Archives of Occupational and Environmental Health 57:315-320

Cyclohexane, 1,2,3,4,5,6-hexachloro-, alpha- (8 Cl); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5beta,6beta)- (9 Cl)
319-84-6
C6-H6-Cl6
MW 290.83, MP 159.5-160 C, BP 288 C, VP 0.02 mm Hg at 20 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11984 Colostrum	59	a) Not given b) Not given c) Not given	a) 0.49+/-0.09 ug/L b) 1.50+/-0.26 ug/L c) 0.08+/-0.01 ug/g S.E.	a) 11/82, 26 cases b) 6/83, 33 cases c) 6/83, 26 cases from b). Measured in fat Sampled 3 d after delivery. a) significantly lower than b), p<0.05. Spring and fall groups matched for age and wt at delivery, wt gain during pregnancy, and proportion of primiparous to multiparous mothers. Mean calculated intake for 3.5 kg newborn ingesting 60 ml/kg body wt colostrum: a) 0.03 ug/kg/d, b) 0.09 ug/kg/d. 17-36 yr old healthy nursing mothers, South Backa, Voyvodine, Yugoslavia GC-EC

COLOSTRUM; ENVIRONMENTAL EXPOSURE; YUGOSLAVIA; NEWBORN; PESTICIDES; PESTICIDE RESIDUES; DDE; DDT; BIOACCUMULATION; HEALTH HAZARDS; LACTATION
Vukavic, T.; Pavkov, S.; Cusic, S.; Roncevic, N.; Vojinovic, M.; Tokovic, B. 1986 Archives of Environmental Contamination and Toxicology 15:525-528

Tissue	Cases Exposure Route	Range	Mean	General Information
11985 Milk, whole	50	Not given	0.020 ppm	Samples collected between June 1983 and June 1984. Maximum, 0.125 ppm, 98% occurrence. No occupational exposures. Lactating mothers at 2 Baghdad maternity hospitals, 28 considered younger (</=30 yr old) and 22 older (31-45 yr old). GC

MILK; ENVIRONMENTAL EXPOSURE; ADULTS; IRAQ; ALDRIN; DIELDRIN; DDE; DDD; DDT; BIOACCUMULATION; LACTATION; CHLORINE ORGANIC COMPOUNDS
Al-Omar, M.A.; Tawfiq, S.J.; Al-Ogaily, N. 1985 Bulletin of Environmental Contamination and Toxicology 35:65-67

Cyclohexane, 1,2,3,4,5,6-hexachloro-, beta- (8 Cl); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2beta,3alpha,4beta,5alpha,6beta)- (9 Cl)
319-85-7
C6-H6-Cl6
MW 290.83, MP 314-315 C (sublimes), BP 60 C at 0.58 mm Hg, VP 0.005 mm Hg at 20 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11986 Adipose	29	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 0.133+/-0.292 ug/g b) 0.070+/-0.034 ug/g c) 0.260+/-0.469 ug/g d) 0.160+/-0.347 ug/g e) 0.064+/-0.026 ug/g f) 0.392+/-0.568 ug/g g) 0.073+/-0.040 ug/g h) 0.082+/-0.044 ug/g i) 0.054+/-0.033 ug/g Wet wt	a) All cases, 29 b) Sudden deaths, 18 c) Others, 11 d) All male cases, 19 e) Male sudden deaths, 12 f) Others, male, 7 g) All female cases, 10 h) Female sudden deaths, 6 i) Others, female, 4 Data compared with previously reported levels in accident victims. Autopsy samples from nonaccidental death victims in Canada. GC; TLC

ADIPOSE TISSUE; CANADA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; CADAVERS; COMPARATIVE EVALUATIONS; POLYCHLORINATED BIPHENYLS; PESTICIDES; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; OXYCHLORDANE; NONACHLOR; HEPTACHLOR EPOXIDE; DIELDRIN; DDE; DDT; BIOLOGICAL MONITORING; POPULATION EXPOSURE; BIOCONCENTRATION

Mes, J.; Davies, D.J.; Turton, D. 1985 Ecotoxicology and Environmental Safety 10:70-74

Tissue	Cases Exposure Route	Range	Mean	General Information
11987 Adipose	a) 8 b) 10	a) Not detected-2.31 ppm b) 0.31-1.03 ppm	a) 0.77 ppm b) 0.62 ppm	a) 1980 b) 1984 *Biopsies.* 31-78 yr old patients, St. Francis Hospital, Monroe, Louisiana GC-EC

ADIPOSE TISSUE; ENVIRONMENTAL EXPOSURE; LOUISIANA; BIOPSIES; DDD; DDE; DDT; DIELDRIN; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE; POLYCHLORINATED BIPHENYLS; PESTICIDES; INDUSTRIAL CHEMICALS; BIOACCUMULATION; PESTICIDE RESIDUES; POPULATION EXPOSURE

Holt, R.L.; Cruse, S.; Greer, S. 1986 Bulletin of Environmental Contamination and Toxicology 36:651-655

Tissue	Cases Exposure Route	Range	Mean	General Information
11988 Blood, serum	a) 123 b) 36	a) Not given b) Not given	a) 2.2+/-0.13 ppb b) 1.7+/-0.12 ppb S.E.	a) During spraying season b) During harvest season Reported cases are those with >trace levels, total of 567 individuals examined. Citrus fieldworkers in Florida, 1981

BLOOD SERUM; OCCUPATIONAL EXPOSURE; LINDANE; HEXACHLOROBENZENE; OXYCHLORDANE; HEPTACHLOR EPOXIDE; DDE; DDT; DIELDRIN; PESTICIDES; INSECTICIDES; BIOACCUMULATION; HEALTH HAZARDS; AGRICULTURE; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES

Griffith, J.; Duncan, R.C. 1985 Bulletin of Environmental Contamination and Toxicology 35:411-417

Cyclohexane, 1,2,3,4,5,6-hexachloro-, beta- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2beta,3alpha,4beta,5alpha,6beta)- (9 CI)
319-85-7
C6-H6-Cl6
MW 290.83, MP 314-315 C (sublimes), BP 60 C at 0.58 mm Hg, VP 0.005 mm Hg at 20 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11989 Blood, serum	3126	a) Not given b) Not given c) Not given d) 1-28 ppb	a) 1.4 ppb b) 1.5 ppb c) 1.8 ppb d) 1.7 ppb	a) 12-24 yr, 3.2%, 955 cases b) 25-44 yr, 11.7%, 876 cases c) 45-74 yr, 26.8%, 1295 cases d) 12-74 yr, 13.9%, 3126 cases Age group and % population exposed. Limit of detection 1 ppb. Subjects participating in the Second National Health and Nutrition Examination Survey, 1976-80. GC-EC

BLOOD SERUM; ENVIRONMENTAL EXPOSURE; UNITED STATES; ADOLESCENTS; ADULTS; AGE; DDT; DDE; DIELDRIN; HEXACHLOROBENZENE; NONACHLOR; HEPTACHLOR EPOXIDE; OXYCHLORDANE; BIOACCUMULATION; POPULATION EXPOSURE; PESTICIDE RESIDUES; PESTICIDES
Murphy, R.; Harvey, C. 1985 Environmental Health Perspectives 60:115-120

Tissue	Cases Exposure Route	Range	Mean	General Information
11990 Blood, serum	a) 14 b) 19 c) 26 d) 19	a) 0-0.1000 ppm b) 0.0220-0.2000 ppm c) 0.0650-0.5000 ppm d) 0.160-0.7200 ppm	a) 0.0285 ppm b) 0.0972 ppm c) 0.2067 ppm d) 0.4131 ppm	a) Controls, no occupational contact b) Maintenance workers, 11-30 yr exposure c) Non-handlers, 0-30 yr exposures d) Handlers, 0-30 yr exposures Workers in HCH manufacturing plant and unexposed controls, India Majority in c,d) had paresthesia, headache, giddiness and some had malaise, tremors, apprehension, confusion, sleep loss, impaired memory, libido loss. Similar, but less severe in b) and in fewer cases. GLC

OCCUPATIONAL EXPOSURE; BLOOD SERUM; PESTICIDES; PESTICIDE RESIDUES; INDIA; HEXACHLOROCYCLOHEXANE; NEUROLOGIC MANIFESTATIONS
Nigam, S.K.; Karnik, A.B.; Majumder, S.K.; Visweswariah, K.; Raju, G.S.; Bai, K.M.; Lakkad, B.C.; Thakore, K.N.; Chatterjee, B.B. 1986 International Archives of Occupational and Environmental Health 57:315-320

Tissue	Cases Exposure Route	Range	Mean	General Information
11991 Colostrum	59	a) Not given b) Not given c) Not given	a) 0.95+/-0.21 ug/L b) 0.88+/-0.16 ug/L c) 0.05+/-0.01 ug/g S.E.	a) 11/82, 26 cases b) 6/83, 33 cases c) 6/83, 26 cases from b). Measured in fat Sampled 3 d after delivery. Spring and fall groups matched for age and wt at delivery, wt gain during pregnancy, and proportion of primiparous to multiparous mother. Mean calculated intake for 3.5 kg newborn ingesting 60 ml/kg body wt colostrum: a) 0.06 ug/kg/d, b) 0.05 ug/kg.d. 17-36 yr old healthy nursing mothers, South Backa, Voyvodine, Yugoslavia GC-EC

COLOSTRUM; ENVIRONMENTAL EXPOSURE; YUGOSLAVIA; NEWBORN; PESTICIDES; PESTICIDE RESIDUES; DDE; DDT; BIOACCUMULATION; HEALTH HAZARDS; LACTATION
Vukavic, T.; Pavkov, S.; Cusic, S.; Roncevic, N.; Vojinovic, M.; Tokovic, B. 1986 Archives of Environmental Contamination and Toxicology 15:525-528

Cyclohexane, 1,2,3,4,5,6-hexachloro-, beta- (8 Cl); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2beta,3alpha,4beta,5alpha,6beta)- (9 Cl)
319-85-7
C6-H6-Cl6
MW 290.83, MP 314-315 C (sublimes), BP 60 C at 0.58 mm Hg, VP 0.005 mm Hg at 20 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11992 Milk, fat		Not given	0.09 mg/kg	From 10 kg sample collected in 1978 and 1979 as part of WHO Collaborative Study on the Quantity and Quality of Breast Milk. New methodology. Lactating mothers, Uppsala, Sweden GC/MS

MILK; ENVIRONMENTAL EXPOSURE; ADULTS; SWEDEN; HEXACHLOROCYCLOHEXANE; DDE; DDD; DDT; OXYCHLORDANE; NONACHLOR; POLYCHLORINATED BIPHENYLS; INSECTICIDES; BIOACCUMULATION; LACTATION; PESTICIDE RESIDUES
Vaz, R.; Blomkvist, G. 1985 Chemosphere 14(2):223-231

Tissue	Cases Exposure Route	Range	Mean	General Information
11993 Milk, fat	100	0.04-2.32 mg/kg	0.35 mg/kg	Median was 0.40 mg/kg and mean, on whole milk basis, 11.34 ug/kg. General trend of decreasing levels shows effectiveness of restrictions or bans on use of these substances. 19-36 yr olds (mean 26), 2-12 wk post-parturition. Jerusalem, Israel GC-EC

MILK; ENVIRONMENTAL EXPOSURE; ISRAEL; POLYCHLORINATED BIPHENYLS; PESTICIDES; CHLORINE ORGANIC COMPOUNDS
Weisenberg, E.; Arad, I.; Grauer, F.; Sahm, Z. 1985 Archives of Environmental Contamination and Toxicology 14:517-521

Tissue	Cases Exposure Route	Range	Mean	General Information
11994 Milk, whole	50	Not given	0.021 ppm	Samples collected between June 1983 and June 1984. Maximum, 0.117 ppm, 84% occurrence. No occupational exposures. Lactating mothers at 2 Baghdad maternity hospitals, 28 considered younger (</=30 yr old) and 22 older (31-45 yr old). GC

MILK; ENVIRONMENTAL EXPOSURE; ADULTS; IRAQ; ALDRIN; DIELDRIN; DDE; DDD; DDT; BIOACCUMULATION; LACTATION; CHLORINE ORGANIC COMPOUNDS
Al-Omar, M.A.; Tawfiq, S.J.; Al-Ogaily, N. 1985 Bulletin of Environmental Contamination and Toxicology 35:65-67

Cyclohexane, 1,2,3,4,5,6-hexachloro-, delta- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3alpha,4beta,5alpha,6beta)- (9 CI)
319-86-8
C6-H6-Cl6
MW 290.83, MP 141.5-142.0 C, BP 60 C at 0.34 mm Hg, VP 0.02 mm Hg at 20 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11995 Blood, serum	a) 14 b) 19 c) 26 d) 19	a) 0 ppm b) 0-0.0400 ppm c) 0-0.0220 ppm d) 0-0.1600 ppm	a) 0 ppm b) 0.0021 ppm c) 0.0017 ppm d) 0.0413 ppm	a) Controls, no occupational contact b) Maintenance workers, 11-30 yr exposure c) Non-handlers, 0-30 yr exposures d) Handlers, 0-30 yr exposures Workers in HCH manufacturing plant and unexposed controls, India Majority in c,d) had paresthesia, headache, giddiness and some had malaise, tremors, apprehension, confusion, sleep loss, impaired memory, libido loss. Similar, but less severe in b) and in fewer cases. GLC

OCCUPATIONAL EXPOSURE; BLOOD SERUM; PESTICIDES; PESTICIDE RESIDUES; INDIA; HEXACHLOROCYCLOHEXANE; NEUROLOGIC MANIFESTATIONS

Nigam, S.K.; Karnik, A.B.; Majumder, S.K.; Visweswariah, K.; Raju, G.S.; Bai, K.M.; Lakkad, B.C.; Thakore, K.N.; Chatterjee, B.B. 1986 International Archives of Occupational and Environmental Health 57:315-320

Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)
58-89-9
C6-H6-Cl6
MW 290.85, MP gamma-isomer crystals 112.5 C, BP 323.4 C, 176.2 C at 10 mm Hg, VP 0.14 mm Hg at 40 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11996 Adipose	29	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 0.002+/-0.003 ug/g b) 0.002+/-0.003 ug/g c) 0.002+/-0.002 ug/g d) 0.002+/-0.003 ug/g e) 0.003+/-0.004 ug/g f) 0.001+/-0.000 ug/g g) 0.002+/-0.002 ug/g h) 0.001+/-0.001 ug/g i) 0.002+/-0.002 ug/g Wet wt	a) All cases, 29 b) Sudden deaths, 18 c) Others, 11 d) All male cases, 19 e) Male sudden deaths, 12 f) Others, male, 7 g) All female cases, 10 h) Female sudden deaths, 6 i) Others, female, 4 Data compared with previously reported levels in accident victims. Autopsy samples from nonaccidental death victims in Canada. GC; TLC

ADIPOSE TISSUE; CANADA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; CADAVERS; COMPARATIVE EVALUATIONS; POLYCHLORINATED BIPHENYLS; PESTICIDES; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; OXYCHLORDANE; NONACHLOR; HEPTACHLOR EPOXIDE; DIELDRIN; DDE; DDT; BIOLOGICAL MONITORING; POPULATION EXPOSURE; BIOCONCENTRATION

Mes, J.; Davies, D.J.; Turton, D. 1985 Ecotoxicology and Environmental Safety 10:70-74

Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 Cl); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)- (9 Cl)
58-89-9
C6-H6-Cl6
MW 290.85, MP gamma-isomer crystals 112.5 C, BP 323.4 C, 176.2 C at 10 mm Hg, VP 0.14 mm Hg at 40 C

Tissue	Cases Exposure Route	Range	Mean	General Information
11997 Adipose	26	0.089+/-0.011-0.147-0.081 ug/g	0.128+/-0.079 ug/g	1983 and 1984, range of means. Subcutaneous samples. 1983 subjects 45+/-13, 1984 subjects 60+/-16 yr old. Mean levels for males (0.099+/-0.057 ug/g) and for females (0.162+/-0.089 ug/g) significantly different, p<0.02. Surgical patients, University of Siena, Italy GC-EC

ADIPOSE TISSUE; ENVIRONMENTAL EXPOSURE; ITALY; SEX; AGE; HEXACHLOROBENZENE; DDE; DDT; LINDANE; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; PESTICIDE RESIDUES
Focardi, S.; Fossi, C.; Leonzio, C.; Romei, R. 1986 Bulletin of Environmental Contamination and Toxicology 36:644-650

Tissue	Cases Exposure Route	Range	Mean	General Information
11998 Blood, serum	a) 2 b) 1	a) Not given b) Not given	a) 1.9+/-0.2 ppb b) 1.4 ppb S.E.	a) During spraying season b) During harvest season Reported cases are those with >trace levels, total of 567 individuals examined. Citrus fieldworkers in Florida, 1981

BLOOD SERUM; OCCUPATIONAL EXPOSURE; LINDANE; HEXACHLOROBENZENE; OXYCHLORDANE; HEPTACHLOR EPOXIDE; DDE; DDT; DIELDRIN; PESTICIDES; INSECTICIDES; BIOACCUMULATION; HEALTH HAZARDS; AGRICULTURE; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES
Griffith, J.; Duncan, R.C. 1985 Bulletin of Environmental Contamination and Toxicology 35:411-417

Tissue	Cases Exposure Route	Range	Mean	General Information
11999 Blood, serum	a) 14 b) 19 c) 26 d) 19	a) 0-0.0100 ppm b) 0-0.3200 ppm c) 0-0.0400 ppm d) 0.010-0.1700 ppm	a) 0.0007 ppm b) 0.0227 ppm c) 0.0160 ppm d) 0.0571 ppm	a) Controls, no occupational contact b) Maintenance workers, 11-30 yr exposure c) Non-handlers, 0-30 yr exposures d) Handlers, 0-30 yr exposures Workers in HCH manufacturing plant and unexposed controls, India Majority in c,d) had paresthesia, headache, giddiness and some had malaise, tremors, apprehension, confusion, sleep loss, impaired memory, libido loss. Similar, but less severe in b) and in fewer cases. GLC

OCCUPATIONAL EXPOSURE; BLOOD SERUM; PESTICIDES; PESTICIDE RESIDUES; INDIA; HEXACHLOROCYCLOHEXANE; NEUROLOGIC MANIFESTATIONS
Nigam, S.K.; Karnik, A.B.; Majumder, S.K.; Visweswariah, K.; Raju, G.S.; Bai, K.M.; Lakkad, B.C.; Thakore, K.N.; Chatterjee, B.B. 1986 International Archives of Occupational and Environmental Health 57:315-320

Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)
58-89-9
C6-H6-Cl6
MW 290.85, MP gamma-isomer crystals 112.5 C, BP 323.4 C, 176.2 C at 10 mm Hg, VP 0.14 mm Hg at 40 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12000 Colostrum	59	a) Not given b) Not given c) Not given	a) 1.71+/-0.44 ug/L b) 0.67+/-0.12 ug/L c) 0.03+/-0.01 ug/g S.E.	a) 11/82, 26 cases b) 6/83, 33 cases c) 6/83, 26 cases from b). Measured in fat Sampled 3 d after delivery. a) significantly higher than b), $p<0.025$. Spring and fall groups matched for age and wt at delivery, wt gain during pregnancy, and proportion of primiparous to multiparous mothers. Mean calculated intake for 3.5 kg newborn ingesting 60 ml/kg body wt colostrum: a) 0.10 ug/kg/d, b) 0.04 ug/kg/d. 17-36 yr old healthy nursing mothers, South Backa, Voyvodine, Yugoslavia GC-EC

COLOSTRUM; ENVIRONMENTAL EXPOSURE; YUGOSLAVIA; NEWBORN; PESTICIDES; PESTICIDE RESIDUES; DDE; DDT; BIOACCUMULATION; HEALTH HAZARDS; LACTATION
Vukavic, T.; Pavkov, S.; Cusic, S.; Roncevic, N.; Vojinovic, M.; Tokovic, B. 1986 Archives of Environmental Contamination and Toxicology 15:525-528

Tissue	Cases Exposure Route	Range	Mean	General Information
12001 Milk, fat	45	0.01-0.60 mg/kg	0.04 mg/kg	Median was 0.04 mg/kg and mean, on whole milk basis, 1.14 ug/kg. General trend of decreasing levels shows effectiveness of restrictions or bans on use of these substances. 19-36 yr olds (mean 26), 2-12 wk post-parturition. Jerusalem, Israel GC-EC

MILK; ENVIRONMENTAL EXPOSURE; ISRAEL; POLYCHLORINATED BIPHENYLS; PESTICIDES; CHLORINE ORGANIC COMPOUNDS
Weisenberg, E.; Arad, I.; Grauer, F.; Sahm, Z. 1985 Archives of Environmental Contamination and Toxicology 14:517-521

Tissue	Cases Exposure Route	Range	Mean	General Information
12002 Milk, whole	a) 45 b) 95	a) 0.000-0.007 ppm b) 0.000-0.003 ppm	a) 0.001+/-0.002 ppm b) 0.000+/-0.001 ppm	a) Urban area, 130 samples b) Rural area, 137 samples 50 ml samples collected at different stages during feeding and from several feedings. 19-41 yr old breast-feeding mothers, Western Australia. 1979-80. TLC/GC

MILK; ENVIRONMENTAL EXPOSURE; AUSTRALIA; DDT; HEXACHLOROBENZENE; ALDRIN; DIELDRIN; PESTICIDES; BIOLOGICAL MONITORING; BIOACCUMULATION; LACTATION; PESTICIDE RESIDUES; RURAL AREAS; URBAN AREAS
Stacey, C.I.; Perriman, W.S.; Whitney, S. 1985 Archives of Environmental Health 40(2):102-108

Cyclohexane, 1,2,3,4,5,6-hexachloro-, gamma- (8 CI); Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)- (9 CI)
58-89-9
C6-H6-Cl6
MW 290.85, MP gamma-isomer crystals 112.5 C, BP 323.4 C, 176.2 C at 10 mm Hg, VP 0.14 mm Hg at 40 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12003 Milk, whole	50	Not given	0.032 ppm	Samples collected between June 1983 and June 1984. Maximum, 0.331 ppm, 86% occurrence. No occupational exposures. Lactating mothers at 2 Baghdad maternity hospitals, 28 considered younger (</=30 yr old) and 22 older (31-45 yr old). GC

MILK; ENVIRONMENTAL EXPOSURE; ADULTS; IRAQ; ALDRIN; DIELDRIN; DDE; DDD; DDT; BIOACCUMULATION; LACTATION; CHLORINE ORGANIC COMPOUNDS
Al-Omar, M.A.; Tawfiq, S.J.; Al-Ogaily, N. 1985 Bulletin of Environmental Contamination and Toxicology 35:65-67

Tissue	Cases Exposure Route	Range	Mean	General Information
12004 Milk, whole	a) 1 b) 1 c) 1 d) 1	a) Not detected-0.040 mg/kg b) Not detected-0.017 mg/kg c) Not detected-2.423 mg/kg d) Not detected-0.021 mg/kg	a) 0.009+/-0.010 mg/kg b) 0.005+/-0.005 mg/kg c) 0.134+/-0.538 mg/kg d) 0.005+/-0.005 mg/kg	0.5 g collected weekly for 20 wk. Detection limit 1 pptm. Healthy 30-45 yr olds, Baghdad, Iraq GC-EC
12005 Placenta	4	0.004-0.013 mg/kg	Not given	Immediately after delivery. Healthy 30-45 yr olds, Baghdad, Iraq GC-EC

MILK; PLACENTA; ENVIRONMENTAL EXPOSURE; IRAQ; DDT; DIELDRIN; CHLORDANE; HEXACHLOROCYCLOHEXANE; INSECTICIDES; BIOACCUMULATION; HEALTH HAZARDS
Al-Omar, M.; Abdul-Jalil, F.H.; Al-Ogaily, N.; Tawfiq, S.J.; Al-Bassomy, M. 1986 Environmental Pollution (Series A) 42:79-91

Cyclopenta(c)furo(3',2':4,5)furo(2,3-h)(1)benzopyran-1,11-dione, 2,3,6aalpha,9aalpha-tetrahydro-4-methoxy- (8 CI) Cyclopenta(c)furo(3',2':4,5)furo(2,3-h)(1)benzopyran-1,11-dione, 2,3,6a,9a-tetrahydro-4-methoxy-, (6aR-cis)- (9 CI)
1162-65-8
C17-H12-O6
MW 312.3, MP 268-269 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12006 Intestine	1 Inhalation	Not applicable	11.2 ng/g	Victim admitted to field hospital 3/11/82. Recurrent falciparum malaria suspected, treatment included quinine, penicillin, and IV fluids. Histological features and toxicologic studies eliminated death by malaria, viral hepatitis, or nutritional disorders. Pattern of injury indicated death resulted from direct effects of toxic agents. Khmer Rouge soldier exposed to chemical warfare attack 9/19/81, died 3/16/82. Fever, cough, hemoptysis, anuria, jaundice Detailed gross and microscopic examination of heart, stomach, liver, kidney, small intestine, and lung. Aberrations and/or necrosis noted in each tissue. HPLC
12007 Kidney	1 Inhalation	Not applicable	15.3 ng/g	Victim admitted to field hospital 3/11/82. Recurrent falciparum malaria suspected, treatment included quinine, penicillin, and IV fluids. Histological features and toxicologic studies eliminated death by malaria, viral hepatitis, or nutritional disorders. Pattern of injury indicated death resulted from direct effects of toxic agents. Khmer Rouge soldier exposed to chemical warfare attack 9/19/81, died 3/16/82. Fever, cough, hemoptysis, anuria, jaundice Detailed gross and microscopic examination of heart, stomach, liver, kidney, small intestine, and lung. Aberrations and/or necrosis noted in each tissue. HPLC
12008 Liver	1 Inhalation	Not applicable	20.2 ng/g	Victim admitted to field hospital 3/11/82. Recurrent falciparum malaria suspected, treatment included quinine, penicillin, and IV fluids. Histological features and toxicologic studies eliminated death by malaria, viral hepatitis, or nutritional disorders. Pattern of injury indicated death resulted from direct effects of toxic agents. Khmer Rouge soldier exposed to chemical warfare attack 9/19/81, died 3/16/82. Fever, cough, hemoptysis, anuria, jaundice Detailed gross and microscopic examination of heart, stomach, liver, kidney, small intestine, and lung. Aberrations and/or necrosis noted in each tissue. HPLC

KIDNEYS; STOMACH; LUNGS; INTESTINES; HEART; LIVER; DELIBERATE EXPOSURE; ADULTS; KAMPUCHEA; CASE HISTORIES; AUTOPSIES; AFLATOXINS; BIOACCUMULATION; HEALTH HAZARDS; POPULATION EXPOSURE; MYCOTOXINS; CHEMICAL WARFARE; ASIA

Stahl, C.J.; Green, C.C.; Farnum, J.B. 1985 Journal of Forensic Sciences 30(3):317-337

Cyclopenta(c)furo(3',2':4,5)furo(2,3-h)(1)benzopyran-1,11-dione, 2,3,6aalpha,9aalpha-tetrahydro-4-methoxy- (8 CI) Cyclopenta(c)furo(3',2':4,5)furo(2,3-h)(1)benzopyran-1,11-dione, 2,3,6a,9a-tetrahydro-4-methoxy-, (6aR-cis)- (9 CI)
1162-65-8
C17-H12-O6
MW 312.3, MP 268-269 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12009 Lung	a) 1 b) 1 c) 1 Inhalation	a) Not applicable b) Not applicable c) Not applicable	a) 54 ng/g b) 19.9 ng/g c) 10 ng/g	a) 63 yr old textile worker b) 60 yr old cattle breeder c) 59 yr old cattle breeder c) 59 yr old stockkeeper Autopsies. Presumed exposure to aflatoxin-contaminated dust. None detected in 3 age-matched controls. Initial diagnoses of bronchopneumonia or influenza Pulmonary interstitial fibrosis RIA

LUNGS; CASE HISTORIES; OCCUPATIONAL EXPOSURE; PULMONARY DISEASES; AFLATOXINS; DUST; HEALTH HAZARDS; INHALATION; OCCUPATIONAL HAZARDS

Dvorackova, I.; Pichova, V. 1986 Journal of Toxicology and Environmental Health 18:153-157

Tissue	Cases Exposure Route	Range	Mean	General Information
12010 Stomach	1 Inhalation	Not applicable	19.8 ng/g	Victim admitted to field hospital 3/11/82. Recurrent falciparum malaria suspected, treatment included quinine, penicillin, and IV fluids. Histological features and toxicologic studies eliminated death by malaria, viral hepatitis, or nutritional disorders. Pattern of injury indicated death resulted from direct effects of toxic agents. Khmer Rouge soldier exposed to chemical warfare attack 9/19/81, died 3/16/82. Fever, cough, hemoptysis, anuria, jaundice Detailed gross and microscopic examination of heart, stomach, liver, kidney, small intestine, and lung. Aberrations and/or necrosis noted in each tissue. HPLC

KIDNEYS; STOMACH; LUNGS; INTESTINES; HEART; LIVER; DELIBERATE EXPOSURE; ADULTS; KAMPUCHEA; CASE HISTORIES; AUTOPSIES; AFLATOXINS; BIOACCUMULATION; HEALTH HAZARDS; POPULATION EXPOSURE; MYCOTOXINS; CHEMICAL WARFARE; ASIA

Stahl, C.J.; Green, C.C.; Farnum, J.B. 1985 Journal of Forensic Sciences 30(3):317-337

D-Phenylethyleneglycol (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12011 Urine	a) 11 b) 6 c) 10 Inhalation	a) Not given b) Not given c) Not given	a) 6.04+/-4.99 mg/L b) 13.02+/-24.80 mg/L c) 0.68+/-0.25 mg/L	a) Males b) Females c) Male controls Metabolite. a), b) sampled after occupational exposure to approx 100 ppm styrene during 9 hr work shift. a), b) significantly higher than c), $p<0.001$. Enantiomer ratio L/D: a) 2.87+/-0.37, b) 3.24+/-0.49, c) 1.45+/-0.22. New analytical method. Test subjects and controls GC/MS

URINE; OCCUPATIONAL EXPOSURE; MEASUREMENT METHODS; STYRENES; INDUSTRIAL CHEMICALS; INHALATION; METABOLISM; METABOLITES; OCCUPATIONAL HAZARDS

Korn, M.; Wodarz, R.; Drysch, K.; Schoknecht, W.; Schmahl, F.W. 1986 Archives of Toxicology 58:110-114

DDT, total (No postings in CHEMLINE).

C14-H9-Cl5

MW 354.50

Tissue	Cases Exposure Route	Range	Mean	General Information
12012 Colostrum	59	a) Not given b) Not given c) Not given	a) 89.36+/-8.92 ug/L b) 69.37+/-7.59 ug/L c) 3.52+/-0.46 ug/g S.E.	a) 11/82, 26 cases b) 6/83, 33 cases c) 6/83, 26 cases from b). Sampled 3 d after delivery. Total of o,p'DDE, p,p'DDE and p,p'DDT residues. Spring and fall groups matched for age and wt at delivery, wt gain during pregnancy, and proportion of primiparous to multiparous mothers. Mean calculated intake for 3.5 kg newborn ingesting 60 ml/kg body wt colostrum: a) 5.36 ug/kg/d, b) 4.16 17-36 yr old healthy nursing mothers, South Backa, Voyvodine, Yugoslavia GC-EC

COLOSTRUM; ENVIRONMENTAL EXPOSURE; YUGOSLAVIA; NEWBORN; PESTICIDES; PESTICIDE RESIDUES; DDE; DDT; BIOACCUMULATION; HEALTH HAZARDS; LACTATION

Vukavic, T.; Pavkov, S.; Cusic, S.; Roncevic, N.; Vojinovic, M.; Tokovic, B. 1986 Archives of Environmental Contamination and Toxicology 15:525-528

Tissue	Cases Exposure Route	Range	Mean	General Information
12013 Milk, whole	a) 45 b) 95	a) 0.016-0.108 ppm b) 0.015-0.097 ppm	a) 0.046+/-0.021 ppm b) 0.041+/-0.019 ppm	a) Urban area, 130 samples b) Rural area, 137 samples 50 ml samples collected at different stages during feeding and from several feedings. 19-41 yr old breast-feeding mothers, Western Australia. 1979-80. TLC/GC

MILK; ENVIRONMENTAL EXPOSURE; AUSTRALIA; DDT; HEXACHLOROBENZENE; ALDRIN; DIELDRIN; PESTICIDES; BIOLOGICAL MONITORING; BIOACCUMULATION; LACTATION; PESTICIDE RESIDUES; RURAL AREAS; URBAN AREAS

Stacey, C.I.; Perriman, W.S.; Whitney, S. 1985 Archives of Environmental Health 40(2):102-108

DDT, total (No postings in CHEMLINE).

C14-H9-Cl5
MW 354.50

Tissue	Cases Exposure Route	Range	Mean	General Information
12014 Milk, whole	14	3-159 ng/g	42+/-32 ng/g	74 samples collected in 1980-81. Residences sprayed with heptachlor, chlordane, aldrin, or non-organochlorine pesticide to control termites. Nursing mothers living in Perth GC

MILK; ENVIRONMENTAL EXPOSURE; ADULTS; AUSTRALIA; HEXACHLOROBENZENE; HEPTACHLOR EPOXIDE; DIELDRIN; DDE; DDT; PESTICIDES; BIOACCUMULATION; PESTICIDE RESIDUES

Stacey, C.I.; Tatum, T. 1985 Bulletin of Environmental Contamination and Toxicology 35:202-208

Tissue	Cases Exposure Route	Range	Mean	General Information
12015 Milk, whole	a) 1 b) 1 c) 1 d) 1	a) 0.006-1.268 mg/kg b) 0.013-0.380 mg/kg c) 0.084-1.288 mg/kg d) 0.005-0.122 mg/kg	a) 0.171+/-0.272 mg/kg b) 0.133+/-0.104 mg/kg c) 0.271+/-0.282 mg/kg d) 0.065+/-0.042 mg/kg	0.5 g collected weekly for 20 wk. Sum of o,p'- and p,p'-isomers of DDT, TDE and DDD. DDT was used in Iraq until 1976. Healthy 30-45 yr olds, Baghdad, Iraq GC-EC
12016 Placenta	4	0.005-0.059 mg/kg	Not given	Immediately after delivery. Sum of o,p'- and p,p'-isomers of DDT, TDE, and DDD. Subject with highest level exposed earlier to chlordane used for household termite control. Healthy 30-45 yr olds, Baghdad, Iraq GC-EC

MILK; PLACENTA; ENVIRONMENTAL EXPOSURE; IRAQ; DDT; DIELDRIN; CHLORDANE; HEXACHLOROCYCLOHEXANE; INSECTICIDES; BIOACCUMULATION; HEALTH HAZARDS

Al-Omar, M.; Abdul-Jalil, F.H.; Al-Ogaily, N.; Tawfiq, S.J.; Al-Bassomy, M. 1986 Environmental Pollution (Series A) 42:79-91

Dibenzo(b,e)(1,4)dioxin, 1,2,3,4,6,7,8-heptachloro-

35822-46-9
C12-H-Cl7-O2

Tissue	Cases Exposure Route	Range	Mean	General Information
12017 Adipose	a) 4 b) 1	a) 19-114 ppt b) Not applicable Wet wt	a) Not given b) 209 ppt Wet wt	a) Intra-abdominal mesenteric, subcutaneous abdominal, or buttock tissue, *from controls* b) Subcutaneous abdominal or buttock tissue from subject exposed to furan and dioxin-contaminated Binghamton State Office Building in 1981 Substantial contamination found in the general population. Level of total dioxins and furans also reported. Residents of upstate New York, sampled 1983-84

ADIPOSE TISSUE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; NEW YORK; CASE HISTORIES; CHLORINATED HYDROCARBONS; INDUSTRIAL CHEMICALS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; POPULATION EXPOSURE

Schecter, A.; Ryan, J.J.; Lizotte, R.; Sun, W.-F.; Miller, L.; Gitlitz, G.; Bogdasarian, M. 1985 Chemosphere 14(6/7):933-937

Dibenzo(b,e)(1,4)dioxin, 1,2,3,4,6,7,8-heptachloro-
35822-46-9
C12-H-Cl7-O2

Tissue	Cases Exposure Route	Range	Mean	General Information
12018 Adipose	a) 10 b) 46 c) 5 d) 5 e) 6	a) 53-208 ppt b) 34.4-520 ppt c) Not given d) Not given e) 39.4-119 ppt	a) 116+/-41.8 ppt b) 137+/-79 ppt c) 83.6+/-ppt d) 444 ppt e) 95.2+/-29.2 ppt	a) Collected 1980, deceased hospital patients, Ontario b) Collected 1976, accident victims across Canada c) Collected 1972, accident victims in Quebec d) Collected 1972, accident victims in British Columbia e) Collected 1983-84, biopsy and autopsy, New York state Parts per trillion. Accident (automobile, drownings, trauma, suicides) from Canada and US. No known abnormal occupational or accidental exposures. GC/MS

ENVIRONMENTAL EXPOSURE; CANADA; UNITED STATES; NEW YORK; ADIPOSE TISSUE; AUTOPSIES; BIOPSIES; DIOXINS; POLYCHLORINATED BIPHENYLS; CHLORINE ORGANIC COMPOUNDS
Ryan, J.J.; Lizotte, R.; Lau, B.P.-Y. 1985 Chemosphere 14(6/7):697-706

Tissue	Cases Exposure Route	Range	Mean	General Information
12019 Milk		Not detected-19.1 ppt	5.4 ppt	Mean calculated from positive samples. Levels associated with lipid fraction. Of 18 samples (16 individual, 2 pooled), not detected in 12. Detection limits about 14-50 ppt. Significant correlation found between PCDD and PCDF congeners. Lactating mothers, Netherlands GC/MS

MILK; NETHERLANDS; INDUSTRIAL CHEMICALS; POLYCHLORINATED DIBENZOFURANS; BIOACCUMULATION; LACTATION; ENVIRONMENTAL EXPOSURE
van den Berg, M.; van der Wielen, F.W.M.; Olle, K.; van Boxtel, C.J. 1986 Chemosphere 15(6):693-706

Dibenzo(b,e)(1,4)dioxin, 1,2,3,4,6,7,9-heptachloro-
58200-70-7
C12-H-Cl7-O2

Tissue	Cases Exposure Route	Range	Mean	General Information
12020 Adipose	a) 4 b) 1	a) Not detected-5.3 ppt b) Not applicable Wet wt	a) Not given b) 9.6 ppt Wet wt	a) Intra-abdominal mesenteric, subcutaneous abdominal, or buttock tissue, from controls b) Subcutaneous abdominal or buttock tissue from subject exposed to furan and dioxin-contaminated Binghamton State Office Building in 1981 Substantial contamination found in the general population. Level of total dioxins and furans also reported. Residents of upstate New York, sampled 1983-84

ADIPOSE TISSUE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; NEW YORK; CASE HISTORIES; CHLORINATED HYDROCARBONS; INDUSTRIAL CHEMICALS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; POPULATION EXPOSURE
Schecter, A.; Ryan, J.J.; Lizotte, R.; Sun, W.-F.; Miller, L.; Gitlitz, G.; Bogdasarian, M. 1985 Chemosphere 14(6/7):933-937

Dibenzo(b,e)(1,4)dioxin, 1,2,3,45,7,8-hexachloro-
39227-28-6
C12-H2-Cl6-O2

Tissue	Cases Exposure Route	Range	Mean	General Information
12021 Milk		Not detected-1.3 ppt	0.6 ppt	Mean calculated from positive samples. Levels associated with lipid fraction. Of 15 samples (13 individual, 2 pooled), not detected in 2. Detection limits 0.05-1.0 ppt reported separately for each sample. Signifcant correlation found between PCDD and PCDF congeners. Lactating mothers, Netherlands GC/MS

MILK; NETHERLANDS; INDUSTRIAL CHEMICALS; POLYCHLORINATED DIBENZOFURANS; BIOACCUMULATION; LACTATION; ENVIRONMENTAL EXPOSURE
van den Berg, M.; van der Wielen, F.W.M.; Olle, K.; van Boxtel, C.J. 1986 Chemosphere 15(6):693-706

Dibenzo(b,e)(1,4)dioxin, 1,2,3,6,7,8-hexachloro-
57653-85-7
C12-H2-Cl6-O2
MW 390.84, MP 285-286 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12022 Adipose	a) 4 b) 1	a) 46.2-64.2 ppt b) Not applicable Wet wt	a) Not given b) 72.6 ppt Wet wt	a) Intra-abdominal mesenteric, subcutaneous abdominal, or buttock tissue, from controls b) Subcutaneous abdominal or buttock tissue from subject exposed to furan and dioxin-contaminated Binghamton State Office Building in 1981 Substantial contamination found in the general population. Level of total dioxins and furans also reported. Residents of upstate New York, sampled 1983-84

ADIPOSE TISSUE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; NEW YORK; CASE HISTORIES; CHLORINATED HYDROCARBONS; INDUSTRIAL CHEMICALS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; POPULATION EXPOSURE
Schecter, A.; Ryan, J.J.; Lizotte, R.; Sun, W.-F.; Miller, L.; Gitlitz, G.; Bogdasarian, M. 1985 Chemosphere 14(6/7):933-937

Tissue	Cases Exposure Route	Range	Mean	General Information
12023 Adipose	a) 10 b) 46 c) 5 d) 5 e) 6	a) 50-177 ppt b) 19.2-291 ppt c) Not given d) Not given e) 46.2-64.2 ppt	a) 90.5+/-38.9 ppt b) 79.6+/-47.0 ppt c) 42.6 ppt d) 180 ppt e) 57.8+/-6.5 ppt	a) Collected 1980, deceased hospital patients, Ontario b) Collected 1976, accident victims across Canada c) Collected 1972, accident victims in Quebec d) Collected 1972, accident victims in British Columbia e) Collected 1983-84, biopsy and autopsy, New York state Parts per trillion. Accident (automobile, drownings, trauma, suicides) from Canada and US. No known abnormal occupational or accidental exposures. GC/MS

ENVIRONMENTAL EXPOSURE; CANADA; UNITED STATES; NEW YORK; ADIPOSE TISSUE; AUTOPSIES; BIOPSIES; DIOXINS; POLYCHLORINATED BIPHENYLS; CHLORINE ORGANIC COMPOUNDS
Ryan, J.J.; Lizotte, R.; Lau, B.P.-Y. 1985 Chemosphere 14(6/7):697-706

Dibenzo(b,e)(1,4)dioxin, 1,2,3,6,7,8-hexachloro-
57653-85-7
C12-H2-Cl6-O2
MW 390.84, MP 285-286 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12024 Milk		0.17-5.7 ppt	2.5 ppt	Associated with lipid fraction. 18 samples (16 individual, 2 pooled). Significant correlation found between PCDD and PCDF congeners. Lactating mothers, Netherlands GC/MS

MILK; NETHERLANDS; INDUSTRIAL CHEMICALS; POLYCHLORINATED DIBENZOFURANS; BIOACCUMULATION; LACTATION; ENVIRONMENTAL EXPOSURE
van den Berg, M.; van der Wielen, F.W.M.; Olle, K.; van Boxtel, C.J. 1986 Chemosphere 15(6):693-706

Dibenzo(b,e)(1,4)dioxin, 1,2,3,7,8-pentachloro-
40321-76-4
C12-H3-Cl5-O2

Tissue	Cases Exposure Route	Range	Mean	General Information
12025 Adipose	a) 4 b) 1	a) 7.5-13.8 ppt b) Not applicable Wet wt	a) Not given b) 15.0 ppt Wet wt	a) Intra-abdominal mesenteric, subcutaneous abdominal, or buttock tissue, from controls b) Subcutaneous abdominal or buttock tissue from subject exposed to furan and dioxin-contaminated Binghamton State Office Building in 1981 Substantial contamination found in the general population. Level of total dioxins and furans also reported. Residents of upstate New York, sampled 1983-84

ADIPOSE TISSUE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; NEW YORK; CASE HISTORIES; CHLORINATED HYDROCARBONS; INDUSTRIAL CHEMICALS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; POPULATION EXPOSURE
Schecter, A.; Ryan, J.J.; Lizotte, R.; Sun, W.-F.; Miller, L.; Gitlitz, G.; Bogdasarian, M. 1985 Chemosphere 14(6/7):933-937

Tissue	Cases Exposure Route	Range	Mean	General Information
12026 Adipose	a) 10 b) 46 c) 5 d) 5 e) 6	a) 10.5-21.4 ppt b) 1.5-34.5 ppt c) Not given d) Not given e) 7.5-13.8 ppt	a) 13.2+/-4.0 ppt b) 10.4+/-5.8 ppt c) 12.5 ppt d) 21.7 ppt e) 9.7+/-2.4 ppt	a) Collected 1980, deceased hospital patients, Ontario b) Collected 1976, accident victims across Canada c) Collected 1972, accident victims in Quebec d) Collected 1972, accident victims in British Columbia e) Collected 1983-84, biopsy and autopsy, New York state Parts per trillion. Accident (automobile, drownings, trauma, suicides) from Canada and US. No known abnormal occupational or accidental exposures. GC/MS

ENVIRONMENTAL EXPOSURE; CANADA; UNITED STATES; NEW YORK; ADIPOSE TISSUE; AUTOPSIES; BIOPSIES; DIOXINS; POLYCHLORINATED BIPHENYLS; CHLORINE ORGANIC COMPOUNDS
Ryan, J.J.; Lizotte, R.; Lau, B.P.-Y. 1985 Chemosphere 14(6/7):697-706

Dibenzo(b,e)(1,4)dioxin, 1,2,3,7,8-pentachloro-
40321-76-4
C12-H3-Cl5-O2

Tissue	Cases Exposure Route	Range	Mean	General Information
12027 Milk		Not detected-1.21 ppt	Not given	Associated with lipid fraction. Of 18 samples (16 individuals, 2 pooled), not detected in 16. Detection limits 0.1-4.0 ppt reported separately for each sample. Significant correlation found between PCDD and PCDF congeners. Lactating mothers, Netherlands GC/MS

MILK; NETHERLANDS; INDUSTRIAL CHEMICALS; POLYCHLORINATED DIBENZOFURANS; BIOACCUMULATION; LACTATION; ENVIRONMENTAL EXPOSURE
van den Berg, M.; van der Wielen, F.W.M.; Olle, K.; van Boxtel, C.J. 1986 Chemosphere 15(6):693-706

Dibenzo-p-dioxin, octachloro- (8 Cl); Dibenzo(b,e)(1,4)dioxin, octachloro- (9 Cl)
3268-87-9
C12-Cl8-O2
MW 459.72

Tissue	Cases Exposure Route	Range	Mean	General Information
12028 Adipose	a) 4 b) 1	a) 428-695 ppt b) Not applicable Wet wt	a) Not given b) 690 ppt Wet wt	a) Intra-abdominal mesenteric, ubcutaneous abdominal, or buttock tissue, from controls b) Subcutaneous abdominal or buttock tissue from subject exposed to furan and dioxin-contaminated Binghamton State Office Building in 1981 Substantial contamination found in the general population. Level of total dioxins and furans also reported. Residents of upstate New York, sampled 1983-84

ADIPOSE TISSUE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; NEW YORK; CASE HISTORIES; CHLORINATED HYDROCARBONS; INDUSTRIAL CHEMICALS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; POPULATION EXPOSURE
Schecter, A.; Ryan, J.J.; Lizotte, R.; Sun, W.-F.; Miller, L.; Gitlitz, G.; Bogdasarian, M. 1985 Chemosphere 14(6/7):933-937

Tissue	Cases Exposure Route	Range	Mean	General Information
12029 Adipose	a) 10 b) 46 c) 5 d) 5 e) 6	a) 317-985 ppt b) 202-2961 ppt c) Not given d) Not given e) 428-695 ppt	a) 611+/-226 ppt b) 796+/-458 ppt c) 756 ppt d) 1355 ppt e) 585+/-98 ppt	a) Collected 1980, deceased hospital patients, Ontario b) Collected 1976, accident victims across Canada c) Collected 1972, accident victims in Quebec d) Collected 1972, accident victims in British Columbia e) Collected 1983-84, biopsy and autopsy, New York state Parts per trillion. Accident (automobile, drownings, trauma, suicides) from Canada and US. No known abnormal occupational or accidental exposures. GC/MS

ENVIRONMENTAL EXPOSURE; CANADA; UNITED STATES; NEW YORK; ADIPOSE TISSUE; AUTOPSIES; BIOPSIES; DIOXINS; POLYCHLORINATED BIPHENYLS; CHLORINE ORGANIC COMPOUNDS
Ryan, J.J.; Lizotte, R.; Lau, B.P.-Y. 1985 Chemosphere 14(6/7):697-706

Dibenzo-p-dioxin, octachloro- (8 Cl); Dibenzo(b,e)(1,4)dioxin, octachloro- (9 Cl)
3268-87-9
C12-Cl8-O2
MW 459.72

Tissue	Cases Exposure Route	Range	Mean	General Information
12030 Milk		Not detected-37.8 ppt	18.0 ppt	Mean calculated from positive samples. Levels associated with lipid fraction. Of 18 samples (16 individual, 2 pooled), not detected in 4. Detection limits 14.8-50.0 ppt reported separately for each sample. Significant correlation found between PCDD and PCDF congeners. Lactating mothers, Netherlands GC/MS

MILK; NETHERLANDS; INDUSTRIAL CHEMICALS; POLYCHLORINATED DIBENZOFURANS; BIOACCUMULATION; LACTATION; ENVIRONMENTAL EXPOSURE
van den Berg, M.; van der Wielen, F.W.M.; Olle, K.; van Boxtel, C.J. 1986 Chemosphere 15(6):693-706

Dibenzo-p-dioxin, 1,2,3,7,8,9-hexachloro- (8 Cl); Dibenzo(b,e)(1,4)dioxin, 1,2,3,7,8,9-hexachloro- (9 Cl)
19408-74-3
C12-H2-Cl6-O2

Tissue	Cases Exposure Route	Range	Mean	General Information
12031 Adipose	a) 4 b) 1	a) 6.8-10.6 ppt b) Not applicable Wet wt	a) Not given b) 7.3 ppt Wet wt	a) Intra-abdominal mesenteric, subcutaneous abdominal, or buttock tissue, from controls b) Subcutaneous abdominal or buttock tissue from subject exposed to furan and dioxin-contaminated Binghamton State Office Building in 1981 Substantial contamination found in the general population. Level of total dioxins and furans also reported. Residents of upstate New York, sampled 1983-84

ADIPOSE TISSUE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; NEW YORK; CASE HISTORIES; CHLORINATED HYDROCARBONS; INDUSTRIAL CHEMICALS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; POPULATION EXPOSURE
Schecter, A.; Ryan, J.J.; Lizotte, R.; Sun, W.-F.; Miller, L.; Gitlitz, G.; Bogdasarian, M. 1985 Chemosphere 14(6/7):933-937

Tissue	Cases Exposure Route	Range	Mean	General Information
12032 Milk		Not detected-1.1 ppt	0.6 ppt	Mean calculated from positive samples. Levels associated with lipid fraction. Of 18 samples (16 individual, pooled), not detected in 10. Detection limits 0.05-1.0 ppt reported separately for each sample. Significant correlation found between PCDD and PCDF congeners. Lactating mothers, Netherlands GC/MS

MILK; NETHERLANDS; INDUSTRIAL CHEMICALS; POLYCHLORINATED DIBENZOFURANS; BIOACCUMULATION; LACTATION; ENVIRONMENTAL EXPOSURE
van den Berg, M.; van der Wielen, F.W.M.; Olle, K.; van Boxtel, C.J. 1986 Chemosphere 15(6):693-706

Dibenzo-p-dioxin, 2,3,7,8-tetrachloro- (8 CI); Dibenzo(b,e)(1,4)dioxin, 2,3,7,8-tetrachloro- (9 CI)
1746-01-6
C12-H4-Cl4-O2
MW 322, MP 305 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12033 Adipose				Review. Sources of polychlorodibenzo-p-dioxins and polychlorodibenzofurans and procedures for identification and quantification of isomers. Refers to levels in Vietnam veterans and background levels in Swedes and Canadians. Advocates testing of blood plasma and use of techniques providing analysis of all PCDOs and PCDFs in a sample.

REVIEW; ADIPOSE TISSUE; BLOOD PLASMA; CONSUMER EXPOSURE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; VIETNAM; CANADA; SWEDEN; TAIWAN; SARCOMAS; MEASUREMENT METHODS; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; POLYCHLORINATED DIBENZODIOXINS; POLYCHLORINATED DIBENZOFURANS; ACCIDENTAL POISONING; BIOACCUMULATION; CARCINOGEN

Rappe, C. 1984 Environmental Science and Technology 18:78A-90A

Tissue	Cases Exposure Route	Range	Mean	General Information
12034 Adipose	a) 4 b) 1	a) 3.7-8.3 ppt b) Not applicable Wet wt	a) Not given b) 11.6 ppt Wet wt	a) Intra-abdominal mesenteric, subcutaneous abdominal, or buttock tissue, from controls b) Subcutaneous abdominal or buttock tissue from subject exposed to furan and dioxin-contaminated Binghamton State Office Building in 1981 Substantial contamination found in the general population. Levels of total dioxins and furans also reported. Residents of upstate New York, sampled 1983-84

ADIPOSE TISSUE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; NEW YORK; CASE HISTORIES; CHLORINATED HYDROCARBONS; INDUSTRIAL CHEMICALS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; POPULATION EXPOSURE

Schecter, A.; Ryan, J.J ; Lizotte, R.; Sun, W.-F.; Miller, L.; Gitlitz, G.; Bogdasarian, M. 1985 *Chemosphere* 14(6/7):933-937

Tissue	Cases Exposure Route	Range	Mean	General Information
12035 Adipose	a) 10 b) 46 c) 5 d) 5 e) 6	a) 3.0-17.8 ppt b) Not detected, 2.0-12.7 ppt c) Not given d) Not given e) 3.7-8.3 ppt	a) 10.0+/-4.9 ppt b) 6.2+/-2.6 ppt c) <2-3 ppt (Not detected) d) 10.7 ppt e) 6.4+/-1.6 ppt	a) Collected 1980, deceased hospital patients, Ontario b) Collected 1976, accident victims across Canada c) Collected 1972, accident victims in Quebec d) Collected 1972, accident victims in British Columbia e) Collected 1983-84, biopsy and autopsy, New York state Parts per trillion. Accident (automobile, drownings, trauma, suicides) from Canada and US. No known abnormal occupational or accidental exposures. GC/MS

ENVIRONMENTAL EXPOSURE; CANADA; UNITED STATES; NEW YORK; ADIPOSE TISSUE; AUTOPSIES; BIOPSIES; DIOXINS; POLYCHLORINATED BIPHENYLS; CHLORINE ORGANIC COMPOUNDS

Ryan, J.J.; Lizotte, R.; Lau, B.P.-Y. 1985 Chemosphere 14(6/7):697-706

Dibenzo-p-dioxin, 2,3,7,8-tetrachloro- (8 CI); Dibenzo(b,e)(1,4)dioxin, 2,3,7,8-tetrachloro- (9 CI)
1746-01-6
C12-H4-Cl4-O2
MW 322, MP 305 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12036 Milk		Not detected	Not applicable	16 individual and 2 pooled samples. Detection limits 0.1-2.5 ppt reported separately for each sample. Lactating mothers, Netherlands GC/MS

MILK; NETHERLANDS; INDUSTRIAL CHEMICALS; POLYCHLORINATED DIBENZOFURANS; BIOACCUMULATION; LACTATION; ENVIRONMENTAL EXPOSURE
van den Berg, M.; van der Wielen, F.W.M.; Olle, K.; van Boxtel, C.J. 1986 Chemosphere 15(6):693-706

Dibenzofuran, octachloro-
39001-02-0
C12-Cl8-O

Tissue	Cases Exposure Route	Range	Mean	General Information
12037 Adipose	a) 4 b) 1	a) Not detected-2.5 ppt b) Not applicable Wet wt	a) Not applicable b) 1.6 ppt Wet wt	a) Intra-abdominal mesenteric, subcutaneous abdominal, or buttock tissue, from controls b) Subcutaneous abdominal or buttock tissue from subject exposed to furan and dioxin-contaminated Binghamton State Office Building in 1981 Substantial contamination found in the general population. Level of total dioxins and furans also reported. Detection limit 20 ppt. Residents of upstate New York, sampled 1983-84

ADIPOSE TISSUE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; NEW YORK; CASE HISTORIES; CHLORINATED HYDROCARBONS; INDUSTRIAL CHEMICALS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; POPULATION EXPOSURE
Schecter, A.; Ryan, J.J.; Lizotte, R.; Sun, W.-F.; Miller, L.; Gitlitz, G.; Bogdasarian, M. 1985 Chemosphere 14(6/7):933-937

Tissue	Cases Exposure Route	Range	Mean	General Information
12038 Milk		Not detected	Not applicable	16 individual and 2 pooled samples. Detection limits 4.0-50.0 ppt reported separately for each sample. Lactating mothers, Netherlands GC/MS

MILK; NETHERLANDS; INDUSTRIAL CHEMICALS; POLYCHLORINATED DIBENZOFURANS; BIOACCUMULATION; LACTATION; ENVIRONMENTAL EXPOSURE
van den Berg, M.; van der Wielen, F.W.M.; Olle, K.; van Boxtel, C.J. 1986 Chemosphere 15(6):693-706

Dibenzofuran, 1,2,3,4,6,7,8-heptachloro-
67562-39-4
C12-H-Cl7-O

Tissue	Cases Exposure Route	Range	Mean	General Information
12039 Adipose	a) 4 b) 1	a) 12.5-23.8 ppt b) Not applciable Wet wt	a) Not given b) 39.3 ppt Wet wt	a) Intra-abdominal mesenteric, subcutaneous abdominal, or buttock tissue, from controls b) Subcutaneous abdominal or buttock tissue from subject exposed to furan and dioxin-contaminated Binghamton State Office Building in 1981 Abundant in Binghampton State Building soot. Substantial contamination found in the general population. Level of total dioxins and furans also reported. Residents of upstate New York, sampled 1983-84

ADIPOSE TISSUE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; NEW YORK; CASE HISTORIES; CHLORINATED HYDROCARBONS; INDUSTRIAL CHEMICALS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; POPULATION EXPOSURE
Schecter, A.; Ryan, J.J.; Lizotte, R.; Sun, W.-F.; Miller, L.; Gitlitz, G.; Bogdasarian, M. 1985 Chemosphere 14(6/7):933-937

Tissue	Cases Exposure Route	Range	Mean	General Information
12040 Adipose	a) 9 b) 46 c) 5 d) 5 e) 6	a) 12.8-6.7 ppt b) Not detected, 9.7-110 ppt c) Not given d) Not given e) 12.5-23.8 ppt	a) 39.4+/-19.6 ppt b) 32.7+/-15.9 ppt c) 28.9 ppt d) 55.1 ppt e) 16.4+/-4.0 ppt	a) Collected 1980, deceased hospital patients, Ontario b) Collected 1976, accident victims across Canada c) Collected 1972, accident victims in Quebec d) Collected 1972, accident victims in British Columbia e) Collected 1983-84, biopsy and autopsy, New York state Parts per trillion. Accident (automobile, drownings, trauma, suicides) from Canada and US. No known abnormal occupational or accidental exposures. GC/MS

ENVIRONMENTAL EXPOSURE; CANADA; UNITED STATES; NEW YORK; ADIPOSE TISSUE; AUTOPSIES; BIOPSIES; DIOXINS; POLYCHLORINATED BIPHENYLS; CHLORINE ORGANIC COMPOUNDS
Ryan, J.J.; Lizotte, R.; Lau, B.P.-Y. 1985 Chemosphere 14(6/7):697-706

Tissue	Cases Exposure Route	Range	Mean	General Information
12041 Milk		Not detected	Not applicable	16 individual and 2 pooled samples. Detection limits for the samples varied between about 14-50 ppt. Lactating mothers, Netherlands GC/MS

MILK; NETHERLANDS; INDUSTRIAL CHEMICALS; POLYCHLORINATED DIBENZOFURANS; BIOACCUMULATION; LACTATION; ENVIRONMENTAL EXPOSURE
van den Berg, M.; van der Wielen, F.W.M.; Olle, K.; van Boxtel, C.J. 1986 Chemosphere 15(6):693-706

Dibenzofuran, 1,2,3,4,7,8-hexachloro-
70648-26-9
C12-H2-Cl6-O

Tissue	Cases Exposure Route	Range	Mean	General Information
12042 Adipose	a) 4 b) 1	a) 9.3-26.4 ppt b) Not applicable Wet wt	a) Not given b) 149 ppt Wet wt	a) Intra-abdominal mesenteric, subcutaneous abdominal, or buttock tissue, from controls b) Subcutaneous abdominal or buttock tissue from subject exposed to furan and dioxin-contaminated Binghamton State Office Building in 1981 Abundant in Binghampton State Building soot. Substantial contamination found in the general population. Level of total dioxins and furans also reported. Residents of upstate New York, sampled 1983-84

ADIPOSE TISSUE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; NEW YORK; CASE HISTORIES; CHLORINATED HYDROCARBONS; INDUSTRIAL CHEMICALS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; POPULATION EXPOSURE
Schecter, A.; Ryan, J.J.; Lizotte, R.; Sun, W.-F.; Miller, L.; Gitlitz, G.; Bogdasarian, M. 1985 Chemosphere 14(6/7):933-937

Tissue	Cases Exposure Route	Range	Mean	General Information
12043 Adipose	a) 9 b) 46 c) 5 d) 5 e) 6	a) 13.6-28.8 ppt b) Not detected, 6.3-71.2 ppt c) Not given d) Not given e) 15.1-52.8 ppt	a) 17.3+/-6.9 ppt b) 17.3+/-10.9 ppt c) 17.0 ppt d) 59.7 ppt e) 28.7+/-7.2 ppt	a) Collected 1980, deceased hospital patients, Ontario b) Collected 1976, accident victims across Canada c) Collected 1972, accident victims in Quebec d) Collected 1972, accident victims in British Columbia e) Collected 1983-84, biopsy and autopsy, New York state Parts per trillion. Measurement includes 1,2,3,6,7,8-isomer. Accident (automobile, drownings, trauma, suicides) from Canada and US. No known abnormal occupational or accidental exposures. GC/MS

ENVIRONMENTAL EXPOSURE; CANADA; UNITED STATES; NEW YORK; ADIPOSE TISSUE; AUTOPSIES; BIOPSIES; DIOXINS; POLYCHLORINATED BIPHENYLS; CHLORINE ORGANIC COMPOUNDS
Ryan, J.J.; Lizotte, R.; Lau, B.P.-Y. 1985 Chemosphere 14(6/7):697-706

Tissue	Cases Exposure Route	Range	Mean	General Information
12044 Milk		Not detected	Not applicable	16 individual and 2 pooled samples. Detection limits for the samples varied between about 14-50 ppt. Lactating mothers, Netherlands GC/MS

MILK; NETHERLANDS; INDUSTRIAL CHEMICALS; POLYCHLORINATED DIBENZOFURANS; BIOACCUMULATION; LACTATION; ENVIRONMENTAL EXPOSURE
van den Berg, M.; van der Wielen, F.W.M.; Olle, K.; van Boxtel, C.J. 1986 Chemosphere 15(6):693-706

Dibenzofuran, 1,2,3,4,7,8,9-heptachloro-
55673-89-7
C12-H-Cl7-O

Tissue	Cases Exposure Route	Range	Mean	General Information
12045 Adipose	a) 4 b) 1	a) Not detected-20.6 ppt b) Not applicable Wet wt	a) Not applicable b) 25.9 ppt Wet wt	a) Intra-abdominal mesenteric, subcutaneous abdominal, or buttock tissue, from controls b) Subcutaneous abdominal or buttock tissue from subject exposed to furan and dioxin-contaminated Binghamton State Office Building in 1981 Abundant in Binghampton State Building soot. Substantial contamination found in the general population. Level of total dioxins and furans also reported. Residents of upstate New York, sampled 1983-84

ADIPOSE TISSUE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; NEW YORK; CASE HISTORIES; CHLORINATED HYDROCARBONS; INDUSTRIAL CHEMICALS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; POPULATION EXPOSURE
Schecter, A.; Ryan, J.J.; Lizotte, R.; Sun, W.-F.; Miller, L.; Gitlitz, G.; Bogdasarian, M. 1985 Chemosphere 14(6/7):933-937

Tissue	Cases Exposure Route	Range	Mean	General Information
12046 Milk		Not detected	Not applicable	16 individual and 2 pooled samples. Detection limits for the samples varied between about 14-50 ppt. Lactating mothers, Netherlands GC/MS

MILK; NETHERLANDS; INDUSTRIAL CHEMICALS; POLYCHLORINATED DIBENZOFURANS; BIOACCUMULATION; LACTATION; ENVIRONMENTAL EXPOSURE
van den Berg, M.; van der Wielen, F.W.M.; Olle, K.; van Boxtel, C.J. 1986 Chemosphere 15(6):693-706

Dibenzofuran, 1,2,3,6,7,8-hexachloro-
57117-44-9
C12-H2-Cl6-O

Tissue	Cases Exposure Route	Range	Mean	General Information
12047 Adipose	a) 4 b) 1	a) 5.6-25.5 ppt b) Not applicable Wet wt	a) Not given b) 112 ppt Wet wt	a) Intra-abdominal mesenteric, subcutaneous abdominal, or buttock tissue, from controls b) Subcutaneous abdominal or buttock tissue from subject exposed to furan and dioxin-contaminated Binghamton State Office Building in 1981 Abundant in Binghampton State Building soot. Substantial contamination found in the general population. Level of total dioxins and furans also reported. Residents of upstate New York, sampled 1983-84

ADIPOSE TISSUE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; NEW YORK; CASE HISTORIES; CHLORINATED HYDROCARBONS; INDUSTRIAL CHEMICALS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; POPULATION EXPOSURE
Schecter, A.; Ryan, J.J.; Lizotte, R.; Sun, W.-F.; Miller, L.; Gitlitz, G.; Bogdasarian, M. 1985 Chemosphere 14(6/7):933-937

Dibenzofuran, 1,2,3,6,7,8-hexachloro-
57117-44-9
C12-H2-Cl6-O

Tissue	Cases Exposure Route	Range	Mean	General Information
12048 Adipose	a) 9 b) 46 c) 5 d) 5 e) 6	a) 13.6-28.8 ppt b) Not detected, 6.3-71.2 ppt c) Not given d) Not given e) 15.1-52.8 ppt	a) 17.3+/-6.9 ppt b) 17.3+/-10.9 ppt c) 17.0 ppt d) 59.7 ppt e) 28.7+/-7.2 ppt	a) Collected 1980, deceased hospital patients, Ontario b) Collected 1976, accident victims across Canada c) Collected 1972, accident victims in Quebec d) Collected 1972, accident victims in British Columbia e) Collected 1983-84, biopsy and autopsy, New York state Parts per trillion. Measurement includes 1,2,3,4,7,8-isomer. Accident (automobile, drownings, trauma, suicides) from Canada and US. No known abnormal occupational or accidental exposures. GC/MS

ENVIRONMENTAL EXPOSURE; CANADA; UNITED STATES; NEW YORK; ADIPOSE TISSUE; AUTOPSIES; BIOPSIES; DIOXINS; POLYCHLORINATED BIPHENYLS; CHLORINE ORGANIC COMPOUNDS
Ryan, J.J.; Lizotte, R.; Lau, B.P.-Y. 1985 Chemosphere 14(6/7):697-706

Tissue	Cases Exposure Route	Range	Mean	General Information
12049 Milk		Not detected	Not applicable	16 individual and 2 pooled samples. Detection limits for the samples varied between about 14-50 ppt. Lactating mothers, Netherlands GC/MS

MILK; NETHERLANDS; INDUSTRIAL CHEMICALS; POLYCHLORINATED DIBENZOFURANS; BIOACCUMULATION; LACTATION; ENVIRONMENTAL EXPOSURE
van den Berg, M.; van der Wielen, F.W.M.; Olle, K.; van Boxtel, C.J. 1986 Chemosphere 15(6):693-706

Dibenzofuran, 1,2,3,7,8-pentachloro-
57117-41-6
C12-H3-Cl5-O

Tissue	Cases Exposure Route	Range	Mean	General Information
12050 Milk		Not detected	Not given	16 individual and 2 pooled samples. Detection limits 0.04-1.5 ppt reported separately for each sample. Lactating mothers, Netherlands GC/MS

MILK; NETHERLANDS; INDUSTRIAL CHEMICALS; POLYCHLORINATED DIBENZOFURANS; BIOACCUMULATION; LACTATION; ENVIRONMENTAL EXPOSURE
van den Berg, M.; van der Wielen, F.W.M.; Olle, K.; van Boxtel, C.J. 1986 Chemosphere 15(6):693-706

Dibenzofuran, 2,3,4,6,7,8-hexachloro-
60851-34-5
C12-H2-Cl6-O

Tissue	Cases Exposure Route	Range	Mean	General Information
12051 Milk		Not detected	Not applicable	16 individual and 2 pooled samples. Detection limits 0.05-1.5 ppt reported separately for each sample. Lactating mothers, Netherlands GC/MS

MILK; NETHERLANDS; INDUSTRIAL CHEMICALS; POLYCHLORINATED DIBENZOFURANS; BIOACCUMULATION; LACTATION; ENVIRONMENTAL EXPOSURE
van den Berg, M.; van der Wielen, F.W.M.; Olle, K.; van Boxtel, C.J. 1986 Chemosphere 15(6):693-706

Dibenzofuran, 2,3,4,7,8-pentachloro-
57117-31-4
C12-H3-Cl5-O
MW 330

Tissue	Cases Exposure Route	Range	Mean	General Information
12052 Adipose	a) 4 b) 1	a) 10.9-17.0 ppt b) Not applicable Wet wt	a) Not given b) 74.7 ppt Wet wt	a) Intra-abdominal mesenteric, subcutaneous abdominal, or buttock tissue, from controls b) Subcutaneous abdominal or buttock tissue from subject exposed to furan and dioxin-contaminated Binghamton State Office Building in 1981 Abundant in Binghampton State Building soot. Substantial contamination found in the general population. Level of total dioxins and furans also reported. Residents of upstate New York, sampled 1983-84

ADIPOSE TISSUE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; NEW YORK; CASE HISTORIES; CHLORINATED HYDROCARBONS; INDUSTRIAL CHEMICALS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; POPULATION EXPOSURE
Schecter, A.; Ryan, J.J.; Lizotte, R.; Sun, W.-F.; Miller, L.; Gitlitz, G.; Bogdasarian, M. 1985 Chemosphere 14(6/7):933-937

Tissue	Cases Exposure Route	Range	Mean	General Information
12053 Adipose	a) 9 b) 46 c) 5 d) 5 e) 6	a) 11.5-29.5 ppt b) 4.2-45.0 ppt c) Not given d) Not given e) 10.9-17.0 ppt	a) 18.4+/-6.3 ppt b) 16.8+/-7.6 ppt c) 20.5 ppt d) 30.8 ppt e) 14.7+/-2.5 ppt	a) Collected 1980, deceased hospital patients, Ontario b) Collected 1976, accident victims across Canada c) Collected 1972, accident victims in Quebec d) Collected 1972, accident victims in British Columbia e) Collected 1983-84, biopsy and autopsy, New York state Parts per trillion. Accident (automobile, drownings, trauma, suicides) from Canada and US. No known abnormal occupational or accidental exposures. GC/MS

ENVIRONMENTAL EXPOSURE; CANADA; UNITED STATES; NEW YORK; ADIPOSE TISSUE; AUTOPSIES; BIOPSIES; DIOXINS; POLYCHLORINATED BIPHENYLS; CHLORINE ORGANIC COMPOUNDS
Ryan, J.J.; Lizotte, R.; Lau, B.P.-Y. 1985 Chemosphere 14(6/7):697-706

Dibenzofuran, 2,3,4,7,8-pentachloro-
57117-31-4
C12-H3-Cl5-O
MW 330

Tissue	Cases Exposure Route	Range	Mean	General Information
12054 Milk		Not detected-2.6 ppt	1.4 ppt	Mean calculated from positive samples. Levels associated with lipid fraction. Of 18 samples (16 individual, 2 pooled), not detected in 9. Detection limits 0.1-8.0 ppt reported separately for each sample. Significant correlation found between PCDD and PCDF congeners. Maximum accumulation of 200 ppt calculated for neonatal liver after 6 mo. Lactating mothers, Netherlands GC/MS

MILK; NETHERLANDS; INDUSTRIAL CHEMICALS; POLYCHLORINATED DIBENZOFURANS; BIOACCUMULATION; LACTATION; ENVIRONMENTAL EXPOSURE
van den Berg, M.; van der Wielen, F.W.M.; Olle, K.; van Boxtel, C.J. 1986 Chemosphere 15(6):693-706

Dibenzofuran, 2,3,7,8-tetrachloro-
51207-31-9
C12-H4-Cl4-O
MW 306

Tissue	Cases Exposure Route	Range	Mean	General Information
12055 Adipose				Review. Sources of polychlorodibenzo-p-dioxins and polychlorodibenzofurans and procedures for identification and quantification of isomers. Refers to levels in Vietnam veterans and background levels in Swedes and Canadians. Advocates testing of blood plasma and use of techniques providing analysis of all PCDOs and PCDFs in a sample.

REVIEW; ADIPOSE TISSUE; BLOOD PLASMA; CONSUMER EXPOSURE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; VIETNAM; CANADA; SWEDEN; TAIWAN; SARCOMAS; MEASUREMENT METHODS; CHLORINATED HYDROCARBONS; CHLORINE ORGANIC COMPOUNDS; POLYCHLORINATED DIBENZODIOXINS; POLYCHLORINATED DIBENZOFURANS; ACCIDENTAL POISONING; BIOACCUMULATION; CARCINOGEN
Rappe, C. 1984 Environmental Science and Technology 18:78A-90A

Tissue	Cases Exposure Route	Range	Mean	General Information
12056 Adipose	a) 4 b) 1	a) Not detected-4.1 ppt b) Not applicable Wet wt	a) Not applicable b) Not detected Wet wt	a) Intra-abdominal mesenteric, subcutaneous abdominal, or buttock tissue, from controls b) Subcutaneous abdominal or buttock tissue from subject exposed to furan and dioxin-contaminated Binghamton State Office Building in 1981 Substantial contamination found in the general population. Detection limit 2 ppt. Levels of total dioxins and furans also reported. Residents of upstate New York, sampled 1983-84

ADIPOSE TISSUE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; NEW YORK; CASE HISTORIES; CHLORINATED HYDROCARBONS; INDUSTRIAL CHEMICALS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; POPULATION EXPOSURE
Schecter, A.; Ryan, J.J.; Lizotte, R.; Sun, W.-F.; Miller, L.; Gitlitz, G.; Bogdasarian, M. 1985 Chemosphere 14(6/7):933-937

Dibenzofuran, 2,3,7,8-tetrachloro-
51207-31-9
C12-H4-Cl4-O
MW 306

Tissue	Cases Exposure Route	Range	Mean	General Information
12057 Milk		Not detected	Not applicable	16 individual and 2 pooled samples. Detection limits 0.1-3.0 ppt reported separately for each sample. Lactating mothers, Netherlands GC/MS

MILK; NETHERLANDS; INDUSTRIAL CHEMICALS; POLYCHLORINATED DIBENZOFURANS; BIOACCUMULATION; LACTATION; ENVIRONMENTAL EXPOSURE
van den Berg, M.; van der Wielen, F.W.M.; Olle, K.; van Boxtel, C.J. 1986 Chemosphere 15(6):693-706

Diethyl phosphodithionate (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12058 Urine				Review. The occurrence and analysis of priority toxic pollutants in human urine, covering the ten-year period 1973-1983, is discussed.

URINE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; DELIBERATE EXPOSURE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PHTHALLIC ACIDS; PHENOLS; BIOACCUMULATION; PESTICIDES
Fatiadi, A.J. 1984 Environment International 10:175-205

Tissue	Cases Exposure Route	Range	Mean	General Information
12059 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982).

URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES
Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983

Diethyl thiophosphate (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12060 Urine	a) 331 b) 262	a) Not given b) Not given	a) 0.37+/-0.079 ppm b) 0.07+/-0.006 ppm S.E.	a) Spraying season b) Harvest Collected at workplace at end of day. Random sampling from 436 growers and 1,811 Florida citrus workers including pesticide applicators, mixers, loaders, tractor drivers, scouts, fieldhands, and pickers.

URINE; OCCUPATIONAL EXPOSURE; FLORIDA; PESTICIDES; AGRICULTURE; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES; INSECTICIDES
Griffith, J.G.; Duncan, R.C. 1985 Bulletin of Environmental Contamination and Toxicology 34:210-215

Diethyl thiophosphate (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12061 Urine	a) 2 b) 100 c) 5 d) 3	a) Not given b) Not given c) Not given d) Not given	a) 0.080+/-0.029 ppm b) 0.382+/-0.866 ppm c) 0.050+/-0.025 ppm d) 0.097+/-0.067 ppm	a) Lowest (reported muscle weakness) of 110 subjects, spray season b) Highest (reported no excitability) c) Lowest (reported dizziness) of 69 subjects, harvest season d) Highest (reported muscle tremor) Metabolite of organophosphorus pesticides. These and additional data, reported in greater detail, were grouped by presence/absence of symptoms and overall, means within seasonal groups were not significantly different. Only trace levels found in 211 spray season and 193 harvest season workers. Detection limit 0.02-0.04 ppm. Paid volunteers, citrus fieldworkers, Florida
URINE; OCCUPATIONAL EXPOSURE; FLORIDA; ORGANOPHOSPHATES; PESTICIDES; BIOACCUMULATION; METABOLITES; ORCHARDS; PESTICIDE RESIDUES Duncan, R.C.; Griffith, J. 1985 Journal of Toxicology and Environmental Health 16:509-521				

Diethylamine, N-nitroso- (8 CI); Ethanamine, N-ethyl-N-nitroso- (9 CI)
55-18-5
C4-H10-N2-O
MW 102.14, BP 175-177 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12062 Saliva	a) 10 b) 7 c) 10 d) 9 Ingestion	a) Not detected-12.0 ppb b) 0.50-3.50 ppb c) Not detected-5.3 ppb d) Not detected-13.0 ppb	a) Not given b) Not given c) Not given d) Not given	a) Males, after 20 min chewing 500 mg tobacco with lime, 2 different days b) Males, after 20 min chewing 500 mg tobacco with betel quid c) Females, after 20 min chewing 200 mg tobacco with betel quid d) Females, 20 min after 200 mg masheri (pyrolysed tobacco product) applied to gums 25-45 yr old habitual users of tobacco products, Bombay, India GLC-TEA
SALIVA; DELIBERATE EXPOSURE; INDIA; COMPARATIVE EVALUATIONS; NITROSAMINES; HEALTH HAZARDS; INGESTION; TOBACCOS Bhide, S.V.; Nair, U.J.; Nair, J.; Spiegelhalder, B.; Preussmann, R. 1986 Food and Chemical Toxicology 24(4):293-297				

Dimethylamine, N-nitroso- (8 CI); Methanamine, N-methyl-N-nitroso- (9 CI)
62-75-9
C2-H6-N2-O
MW 74.1, BP 152 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12063 Saliva	a) 10 b) 7 c) 10 d) 9 Ingestion	a) Not detected-12.0 ppb b) Not detected-35.52 ppb c) 1.9-31.0 ppb d) Not detected-24.4 ppb	a) Not given b) Not given c) Not given d) Not given	a) Males, after 20 min chewing 500 mg tobacco with lime, 2 different days b) Males, after 20 min chewing 500 mg tobacco with betel quid c) Females, after 20 min chewing 200 mg tobacco with betel quid d) Females, 20 min after 200 mg masheri (pyrolysed tobacco product) applied to gums. 25-45 yr old habitual users of tobacco products, Bombay, India GLC-TEA
SALIVA; DELIBERATE EXPOSURE; INDIA; COMPARATIVE EVALUATIONS; NITROSAMINES; HEALTH HAZARDS; INGESTION; TOBACCOS Bhide, S.V.; Nair, U.J.; Nair, J.; Spiegelhalder, B.; Preussmann, R. 1986 Food and Chemical Toxicology 24(4):293-297				

Dinitroaminotoluene (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12064 Urine	a) 1 b) 1 c) 1 d) 1 e) 1 Inhalation Dermal	a) 21-0.77 mg/L b) 22-0.42 mg/L c) 4.5-0.10 mg/L d) 13-0.41 mg/L e) 0.10-12 mg/L	a) Not given b) Not given c) Not given d) Not given e) Not given	a) Postshift and late evening Thurs b) Postshift Thurs, and Sun a.m. c) Postshift Thurs, and Sat a.m. d) Postshift Fri, and Sunday a.m. e) Preshift Thurs, and midshift Fri Total metabolite (2,6- and 2,4-DNAT). Exposed while milling explosives mixture (30% TNT) or filling cartridges. Air levels mostly below DL, by personal sampling. Static sampling, positioned near dust generation points, showed mean levels of 1.36 mg/cu m in milling, and 2.53 mg/cu m in filling, areas. Significant (occasionally higher than postshift) amounts still present (0.10-8.3 mg/L) on major route of occupational uptake. 2 additional studies presented. Explosives factory workers GC-EC
URINE; OCCUPATIONAL EXPOSURE; TOLUENE; BIOACCUMULATION; DUST; INDUSTRIES; INHALATION; METABOLITES; OCCUPATIONAL HAZARDS Woollen, B.H.; Hall, M.G.; Craig, R.; Steel, G.T. 1986 British Journal of Industrial Medicine 43:465-473				

Divbenzofuran, 1,2,3,7,8,9-hexachloro-
72918-21-9
C12-H2-Cl6-O

Tissue	Cases Exposure Route	Range	Mean	General Information
12065 Milk		Not detected	Not applicable	16 individual and 2 pooled samples. Detection limits for the samples varied between about 14-50 ppt. Lactating mothers, Netherlands GC/MS
MILK; NETHERLANDS; INDUSTRIAL CHEMICALS; POLYCHLORINATED DIBENZOFURANS; BIOACCUMULATION; LACTATION; ENVIRONMENTAL EXPOSURE van den Berg, M.; van der Wielen, F.W.M.; Olle, K.; van Boxtel, C.J. 1986 Chemosphere 15(6):693-706				

Eicosane
112-95-8
C20-H42
MW 282.56, MP 36.8 C, BP 343 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12066 Aorta	2	a) 100 ppb-Not detected b) Not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS
AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534				

Ethane, trichlorotrifluoro-
26523-64-8
C2-Cl3-F3

Tissue	Cases Exposure Route	Range	Mean	General Information
12067 Lung	a) 1 b) 1 c) 1 Inhalation	a) Not applicable b) Not applicable c) Not applicable	a) 0.05 mg/kg b) 1.00 mg/kg c) 0.05 mg/kg	a) 27 yr old victim b) 20 yr old victim c) 27 yr old victim Accidentally exposed in compartment which was partially flooded with the gas. Not detected in blood of victims or of 6 paramedics who administered CPR and 1 emergency room staff member, all of whom became symptomatic. Crew members on ship undergoing dockside maintenance of refrigeration system Death within about 1 hr after rapid development of cardiopulmonary arrest Visceral congestion in all, agonal aspiration of gastric contents in one, myocardial scar in another GC

OCCUPATIONAL EXPOSURE; INHALATION; ACCIDENTAL EXPOSURE; LUNGS; AUTOPSIES; CASE HISTORIES; CHLORINE ORGANIC COMPOUNDS; FLUORINE COMPOUNDS; OCCUPATIONAL HAZARDS

Clark, M.A.; Jones, J.W.; Robinson, J.J.; Lord, J.T. 1985 Journal of Forensic Sciences 30(4):1256-1259

Ethane, 1,1-dichloro-2,2-bis(p-chlorphenyl)- (8 CI); Benzene, 1,1'-(2,2-dichloroethylidene)bis(4-chloro- (9 CI)
72-54-8
C14-H10-Cl4
MW 320.05, MP 109-110 C, BP 193 C at 1 mm Hg

Tissue	Cases Exposure Route	Range	Mean	General Information
12068 Adipose	a) 8 b) 10	a) Not detected-1.36 ppm b) 0.12-0.30 ppm	a) Not given b) Not given	a) 1980 b) 1984 Biopsies. 31-78 yr old patients, St. Francis Hospital, Monroe, Louisiana GC-EC

ADIPOSE TISSUE; ENVIRONMENTAL EXPOSURE; LOUISIANA; BIOPSIES; DDD; DDE; DDT; DIELDRIN; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE; POLYCHLORINATED BIPHENYLS; PESTICIDES; INDUSTRIAL CHEMICALS; BIOACCUMULATION; PESTICIDE RESIDUES; POPULATION EXPOSURE

Holt, R.L.; Cruse, S.; Greer, S. 1986 Bulletin of Environmental Contamination and Toxicology 36:651-655

Tissue	Cases Exposure Route	Range	Mean	General Information
12069 Milk, fat		Not given	<0.01 mg/kg	From 10 kg sample collected in 1978 and 1979 as part of WHO Collaborative Study on the Quantity and Quality of Breast Milk. New methodology. Lactating mothers, Uppsala, Sweden GC/MS

MILK; ENVIRONMENTAL EXPOSURE; ADULTS; SWEDEN; HEXACHLOROCYCLOHEXANE; DDE; DDD; DDT; OXYCHLORDANE; NONACHLOR; POLYCHLORINATED BIPHENYLS; INSECTICIDES; BIOACCUMULATION; LACTATION; PESTICIDE RESIDUES

Vaz, R.; Blomkvist, G. 1985 Chemosphere 14(2):223-231

Ethane, 1,1-dichloro-2,2-bis(p-chlorphenyl)- (8 Cl); Benzene, 1,1'-(2,2-dichloroethylidene)bis(4-chloro- (9 Cl)
72-54-8
C14-H10-Cl4
MW 320.05, MP 109-110 C, BP 193 C at 1 mm Hg

Tissue	Cases Exposure Route	Range	Mean	General Information
12070 Milk, whole	50	Not given	0.023 ppm	Samples collected between June 1983 and June 1984. Maximum, 0.256 ppm, 42% occurrence. No occupational exposures. Lactating mothers at 2 Baghdad maternity hospitals, 28 considered younger (</=30 yr old) and 22 older (31-45 yr old). GC

MILK; ENVIRONMENTAL EXPOSURE; ADULTS; IRAQ; ALDRIN; DIELDRIN; DDE; DDD; DDT; BIOACCUMULATION; LACTATION; CHLORINE ORGANIC COMPOUNDS
Al-Omar, M.A.; Tawfiq, S.J.; Al-Ogaily, N. 1985 Bulletin of Environmental Contamination and Toxicology 35:65-67

Ethane, 1,1,1-trichloro-
71-55-6
C2-H3-Cl3
MW 133.42, MP -30.41 C, BP 74.1 C, VP 100 mm Hg at 20 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12071 Blood	3 Inhalation	Not given	633.0+/-293.0 ug/l	Spraymen varnishing vehicles. Alkyl-, phenol- and polyester varnishes dissolved in solvent mixtures. Range of means. Also measured phenolic and carbonic metabolites of alkylbenzenes and benzene in urine. Not detected in 32 additional workers in 5 areas, detection limits not given. From a group of 24-52 yr olds (mean 38.8) employed 2-24 yr (mean 8.2). Summer, Autumn 1983 Altered blood cell counts, decreased hemoglobin level GC

OCCUPATIONAL EXPOSURE; BLOOD; URINE; OCCUPATIONAL HAZARDS; INHALATION; SOLVENTS; LEAD
Angerer, J.; Wulf, H. 1985 International Archives of Occupational and Environmental Health 56:307-321

Tissue	Cases Exposure Route	Range	Mean	General Information
12072 Blood, whole	250	a) Not detected-26 ng/mL b) Not given c) 0.5-5.9 ng/mL	a) 1.0 ng/mL b) 0.5 ng/mL c) Not given	a) Cases, test populations screened for volatile organics. In 5 cases levels were >2 S.D. above the mean, thus, most specimens not significantly different from one another b) 16 workers occupationally exposed at wire-manufacturing company c) Patient drinking contaminated water from municipal well in 1981. Contaminants included trichloroethane, ethylene. Range is of measurements on day 67 and day 0 after ceasing to drink contaminated water Values in b), c) estimated from graphs. Patients with high sensitivity to synthetic chemicals GC/MS

BLOOD; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; CHLORINATED HYDROCARBONS; BENZENES; STYRENES; INDUSTRIAL CHEMICALS; TOLUENE; XYLENE; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; WATER POLLUTION; DRINKING WATER
Antoine, S.R.; DeLeon, I.R.; O'dell-Smith, R.M. 1986 Bulletin of Environmental Contamination and Toxicology 36:364-371

Ethane, 1,1,1-trichloro-
71-55-6
C2-H3-Cl3
MW 133.42, MP -30.41 C, BP 74.1 C, VP 100 mm Hg at 20 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12073 Blood, whole	a) 39 b) 9 c) 3 d) 3 e) 3 f) 3	a) Not detected-3.4 ug/L b) 0.3-19.4 ug/L c) Not detected d) 0.1-5.0 ug/L e) 2.8-6.0 ug/L f) 0.1-1.1 ug/L	a) 0.2 ug/L b) Not given c) Not given d) Not given e) Not given f) Not given Median	a) Subjects with no occupational exposure to volatile halogenated hydrocarbons b) Motor vehicle mechanics c) Painters d) Precision instrument makers e) Dry-cleaners and pressers, shop A f) Dry-cleaners and pressers, shop B Detected in 23 cases of group a), upper normal limit (95th percentile) 2.1 ug/L. b)-f) sampled during work day after 4-6 hr potential exposure. Detection limit 0.1 ug/L. 23-54 yr old normal subjects, Dusseldorf area, and members of various occupational groups, FRG GC-EC

BLOOD; BLOOD SERUM; URINE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; GERMANY; CHLORINATED HYDROCARBONS; INDUSTRIAL CHEMICALS; SOLVENTS; FLUORINE COMPOUNDS; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIAL SOLVENTS; INDUSTRIES; OCCUPATIONAL HAZARDS

Hajimiragha, H.; Ewers, U.; Jansen-Rosseck, R.; Brockhaus, A. 1986 International Archives of Occupational and Environmental Health 58:141-150

Ethane, 1,1,1-trichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)- (8 CI); Benzene, 1-chloro-2-(2,2,2-trichloro-1-(4-chlorophenyl)ethyl)- (9 CI)
789-02-6
C14-H9-Cl5
MW 354.49, BP 74-74.5 C (cor)

Tissue	Cases Exposure Route	Range	Mean	General Information
12074 Adipose	29	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 0.039+/-0.023 ug/g b) 0.040+/-0.025 ug/g c) 0.042+/-0.020 ug/g d) 0.035+/-0.017 ug/g e) 0.035+/-0.017 ug/g f) 0.039+/-0.017 ug/g g) 0.049+/-0.029 ug/g h) 0.052+/-0.033 ug/g i) 0.050+/-0.025 ug/g Wet wt	a) All cases, 29 b) Sudden deaths, 18 c) Others, 11 d) All male cases, 19 e) Male sudden deaths, 12 f) Others, male, 7 g) All female cases, 10 h) Female sudden deaths, 6 i) Others, female, 4 Data compared with previously reported levels in accident victims. Autopsy samples from nonaccidental death victims in Canada. GC; TLC

ADIPOSE TISSUE; CANADA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; CADAVERS; COMPARATIVE EVALUATIONS; POLYCHLORINATED BIPHENYLS; PESTICIDES; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; OXYCHLORDANE; NONACHLOR; HEPTACHLOR EPOXIDE; DIELDRIN; DDE; DDT; BIOLOGICAL MONITORING; POPULATION EXPOSURE; BIOCONCENTRATION

Mes, J.; Davies, D.J.; Turton, D. 1985 Ecotoxicology and Environmental Safety 10:70-74

Ethane, 1,1,1-trichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)- (8 CI); Benzene, 1-chloro-2-(2,2,2-trichloro-1-(4-chlorophenyl)ethyl)- (9 CI)
789-02-6
C14-H9-Cl5
MW 354.49, BP 74-74.5 C (cor)

Tissue	Cases Exposure Route	Range	Mean	General Information
12075 Milk, fat		Not given	0.04 mg/kg	From 10 kg sample collected in 1978 and 1979 as part of WHO Collaborative Study on the Quantity and Quality of Breast Milk. New methodology. Lactating mothers, Uppsala, Sweden GC/MS

MILK; ENVIRONMENTAL EXPOSURE; ADULTS; SWEDEN; HEXACHLOROCYCLOHEXANE; DDE; DDD; DDT; OXYCHLORDANE; NONACHLOR; POLYCHLORINATED BIPHENYLS; INSECTICIDES; BIOACCUMULATION; LACTATION; PESTICIDE RESIDUES
Vaz, R.; Blomkvist, G. 1985 Chemosphere 14(2):223-231

Tissue	Cases Exposure Route	Range	Mean	General Information
12076 Milk, fat	15	0.02-0.30 mg/kg	0.04 mg/kg	Median was 0.13 mg/kg and mean, on whole milk basis, 1.02 ug/kg. General trend of decreasing levels shows effectiveness of restrictions or bans on use of these substances. 19-36 yr olds (mean 26), 2-12 wk post-parturition. Jerusalem, Israel GC-EC

MILK; ENVIRONMENTAL EXPOSURE; ISRAEL; POLYCHLORINATED BIPHENYLS; PESTICIDES; CHLORINE ORGANIC COMPOUNDS
Weisenberg, E.; Arad, I.; Grauer, F.; Sahm, Z. 1985 Archives of Environmental Contamination and Toxicology 14:517-521

Tissue	Cases Exposure Route	Range	Mean	General Information
12077 Milk, whole	50	Not given	0.032 ppm	Samples collected between June 1983 and June 1984. Maximum, 0.166 ppm, 76% occurrence. No occupational exposures. Lactating mothers at 2 Baghdad maternity hospitals, 28 considered younger (</=30 yr old) and 22 older (31-45 yr old). GC

MILK; ENVIRONMENTAL EXPOSURE; ADULTS; IRAQ; ALDRIN; DIELDRIN; DDE; DDD; DDT; BIOACCUMULATION; LACTATION; CHLORINE ORGANIC COMPOUNDS
Al-Omar, M.A.; Tawfiq, S.J.; Al-Ogaily, N. 1985 Bulletin of Environmental Contamination and Toxicology 35:65-67

Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)
50-29-3
C14-H9-Cl5
MW 354.50, MP 108.5-109 C, BP 260 C, VP 1.5X10(E-7) mm Hg at 20 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12078 Adipose	29	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 0.422+/-0.312 ug/g b) 0.427+/-0.266 ug/g c) 0.477+/-0.385 ug/g d) 0.326+/-0.228 ug/g e) 0.362+/-0.213 ug/g f) 0.320+/-0.273 ug/g g) 0.635+/-0.365 ug/g h) 0.572+/-0.311 ug/g i) 0.908+/-0.265 ug/g Wet wt	a) All cases, 29 b) Sudden deaths, 18 c) Others, 11 d) All male cases, 19 e) Male sudden deaths, 12 f) Others, male, 7 g) All female cases, 10 h) Female sudden deaths, 6 i) Others, female, 4 Data compared with previously reported levels in accident victims. Autopsy samples from nonaccidental death victims in Canada. GC; TLC

ADIPOSE TISSUE; CANADA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; CADAVERS; COMPARATIVE EVALUATIONS; POLYCHLORINATED BIPHENYLS; PESTICIDES; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; OXYCHLORDANE; NONACHLOR; HEPTACHLOR EPOXIDE; DIELDRIN; DDE; DDT; BIOLOGICAL MONITORING; POPULATION EXPOSURE; BIOCONCENTRATION

Mes, J.; Davies, D.J.; Turton, D. 1985 Ecotoxicology and Environmental Safety 10:70-74

Tissue	Cases Exposure Route	Range	Mean	General Information
12079 Adipose	a) 8 b) 10	a) Not detected-1.80 ppm b) Not detected-1.61 ppm	a) Not given b) Not given	a) 1980 b) 1984 Biopsies. 31-78 yr old patients, St. Francis Hospital, Monroe, Louisiana GC-EC

ADIPOSE TISSUE; ENVIRONMENTAL EXPOSURE; LOUISIANA; BIOPSIES; DDD; DDE; DDT; DIELDRIN; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE; POLYCHLORINATED BIPHENYLS; PESTICIDES; INDUSTRIAL CHEMICALS; BIOACCUMULATION; PESTICIDE RESIDUES; POPULATION EXPOSURE

Holt, R.L.; Cruse, S.; Greer, S. 1986 Bulletin of Environmental Contamination and Toxicology 36:651-655

Tissue	Cases Exposure Route	Range	Mean	General Information
12080 Adipose	26	0.79+/-0.75-0.85+/-0.52 ug/g	0.83+/-0.60 ug/g	1983 and 1984, range of means. Subcutaneous samples. 1983 subjects 45+/-13, 1984 subjects 60+/-16 yr old. Levels positively correlated with age, $p<0.05$. Mean levels for males (0.50+/-0.39 ug/) and for females (1.13+/-0.71 ug/g) significantly different, $p<0.002$. Surgical patients, University of Siena, Italy GC-EC

ADIPOSE TISSUE; ENVIRONMENTAL EXPOSURE; ITALY; SEX; AGE; HEXACHLOROBENZENE; DDE; DDT; LINDANE; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; PESTICIDE RESIDUES

Focardi, S.; Fossi, C.; Leonzio, C.; Romei, R. 1986 Bulletin of Environmental Contamination and Toxicology 36:644-650

Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 CI)
50-29-3
C14-H9-Cl5
MW 354.50, MP 108.5-109 C, BP 260 C, VP 1.5X10(E-7) mm Hg at 20 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12081 Aorta	2	a) 2 ppb-Not detected b) Not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Tissue	Cases Exposure Route	Range	Mean	General Information
12082 Blood, serum	3261	a) Not given b) Not given c) Not given d) 2-58 ppb	a) 2.7 ppb b) 3.0 ppb c) 3.5 ppb d) 3.3 ppb	a) 12-24 yr, 13.5%, 992 cases b) 25-44 yr, 28.4%, 920 cases c) 45-74 yr, 50.9%, 1349 cases d) 12-74 yr, 31.0%, 3261 cases Age group and % population exposed. Limit of detection 2 ppb. Subjects participating in the Second National Health and Nutrition Examination Survey, 1976-80. GC-EC

BLOOD SERUM; ENVIRONMENTAL EXPOSURE; UNITED STATES; ADOLESCENTS; ADULTS; AGE; DDT; DDE; DIELDRIN; HEXACHLOROBENZENE; NONACHLOR; HEPTACHLOR EPOXIDE; OXYCHLORDANE; BIOACCUMULATION; POPULATION EXPOSURE; PESTICIDE RESIDUES; PESTICIDES
Murphy, R.; Harvey, C. 1985 Environmental Health Perspectives 60:115-120

Tissue	Cases Exposure Route	Range	Mean	General Information
12083 Blood, serum	a) 79 b) 58	a) Not given b) Not given	a) 3.9+/-0.25 ppb b) 5.6+/-0.69 ppb S.E.	a) During spraying season b) During harvest season Reported cases are those with >trace levels, total of 567 individuals examined. Citrus fieldworkers in Florida, 1981

BLOOD SERUM; OCCUPATIONAL EXPOSURE; LINDANE; HEXACHLOROBENZENE; OXYCHLORDANE; HEPTACHLOR EPOXIDE; DDE; DDT; DIELDRIN; PESTICIDES; INSECTICIDES; BIOACCUMULATION; HEALTH HAZARDS; AGRICULTURE; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES
Griffith, J.; Duncan, R.C. 1985 Bulletin of Environmental Contamination and Toxicology 35:411-417

Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 Cl); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 Cl)
50-29-3
C14-H9-Cl5
MW 354.50, MP 108.5-109 C, BP 260 C, VP 1.5X10(E-7) mm Hg at 20 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12084 Colostrum	59	a) Not given b) Not given c) Not given	a) 20.00+/-3.13 ug/L b) 14.29+/-1.99 ug/L c) 0.72+/-0.13 ug/g S.E.	a) 11/82, 26 cases b) 6/83, 33 cases c) 6/83, 26 cases from b). Measured in fat Sampled 3 d after delivery. Spring and fall groups matched for age and wt at delivery, wt gain during pregnancy, and proportion of primiparous to multiparous mothers. Mean calculated intake for 3.5 kg newborn ingesting 60 ml/kg body wt colostrum: a) 1.20 ug/kg/d, b) 0.86 ug/kg/d. 17-36 yr old healthy nursing mothers, South Backa, Voyvodine, Yugoslavia GC-EC

COLOSTRUM; ENVIRONMENTAL EXPOSURE; YUGOSLAVIA; NEWBORN; PESTICIDES; PESTICIDE RESIDUES; DDE; DDT; BIOACCUMULATION; HEALTH HAZARDS; LACTATION
Vukavic, T.; Pavkov, S.; Cusic, S.; Roncevic, N.; Vojinovic, M.; Tokovic, B. 1986 Archives of Environmental Contamination and Toxicology 15:525-528

Tissue	Cases Exposure Route	Range	Mean	General Information
12085 Milk, fat		a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 0.5 mg/kg b) 1.8 mg/kg c) 0.3 mg/kg d) 1.1 mg/kg e) 0.2 mg/kg f) 0.2 mg/kg g) 0.7 mg/kg h) 0.1 mg/kg i) 0.2 mg/kg	a) Belgium b) China c) Germany d) India e) Israel f) Japan g) Mexico h) Sweden i) Yugoslavia Medians. Level reported by USA below 0.1 mg/kg, limit of detection. Estimated from graph. Participants in UNEP/WHO pilot project on biological monitoring.

MILK; ENVIRONMENTAL EXPOSURE; BELGIUM; CHINA; GERMANY; INDIA; ISRAEL; JAPAN; MEXICO; SWEDEN; YUGOSLAVIA; UNITED STATES; ADULTS; DDT; DDE; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; LACTATION
Slorach, S.A.; Vaz, R. 1985 Environmental Health Perspectives 60:121-126

Tissue	Cases Exposure Route	Range	Mean	General Information
12086 Milk, fat		Not given	0.30 mg/kg	From 10 kg sample collected in 1978 and 1979 as part of WHO Collaborative Study on the Quantity and Quality of Breast Milk. New methodology. Lactating mothers, Uppsala, Sweden GC/MS

MILK; ENVIRONMENTAL EXPOSURE; ADULTS; SWEDEN; HEXACHLOROCYCLOHEXANE; DDE; DDD; DDT; OXYCHLORDANE; NONACHLOR; POLYCHLORINATED BIPHENYLS; INSECTICIDES; BIOACCUMULATION; LACTATION; PESTICIDE RESIDUES
Vaz, R.; Blomkvist, G. 1985 Chemosphere 14(2):223-231

Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)- (8 Cl); Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-chloro- (9 Cl)
50-29-3
C14-H9-Cl5
MW 354.50, MP 108.5-109 C, BP 260 C, VP 1.5X10(E-7) mm Hg at 20 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12087 Milk, fat	90	0.01-1.40 mg/kg	0.29 mg/kg	Median was 0.20 mg/kg and mean, on whole milk basis, 8.46 ug/kg. General trend of decreasing levels shows effectiveness of restrictions or bans on use of these substances. 19-36 yr olds (mean 26), 2-12 wk post-parturition. Jerusalem, Israel GC-EC

MILK; ENVIRONMENTAL EXPOSURE; ISRAEL; POLYCHLORINATED BIPHENYLS; PESTICIDES; CHLORINE ORGANIC COMPOUNDS
Weisenberg, E.; Arad, I.; Grauer, F.; Sahm, Z. 1985 Archives of Environmental Contamination and Toxicology 14:517-521

Tissue	Cases Exposure Route	Range	Mean	General Information
12088 Milk, whole	140	a) 0.011+/-0.009-0.017+/-0.011 ppm b) 0.002-0.037 ppm c) 0.010+/-0.005-0.017+/-0.010 ppm d) 0.003-0.041 ppm	a) Not applicable b) 0.010+/-0.008 ppm c) Not applicable d) 0.009+/-0.008 ppm	a) Urban area, pre-and post-feeding collections, 43 and 42 samples b) Urban area, random times during feeding, 45 samples c) Rural area, same as a), 42 cases d) Rural area, same as b), 53 cases 50 ml samples collected from several feedings. Samples from d) from different donors than c). Ranges of means a), c). 19-41 yr old breast-feeding mothers, Western Australia. 1979-80. TLC/GC

MILK; ENVIRONMENTAL EXPOSURE; AUSTRALIA; DDT; HEXACHLOROBENZENE; ALDRIN; DIELDRIN; PESTICIDES; BIOLOGICAL MONITORING; BIOACCUMULATION; LACTATION; PESTICIDE RESIDUES; RURAL AREAS; URBAN AREAS
Stacey, C.I.; Perriman, W.S.; Whitney, S. 1985 Archives of Environmental Health 40(2):102-108

Tissue	Cases Exposure Route	Range	Mean	General Information
12089 Milk, whole	50	Not given	0.022 ppm	Samples collected between June 1983 and June 1984. Maximum, 0.116 ppm, 54% occurrence. No occupational exposures. Lactating mothers at 2 Baghdad maternity hospitals, 28 considered younger (</=30 yr old) and 22 older (31-45 yr old). GC

MILK; ENVIRONMENTAL EXPOSURE; ADULTS; IRAQ; ALDRIN; DIELDRIN; DDE; DDD; DDT; BIOACCUMULATION; LACTATION; CHLORINE ORGANIC COMPOUNDS
Al-Omar, M.A.; Tawfiq, S.J.; Al-Ogaily, N. 1985 Bulletin of Environmental Contamination and Toxicology 35:65-67

Ethanol, 2-butoxy-, phosphate (3:1)

78-51-3
C18-H39-O7-P
MW 398.54, MP -70 C, BP 200-230 C at 4 mm Hg, VP 0.03 mm Hg at 150 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12090 Adipose	115	a) 0.7-21.7 ng/g b) 0.9-142.2 ng/g c) 0.7-142.2 ng/g Extracted fat basis	a) 6.3+/-5.9 ng/g b) 16.6+/-32.2 ng/g c) 11.3+/-23.3 ng/g Extracted fat basis	a) Males b) Females c) All cases Autopsies. Levels <10 ng/g in 31 cases, not detected in 74 cases. Kingston and Ottawa, Eastern Ontario GC

ADIPOSE TISSUE; CANADA; AUTOPSIES; ORGANOPHOSPHATES; INDUSTRIAL CHEMICALS; BIOACCUMULATION; FIRE RETARDANTS

LeBel, G.L.; Williams D.T. 1986 Bulletin of Environmental Contamination and Toxicology 37:41-46

Ethanol, 2,2'-thiodi- (8 CI); Ethanol, 2,2'-thiobis- (9 CI)

111-48-8
C4-H10-O2-S
MW 122.18, MP -16 C, BP 168 C at 14 mm Hg

Tissue	Cases Exposure Route	Range	Mean	General Information
12091 Urine	a) 10 b) 7	a) 3-140 ng/ml b) 3-55 ng/ml	a) 47.8 ng/ml b) 14.4 ng/ml	a) Patients presumably exposed to mustard gas b) Unexposed controls Means calculated by extractor. Detection of this metabolite of mustard gas did not provide unambiguous verification of its use against the patients. Iranians allegedly attacked, 3/9/84. Unexposed controls. Determinations at Utrecht and Ghent Universities. GC/MS

URINE; ENVIRONMENTAL EXPOSURE; DELIBERATE EXPOSURE; MEASUREMENT METHODS

Wils, E.R.J.; Hulst, A.G.; de Jong, A.L.; Verweij, A.; Boter, H.L. 1985 Journal of Analytical Toxicology 9:254-257

Ethylene oxide (8 CI); Oxirane (9 CI)

75-21-8
C2-H4-O
MW 44.06, MP -112.5 C, BP 10.7 C, VP 20 mm Hg at 1095 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12092 Blood	9 Inhalation	a) Not detectable-31.6 ug/L b) Not detectable-54.2 ug/L c) Not detectable-41.5 ug/L d) 42.7-103.7 ug/L	a) 10.1+/-10.5 ug/L b) 21.0+/-20.4 ug/L c) 11.8+/-12.5 ug/L d) 60.9+/-20.5 ug/L	a) Corresponding mean environmental and alveolar levels were 3.8+/-3.0, 0.9+/-0.8 mg/cu m b) 4.2+/-3.8 and 1.5+/-2.1 mg/cu m d) 17.3+/-3.1 and 3.4+/-1.2 Hourly samples during workshift. Alveolar & blood levels correlated (r=0.744, n=36, P<0.001) and both with environmental levels (r=0.947, n=144, P<0.001. r=0.827, n=36, p<0.001). Workers in hospital sterilizer unit. GC

OCCUPATIONAL EXPOSURE; BLOOD; ETHYLENE OXIDE; OCCUPATIONAL HAZARDS; INHALATION

Brugnone, F.; Perbellini, L., Faccini, G., Pasini, F.; Bartolucci, G.B.; DeRosa, E. 1986 International Archives of Occupational and Environmental Health 58:105-112

Ethylene oxide (8 CI); Oxirane (9 CI)
75-21-8
C2-H4-O
MW 44.06, MP -112.5 C, BP 10.7 C, VP 20 mm Hg at 1095 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12093 Breath	10 Inhalation	0.05-3.5 ug/l	Not given	Alveolar air sampled hourly during work shift. Environmental air, sampled simultaneously at same place, had 0.2-14 ug/l. Highly significant correlation (r=0.94, n=.80, p<0.001) between alveolar and environmental levels. Ratio (0.24) unaffected by environmental level, duration of exposure, or alveolar ventilation. Alveolar retention averages about 75% of environmental level. Workers in hospital sterilizer unit GC

BREATH; OCCUPATIONAL EXPOSURE; GERMICIDE; BIOLOGICAL MONITORING; INHALATION
Brugnone, F.; Perbellini, L.; Faccini, G.; Pasini, F. 1985 American Journal of Industrial Medicine 8:67-72

Ethylene, tetrachloro- (8 CI); Ethene, tetrachloro- (9 CI)
127-18-4
C2-Cl4
MW 165.85, BP 121 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12094 Blood	1 Ingestion	21.5-<1.0 ug/ml	Not given	Values 1 hr and 7 days after accidentally drinking 8-10 ml pure tetrachloroethylene. Hyperventilation therapy for 5 days, discharged on day 9. 6 yr old boy, wt 22 kg Somnolence to coma. Pulse 88/min, respiration 20/min GC

ACCIDENTAL POISONING; DELIBERATE EXPOSURE; BLOOD; URINE; METABOLITES; INGESTION; CHLORINE ORGANIC COMPOUNDS
Koppel, C.; Arendt, U.; Koeppe, P. 1985 Clinical Toxicology 23(2-3):103-115

Tissue	Cases Exposure Route	Range	Mean	General Information
12095 Blood, whole	250	a) 0.7-23 ng/mL b) Not given c) 1.1-3.0 ng/mL	a) 2.4 ng/mL b) 1.9 ng/mL c) Not given	a) Cases, test populations screened for volatile organics. In 8 cases levels were >2 S.D. above the mean, thus, most specimens not significantly different from one another b) 16 workers occupationally exposed at wire-manufacturing company c) Patient drinking contaminated water from municipal well in 1981. Contaminants included trichloroethane, ethylene. Range is of measurements on day 67 and day 0 after ceasing to drink contaminated water Values in b), c) estimated from graphs. Patients with high sensitivity to synthetic chemicals GC/MS

BLOOD; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; CHLORINATED HYDROCARBONS; BENZENES; STYRENES; INDUSTRIAL CHEMICALS; TOLUENE; XYLENE; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; WATER POLLUTION; DRINKING WATER
Antoine, S.R.; DeLeon, I.R.; O'dell-Smith, R.M. 1986 Bulletin of Environmental Contamination and Toxicology 36:364-371

Ethylene, tetrachloro- (8 CI); Ethene, tetrachloro- (9 CI)
127-18-4
C2-Cl4
MW 165.85, BP 121 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12096 Blood, whole	a) 39 b) 9 c) 3 d) 3 e) 3 f) 3	a) Not detected-3.7 ug/L b) 1.7-29.2 ug/L c) 0.4-0.7 ug/L d) 0.5-1.1 ug/L e) 389.0-2497.9 ug/L f) 17.6-63.7 ug/L	a) 0.4 ug/L b) Not given c) Not given d) Not given e) Not given f) Not given Median	a) Subjects with no occupational exposure to volatile halogenated hydrocarbons b) Motor vehicle mechanics c) Painters d) Precision instrument makers e) Dry-cleaners and pressers, shop A f) Dry-cleaners and pressers, shop B Detected in 37 cases of group a), upper normal limit (95th percentile) 2.1 ug/L. b)-f) sampled during work day after 4-6 hr potential exposure. Tetrachloroethylene used as dry-cleaning agent in shop A, trichlorofluoromethane in shop B. Detection limit 0.1 ug/L. 23-54 yr old normal subjects, Dusseldorf area, and members of various occupational groups, FRG GC-EC

BLOOD; BLOOD SERUM; URINE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; GERMANY; CHLORINATED HYDROCARBONS; INDUSTRIAL CHEMICALS; SOLVENTS; FLUORINE COMPOUNDS; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIAL SOLVENTS; INDUSTRIES; OCCUPATIONAL HAZARDS

Hajimiragha, H.; Ewers, U.; Jansen-Rosseck, R.; Brockhaus, A. 1986 International Archives of Occupational and Environmental Health 58:141-150

Tissue	Cases Exposure Route	Range	Mean	General Information
12097 Breath	2 Inhalation	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given k) Not given	a) 0.25 ppm b) 2.5 ppm c) 7 ppm d) 5 ppm e) 2.5 ppm f) 0.3 ppm g) 0.1 ppm h) 8.5 ppm i) 14.9 ppm j) 1.6 ppm k) 0.2 ppm	a) 12 min, 51 ppm exposure, 1 case b) 60 min c) 90 min d) 130 min, end of exposure e) 160 min f) 350 min g) 20 min, 66 ppm exposure, 1 case h) 50 min i) 130 min, end of exposure j) 145 min k) 320 min After start of exposure. Estimated from graphs. Subjects enclosed in chamber, breathing air loaded with solvent. MS

BREATH; DELIBERATE EXPOSURE; CHLORINATED HYDROCARBONS; METHANOL; BIOLOGICAL MONITORING; INHALATION

Benoit, F.M.; Davidson, W.R.; Lovett, A.M.; Nacson, S.; Ngo, A. 1985 International Archives of Occupational and Environmental Health 55:113-120

Ethylene, tetrachloro- (8 CI); Ethene, tetrachloro- (9 CI)
127-18-4
C2-Cl4
MW 165.85, BP 121 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12098 Urine	1 Ingestion	a) 30-3 ug b) 3-192 ug c) 8-78 mg	a) Not given b) Not given c) Not given	a) Tetrachloroethylene excreted on days 1 and 3 b) Trichloroethanol excreted on days 1 and 3 c) Total trichloroacetic acid, trichloroethanol and their glucuronides (calculated as trichloroethylene), days 1 and 2. Measured after accidental ingestion of 8-10 ml pure tetrachloroethylene. 6 yr old boy, wt 22 kg Somnolence to coma. Pulse 88/min, respiration 20/min GC; Photometry

ACCIDENTAL POISONING; DELIBERATE EXPOSURE; BLOOD; URINE; METABOLITES; INGESTION; CHLORINE ORGANIC COMPOUNDS
Koppel, C.; Arendt, U.; Koeppe, P. 1985 Clinical Toxicology 23(2-3):103-115

Ethylene, trichloro- (8 CI); Ethene, trichloro- (9 CI)
79-01-6
C2-H-Cl3
MW 131.40, MP 73 C, BP 87.1 C, VP 100 mm Hg at 32 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12099 Blood, whole	250	a) Not detected-1.5 ng/mL b) Not given c) Not detected-0.7 ng/mL	a) 0.4 ng/mL b) 0.4 ng/mL c) Not given	a) Cases, test populations screened for volatile organics. In 13 cases levels were >2 S.D. above the mean, thus, most specimens not significantly different from one another b) 16 workers occupationally exposed at wire-manufacturing company c) Patient drinking contaminated water from municipal well in 1981. Contaminants included trichloroethane, ethylene. Range is of measurements on day 67 and day 0 after ceasing to drink contaminated water Values in b), c) estimated [illegible] graphs. Patients with high sensitivity to synthetic chemicals GC/MS

BLOOD; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; CHLORINATED HYDROCARBONS; BENZENES; STYRENES; INDUSTRIAL CHEMICALS; TOLUENE; XYLENE; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; WATER POLLUTION; DRINKING WATER
Antoine, S.R.; DeLeon, I.R.; O'dell-Smith, R.M. 1986 Bulletin of Environmental Contamination and Toxicology 36:364-371

Ethylene, trichloro- (8 CI); Ethene, trichloro- (9 CI)
79-01-6
C2-H-Cl3
MW 131.40, MP 73 C, BP 87.1 C, VP 100 mm Hg at 32 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12100 Blood, whole	a) 39 b) 9 c) 3 d) 3 e) 3 f) 3	a) Not detected-1.3 ug/L b) Not detected-0.2 ug/L c) Not detected d) 0.1-15.5 ug/L e) 0.9-1.6 ug/L f) 0.2-7.1 ug/L	a) Not detected b) Not given c) Not given d) Not given e) Not given f) Not given	a) Subjects with no occupational exposure to volatile halogenated hydrocarbons b) Motor vehicle mechanics c) Painters d) Precision instrument makers e) Dry-cleaners and pressers, shop A f) Dry-cleaners and pressers, shop B Detected in 12 cases of group a), upper normal limit (95th percentile) 0.5 ug/L. b)-f) sampled during work day after 4-6 hr potential exposure. Detection limit 0.1 ug/L. 23-54 yr old normal subjects, Dusseldorf area, and members of various occupational groups, FRG GC-EC

BLOOD; BLOOD SERUM; URINE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; GERMANY; CHLORINATED HYDROCARBONS; INDUSTRIAL CHEMICALS; SOLVENTS; FLUORINE COMPOUNDS; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIAL SOLVENTS; INDUSTRIES; OCCUPATIONAL HAZARDS
Hajimiragha, H.; Ewers, U.; Jansen-Rosseck, R.; Brockhaus, A. 1986 International Archives of Occupational and Environmental Health 58:141-150

Ethylene, 1,1-dichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)- (8 CI); Benzene, 1-chloro-2-(2,2-dichloro-1-(4-chlorophenyl)ethenyl)- (9 CI)
3424-82-6
C14-H8-Cl4
MW 318.03

Tissue	Cases Exposure Route	Range	Mean	General Information
12101 Colostrum	59	a) Not given b) Not given c) Not given	a) 0.73+/-0.11 ug/L b) 1.34+/-0.42 ug/L c) 0.09+/-0.03 ug/g S.E.	a) 11/82, 26 cases b) 6/83, 33 cases c) 6/83, 26 cases from b). Measured in fat Sampled 3 d after delivery. Spring and fall groups matched for age and wt at delivery, wt gain during pregnancy, and proportion of primiparous to multiparous mother. Mean calculated intake for 3.5 kg newborn ingesting 60 ml/kg body wt colostrum: a) 0.06 ug/kg/d, b) 0.08 ug/kg.d. 17-36 yr old healthy nursing mothers, South Backa, Voyvodine, Yugoslavia GC-EC

COLOSTRUM; ENVIRONMENTAL EXPOSURE; YUGOSLAVIA; NEWBORN; PESTICIDES; PESTICIDE RESIDUES; DDE; DDT; BIOACCUMULATION; HEALTH HAZARDS; LACTATION
Vukavic, T.; Pavkov, S.; Cusic, S.; Roncevic, N.; Vojinovic, M.; Tokovic, B. 1986 Archives of Environmental Contamination and Toxicology 15:525-528

Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(dichloroethenylidene)bis(4-chloro- (9 CI)
72-55-9
C14-H8-Cl4
MW 318.02, MP 88.4 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12102 Adipose	29	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 2.787+/-2.376 ug/g b) 2.964+/-1.797 ug/g c) 2.978+/-3.180 ug/g d) 2.406+/-1.964 ug/g e) 2.339+/-1.119 ug/g f) 3.089+/-2.982 ug/g g) 3.591+/-2.910 ug/g h) 4.215+/-2.200 ug/g i) 3.561+/-3.691 ug/g Wet wt	a) All cases, 29 b) Sudden deaths, 18 c) Others, 11 d) All male cases, 19 e) Male sudden deaths, 12 f) Others, male, 7 g) All female cases, 10 h) Female sudden deaths, 6 i) Others, female, 4 Data compared with previously reported levels in accident victims. Autopsy samples from nonaccidental death victims in Canada. GC; TLC

ADIPOSE TISSUE; CANADA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; CADAVERS; COMPARATIVE EVALUATIONS; POLYCHLORINATED BIPHENYLS; PESTICIDES; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; OXYCHLORDANE; NONACHLOR; HEPTACHLOR EPOXIDE; DIELDRIN; DDE; DDT; BIOLOGICAL MONITORING; POPULATION EXPOSURE; BIOCONCENTRATION

Mes, J.; Davies, D.J.; Turton, D. 1985 Ecotoxicology and Environmental Safety 10:70-74

Tissue	Cases Exposure Route	Range	Mean	General Information
12103 Adipose	a) 3 b) 2 c) 3 d) 15 e) 12 f) 15 g) 16 h) 24 i) 14 j) 5	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given	a) 319+/-28 ng/gm b) 457+/-104 ng/gm c) 871+/-332 ng/gm d) 1358+/-164 ng/gm e) 2006+/-385 ng/gm f) 4185+/-1232 ng/gm g) 5850+/-1807 ng/gm h) 3804+/-750 ng/gm i) 4302+/-748 ng/gm j) 12826+/-9802 ng/gm S.E.	a) 0-4 yr olds b) 4-9 c) 10-19 d) 20-29 e) 30-39 f) 40-49 g) 50-59 h) 60-69 i) 70-79 j) 80-89 Autopsy samples from anterior abdominal wall. Analyzed by sex, levels in h) were: 4866+/-1313 (S.E.) for 12 males, 2735+/-637 (S.E.) for 12 females. Texas Gulf coast residents GC-EC

ADIPOSE TISSUE; ENVIRONMENTAL EXPOSURE; TEXAS; AGE; AUTOPSIES; CHLORINE ORGANIC COMPOUNDS; PESTICIDES; HEXACHLOROBENZENE; DDE; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; PESTICIDE RESIDUES; POPULATION EXPOSURE

Ansari, G.A.S.; James, G.P.; Hu, L.A.; Reynolds, E.S. 1986 Bulletin of Environmental Contamination and Toxicology 36:311-316

Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(dichloroethenylidene)bis(4-chloro- (9 CI)
72-55-9
C14-H8-Cl4
MW 318.02, MP 88.4 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12104 Adipose	a) 8 b) 10	a) 4.80-16.22 ppm b) 1.10-7.72	a) Not given b) Not given	a) 1980 b) 1984 Biopsies. 31-78 yr old patients, St. Francis Hospital, Monroe, Louisiana GC-EC

ADIPOSE TISSUE; ENVIRONMENTAL EXPOSURE; LOUISIANA; BIOPSIES; DDD; DDE; DDT; DIELDRIN; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE; POLYCHLORINATED BIPHENYLS; PESTICIDES; INDUSTRIAL CHEMICALS; BIOACCUMULATION; PESTICIDE RESIDUES; POPULATION EXPOSURE
Holt, R.L.; Cruse, S.; Greer, S. 1986 Bulletin of Environmental Contamination and Toxicology 36:651-655

Tissue	Cases Exposure Route	Range	Mean	General Information
12105 Adipose	26	5.93+/-5.33-8.10+/-5.34 ug/g	7.35+/-5.36 ug/g	1983 and 1984, range of means. Subcutaneous samples. 1983 subjects 45+/-13, 1984 subjects 60+/-16 yr old. Levels positively correlated with age, $p<0.05$. Mean levels for males ((5.14+/-3.17 ug/g) and for females (9.94+/-6.32 ug/g) significantly different, $p<0.01$. Surgical patients, University of Siena, Italy GC-EC

ADIPOSE TISSUE; ENVIRONMENTAL EXPOSURE; ITALY; SEX; AGE; HEXACHLOROBENZENE; DDE; DDT; LINDANE; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; PESTICIDE RESIDUES
Focardi, S.; Fossi, C.; Leonzio, C.; Romei, R. 1986 Bulletin of Environmental Contamination and Toxicology 36:644-650

Tissue	Cases Exposure Route	Range	Mean	General Information
12106 Aorta	2	a) 30 ppb-Not detected b) 30 ppb-Not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(dichloroethenylidene)bis(4-chloro- (9 CI)
72-55-9
C14-H8-Cl4
MW 318.02, MP 88.4 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12107 Blood, serum	a) 300 b) 244	a) Not given b) Not given	a) 23.2+/-1.42 ppb b) 31.4+/-2.53 ppb S.E.	a) During spraying season b) During harvest season Reported cases are those with >trace levels, total of 567 individuals examined. Citrus fieldworkers in Florida, 1981

BLOOD SERUM; OCCUPATIONAL EXPOSURE; LINDANE; HEXACHLOROBENZENE; OXYCHLORDANE; HEPTACHLOR EPOXIDE; DDE; DDT; DIELDRIN; PESTICIDES; INSECTICIDES; BIOACCUMULATION; HEALTH HAZARDS; AGRICULTURE; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES
Griffith, J.; Duncan, R.C. 1985 Bulletin of Environmental Contamination and Toxicology 35:411-417

Tissue	Cases Exposure Route	Range	Mean	General Information
12108 Blood, serum	3366	a) Not given b) Not given c) Not given d) 1-378 ppb	a) 5.9 ppb b) 12.0 ppb c) 18.3 ppb d) 11.8 ppb	a) 12-24 yr, 99.3%, 1021 cases b) 25-44 yr, 99.3%, 949 cases c) 45-74 yr, 99.2%, 1396 cases d) 12-74 yr, 99.3%, 3366 cases Age group and % population exposed. Limit of detection 1 ppb. Subjects participating in the Second National Health and Nutrition Examination Survey, 1976-80. GC-EC

BLOOD SERUM; ENVIRONMENTAL EXPOSURE; UNITED STATES; ADOLESCENTS; ADULTS; AGE; DDT; DDE; DIELDRIN; HEXACHLOROBENZENE; NONACHLOR; HEPTACHLOR EPOXIDE; OXYCHLORDANE; BIOACCUMULATION; POPULATION EXPOSURE; PESTICIDE RESIDUES; PESTICIDES
Murphy, R.; Harvey, C. 1985 Environmental Health Perspectives 60:115-120

Tissue	Cases Exposure Route	Range	Mean	General Information
12109 Blood, serum	194	a) Not given b) 3.0-33.7 ppb c) 0.7-6.0 ppm	a) 10.8 ppb b) 10.1 ppb c) 2.0 ppm	a) Measured in 1976 b) 1979 c) 1979, lipid fraction Exposure ceased after 6/30/77. Extensive hematological data given. No evidence of health impairment. Workers in capacitor manufacturing plant, 152 males, 42 females, mean service 17 yr, mean age 40 yr. GC

BLOOD SERUM; OCCUPATIONAL EXPOSURE; NEW YORK; OCCUPATIONAL DISEASES; DDE; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; INDUSTRIES; INDUSTRIAL PLANTS; INDUSTRIAL ATMOSPHERES; HEALTH HAZARDS; OCCUPATIONAL HAZARDS
Lawton, R.W.; Ross, M.R.; Feingold, J.; Brown, J.F. 1985 Environmental Health Perspectives 60:165-184

Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(dichloroethenylidene)bis(4-chloro- (9 CI)
72-55-9
C14-H8-Cl4
MW 318.02, MP 88.4 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12110 Blood, serum		a) Not given b) Not given c) Not given	a) 3.95 ppb b) 12.60 ppb c) 9.69 ppb Median	a) Cord. 744 cases, maximum 76.0 ppb, 8% below detection limit b) Maternal, at birth. 872 cases, maximum 180.0 ppb c) Maternal, 6 wk postpatum. 802 cases, maximum 102.0 ppb Improved analytical method. 18-41 (median 27) yr old North Carolina residents GLC

MILK; BLOOD SERUM; PLACENTA; ENVIRONMENTAL EXPOSURE; CONSUMER EXPOSURE; NORTH CAROLINA; NEWBORN; COMPARATIVE EVALUATIONS; MEASUREMENT METHODS; POLYCHLORINATED BIPHENYLS; INSECTICIDES; BIOACCUMULATION; LACTATION; PESTICIDE RESIDUES; POPULATION EXPOSURE; SMOKING; TRANSPLACENTAL TRANSFER

Rogan, W.J.; Gladen, B.C.; McKinney, J.D.; Carreras, N.; Hardy, P.; Thullen, J.; Tingelstad, J.; Tully, M. 1986 American Journal of Public Health 76(2):172-177

Tissue	Cases Exposure Route	Range	Mean	General Information
12111 Colostrum	59	a) Not given b) Not given c) Not given	a) 68.63+/- ug/L b) 53.72+/-6.07 ug/L c) 2.72+/-0-35 ug/g S.E.	a) 11/82, 26 cases b) 6/83, 33 cases c) 6/83, 26 cases from b). Measured in fat Sampled 3 d after delivery. Spring and fall groups matched for age and wt at delivery, wt gain during pregnancy, and proportion of primiparous to multiparous mother. Mean calculated intake for 3.5 kg newborn ingesting 60 ml/kg body wt colostrum: a) 4./12 g/kg/d, b) 0.23.22 ug/kg.d. 17-36 yr old healthy nursing mothers, South Backa, Voyvodine, Yugoslavia GC-EC

COLOSTRUM; ENVIRONMENTAL EXPOSURE; YUGOSLAVIA; NEWBORN; PESTICIDES; PESTICIDE RESIDUES; DDE; DDT; BIOACCUMULATION; HEALTH HAZARDS; LACTATION

Vukavic, T.; Pavkov, S.; Cusic, S.; Roncevic, N.; Vojinovic, M.; Tokovic, B. 1986 Archives of Environmental Contamination and Toxicology 15:525-528

Tissue	Cases Exposure Route	Range	Mean	General Information
12112 Milk	40	Not given	78+/-14 ng/g S.E.	Survey from urban and rural areas on Lake Ontario (Rochester, Oswego) and mixed area on Hudson River (Albany). Total of 8 PCB congeners and p,p'-DDE comprised 88% of detected chlorinated hydrocarbons with DDE as primary pollutant. Mothers, 3 wk postpartum, New York, collections in 1979. Lake Ontario areas contaminated with Aroclor 1254 and 1260 type mixture and Hudson River with Aroclor 1242-type mixture. GC

MILK; NEW YORK; ENVIRONMENTAL EXPOSURE; URBAN AREAS; RURAL AREAS; WATER POLLUTION; DRINKING WATER

Bush, B.; Snow, J.; Connor, S.; Koblintz, R. 1985 Archives of Environmental Contamination and Toxicology 14:443-450

Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(dichloroethenylidene)bis(4-chloro- (9 CI)
72-55-9
C14-H8-Cl4
MW 318.02, MP 88.4 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12113 Milk, fat		Not given	1.4 mg/kg	From 10 kg sample collected in 1978 and 1979 as part of WHO Collaborative Study on the Quantity and Quality of Breast Milk. New methodology. Lactating mothers, Uppsala, Sweden GC/MS

MILK; ENVIRONMENTAL EXPOSURE; ADULTS; SWEDEN; HEXACHLOROCYCLOHEXANE; DDE; DDD; DDT; OXYCHLORDANE; NONACHLOR; POLYCHLORINATED BIPHENYLS; INSECTICIDES; BIOACCUMULATION; LACTATION; PESTICIDE RESIDUES
Vaz, R.; Blomkvist, G. 1985 Chemosphere 14(2):223-231

Tissue	Cases Exposure Route	Range	Mean	General Information
12114 Milk, fat		a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 1.0 mg/kg b) 4.4 mg/kg c) 1.2 mg/kg d) 4.7 mg/kg e) 2.1 mg/kg f) 1.5 mg/kg g) 2.8 mg/kg h) 1.6 mg/kg i) 1.9 mg/kg	a) Belgium b) China c) Germany d) India e) Israel f) Japan g) Mexico h) USA i) Yugoslavia Medians. Lowest level (0.7 mg/kg) reported by Sweden. Estimated from graph. Participants in UNEP/WHO pilot project on biological monitoring.

MILK; ENVIRONMENTAL EXPOSURE; BELGIUM; CHINA; GERMANY; INDIA; ISRAEL; JAPAN; MEXICO; SWEDEN; YUGOSLAVIA; UNITED STATES; ADULTS; DDT; DDE; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; LACTATION
Slorach, S.A.; Vaz, R. 1985 Environmental Health Perspectives 60:121-126

Tissue	Cases Exposure Route	Range	Mean	General Information
12115 Milk, fat	100	0.30-8.10 mg/kg	2.44 mg/kg	Median was 0.05 mg/kg and mean, on whole milk basis, 79.00 ug/kg. General trend of decreasing levels shows effectiveness of restrictions or bans on use of these substances. 19-36 yr olds (mean 26), 2-12 wk post-parturition. Jerusalem, Israel GC-EC

MILK; ENVIRONMENTAL EXPOSURE, ISRAEL; POLYCHLORINATED BIPHENYLS; PESTICIDES; CHLORINE ORGANIC COMPOUNDS
Weisenberg, E.; Arad, I.; Grauer, F.; Sahm, Z. 1985 Archives of Environmental Contamination and Toxicology 14:517-521

Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(dichloroethenylidene)bis(4-chloro- (9 CI)
72-55-9
C14-H8-Cl4
MW 318.02, MP 88.4 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12116 Milk, fat		a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 2.43 ppm b) 2.19 ppm c) 2.07 ppm d) 1.85 ppm e) 1.39 ppm f) 1.51 ppm g) 1.29 ppm Median	a) At birth. 733 cases, maximum 25.4 ppm b) 6 wk postpartum. 617 cases, maximum 25.7 ppm c) 3 mo. 498 cases, maximum 23.4 ppm d) 6 mo. 362 cases, maximum 22.5 ppm e) 9 mo. 62 cases, maximum 11.7 ppm f) 1 yr. 101 cases, maximum 12.7 ppm g) 18 mo. 32 cases, maximum 11.9 ppm Substantially higher levels in blacks (45% had >6 ppm) than whites (5% >6 ppm). Levels also increased with age, cigarette smoking, and consumption of sport fish during pregnancy. Data on siblings showed median 23% drop in levels between first and second lactations. Improved analytical method. 18-41 (median 27) yr old North Carolina residents GLC

MILK; BLOOD SERUM; PLACENTA; ENVIRONMENTAL EXPOSURE; CONSUMER EXPOSURE; NORTH CAROLINA; NEWBORN; COMPARATIVE EVALUATIONS; MEASUREMENT METHODS; POLYCHLORINATED BIPHENYLS; INSECTICIDES; BIOACCUMULATION; LACTATION; PESTICIDE RESIDUES; POPULATION EXPOSURE; SMOKING; TRANSPLACENTAL TRANSFER

Rogan, W.J.; Gladen, B.C.; McKinney, J.D.; Carreras, N.; Hardy, P.; Thullen, J.; Tingelstad, J.; Tully, M. 1986 American Journal of Public Health 76(2):172-177

Tissue	Cases Exposure Route	Range	Mean	General Information
12117 Milk, whole	140	a) 0.023+/-0.013-0.039+/-0.019 ppm b) 0.006-0.127 ppm c) 0.023+/-0.009-0.036+/-0.015 ppm d) 0.009-0.071 ppm	a) Not applicable b) 0.029+/-0.022 ppm c) Not applicable d) 0.024+/-0.011 ppm	a) Urban area, pre-and post-feeding collections, 43 and 42 samples b) Urban area, random times during feeding, 45 samples c) Rural area, same as a), 42 cases d) Rural area, same as b), 53 cases 50 ml samples collected from several feedings. Samples from d) from different donors than c). Ranges of means a), c). 19-41 yr old breast-feeding mothers, Western Australia. 1979-80. TLC/GC

MILK; ENVIRONMENTAL EXPOSURE; AUSTRALIA; DDT; HEXACHLOROBENZENE; ALDRIN; DIELDRIN; PESTICIDES; BIOLOGICAL MONITORING; BIOACCUMULATION; LACTATION; PESTICIDE RESIDUES; RURAL AREAS; URBAN AREAS

Stacey, C.I.; Perriman, W.S.; Whitney, S. 1985 Archives of Environmental Health 40(2):102-108

Tissue	Cases Exposure Route	Range	Mean	General Information
12118 Milk, whole	50	Not given	0.068 ppm	Samples collected between June 1983 and June 1984. Maximum, 0.183 ppm, 100% occurrence. No occupational exposures. Lactating mothers at 2 Baghdad maternity hospitals, 28 considered younger (</=30 yr old) and 22 older (31-45 yr old). GC

MILK; ENVIRONMENTAL EXPOSURE; ADULTS; IRAQ; ALDRIN; DIELDRIN; DDE; DDD; DDT; BIOACCUMULATION; LACTATION; CHLORINE ORGANIC COMPOUNDS

Al-Omar, M.A.; Tawfiq, S.J.; Al-Ogaily, N. 1985 Bulletin of Environmental Contamination and Toxicology 35:65-67

Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)- (8 CI); Benzene, 1,1'-(dichloroethenylidene)bis(4-chloro- (9 CI)
72-55-9
C14-H8-Cl4
MW 318.02. MP 88.4 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12119 Placenta		Not given	6.77 ppb Median	790 cases, maximum 73.9 ppb, 11% below detection limit. Improved analytical method. 18-41 (median 27) yr old North Carolina residents GLC
MILK; BLOOD SERUM; PLACENTA; ENVIRONMENTAL EXPOSURE; CONSUMER EXPOSURE; NORTH CAROLINA; NEWBORN; COMPARATIVE EVALUATIONS; MEASUREMENT METHODS; POLYCHLORINATED BIPHENYLS; INSECTICIDES; BIOACCUMULATION; LACTATION; PESTICIDE RESIDUES; POPULATION EXPOSURE; SMOKING; TRANSPLACENTAL TRANSFER Rogan, W.J.; Gladen, B.C.; McKinney, J.D.; Carreras, N.; Hardy, P.; Thullen, J.; Tingelstad, J.; Tully, M. 1986 American Journal of Public Health 76(2):172-177				

Europium
7440-53-1
Eu
AtW 151.96, MP 822 C (also reported as 826 C), BP 1597 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12120 Bronchoalveolar lavage	1	Not applicable	about 0.3 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old Rare-earth pneumoconiosis Micronodular lung changes, restrictive spirometric impairment NA
12121 Nail	1	Not applicable	673 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old Rare-earth pneumoconiosis Micronodular lung changes, restrictive spirometric impairment NA
BRONCHOALVEOLAR LAVAGE; NAILS; OCCUPATIONAL EXPOSURE; CASE HISTORIES; PNEUMOCONIOSIS; OCCUPATIONAL DISEASES; RESPIRATORY DISEASES; LAVAGE; CERIUM; LANTHANUM; TERBIUM; YTTERBIUM; SILVER; ARSENIC; GOLD; CADMIUM; COBALT; CHROMIUM; CESIUM; IRON; MERCURY; INDIUM; IRIDIUM; MOLYBDENUM; NICKEL; RUBIDIUM; ANTIMONY; SCANDIUM; SELENIUM; TIN; THORIUM; URANIUM; ZINC; TRACE ELEMENTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; SMOKING Sulotto, F.; Romano, C.; Berra, A.; Botta, G.C.; Rubino, G.F.; Sabbioni, E.; Pietra, R. 1986 American Journal of Industrial Medicine 9:567-575				

Ferritins
9007-73-2
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
12122 Blood, serum	a) 71 b) 46 Ingestion	a) Not given b) Not given	a) 25.4+/-15.96 ng/ml b) 39.5+/-21.5 ng/ml	a) Controls, never used contraceptive steroids b) Oral contraceptive agent (OCA) users, continuous for 3 or more yr Blood samples taken mid-menstrual cycle. Dietary Fe 13.2+/-5.1 mg/d (Controls) or 13.5+/-4.1 mg/d (OCA users). OCA users had short menstrual cycles, less loss of blood, enhanced iron status. Significant difference, $p<0.001$. Healthy volunteers, 17.7-25.9 yr old. ELISA

BLOOD SERUM; ADULTS; CALIFORNIA; IRON; ORAL CONTRACEPTIVES; BIOACCUMULATION; DIETS; MENSTRUATION
Frassinelli-Gunderson, E.P.; Margen, S.; Brown, J.R. 1985 American Journal of Clinical Nutrition 41:703-712

Fluorene (8 CI); 9H-Fluorene (9 CI)
86-73-7
C13-H10
MW 166.23, MP 116-117 C, BP 293-295 C, VP 10 mm Hg at 146 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12123 Aorta	2	a) 10 ppb-not detected b) Not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Fluoride
16984-48-8
F
AtW 18.9984

Tissue	Cases Exposure Route	Range	Mean	General Information
12124 Blood, serum	a) 1 b) 1 Inhalation Dermal	a) Not applicable b) Not applicable	a) 67 ng/ml b) 42 ng/ml	a) Case 1, shortly after accident b) Case 2, 1 yr after accident Subjects without protective equipment exposed to mixed sulfuric and hydrofluoric acid at (150 deg C) from an explosive leak. Local drinking water contained high background levels of fluoride. Workers at a fluorspar processing plant. In a), anuria, tracheobronchitis, hemorrhage in nasopharynx and bronchus, death. In b), reddened and eroded pharynx, larynx, and subglottis. 1 yr later, hoarseness, coughing, nasopharynx pain, nose bleeds, deposits on thickened vocal cords. In a), acid burns on face, neck, eyes, throat, upper respiratory tract, and legs. In b), flush on face, neck, throat and legs.
12125 Bone	1 Inhalation Dermal	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) 2,347 ug/g b) 2,407 ug/g c) 2,038 ug/g d) 2,252 ug/g Wet wt	a) Sternum b) Thoracic vertebra c) Iliac crest d) Femoral head Subject without protective equipment exposed to mixed sulfuric and hydrofluoric acid at (150 deg C) from an explosive leak. Local drinking water contained high background levels of fluoride. At autopsy. Death occurred 4 wk after accident. Worker at a fluorspar processing plant. Anuria, massive purulent tracheobronchitis, leucocytosis, hemorrhage in nasopharynx and respiratory tract, death. Acid burns on face, neck, eyes, throat, upper respiratory tract, and legs.
12126 Kidney	1 Inhalation Dermal	Not applicable	0.47 ug/g Wet wt	Subject without protective equipment exposed to mixed sulfuric and hydrofluoric acid at (150 deg C) from an explosive leak. Local drinking water contained high background levels of fluoride. At autopsy. Death occurred 4 wk after accident. Worker at a fluorspar processing plant. Anuria, massive purulent tracheobronchitis, leucocytosis, hemorrhage in nasopharynx and respiratory tract, death. Acid burns on face, neck, eyes, throat, upper respiratory tract, and legs.
12127 Liver	2 Inhalation Dermal	Not applicable	0.57 ug/g Wet wt	Subject without protective equipment exposed to mixed sulfuric and hydrofluoric acid at (150 deg C) from an explosive leak. Local drinking water contained high background levels of fluoride. At autopsy. Death occurred 4 wk after accident. Worker at a fluorspar processing plant. Anuria, massive purulent tracheobronchitis, leucocytosis, hemorrhage in nasopharynx and respiratory tract, death. Acid burns on face, neck, eyes, throat, upper respiratory tract, and legs.
12128 Lung	1 Inhalation Dermal	Not applicable	0.81 ug/g Wet wt	Subject without protective equipment exposed to mixed sulfuric and hydrofluoric acid at (150 deg C) from an explosive leak. Local drinking water contained high background levels of fluoride. At autopsy. Death occurred 4 wk after accident. Worker at a fluorspar processing plant. Anuria, massive purulent tracheobronchitis, leucocytosis, hemorrhage in nasopharynx and respiratory tract, death. Acid burns on face, neck, eyes, throat, upper respiratory tract, and legs.

(next page)

Fluoride
16984-48-8
F
AtW 18.9984

(continued)

Tissue	Cases Exposure Route	Range	Mean	General Information
12129 Urine	1 Inhalation Dermal	Not applicable	1.8 mg/l	5 d before accident Subject without protective equipment exposed to mixed sulfuric and hydrofluoric acid at (150 deg C) from an explosive leak. Local drinking water contained high background levels of fluoride. Worker at a fluorspar processing plant. Anuria, massive purulent tracheobronchitis, leucocytosis, hemorrhage in nasopharynx and respiratory tract, death. Acid burns on face, neck, eyes, throat, upper respiratory tract, and legs.

BLOOD SERUM; URINE; BONES; KIDNEYS; LIVER; LUNGS; OCCUPATIONAL EXPOSURE; ENVIRONMENTAL EXPOSURE; CASE HISTORIES; AUTOPSIES; BRONCHITIS; PULMONARY DISEASES; KIDNEY DISEASES; FLUORINE COMPOUNDS; INDUSTRIAL CHEMICALS; ACCIDENTAL POISONING; DIETS; DRINKING WATER; INDUSTRIAL ACCIDENTS; INHALATION

Braun, J.; Stoss, H.; Zober, A. 1984 Archives of Toxicology 56:50-54

Formaldehyde
50-00-0
C-H2-O
MW 30.03, MP -92 C, BP -19.5 C at 760 mm Hg, VP 10 mm Hg at -88 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12130 Blood	6 Inhalation	a) 2.05+/-0.16-3.09+/-0.41 ug/g b) 1.93+/-0.05-3.74+/-0.13 ug/g	a) 2.61+/-0.14 ug/g b) 2.77+/-0.28 ug/g	a) Before exposure b) After exposure Exposed to 1.90+/-0.96 ppm in walk-in chamber, 40 min. Venous blood. No statistically significant effect of exposure on levels. 24-44 yr olds (4 males, 73+/-7 kg, 2 females, 55+/-1 kg), non-smokers, Connecticut GC/MS

BLOOD; DELIBERATE EXPOSURE; INHALATION

Heck, H.A.; Casanova-Schmitz, M.; Dodd, P.B.; Schachter, E.N.; Witek, T.J.; Tosun, T. 1985 American Industrial Hygiene Association Journal 46(1):1-3

Glutamic acid, L- (8 CI); L-Glutamic acid (9 CI)
56-86-0
C5-H9-N-O4

Tissue	Cases Exposure Route	Range	Mean	General Information
12131 Blood, plasma	12 Ingestion	a) 0.051+/-0.004-0.082+/-0.010 umol/ml b) 0.086+/-0.012-0.139+/-0.035 umol/ml c) 0.088+/-0.010-0.069+/-0.007 umol/ml d) 0.083+/-0 014-0.164+/-0.030 umol/ml e) 0.276+/-0.037-0.069+/-0.010 umol/ml S.E.	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 0 and 60 min. Fed standard meal at 0 time, 17 controls b) 0 and 30 min. Fed, then given 43 mg monosodium glutamate/kg body wt c) 15 and 120 min. Fasting controls d) 0 and 30 min. Fasting, given 43 mg monosodium glutamate/kg body wt e) 30 and 120 min. Fasting, given 64 mg MSG/kg body wt Ranges of means. Crossover study, at least 7 d between each treatment. MSG given orally in bouillon at 1.5% solution. 20-35 yr old healthy volunteers, wt 50-75 kg. Controls Enzymatic

BLOOD PLASMA; DELIBERATE EXPOSURE; COMPARATIVE EVALUATIONS; FOOD ADDITIVES; METABOLISM
Ghezzi, P.; Bianchi, M.; Gianera, L.; Salmona, M.; Garattini, S. 1985 Food and Chemical Toxicology 23(11):975-978

Glyoxylic acid, phenyl- (8 CI); Benzeneacetic acid, alpha-oxo- (9 CI)
611-73-4
C8-H6-O3
MW 150.14, MP 66 C, BP 147-151 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12132 Urine	11	a) 32-367 mg b) 132-524 mg c) 176-443 mg d) 170-570 mg /g creatinine	a) 200+/-116 mg b) 273+/-110 mg c) 342+/-101 mg d) 336+/-120 mg /g creatinine	a) Post-shift sampling, March 1980 b) May 1982 c) December 1982 d) March 1983 After styrene exposures for 3-7 yr, median 4 yr. No adverse effects on peripheral nervous system if current allowable limit values are not exceeded. 24-54 yr old workers, polyester resin boat industry. HPLC

BLOOD; URINE; OCCUPATIONAL EXPOSURE; OCCUPATIONAL HAZARDS; STYRENES; INHALATION; GERMANY
Triebig, G.; Schaller, K.-H.; Valentin, H. 1985 International Archives of Occupational and Environmental Health 56:239-247

Tissue	Cases Exposure Route	Range	Mean	General Information
12133 Urine	4 Dermal	5.7-33.5 mg	8.6 mg	Diurnal excretion after 2-hr exposure to 1354-3180 mg/cu m styrene in air. Volunteers inside exposure chamber, wearing only shorts, breathing pure air through respirator. Highest exposure excluded from calculation of mean. Dermal vapour absorption coefficient 0.022 cu m/h. 25-35 yr old volunteers GC

URINE; DELIBERATE EXPOSURE; INDUSTRIAL MEDICINE; STYRENES; INDUSTRIAL CHEMICALS; BIOACCUMULATION; METABOLITES
Wieczorek, H. 1985 International Archives of Occupational and Environmental Health 57:71-75

Glyoxylic acid, phenyl- (8 CI); Benzeneacetic acid, alpha-oxo- (9 CI)

611-73-4
C8-H6-O3
MW 150.14, MP 66 C, BP 147-151 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12134 Urine	7 Inhalation	a) 8.0+/-3.2-11+/-5.1% b) 14+/-4.8-18+/-6.6% c) Not detected	a) 9.3% b) 17% c) Not applicable	a) Excretion during 8 hr exposure (0.5 hr break after first 4 hr). Air levels of styrene 20.5 and 96.2 mg/cu m, respectively b) During 24 hr from beginning of 8 hr exposure. Air levels 200 and 40.9 mg/cu m c) Controls Mean retention of styrene vapors in respiratory tract 70.8%. No correlation with level or duration of exposure. Detection limit <=1 mg/l. Volunteers and controls, Poland GC

URINE; DELIBERATE EXPOSURE; POLAND; STYRENES; INDUSTRIAL CHEMICALS; BIOACCUMULATION; INDUSTRIES; INHALATION; METABOLITES

Wieczorek, H.; Piotrowski, J.K. 1985 International Archives of Occupational and Environmental Health 57:57-69

Gold

7440-57-5
Au
AtW 196.9665, MP 1064.76 C, BP 2700 C, VP 1 mm Hg at 1869 C, 10 mm Hg at 2160 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12135 Bronchoalveolar lavage	1	Not applicable	0.8 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old NA

BRONCHOALVEOLAR LAVAGE; NAILS; OCCUPATIONAL EXPOSURE; CASE HISTORIES; PNEUMOCONIOSIS; OCCUPATIONAL DISEASES; RESPIRATORY DISEASES; LAVAGE; CERIUM; LANTHANUM; TERBIUM; YTTERBIUM; SILVER; ARSENIC; GOLD; CADMIUM; COBALT; CHROMIUM; CESIUM; IRON; MERCURY; INDIUM; IRIDIUM; MOLYBDENUM; NICKEL; RUBIDIUM; ANTIMONY; SCANDIUM; SELENIUM; TIN; THORIUM; URANIUM; ZINC; TRACE ELEMENTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; SMOKING

Sulotto, F.; Romano, C.; Berra, A.; Botta, G.C.; Rubino, G.F.; Sabbioni, E.; Pietra, R. 1986 American Journal of Industrial Medicine 9:567-575

Tissue	Cases Exposure Route	Range	Mean	General Information
12136 Hair	a) 10 b) 10	a) Not given b) Not given	a) 0.0113+/-0.0122 ug/g b) 0.033+/-0.0334 ug/g	a) Patients with multiple sclerosis b) Controls Significant difference. Patients and controls, matched for sex and age. NA

BLOOD; HAIR; ENVIRONMENTAL EXPOSURE; UNITED KINGDOM; NEUROMUSCULAR DISEASES; TRACE ELEMENTS; BIOACCUMULATION; BIOINDICATORS; ALUMINUM; ANTIMONY; ARSENIC; BARIUM; BROMINE; CESIUM; GOLD; IODINE; MANGANESE; MOLYBDENUM; SELENIUM; VANADIUM; ZINC; COPPER; IRON; MAGNESIUM; POTASSIUM; SULFUR

Ward, N.I.; Bryce-Smith, D.; Minski, M.; Matthews, W.B. 1985 Biological Trace Element Research 7:153-159

Gold
7440-57-5
Au
AtW 196.9665, MP 1064.76 C, BP 2700 C, VP 1 mm Hg at 1869 C, 10 mm Hg at 2160 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12137 Hair	a) 1 b) 1	a) 0.01-0.45 ppm b) 0.01-0.26 ppm	a) 0.20+/-0.22 ppm b) 0.12+/-0.13 ppm	a) Subject 1 b) Subject 2 Samples sent to 13 commercial laboratories for analysis. Values here are combined from all. Considerable variance within same laboratory, among different laboratories and disagreement about what was "normal" or "unusual". Authors conclude commercial use of hair analysis for management of disease, nutrition unscientific, uneconomical, probably illegal.

HAIR; ALUMINUM; ARSENIC; BERYLLIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; GOLD; IRON; LEAD; LITHIUM; MAGNESIUM; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; RUBIDIUM; SELENIUM; SILICON; SODIUM; TIN; VANADIUM; ZINC; ELEMENTS; TRACE ELEMENTS; METALS
Barrett, S. 1985 Journal of the American Medical Association 254(8):1041-1045

Hafnium
7440-58-6
Hf
MW 178.49, MP 2227+/-20 C, BP 4602 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12138 Bronchoalveolar lavage	1	Not applicable	<0.07 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old NA

BRONCHOALVEOLAR LAVAGE; NAILS; OCCUPATIONAL EXPOSURE; CASE HISTORIES; PNEUMOCONIOSIS; OCCUPATIONAL DISEASES; RESPIRATORY DISEASES; LAVAGE; CERIUM; LANTHANUM; TERBIUM; YTTERBIUM; SILVER; ARSENIC; GOLD; CADMIUM; COBALT; CHROMIUM; CESIUM; IRON; MERCURY; INDIUM; IRIDIUM; MOLYBDENUM; NICKEL; RUBIDIUM; ANTIMONY; SCANDIUM; SELENIUM; TIN; THORIUM; URANIUM; ZINC; TRACE ELEMENTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; SMOKING
Sulotto, F.; Romano, C.; Berra, A.; Botta, G.C.; Rubino, G.F.; Sabbioni, E.; Pietra, R. 1986 American Journal of Industrial Medicine 9:567-575

Hentriacontane
630-04-6
C31-H64

Tissue	Cases Exposure Route	Range	Mean	General Information
12139 Aorta	2	a) 70 ppb-Not detected b) Not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Heptadecanal
629-90-3
C17-H34-O

Tissue	Cases Exposure Route	Range	Mean	General Information
12140 Aorta	2	a) Not detected b) Not detected-50 ppb	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Heptadecane

629-78-7
C17-H36
MW 240.48, MP 22 C, BP 301.8 C, VP 1 mm Hg at 115 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12141 Aorta	2	a) 180 ppb-Not detected b) 20 ppb-Not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES

Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Heptadecanoic acid

506-12-7
C17-H34-O2
MW 270.44, MP 61 C, BP 227 C at 100 mm Hg

Tissue	Cases Exposure Route	Range	Mean	General Information
12142 Aorta	2	a) Not detected-30 ppb b) Not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES

Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Hexachlorocyclohexane, total (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12143 Blood, serum	a) 14 b) 19 c) 26 d) 19	a) 0-0.3700 ppm b) 0.0302-0.6640 ppm c) 0.083-0.6560 ppm d) 0.1950-1.1520 ppm	a) 0.0514 ppm b) 0.1436 ppm c) 0.2656 ppm d) 0.6040 ppm	a) Controls, no occupational contact b) Maintenance workers, 11-30 yr exposure c) Non-handlers, 0-30 yr exposures d) Handlers, 0-30 yr exposures Workers in HCH manufacturing plant and unexposed controls, India Majority in c,d) had paresthesia, headache, giddiness and some had malaise, tremors, apprehension, confusion, sleep loss, impaired memory, libido loss. Similar, but less severe in b) and in fewer cases. GLC

OCCUPATIONAL EXPOSURE; BLOOD SERUM; PESTICIDES; PESTICIDE RESIDUES; INDIA; HEXACHLOROCYCLOHEXANE; NEUROLOGIC MANIFESTATIONS

Nigam, S.K.; Karnik, A.B.; Majumder, S.K.; Visweswariah, K.; Raju, G.S.; Bai, K.M.; Lakkad, B.C.; Thakore, K.N.; Chatterjee, B.B. 1986 International Archives of Occupational and Environmental Health 57:315-320

Hexadecane
544-76-3
C16-H34
MW 226.45, MP 18.17 C, BP 287 C, VP 1 mm Hg at 105.3 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12144 Aorta	2	a) 40 ppb-Not detected b) 60 ppb-Not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES

Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Hexadecanoic acid, C12-14-alkyl esters
68411-91-6
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
12145 Aorta	2	a) 140 ppb-not detected b) Not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE, AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE, CHLOROBENZENES

Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Hippuric acid (8 CI); Glycine, N-benzoyl- (9 CI)
495-69-2
C9-H9-N-O3
MW 179.17, MP 187-188 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12146 Urine				Review. The occurrence and analysis of priority toxic pollutants in human urine, covering the ten-year period 1973-1983, is discussed.

URINE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; DELIBERATE EXPOSURE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PHTHALLIC ACIDS; PHENOLS; BIOACCUMULATION; PESTICIDES
Fatiadi, A.J. 1984 Environment International 10:175-205

Tissue	Cases Exposure Route	Range	Mean	General Information
12147 Urine	1 Inhalation	Not applicable	2.5 g/l	After sniffing glue for 6 hr. Uneventful recovery. 21 yr old punk rocker, six yr history of solvent abuse. Behavioral disturbances and respiratory arrest.

URINE; DELIBERATE EXPOSURE; SOLVENTS; DRUG ABUSE; HEALTH HAZARDS; INHALATION; FUMES
Cronk, L.S.; Barkley, D.E.H.; Farrell, M.F. 1985 British Medical Journal 290:897-898

Tissue	Cases Exposure Route	Range	Mean	General Information
12148 Urine	30	a) 0.30-1.32 g b) 0.52-2.05 g c) 0.15-1.09 g d) 0.27-1.39 g e) 0.52-2.29 g f) 0.19-1.15 g g) 0.10-0.82 g h) 0.46-2.16 g i) 0.21-0.89 g /g creatinine	a) 0.61+/-0.29 g b) 1.46+/-0.43 g c) 0.47+/-0.25 g d) 0.61+/-0.38 g e) 1.15+/-0.53 g f) 0.51+/-0.32 g g) 0.40+/-0.24 g h) 1.12+/-0.49 g i) 0.40+/-0.19 g /g creatinine	a) 14 workers, before exposure, Wednesday b) Same workers, after exposure c) 16 unexposed controls d) Before exposure, Thursday e) After exposure f) Unexposed controls g) 13 of same workers, before exposure, Friday h) After exposure i) Unexposed controls Means for workers, controls on Sat and Mon AM following exposure were: 0.52+/-0.50 g, 0.44+/-0.42 g and 0.42+/-0.17, 0.45+/-0.22 g, respectively. Levels statistically correlated with mean daily exposure. Exposed to toluene at levels well below current proposed TLV. Workers in printing plant where toluene used in diluting ink, and cleaning equipment HPLC

OCCUPATIONAL EXPOSURE; URINE; METABOLITES; OCCUPATIONAL HAZARDS; ITALY; TOLUENE; INHALATION
De Rosa, E.; Brugnone, F.; Perbellini, L.; Bellomo, M.L.; Gori, G.P.; Sigon, M.; Corona, P.C. 1985 International Archives of Occupational and Environmental Health 56:135-145

Hippuric acid (8 CI); Glycine, N-benzoyl- (9 CI)
495-69-2
C9-H9-N-O3
MW 179.17, MP 187-188 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12149 Urine	29	0.33-11.60 g/l	5.03+/-3.14 g/l	End of 8 hr shift. Metabolite. Mean air level of toluene 140 ppm (ambient monitoring). Average external exposure estimated at about 120 ppm. 6 samples with specific gravity <1.01 excluded from data. 23-57 (mean 43.7+/-9.2) yr old printing workers, duration of employment 2-30 (mean 22.9+/-14.7) yr GC

BLOOD; URINE; OCCUPATIONAL EXPOSURE; PHENOLS; INDUSTRIAL CHEMICALS; TOLUENE; BIOACCUMULATION; BIOLOGICAL MONITORING; HEALTH HAZARDS; INDUSTRIES; INHALATION; METABOLITES; OCCUPATIONAL HAZARDS; PRINTING INDUSTRY
Angerer, J. 1985 International Archives of Occupational and Environmental Health 56:323-328

Tissue	Cases Exposure Route	Range	Mean	General Information
12150 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982). GC

URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES
Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983

Indium
7440-74-6
In
AtW 114.76, MP 156.61 C, BP 2080 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12151 Bronchoalveolar lavage	1	Not applicable	<25 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old NA

BRONCHOALVEOLAR LAVAGE; NAILS; OCCUPATIONAL EXPOSURE; CASE HISTORIES; PNEUMOCONIOSIS; OCCUPATIONAL DISEASES; RESPIRATORY DISEASES; LAVAGE; CERIUM; LANTHANUM; TERBIUM; YTTERBIUM; SILVER; ARSENIC; GOLD; CADMIUM; COBALT; CHROMIUM; CESIUM; IRON; MERCURY; INDIUM; IRIDIUM; MOLYBDENUM; NICKEL; RUBIDIUM; ANTIMONY; SCANDIUM; SELENIUM; TIN; THORIUM; URANIUM; ZINC; TRACE ELEMENTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; SMOKING
Sulotto, F.; Romano, C.; Berra, A.; Botta, G.C.; Rubino, G.F.; Sabbioni, E.; Pietra, R. 1986 American Journal of Industrial Medicine 9:567-575

Iodine
7553-56-2
I
AtW 126.9045, MP 113.60 C, BP 185.24 C, VP (solid) 0.03 mm Hg at 0 C, 0.305 mm Hg at 25 C, 2.154 mm Hg at 50 C, 26.78 mm Hg at 90 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12152 Hair	a) 10 b) 10	a) Not given b) Not given	a) 0.70+/-0.49 ug/g b) 0.89+/-0.56 ug/g	a) Patients with multiple sclerosis b) Controls Significant difference, borderline. Patients and controls, matched for sex and age. NA

BLOOD; HAIR; ENVIRONMENTAL EXPOSURE; UNITED KINGDOM; NEUROMUSCULAR DISEASES; TRACE ELEMENTS; BIOACCUMULATION; BIOINDICATORS; ALUMINUM; ANTIMONY; ARSENIC; BARIUM; BROMINE; CESIUM; GOLD; IODINE; MANGANESE; MOLYBDENUM; SELENIUM; VANADIUM; ZINC; COPPER; IRON; MAGNESIUM; POTASSIUM; SULFUR
Ward, N.I.; Bryce-Smith, D.; Minski, M.; Matthews, W.B. 1985 Biological Trace Element Research 7:153-159

Tissue	Cases Exposure Route	Range	Mean	General Information
12153 Urine	55 Ingestion	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 48.8+/-4.7 b) 69.2+/-7.8 c) 42.2+/-4.7 d) 52.1+/-5.5 e) 41.8+/-3.5 f) 138.1+/-15.8 /g creatinine	a) Before supplementation, 0 wk, 19 cases b) Same cases, 4 wk after daily intake of 250 ml milk with 3.6 mg/l SCN- c) Before supplementation, 0 wk, 18 cases d) Same cases, 4 wk after daily intake of 250 ml milk with 19 mg/l SCN- e) Before supplementation, given 400 mg iodine, 0 wk, 18 cases f) Same cases, 4 wk after 400 mg iodine, then daily intake of 250 ml milk with 19 mg/l SCN-. Goitrous volunteers, 13-17 yr old, 31 males, 24 females in endemic goiter region, El Fasher, Sudan.

URINE; BLOOD SERUM; DELIBERATE EXPOSURE; ADOLESCENTS; SUDAN; NUTRITIONAL DEFICIENCIES; IODINE; THIOCYANATES; BIOACCUMULATION; DIETS; FOOD PRESERVATIVES; FOOD ADDITIVES; HORMONES
Dahlberg, P.-A.; Bergmark, A.; Eltom, M.; Bjorck, L; Claesson, O. 1985 American Journal of Clinical Nutrition 41:1010-1014

Iodine, isotope of mass 125
14158-31-7
I

Tissue	Cases Exposure Route	Range	Mean	General Information
12154 Thyroid gland		a) <=0.5 nCi b) 2-3 nCi c) 5-50 nCi d) Not given e) Not given f) <=50 nCi	a) Not given b) Not given c) Not given d) 18+/-4 nCi e) 7+/-1 nCi f) 32+/-8 nCi	a) Workers with no direct I-125 contact b) Workers handled low-activity samples for RIA c) Workers performed protein iodination d) 1 worker, routinely divided 5-10 mCi stock e) 1 worker, stopped doing iodination for 1 mo f) 1 worker, did 5 iodinations in 2 mo. Laboratory workers, England Thyroid counting

THYROID GLANDS; OCCUPATIONAL EXPOSURE; ADULTS; IODINE; RADIOISOTOPES; UNITED KINGDOM
Smith, T.; Zanelli, G.D. 1985 Health Physics 48(6):813-814

Iodine, isotope of mass 125
14158-31-7
I

Tissue	Cases Exposure Route	Range	Mean	General Information
12155 Thyroid gland	a) 3 b) 6 c) 20 d) 10 e) 3	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 74+/-40 pCi b) 14+/-10 pCi c) 3+/-3 pCi d) 3+/-2 pCi e) 0.8+/-0.6 pCi	a) Workers performing RIA iodinations weekly, using 5-10 mCi/iodination b) Workers performing monthly iodinations, using 0.5-1.0 mCi/iodination c) Laboratory workers making up I-125 solutions d) Laboratory workers handling radioisotopes, but not I-125 e) Controls Calculated annual dose below maximum dose permitted by International Commission on Radiological Protection. Laboratory workers handling radioisotopes. Scintillation counting

THYROID GLANDS; OCCUPATIONAL EXPOSURE; ADULTS; IODINE; BIOACCUMULATION; BIOLOGICAL MONITORING; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; RADIATION DOSES; RADIOISOTOPES
Kiviniitty K.; Nasman, P.; Leppaluoto, J. 1984 Health Physics 46(1);234-236

Tissue	Cases Exposure Route	Range	Mean	General Information
12156 Thyroid gland	39	2.7-35 mBq/g Dry wt	11.8 mBq/g Dry wt	Autopsies from general population in the Weybridge area. Total thyroid activities 5.9-163 mBq. Radioiodine, traced to the drinking water supply in the Thames Valley, discharged by sewage treatment works into the Thames. England

ENVIRONMENTAL EXPOSURE; POPULATION EXPOSURE; AUTOPSIES; THYROID GLANDS; IODINE; WATER POLLUTION; UNITED KINGDOM; ENGLAND; SCOTLAND; DRINKING WATER
Bowlt, C.; Howe, J.R. 1985 Lancet 2(8469/70):1420

Tissue	Cases Exposure Route	Range	Mean	General Information
12157 Thyroid gland	a) 3 b) 4 c) 10	a) 9-32 mBq/g b) 1-6 mBq/g c) <1-3 mBq/g Fresh wt	a) Not given b) Not given c) Not given	a) Subjects who died in a hospital b) Died at home in the street c) Died at home or in the street. Water supply partially or totally from Thames River Autopsies. Hospital contamination possible source of levels in a). 0.5-<39 mBq/L at various locations in drinking water supply to Thames basin. Residence time of water in Thames holding reservoirs 10-100 d. 38-85 yr old London-area residents

THYROID GLANDS; ENVIRONMENTAL EXPOSURE; UNITED KINGDOM; AUTOPSIES; IODINE; BIOACCUMULATION; DRINKING WATER; RADIOISOTOPES
Howe, J.R.; Lloyd, M.K. 1986 Science of the Total Environment 48:13-31

Iodine, isotope of mass 129

15046-84-1
I

Tissue	Cases Exposure Route	Range	Mean	General Information
12158 Thyroid gland	a) 14 b) 16	a) 1.1-16.3 mBq/g b) Not detected Dry wt	a) 5.7 mBq/g b) Not detected Dry wt	a) Autopsies from general population within 36 km of Sellafield nuclear reprocessing plant. Total thyroid activities 7.4-107.3 mBq b) Autopsies from Dumfries/Galloway area, 70 km north of plant. Detection limit 1.3 mBq/g. England; Scotland Scintillation counting

ENVIRONMENTAL EXPOSURE; POPULATION EXPOSURE; AUTOPSIES; THYROID GLANDS; IODINE; WATER POLLUTION; UNITED KINGDOM; ENGLAND; SCOTLAND; DRINKING WATER
Bowlt, C.; Howe, J.R. 1985 Lancet 2(8469/70):1420

Iodine, isotope of mass 131

10043-66-0
I

Tissue	Cases Exposure Route	Range	Mean	General Information
12159 Thyroid gland	1	Not applicable	0.3 uCi	Worker handled plastic vials and external tags used to store and label therapeutic I-131 capsules. Each mCi of capsule dose was associated with about 5 uCi external vial and 0.1 uCi tag contamination. Healthy adult, Medical Physics Section, Rhode Island Hospital Bioassay

THYROID GLANDS; OCCUPATIONAL EXPOSURE; ADULTS; IODINE; RADIOISOTOPES; OCCUPATIONAL HAZARDS
Shearer, D.R.; Donovan, G.L.; Moore, M.M. 1985 Health Physics 49(1):81-83

Iridium

7439-88-5
Ir
AtW 192.22, MP 2450 C, BP approximately 4500 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12160 Bronchoalveolar lavage	1	Not applicable	0.002 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old NA

BRONCHOALVEOLAR LAVAGE; NAILS; OCCUPATIONAL EXPOSURE; CASE HISTORIES; PNEUMOCONIOSIS; OCCUPATIONAL DISEASES; RESPIRATORY DISEASES; LAVAGE; CERIUM; LANTHANUM; TERBIUM; YTTERBIUM; SILVER; ARSENIC; GOLD; CADMIUM; COBALT; CHROMIUM; CESIUM; IRON; MERCURY; INDIUM; IRIDIUM; MOLYBDENUM; NICKEL; RUBIDIUM; ANTIMONY; SCANDIUM; SELENIUM; TIN; THORIUM; URANIUM; ZINC; TRACE ELEMENTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; SMOKING
Sulotto, F.; Romano, C.; Berra, A.; Botta, G.C.; Rubino, G.F.; Sabbioni, E.; Pietra, R. 1986 American Journal of Industrial Medicine 9:567-575

Iron
7439-89-6
Fe
AtW 55.847, MP 1535 C (pure), 1000-1300 C (cast), 1500 C (wrought), 1300 C (steel), BP 3000 C, VP 1 mm Hg at 1787 C, 10 mm Hg at 2040 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12161 Blood, serum	a) 71 b) 45 Ingestion	a) Not given b) Not given	a) 104.0+/-34.3 ug/dl b) 132.7+/-47.6 ug/dl	a) Controls, never used contraceptive steroids b) Oral contraceptive agent (OCA) users, continuous for 3 or more yr Blood samples taken mid-menstrual cycle. Dietary Fe 13.2+/-5.1 mg/d (Controls) or 13.5+/-4.1 mg/d (OCA users). OCA users had short menstrual cycles, less loss of blood, enhanced iron status. Significant difference, $p<0.001$. Healthy volunteers, 17.7-25.9 yr old.

BLOOD SERUM; ADULTS; CALIFORNIA; IRON; ORAL CONTRACEPTIVES; BIOACCUMULATION; DIETS; MENSTRUATION
Frassinelli-Gunderson, E.P.; Margen, S.; Brown, J.R. 1985 American Journal of Clinical Nutrition 41:703-712

Tissue	Cases Exposure Route	Range	Mean	General Information
12162 Blood, whole	a) 10 b) 10	a) Not given b) Not given	a) 462+/-28 ug/ml b) 480+/-26 ug/ml	a) Patients with multiple sclerosis b) Controls Significant difference, borderline. Patients and controls, matched for sex and age. NA

BLOOD; HAIR; ENVIRONMENTAL EXPOSURE; UNITED KINGDOM; NEUROMUSCULAR DISEASES; TRACE ELEMENTS; BIOACCUMULATION; BIOINDICATORS; ALUMINUM; ANTIMONY; ARSENIC; BARIUM; BROMINE; CESIUM; GOLD; IODINE; MANGANESE; MOLYBDENUM; SELENIUM; VANADIUM; ZINC; COPPER; IRON; MAGNESIUM; POTASSIUM; SULFUR
Ward, N.I.; Bryce-Smith, D.; Minski, M.; Matthews, W.B. 1985 Biological Trace Element Research 7:153-159

Tissue	Cases Exposure Route	Range	Mean	General Information
12163 Bronchoalveolar lavage	1	Not applicable	920 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old NA

BRONCHOALVEOLAR LAVAGE; NAILS; OCCUPATIONAL EXPOSURE; CASE HISTORIES; PNEUMOCONIOSIS; OCCUPATIONAL DISEASES; RESPIRATORY DISEASES; LAVAGE; CERIUM; LANTHANUM; TERBIUM; YTTERBIUM; SILVER; ARSENIC; GOLD; CADMIUM; COBALT; CHROMIUM; CESIUM; IRON; MERCURY; INDIUM; IRIDIUM; MOLYBDENUM; NICKEL; RUBIDIUM; ANTIMONY; SCANDIUM; SELENIUM; TIN; THORIUM; URANIUM; ZINC; TRACE ELEMENTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; SMOKING
Sulotto, F.; Romano, C.; Berra, A.; Botta, G.C.; Rubino, G.F.; Sabbioni, E.; Pietra, R. 1986 American Journal of Industrial Medicine 9:567-575

Iron
7439-89-6
Fe
AtW 55.847, MP 1535 C (pure), 1000-1300 C (cast), 1500 C (wrought), 1300 C (steel), BP 3000 C, VP 1 mm Hg at 1787 C, 10 mm Hg at 2040 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12164 Hair	10	16+/-3-144+/-90 ppm Dry wt	47+/-40 ppm Dry wt	Hair from 4 parts of scalp. Range of means. Mean for each case is average of levels measured monthly for 10-12 mo. Healthy adult Japanese, age 27-47 yr. AAS

HAIR; NAILS; ENVIRONMENTAL EXPOSURE; JAPAN; ADULTS; METALS; MERCURY; LEAD; CADMIUM; COPPER; NICKEL; IRON; ZINC; MANGANESE; BIOLOGICAL MONITORING; POPULATION EXPOSURE
Nishihara, T.; Watabe, K.; Ichikawa, T.; Kondo, M.; Fujii, M. 1985 Chemosphere 14(8):1133-1141

Tissue	Cases Exposure Route	Range	Mean	General Information
12165 Hair	a) 1 b) 1	a) 4.0-43.2 ppm b) 4.0-29.3 ppm	a) 15.5+/-8.2 ppm b) 12.8+/-5.80 ppm	a) Subject 1 b) Subject 2 Samples sent to 13 commercial laboratories for analysis. Values here are combined from all. Considerable variance within same laboratory, among different laboratories and disagreement about what was "normal" or "unusual". Authors conclude commercial use of hair analysis for management of disease, nutrition unscientific, uneconomical, probably illegal.

HAIR; ALUMINUM; ARSENIC; BERYLLIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; GOLD; IRON; LEAD; LITHIUM; MAGNESIUM; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; RUBIDIUM; SELENIUM; SILICON; SODIUM; TIN; VANADIUM; ZINC; ELEMENTS; TRACE ELEMENTS; METALS
Barrett, S. 1985 Journal of the American Medical Association 254(8):1041-1045

Tissue	Cases Exposure Route	Range	Mean	General Information
12166 Hair	a) 92 b) 55 c) 46 d) 457 e) 255	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 18.8 ppm b) 13.6 ppm c) 22.1 ppm d) 15.0 ppm e) 36.0 ppm	a) Canada b) U.S.A. c) Poland d) Japan e) India Part of international survey of 21 elements. Japanese, 2-80 yr olds. Rest were 30-60 yr old. ES; AAS

ENVIRONMENTAL EXPOSURE; HAIR; CANADA; UNITED STATES; POLAND; JAPAN; INDIA; MAGNESIUM; CALCIUM; PHOSPHORUS; SODIUM; POTASSIUM; IRON; COPPER; MANGANESE; ZINC; SELENIUM; CHROMIUM; NICKEL; COBALT; VANADIUM; LEAD; CADMIUM; ALUMINUM; ANTIMONY; MERCURY; TIN; ARSENIC; AGE; SEX; COMPARATIVE EVALUATIONS
Takagi, Y.; Matsuda, S.; Imai, S.; Ohmori, Y.; Masuda, T.; Vinson, J.A.; Mehra, M.C.; Puri, B.K.; Kaniewski, A. 1986 Bulletin of Environmental Contamination and Toxicology 36:793-800

Iron
7439-89-6
Fe
AtW 55.847, MP 1535 C (pure), 1000-1300 C (cast), 1500 C (wrought), 1300 C (steel), BP 3000 C, VP 1 mm Hg at 1787 C, 10 mm Hg at 2040 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12167 Hair	10	7.6-27.4 mg/kg Dry wt	16 mg/kg Dry wt	Autopsy samples. 48-62 yr old Caucasians, Sweden NA

HAIR; KIDNEYS; LIVER; SWEDEN; AUTOPSIES; SILVER; COBALT; CHROMIUM; IRON; MERCURY; ANTIMONY; SELENIUM; ZINC; MINERALS; TRACE ELEMENTS; BIOACCUMULATION
Muramatsu, Y.; Parr, R.M. 1985 International Atomic Energy Agency Report on the Second Research Co-ordination Meeting, Neuherberg, FRG, Sept 1985

Tissue	Cases Exposure Route	Range	Mean	General Information
12168 Kidney		a) 36-165 mg/kg b) 35-213 mg/kg c) 65-190 mg/kg d) 41-301 mg/kg Wet wt	a) 83 mg/kg b) 75 mg/kg c) 78 mg/kg d) 73 mg/kg Wet wt Median	a) Cortex, Kingston, 73 cases b) Ottawa, 64 cases c) Medulla, Kingston, 74 d) Ottawa, 61 Autopsy samples from normal subjects, Kingston and Ottawa, Ontario ICP-AES

KIDNEYS; LIVER; CANADA; AUTOPSIES; CALCIUM; POTASSIUM; MAGNESIUM; SODIUM; PHOSPHORUS; COPPER; IRON; MANGANESE; SELENIUM; ZINC; CADMIUM; MERCURY; LEAD
Subramanian, K.S.; Meranger, J.C.; Burnett, R.T. 1985 Science of the Total Environment 42:223-235

Tissue	Cases Exposure Route	Range	Mean	General Information
12169 Kidney	10	303-669 mg/kg Dry wt	470 mg/kg Dry wt	Autopsy samples. Cortex. 48-62 yr old Caucasians, Sweden NA

HAIR; KIDNEYS; LIVER; SWEDEN; AUTOPSIES; SILVER; COBALT; CHROMIUM; IRON; MERCURY; ANTIMONY; SELENIUM; ZINC; MINERALS; TRACE ELEMENTS; BIOACCUMULATION
Muramatsu, Y.; Parr, R.M. 1985 International Atomic Energy Agency Report on the Second Research Co-ordination Meeting, Neuherberg, FRG, Sept 1985

Tissue	Cases Exposure Route	Range	Mean	General Information
12170 Liver	a) 66 b) 62	a) 71-929 mg/kg b) 51-997 mg/kg Wet wt	a) 272 mg/kg b) 231 mg/kg Wet wt Median	a) Kingston b) Ottawa Autopsy samples from normal subjects, Kingston and Ottawa, Ontario ICP-AES

KIDNEYS; LIVER; CANADA; AUTOPSIES; CALCIUM; POTASSIUM; MAGNESIUM; SODIUM; PHOSPHORUS; COPPER; IRON; MANGANESE; SELENIUM; ZINC; CADMIUM; MERCURY; LEAD
Subramanian, K.S.; Meranger, J.C.; Burnett, R.T. 1985 Science of the Total Environment 42:223-235

Iron

7439-89-6
Fe
AtW 55.847, MP 1535 C (pure), 1000-1300 C (cast), 1500 C (wrought), 1300 C (steel), BP 3000 C, VP 1 mm Hg at 1787 C, 10 mm Hg at 2040 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12171 Liver	10	397-1800 mg/kg Dry wt	900 mg/kg Dry wt	Autopsy samples. 48-62 yr old Caucasians, Sweden NA

HAIR; KIDNEYS; LIVER; SWEDEN; AUTOPSIES; SILVER; COBALT; CHROMIUM; IRON; MERCURY; ANTIMONY; SELENIUM; ZINC; MINERALS; TRACE ELEMENTS; BIOACCUMULATION
Muramatsu, Y.; Parr, R.M. 1985 International Atomic Energy Agency Report on the Second Research Co-ordination Meeting, Neuherberg, FRG, Sept 1985

Tissue	Cases Exposure Route	Range	Mean	General Information
12172 Milk				Review of longitudinal changes of trace element components in human milk. Mean daily intakes of breast-fed, cow's milk-fed infants and recommended daily allowances compared. Determination of Se status and consequences of deficiency discussed.

MILK; REVIEW; TRACE ELEMENTS; IRON; COPPER; ZINC; MANGANESE; MOLYBDENUM; CHROMIUM; COBALT; ARSENIC; SELENIUM; ITALY; UNITED STATES; GREECE; INDIA; FINLAND; FRANCE
Roekens, E.; Deelstra, H.; Robberecht, H. 1985 Science of the Total Environment 42:91-108

Tissue	Cases Exposure Route	Range	Mean	General Information
12173 Milk	52 Ingestion	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 60 mM b) 35 mM c) 37 mM d) 39 mM e) 29 mM f) 30 mM g) 38 mM	a) 1 month b) 2 months c) 3 months d) 4 months e) 5 months f) 6 months g) 7-20 months Times postpartum. Half on normal diet, half on vegetarian diet. No significant differences due to diet. Lactating women, mean age 29 yr. AAS

MILK; ADULTS; DIETS; COMPARATIVE EVALUATIONS; IRON; COPPER; ZINC; SODIUM; POTASSIUM; CALCIUM; MAGNESIUM; MINERALS; TRACE ELEMENTS; LACTATION
Finley, D.A.; Lonnerdal, B.; Dewey, K.G.; Grivetti, L.E. 1985 Journal of Nutrition 115:772-781

L-Phenylethyleneglycol (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12174 Urine	a) 11 b) 6 c) 10 Inhalation	a) Not given b) Not given c) Not given	a) 17.03+/-15.20 mg/L b) 45.31+/-88.92 mg/L c) 0.96+/-0.31 mg/L	a) Males b) Females c) Male controls Metabolite. a), b) sampled after occupational exposure to approx 100 ppm styrene during 9 hr work shift. a), b) significantly higher than c), $p<0.001$. Enantiomer ratio L/D: a) 2.87+/-0.37, b) 3.24+/-0.49, c) 1.45+/-0.22. New analytical method. Test subjects and controls GC/MS

URINE; OCCUPATIONAL EXPOSURE; MEASUREMENT METHODS; STYRENES; INDUSTRIAL CHEMICALS; INHALATION; METABOLISM; METABOLITES; OCCUPATIONAL HAZARDS

Korn, M.; Wodarz, R.; Drysch, K.; Schoknecht, W.; Schmahl, F.W. 1986 Archives of Toxicology 58:110-114

Lanthanum

7439-91-0

La

AtW 138.906, MP 920 C, BP 3454 C, VP 3230 mm Hg at 400 C, 3420 mm Hg at 760 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12175 Blood, cells	a) 15 b) 8 c) 9	a) Not detected b) Not given c) Not given	a) Not detected b) 33.2+/-4.1 ng/mL c) 14.3+/-5.0 ng/mL	a) Laryngeal carcinoma patients b) Patients with localized inflammation c) Controls Erythrocyte hemolysate. b) significantly higher than c). Sensitivity of analysis 0.200 ng. 43-76 yr old carcinoma patients, 45-58 yr old patients with epicondylitis of elbow, 30-70 yr old controls NA
12176 Blood, plasma	a) 15 b) 8 c) 30	a) 42.1-81.0 ng/mL b) Not given c) Not given	a) 66.6+/-10.5 ng/mL b) 13.8+/-4.5 ng/mL c) 5.5+/-1.2 ng/mL	a) Laryngeal carcinoma patients b) Patients with localized inflammation c) Controls Significant differences between a) and b), a) and c), $p<0.001$. 43-76 yr old carcinoma patients, 45-58 yr old patients with epicondylitis of elbow, 30-70 yr old controls NA

BLOOD PLASMA; BLOOD; LARYNX; CARCINOMAS; COMPARATIVE EVALUATIONS; LANTHANUM; CERIUM; YTTERBIUM; TRACE ELEMENTS

Esposito, M.; Collecchi, P.; Brera, S.; Mora, E.; Mazzucotelli, A.; Cutolo, M.; Oddone, M. 1986 Science of the Total Environment 50:55-63

Lanthanum
7439-91-0
La
AtW 138.906, MP 920 C, BP 3454 C, VP 3230 mm Hg at 400 C, 3420 mm Hg at 760 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12177 Bronchoalveolar lavage	1	Not applicable	260 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old Rare-earth pneumoconiosis Micronodular lung changes, restrictive spirometric impairment NA

BRONCHOALVEOLAR LAVAGE; NAILS; OCCUPATIONAL EXPOSURE; CASE HISTORIES; PNEUMOCONIOSIS; OCCUPATIONAL DISEASES; RESPIRATORY DISEASES; LAVAGE; CERIUM; LANTHANUM; TERBIUM; YTTERBIUM; SILVER; ARSENIC; GOLD; CADMIUM; COBALT; CHROMIUM; CESIUM; IRON; MERCURY; INDIUM; IRIDIUM; MOLYBDENUM; NICKEL; RUBIDIUM; ANTIMONY; SCANDIUM; SELENIUM; TIN; THORIUM; URANIUM; ZINC; TRACE ELEMENTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; SMOKING

Sulotto, F.; Romano, C.; Berra, A.; Botta, G.C.; Rubino, G.F.; Sabbioni, E.; Pietra, R. 1986 American Journal of Industrial Medicine 9:567-575

Tissue	Cases Exposure Route	Range	Mean	General Information
12178 Larynx	15	a) 49-71 ng/g b) 69-108 ng/g	a) 57.5+/-7.3 ng/g b) 94.6+/-11.8 ng/g	a) Malignant tissue samples b) Normal adjacent tissue Mean difference, comparing b) to a) for the same patient: +36.9, $p<0.001$. 43-76 yr old laryngeal carcinoma patients NA

BLOOD PLASMA; BLOOD; LARYNX; CARCINOMAS; COMPARATIVE EVALUATIONS; LANTHANUM; CERIUM; YTTERBIUM; TRACE ELEMENTS

Esposito, M.; Collecchi, P.; Brera, S.; Mora, E.; Mazzucotelli, A.; Cutolo, M.; Oddone, M. 1986 Science of the Total Environment 50:55-63

Tissue	Cases Exposure Route	Range	Mean	General Information
12179 Lung		a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 6.5 ppm b) 8.4 ppm c) 12.8 ppm d) 11.0 ppm e) 8.4 ppm f) 6.2 ppm g) 10.1 ppm h) 5.0 ppm i) 10.0 ppm	a) Lung cancer, 7 cases b) GI cancer, 11 cases c) Other malignancies, 7 cases d) Cardiovascular disease, 8 cases f) Other causes, 5 cases g) All workers, 76 cases h) Matched controls from Burtrask and Jorn, 15 cases Controls from Stockholm, 10 cases. Values in all workers significantly different from control groups. Swedish Cu-smelter workers consecutively dead since 4/75. Means: age 68.1+/-9.1 (range 66.0+/-19.5-71.3+/-8.6), retired 7.2+/-5.9 yr (5.3+/-4.9-11.2+/-7.7), exposed 31.2+/-8.4 yr (25.8+/-10.5-32.1+/-9.3) NA

SWEDEN; OCCUPATIONAL EXPOSURE; LUNGS; SELENIUM; TIN; ARSENIC; CADMIUM; CHROMIUM; COBALT; LANTHANUM; LEAD; METALS; SMELTERS; OCCUPATIONAL HAZARDS; NEOPLASMS; AUTOPSIES; CARCINOGEN

Gerhardsson, L.; Brune, D.; Nordberg, I.G.F.; Wester, P.O. 1985 British Journal of Industrial Medicine 42:617-626

Lanthanum
7439-91-0
La
AtW 138.906, MP 920 C, BP 3454 C, VP 3230 mm Hg at 400 C, 3420 mm Hg at 760 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12180 Nail	1	Not applicable	4,440 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old Rare-earth pneumoconiosis Micronodular lung changes, restrictive spirometric impairment NA

BRONCHOALVEOLAR LAVAGE; NAILS; OCCUPATIONAL EXPOSURE; CASE HISTORIES; PNEUMOCONIOSIS; OCCUPATIONAL DISEASES; RESPIRATORY DISEASES; LAVAGE; CERIUM; LANTHANUM; TERBIUM; YTTERBIUM; SILVER; ARSENIC; GOLD; CADMIUM; COBALT; CHROMIUM; CESIUM; IRON; MERCURY; INDIUM; IRIDIUM; MOLYBDENUM; NICKEL; RUBIDIUM; ANTIMONY; SCANDIUM; SELENIUM; TIN; THORIUM; URANIUM; ZINC; TRACE ELEMENTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; SMOKING

Sulotto, F.; Romano, C.; Berra, A.; Botta, G.C.; Rubino, G.F.; Sabbioni, E.; Pietra, R. 1986 American Journal of Industrial Medicine 9:567-575

Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12181 Blood		a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 8.2 ug/dl b) 6.4 ug/dl c) 12.7 ug/dl d) 7.6 ug/dl e) 13.9 ug/dl f) 9.8 ug/dl g) 12.2 ug/dl h) 7.7 ug/dl Geometric	a) 307 males, 16-25 yr old b) 805 females c) 479 males, 36-45 yr old d) 500 females e) 555 males, 56-65 yr old f) 474 females g) Total, 2883 males, 0->/=66 yr old h) Total, 3554 females Additional data plus statistically based statements about effects of age, smoking, alcohol consumption on blood level included. Males, females from group of 6437 having general check-ups from 11/82-1/83 at 25 labs in Lorraine and Brittany, France AAS

LEAD; CADMIUM; BLOOD; SMOKING; ALCOHOLS; FRANCE

Grasmick, C.; Huel, G.; Moreau, T.; Sarmini, H. 1985 Science of the Total Environment 41:207-217

Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12182 Blood	a) 74 b) 59 c) 59 d) 56	a) <3.7 ug/dl b) 3.7-6.0 ug/dl c) 6.1-8.7 ug/dl d) >8.8 ug/dl	a) Not given b) Not given c) Not given d) Not given	Quartiles based on mean levels as measured every 6 mo from birth to 2 yr. No systematic variation with age, but significantly correlated with Pb content in indoor paint (p<.01) and with recent home refinishing activity. Ranges of means. Healthy subjects drawn from 11,837 consecutive births at Boston Hospital for Women between 4/79 and 4/81. ASV

BLOOD; ENVIRONMENTAL EXPOSURE; MASSACHUSETTS; AGE; NEWBORN; CHILDREN; LEAD; HEALTH HAZARDS; PAINTS
Rabinowitz, M.; Leviton, A.; Bellinger, D. 1985 American Journal of Public Health 75:403-404

Tissue	Cases Exposure Route	Range	Mean	General Information
12183 Blood	a) 46 b) 212 c) 126 d) 34 e) 7 f) 6	a) <0.60 umol/l b) 0.61-0.89 umol/l c) 0.90-1.19 umol/l d) 1.20-1.49 umol/l e) 1.50-1.79 umol/l f) >1.80 umol/l	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 127+/-3.6 mm Hg b) 130+/-1.8 mm Hg c) 133+/-2.4 mm Hg d) 139+/-4.8 mm Hg c) 143+/-13.6 mm Hg f) 130+/-5.4 mm Hg Systolic blood pressure. Study suggests parallel rise in blood Pb and blood pressure is displayed most clearly in young (<45 yr old) subjects. Employees of Paris, France, Civil Service, 24-55 yr old (mean 41.4 yr), not occupationally exposed. AAS

BLOOD; ENVIRONMENTAL EXPOSURE; FRANCE; HYPERTENSION; LEAD POISONING; LEAD; METALS; BIOACCUMULATION; BLOOD PRESSURE; HEALTH HAZARDS
Orssaud, G.; Claude, J.R.; Moreau, T.; Lellouch, J.; Juguet, B.; Festy, B. 1985 British Medical Journal 290(6463):244

Tissue	Cases Exposure Route	Range	Mean	General Information
12184 Blood	25	a) Not given b) Not given c) Not given d) Not given	a) 35.0+/-10.04 ug/dl b) 26.3+/-3.40 ug/dl c) 25.7+/-8.64 ug/dl d) 24.3+/-5.10 ug/dl	a) Baseline, history of lead poisoning, 14 cases b) Baseline, etiology unknown, 11 cases c) 12 wk, treatment, lead poisoning, 114 cases d) 12 wk, placebo, etiology unknown, 11 cases Treatment was 250 mg penicillamine b.i.d. (children <27.3 kg wt) or t.i.d. (children >/=27.3 kg wt) for 4 wk, placebo for 4 wk, and drug for 4 wk. Reduction in levels associated with hyperactive behavior moderation. Hyperactive children, 13 males, 1 female, 8.6+/-1.6 yr old, 9 black, 4 hispanic, 1 white, treated group, or 10 males, 1 female, 7.8+/-1.7 yr old, 8 black, 1 hispanic, 2 white, untreated group. AAS

BLOOD; ENVIRONMENTAL EXPOSURE; CHILDREN; NEW YORK; LEAD POISONING; BEHAVIOR DISORDERS; METAL POISONING; LEAD; BIOACCUMULATION; ACCIDENTAL POISONING; PICA
David, O.J.; Katz, S.; Arcoleo, C.G.; Clark, J. 1985 Archives of Environmental Health 40(2):109-113

Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12185 Blood	74 21 controls	a) Not given b) Not given c) Not given	a) 14.5+/-4.5 ug/dl b) 19.6+/-6.7 ug/dl c) 11.6+/-2.6 ug/dl	a) Patients, 1983 b) Patients, 1980 c) Controls, 1983 Significant difference between a) and c). Patients' original lead levels were>/=100 ug/dl, 9-17 yr earlier. Patients with previously detected (ages 1-6 yr) and treated poisoning. Sibling controls had no history of elevated levels. 16.1+/-2.2 yr olds AAS

BLOOD; ENVIRONMENTAL EXPOSURE; ILLINOIS; ADOLESCENTS; CASE HISTORIES; COMPARATIVE EVALUATIONS; LEAD; BIOLOGICAL MONITORING
Moel, D.I.; Sachs, H.K.; Cohn, R.A.; Drayton, M.A. 1985 Journal of Pediatrics 106(5):729-733

Tissue	Cases Exposure Route	Range	Mean	General Information
12186 Blood	71	a) 1-29 ug/dL b) 1-28 ug/dL c) 1-34 ug/dL d) 1-55 ug/dL e) 5-46 ug/dL f) 3-56 ug/dL	a) 5.5+/-2.0 ug/dL b) 5.7+/-2.0 ug/dL c) 7.7+/-2.0 ug/dL d) 11.6+/-1.9 ug/dL e) 15.2+/-1.7 ug/dL f) 16.8+/-1.7 ug/dL	a) Age 10 d b) 3 mo c) 6 mo d) 9 mo e) 12 mo f) 15 mo Geometric means. Positive correlation between lead levels and parental behavior after 6 mo of age. Infants residing in lead hazardous areas of Cincinnati, excluding high risk cases. ASV

BLOOD; ENVIRONMENTAL EXPOSURE; OHIO; INFANTS; COMPARATIVE EVALUATIONS; LEAD; BIOLOGICAL MONITORING; DUST; PAINTS; PICA; BIOCONCENTRATION; CASE HISTORIES
Dietrich, K.N.; Krafft, K.M.; Pearson, D.T.; Harris, L.C.; Bornschein, R.L.; Hammond, P.B.; Succop, P. 1985 Pediatrics 75(6):1114-1119

Tissue	Cases Exposure Route	Range	Mean	General Information
12187 Blood	1 Ingestion	Not given	214 ug/dl	Postmortem examination. Normal range 0-30 ug/dl. Had been given folk remedies from India since 2 mo of age. 9 mo old Asian Indian boy, Florida Became lethargic and stopped crawling at 8 mo follwed by tremors and refusal of food. One mo later, he had seizures and was hospitalized. Died 2 d later.

BLOOD; URINE; LIVER; KIDNEYS; LEAD; FLORIDA; INFANTS; CASE HISTORIES; AUTOPSIES; LEAD POISONING; DELIBERATE EXPOSURE; ACCIDENTAL POISONING; BIOACCUMULATION
Colgrove, M.L.; Zinion, M. 1985 Veterinary and Human Toxicology 27(1):63

Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12188 Blood	47	0.5-3.4 umol/l (10-70 ug/100 ml)	1.4 umol (30 ug/100 ml)	Levels in air were below the current standard (0.15 mg/cu m) No correlation between levels/type or duration of work. Smokers had higher levels. Workers in stained glass workshops, 39 males, 8 females.

BLOOD; OCCUPATIONAL EXPOSURE; ADULTS; UNITED KINGDOM; LEAD POISONING; LEAD; METALS; BIOACCUMULATION; INDUSTRIAL ATMOSPHERES; INDUSTRIAL POLLUTION; INDUSTRIES
Baxter, P.J.; Samuel, A.M.; Holkham, M.P.E. 1985 British Medical Journal 291(6492):383

Tissue	Cases Exposure Route	Range	Mean	General Information
12189 Blood	a) 10 b) 4	a) 25-53 ug/dl b) 7-12 ug/dl	a) 37.8+/-9.3 ug/dl b) 10.0+/-2.1 ug/dl	a) Workers actively engaged in shipfitting using traditional methods. Personal air levels 108-500 ug/cu m (mean 257 ug/cu m) b) Workers in other shipyard areas. Occasional contact with Pb, but not heated or as fumes Levels significantly higher in smoking than in nonsmoking shipfitters (46.8 vs 31.8 ug/dl). Neither respirator use nor frequent hand-washing significantly reduced levels. Neither hr/wk nor total duration of exposure related to levels. Close correlation between levels and erythrocyte protoporphyrin. Shipyard workers, Mystic Seaport, CT Headache, decreased appetite, abdominal pain, muscle weakness, insomnia, joint pain and irritability in both groups. ASV

BLOOD; OCCUPATIONAL EXPOSURE; CONNECTICUT; LEAD; FUMES; HEALTH HAZARDS; INDUSTRIES; INHALATION; OCCUPATIONAL HAZARDS
Landrigan, P.J.; Straub, W.E. 1985 American Journal of Industrial Medicine 8:233-239

Tissue	Cases Exposure Route	Range	Mean	General Information
12190 Blood	236	a) >40 ug/100 ml b) >40 ug/100 ml c) >40 ug/100 ml d) <=40 ug/100 ml e) <=40 ug/100 ml f) <=40 ug/100 ml g) <=40 ug/100 ml h) <=35 ug/100 ml	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) Factory A, 19.3% of workers b) Factory B, 62.9% c) Factory C, 35.2% d) 59.0% of glazers e) 68.5% of kiln operators f) 61.7% of maintenance staff g) 88.5% of selectors h) 96% of controls Workers from all 3 factories included in d)-g). In h) non-ceramic factory workers living in same rural area, 51 cases. Discusses possible reasons for elevated levels at some factories. Ceramic factory workers, Italy AAS

BLOOD; URINE; OCCUPATIONAL EXPOSURE; ITALY; ADULTS; COMPARATIVE EVALUATIONS; INDUSTRIAL HYGIENE; LEAD; BIOLOGICAL MONITORING; INDUSTRIAL PLANTS
Cornelio, G.; De Zotti, R.; Patussi, V.; Cociancich, L; Furlan, G. 1985 International Archives of Occupational and Environmental Health 55:207-215

Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12191 Blood		a) 4-30 ug/100 mL b) 4-30 ug/100 mL c) 4.4-23.8 ug/100 mL	a) 9.3 ug/100 mL b) 8.2+/-1.6 ug/100 mL c) 8.2+/-1.6 ug/100 mL	a) 383 mothers b) 114 of their newborn infants, cord blood c) Same 114 at age 6-7 Lead-zinc smelter in city. Mothers and children, Nordenham, FRG Effects on psychological performance. Degree of association stronger for present Pb than perinatal Pb levels. AAS

BLOOD; ENVIRONMENTAL EXPOSURE; GERMANY; CHILDREN; NEWBORN; LEAD; BIOACCUMULATION; INDUSTRIES; POPULATION EXPOSURE; TRANSPLACENTAL TRANSFER
Winneke, G.; Beginn, U.; Ewert, T.; Havestadt, C.; Kraemer, U.; Krause, C.; Thron, H.L.; Wagner, H.M.; 1985 Environmental Research 38:155-167

Tissue	Cases Exposure Route	Range	Mean	General Information
12192 Blood		a) 66.4-36.8 ug/dl b) 54.8-32.7 ug/dl c) 46.1-31.7 ug/dl d) 36.8-24.3 ug/dl e) 31.4-23.5 ug/dl f) 25.1-21.5 ug/dl	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable	a) Melter, 5 and 7 cases b) Grinder, 8 and 11 cases c) Maintenance, 3 and 8 cases d) Hunter operator, 3 and 6 cases e) Coremaker, 7 and 18 cases f) Unexposed workers, 14 and 61 cases Ranges of means. Initiavvl (1980) and final (1982) measurements. Foundry, assembly plant workers. Improvement in hygienic conditions at plant end of 1st yr. Highest level found dropped from 80 ug/dl, 1st yr, to 50 ug/dl, 3rd yr. Workers evaluated in 1980-81, follow up in 81 and 82. Dose-dependent decrements in mood, visual/motor performance, memory, verbal concept formation. ASV; Spectrofluorimetry

BLOOD; OCCUPATIONAL EXPOSURE; DEPRESSION; INDUSTRIAL HYGIENE; LEAD; BIOLOGICAL MONITORING; FOUNDRIES; INDUSTRIAL ATMOSPHERES; INDUSTRIAL PLANTS; INDUSTRIES; HEALTH HAZARDS; OCCUPATIONAL HAZARDS
Baker, E.L.; White, R.F.; Pothier, L.J.; Berkey, C.S.; Dinse, G.E.; Travers, P.H.; Harley, J.P.; Feldman, R.G. 1985 British Journal of Industrial Medicine 42:507-516

Tissue	Cases Exposure Route	Range	Mean	General Information
12193 Blood	14	4.38-24.7 ug/100 g	Not given	1-3 ml samples. All 4 naturally occurring isotopes measured. Ratios suggest 0-57% body burden contributed by recent gasoline emissions. 2-6 yr old black children, Washington, DC MS

BLOOD; DISTRICT OF COLUMBIA; ENVIRONMENTAL EXPOSURE; CHILDREN; LEAD; BIOACCUMULATION; AIR POLLUTION; GASOLINE; INHALATION; RISK ASSESSMENT
Tera, O.; Schwartzman, D.W.; Watkins, T.R. 1985 Archives of Environmental Health 40(2):120-123

Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12194 Blood	131 Ingestion	a) Not given b) Not given c) Not given d) Not given	a) 0.19 mg/l b) 0.21 mg/l c) 0.21 mg/l d) 0.20 mg/l	a) Mothers' blood registration at antenatal clinic b) Mothers' blood at birth of infants c) Cord blood d) Mothers' blood, about 12 wk post-delivery Some of data from diet study of effect of Pb in drinking water on levels in infants. Study concluded upper guide value of 0.05 mg/l in drinking water. Glasgow, Scotland, 1979-80

LEAD; ENVIRONMENTAL EXPOSURE; BLOOD; SCOTLAND; INFANTS; ADULTS; WATER POLLUTION; DRINKING WATER; DIETS
Lacey, R.F.; Moore, M.R.; Richards, W.N. 1985 Science of the Total Environment 41:235-257

Tissue	Cases Exposure Route	Range	Mean	General Information
12195 Blood	a) 69 b) 31 c) 25 d) 13 e) 42 f) 69 g) 23	a) 5.6-33.1 ug/100 ml b) 5.7-33.6 ug/100 ml c) 39.5-33.6 ug/100 ml d) 27.8-53.7 ug/100 ml e) 9.8-32.4 ug/100 ml f) 4.9-27.7 ug/100 ml g) 30.3-73.5 ug/100 ml	a) 13.3+/-5.9 ug/100 ml b) 16.4+/-8.0 ug/100 ml c) 51.0+/-7.8 ug/100 ml d) 41.9+/-8.0 ug/100 ml e) 20.6+/-5.6 ug/100 ml f) 10.0+/-4.4 ug/100 ml g) 48.5+/-10.9 ug/100 ml	a) Matched, unexposed controls, males b) Matched unexposed controls, females c) Pb-exposed, males, smelter, ceramic factory workers d) Pb-exposed, females, smelter, ceramic factory workers e) Cd-exposed, males primary Cd/En smelter workers f) Hg-exposed, males, chlor-alkaline plant or battery plant workers g) Pb-Cd exposed, males, non-ferrous smelter workers Examined relationship of exposure to erythrocytic enzymes. Pyrimidine 5'-nucleotidase inhibited by Pb, not by Cd or Hg.

BLOOD; URINE; OCCUPATIONAL EXPOSURE; BELGIUM; METAL POISONING; LEAD POISONING; LEAD; CADMIUM; MERCURY; ENZYMES; METALS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS
Mohammed-Brahim, B.; Buchet, J.P.; Lauwerys, R. 1985 International Archives of Occupational and Environmental Health 55:247-252

Tissue	Cases Exposure Route	Range	Mean	General Information
12196 Blood	a) 99 b) 101 c) 86	a) 4.3-27.0 ug/100 ml b) 1.7-15.6 ug/100 ml c) 3.2-19.7 ug/100 ml	a) 8.74+/-1.5 ug/100 ml b) 7.99+/-1.4 ug/100 ml c) 7.52+/-1.5 ug/100 ml	a) Stolberg b) Duisburg c) Duesseldorf Stolberg and Duisburg both industrial cities with documented heavy metal pollution, Duesseldorf used as control. No relationship between age-related kidney dysfunction and body burden found. Elderly women, residents for average of 50 yr. AAS

URINE; BLOOD; ENVIRONMENTAL EXPOSURE; GERMANY; ADULTS; AGE; KIDNEY DISEASES; METAL POISONING; CADMIUM; LEAD; BIOACCUMULATION; INDUSTRIAL POLLUTION; INDUSTRIAL EMISSIONS
Ewers, U.; Brockhaus, A.; Dolgner, R.; Freier, I.; Jermann, E.; Bernard, A.; Stiller-Winkler, R.; Hahn, R.; Manojlovic, N. 1985 International Archives of Occupational and Environmental Health 55:217-239

Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12197 Blood	a) 1043 b) 475 c) 660 d) 353 e) 1,316 f) 263 g) 769 h) 320	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 16.9+/-0.33 ug/dl b) 17.9+/-0.49 ug/dl c) 16.4+/-0.28 ug/dl d) 16.9+/-0.50 ug/dl e) 11.5+/-0.26 ug/dl f) 12.3+/-0.38 ug/dl g) 12.9+/-0.34 ug/dl h) 12.9+/-0.31 ug/dl	a) 21-55 yr old males, normal b) High blood pressure c) 56-74 yr old males, normal d) High blood pressure e) 21-55 yr old females, normal f) High blood pressure g) 56-74 yr old females, normal h) High blood pressure Younger men and women with high blood pressure had significantly (p</=0.05) elevated levels. Civilian, non-institutionalized United States citizens participating in 1976-1980 National Health and Nutrition Examination Survey. AAS

BLOOD; BLOOD SERUM; ENVIRONMENTAL EXPOSURE; ADULTS; UNITED STATES; HYPERTENSION; LEAD POISONING; LEAD; ZINC; BIOACCUMULATION; BLOOD PRESSURE; AGE; SEX; ADOLESCENTS

Harlan, W.R.; Landis, J.R.; Schmouder, R.L.; Goldstein, N.G.; Harlan, L.C. 1985 Journal of the American Medical Association 253(4):530-534

Tissue	Cases Exposure Route	Range	Mean	General Information
12198 Blood	a) 678 b) 143	a) Not given b) Not given	a) 31.1+/-9.7 ug/dl b) 19.2+/-7.1 ug/dl	a) Smelter workers, current and retired b) Miners, never employed in smelter Significantly different. Copper smelter workers less than 30->60 yr old, and copper miners less than 50->60 yr old working for Western Quebec firm. 14 symptoms reported. Mean blood Pb levels differed significantly for one, fatigue.

URINE; BLOOD; OCCUPATIONAL EXPOSURE; ADULTS; CANADA; METAL POISONING; LEAD POISONING; LEAD; ARSENIC; PROTOPORPHYRINS; ZINC; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIES; INDUSTRIAL EMISSIONS; OCCUPATIONAL HAZARDS; MINING; POPULATION EXPOSURE

Lilis, R.; Valciukas, J.A.; Malkin, J.; Weber, J.-P. 1985 Archives of Environmental Health 40(1):38-47

Tissue	Cases Exposure Route	Range	Mean	General Information
12199 Blood	a) 1 b) 1 Ingestion	Not given	a) 151 ug/dL (7.29 umol/L) b) 164 ug/dL (7.91 umol/L)	a) Male, no known industrial exposure, taking diabetes medicine including approx 40 mg Pb/d b) Female taking hemorrhoid medicine presumed to contain Pb Both non-prescription drugs from India. Levels decreased after cessation of medications. 35 yr old Asian Indian male and Indian woman Weakness, malaise, nausea, abdominal pain Hemoglobin 103 & 80 g/L respectively. Basophilic stippling in both. Male: reticulocyte count 172X10(E+9)/L, circulating nucleated RBC's, increased sideroblasts, erythroid hyperplasia. High protoporphyrin

DELIBERATE EXPOSURE; CONSUMER EXPOSURE; LEAD; BLOOD; URINE; INDIA; LEAD POISONING

Pontifex, A.H.; Garg, A.K. 1985 Canadian Medical Association Journal 133:1227-1228

Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12200 Blood	51	a) 39-160 ug/dl b) 32-96 ug/dl	a) 100 ug/dl b) 66 ug/dl	a) 51 patients, initial level b) 46 patients, after chelation therapy and at Zn-protoporphyrin baseline of 36 ug/dl at 143 days after stopping exposure. 21-65 yr old patients with chronic Pb intoxication from occupational exposures for mean of 8 yr and with blood Pb >60 ug/dl, ZPP>45 ug/dl. Cook County Hospital, 7/1/76-12/31/83.

OCCUPATIONAL EXPOSURE; LEAD; ZINC ORGANIC COMPOUNDS; BLOOD; OCCUPATIONAL HAZARDS; LEAD POISONING; ILLINOIS
Hryhorczuk, D.O.; Hogan, M.M.; Mallin, K.; Hessl, S.M.; Orris, P. 1985 Journal of Occupational Medicine 27(11):817-820

Tissue	Cases Exposure Route	Range	Mean	General Information
12201 Blood	274	Not given	48+/-15 ug/100 mL	Workers employed for mean of 20.4 yr at Pb, Zn, Cd smelter. Levels not correlated with Cd levels. Workers, mean age 47.6, England AAS

BLOOD; BLOOD PLASMA; URINE; OCCUPATIONAL EXPOSURE; UNITED KINGDOM; AGE; COMPARATIVE EVALUATIONS; CADMIUM; LEAD; AIR POLLUTION; INDUSTRIAL ATMOSPHERES; INDUSTRIES; OCCUPATIONAL HAZARDS; SMELTERS; SMOKING
Kazantzis, G.; Armstrong, B.G. 1984 Environmental Health Perspectives 54:193-199

Tissue	Cases Exposure Route	Range	Mean	General Information
12202 Blood	2695	5-35 ug/dl	Not given	Found in 2nd National Health and Nutrition Examination Survey which included medical history, physical exam as well as anthropometric, dietary, lab and x-ray data. Pb was one of 5 variables explaining certain variances in measures of growth. 6 mo-7 yr olds

ENVIRONMENTAL EXPOSURE; LEAD; BLOOD; CHILDREN; STATISTICS; INFANTS
Angle, C.R.; Schwartz, J.; Pitcher, H. 1985 Veterinary and Human Toxicology 28(4):292

Tissue	Cases Exposure Route	Range	Mean	General Information
12203 Blood	a) 26 b) 26	a) 190.0-535.0 ug/l b) 55.0-160.0 ug/l	a) 256.3 ug/l b) 105.7 ug/l	a) Air levels of tetraethyllead 0.004-0.810 mg/cu m b) Controls Correlation between tetraethyllead in air and Pb-B (r=0.11), but not between Pb-B and Pb-U or diethyllead in urine. 26-58 yr old petrol company workers, employment period 0.5-22.0 (mean 8.1) yr. Controls. AAS

BLOOD; URINE; OCCUPATIONAL EXPOSURE; LEAD; LEAD ORGANIC COMPOUNDS; INDUSTRIAL CHEMICALS; AUTOMOTIVE; BIOACCUMULATION; FUEL ADDITIVES; GASOLINE, HEALTH HAZARDS; INDUSTRIES; METABOLISM; METABOLITES; OCCUPATIONAL HAZARDS
Turlakiewicz, Z.; Chmielnicka, J. 1985 British Journal of Industrial Medicine 42:682-685

Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12204 Blood	1	a) Not applicable b) Not applicable c) Not applicable	a) 64 ug/l b) 27 ug/l c) 28 mg/l	a) Measurement made on 2/21/84 b) 7/11/84 d) 11/28/84 Levels during time of decreasing body burdens. After body burden fell to normal level, all tests were normal. 24 yr old Saudi woman with abdominal pain, 1984 Euthyroid hyperthyroxinemia Normochromic normocytic anemia with basophilic stippling, reticulocyte count of 20%, high urinary coproporphyrins

SAUDI ARABIA; ENVIRONMENTAL EXPOSURE; CASE HISTORIES; LEAD; BLOOD
Tiwari, I.; Timms, P.; Rothe, P. 1985 Lancet 1(8444):1508-1509

Tissue	Cases Exposure Route	Range	Mean	General Information
12205 Blood	5	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable	a) 740 ug/l b) 550 ug/l c) 300 ug/l d) 360 ug/l d) <200 ug/l	a) Mother, 3 mo after birth of infant b) Breast-fed infant, 3 mo c) Mother within 3 mo, chelation therapy d) Infant, 8 mo after dicontinuing breast feeding e) Husband and 2 other children No sources of contamination in family's environment. Suggest Pb mobilized from long-term body stores from previous exposure. 36 yr old woman with acute Pb-encephalopathy when 18 mo old. No subsequent exposure. History of miscarriages/probable miscarriages. Reproductive inefficiency, lethargy, abdominal cramps during pregnancy and lactation Hemolytic anemia, basophilic stippling of RBC's 3 mo after birth of infant.

ENVIRONMENTAL EXPOSURE; LEAD; BLOOD; AUSTRALIA; PREGNANCY; MILK; LEAD POISONING
Thompson, G.N.; Robertson, E.F.; Fitzgerald, S. 1985 Medical Journal of Australia 143:131

Tissue	Cases Exposure Route	Range	Mean	General Information
12206 Blood		a) 0-25 ug/dl b) 0-45 ug/dl	a) 7.2+/-0.3 ug/dl b) 6.2+/-0.5 ug/dl	a) Cord blood, 249 cases b) Infant blood at 6 mo, 221 cases Levels in b) insignificantly lower for formula-fed than nursed children, correlated well with dietary intake in latter. No health concerns with these values. Infants involved in longitudinal study of sources of Pb, developmental effects of exposure. Births between 9/79-4/81 ASV

LEAD; BLOOD; MILK; NEWBORN; URBAN AREAS; INFANTS; DIETS; DRINKING WATER; ENVIRONMENTAL EXPOSURE
Rabinowitz, M.; Leviton, A.; Needleman, H. 1985 Archives of Environmental Health 40(5):283-286

Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12207 Blood	a) 81 b) 20 c) 31	a) 3-135 ug/dl b) Not given c) Not given	a) Not given b) 13 ug/dl c) 7.1 ug/dl	a) Plant heavily contaminated, air levels 61-1700 ug/cu sq m. 19 received chelation therapy. 38 (42%) were removed from work place because they had =/>50 ug/dl b) <6 yr old children at home c) Unexposed children of same age. Workers, Colorado electrical component manufacturing plant, 1984. Children of workers. 14 (58%) of 24 with elevated levels had evidence of neurologic impairment.

OCCUPATIONAL EXPOSURE; LEAD; BLOOD; OCCUPATIONAL HAZARDS; CHILDREN; ENVIRONMENTAL EXPOSURE; AIR POLLUTION
Alkes, I.; Teitelbaum, D.; Kadushin, F.; Lampert, K.; Hopkins, R.; Ryan, J. 1985 Veterinary and Human Toxicology 27(5):443-444

Tissue	Cases Exposure Route	Range	Mean	General Information
12208 Blood	35	Not given	17.5 ug/dl	Median level in spraymen varnishing vehicles. Median above that of general population reported as 11.0 ug/dl but below tolerable limit of 20 ug/dl. From pigments in varnish. 24-52 yr olds (mean 38.8) employed 2-24 yr (mean 8.2). Summer, Autumn 1983 AAS

OCCUPATIONAL EXPOSURE; BLOOD; URINE; OCCUPATIONAL HAZARDS; INHALATION; SOLVENTS; LEAD
Angerer, J.; Wulf, H. 1985 International Archives of Occupational and Environmental Health 56:307-321

Tissue	Cases Exposure Route	Range	Mean	General Information
12209 Blood	33	Not given	1.72+/-0.74 umol/l	Levels from healthy normotensives 25 of whom, years earlier were intermittently exposed, for weeks or months, during oxyacetylene welding/cutting. Highest level in group was 3.0 umol/l. Generally accepted "upper limits" for general population is 2 umol/l, for industry, 4 umol/l. 28-58 yr olds Changes caused in levels of various substances may contribute to development of hypertension in chronically exposed subjects AAS

OCCUPATIONAL EXPOSURE; LEAD; BLOOD; HYPERTENSION; OCCUPATIONAL HAZARDS; ENVIRONMENTAL EXPOSURE
Campbell, B.C.; Meredith, P.A.; Scott, J.J.C. 1985 Toxicology Letters 25:25-32

Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12210 Blood				Review of evidence relating Pb and blood pressure in the US and UK. Differences in data from research do not allow for definitive statements about the effect of environmental Pb on hypertension.

BLOOD; LEAD; ENVIRONMENTAL EXPOSURE; REVIEW; SCOTLAND; ENGLAND; UNITED STATES; HYPERTENSION; AUTOMOTIVE; BLOOD PRESSURE
Shaper, A.G.; Pocock, S.J. 1985 British Medical Journal 291:1147-1148

Tissue	Cases Exposure Route	Range	Mean	General Information
12211 Blood	288	Not given	40.01+/-13.17 mg/100 mL	1982 levels. 60% of subjects 31-60 yr old, 30% 26-30, 10% 18-25. Calculation of prior exposures (including >/=4 recorded values/worker) found time weighted average of 48.83+/-11.90 and peak of 78.78+/-28.78 mg/100 mL. Investigation of neuropsychologic and psychosocial functioning showed few effects of current occupational levels. Exposed Caucasian workers, Eastern Pennsylvania AAS

BLOOD; OCCUPATIONAL EXPOSURE; PENNSYLVANIA; LEAD; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; RISK ASSESSMENT
Parkinson, D.K.; Ryan, C.; Bromet, E.J.; Connell, M.M. 1986 American Journal of Epidemiology 123(2):261-269

Tissue	Cases Exposure Route	Range	Mean	General Information
12212 Blood	a) 26 b) 11 c) 81 d) 28	a) Not given b) Not given c) Not given d) Not given	a) 92.4+/-55.2 ug/dL b) 60.6+/-13.6 ug/dL c) 76.6+/-19.2 ug/dL d) 62.3+/-14.0 ug/dL	a) 1973. Peak yr, subjects with symptoms of poisoning b) 1979. Lowest levels. c) 1973. Peak yr, asymptomatic subjects d) 1977. Lowest levels Sampled on first admission during 9 yr screening study. Criterion for hospitalization was blood level >/=60 ug/dL. Children admitted to Newark, NJ hospitals for chelation therapy, 1972-1980 Symptoms included convulsions, abdominal pain, vomiting, lethargy/fatigue, anorexia, diarrhea, constipation, irritability.

BLOOD; ENVIRONMENTAL EXPOSURE; NEW JERSEY; CHILDREN; LEAD POISONING; LEAD; ACCIDENTAL POISONING; BIOACCUMULATION; HEALTH HAZARDS; POPULATION EXPOSURE
Schneider, D.J.; Lavenhar, M.A. 1986 American Journal of Public Health 76:242-244

Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12213 Blood	1	60-18 ug/dL	Not given	11 and 14 wk after gunshot injury from uncoated lead birdshot. Multiple fragments throughout abdomen and pelvis. Level at age 23 mo had been 23 ug/dL. 5-day chelation therapy with 250 mg EDTA/6 hr begun at 12 wk. 8 yr old male Peak level of free erythrocyte protoporphyrin 149 ug/dL

BLOOD; URINE; CHILDREN; METAL POISONING; LEAD; BIOACCUMULATION
Selbst, S.M.; Henretig, F.; Fee, M.A.; Levy, S.E.; Kitts, A.W. 1986 Pediatrics 77(3):413-416

Tissue	Cases Exposure Route	Range	Mean	General Information
12214 Blood	a) 685 b) 25	a) 0.00-1.45 nmol/ml b) 1.46-3.00 nmol/ml	a) Not given b) Not given	a) Subjects with slightly raised serum lipid peroxide levels (4.0+/-1.1-4.3+/-1.2 nmol/l) b) Subjects with 4.7+/-1.7-7.3+/-2.4 nmol/l serum LPO, and decreased blood superoxide dismutase activity (3.7+/-1.0-1.9+/-1.2 unit/ml) Workers exposed to Pb in manufacturing processes. Healthy 18-59 yr old factory workers ASV

BLOOD; OCCUPATIONAL EXPOSURE; LEAD; BLOOD DISORDERS; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS
Ito, Y.; Niiya, Y.; Kurita, H.; Shima, S.; Sarai, S. 1985 International Archives of Occupational and Environmental Health 56:119-127

Tissue	Cases Exposure Route	Range	Mean	General Information
12215 Blood	162	a) 7-27 ug/100 ml b) 7-27 ug/100 ml	a) 12.88+/-3.16 ug/100 ml b) 15.10+/-3.23 ug/100 ml	a) First sample. Levels of 7-10 ug/100 ml in 37 cases, 11-12 ug/100 ml in 43, 13-14 ug/100 ml in 38, and 15-27 ug/100 ml in 44 b) Second sample, 20 mo later. 7-10 ug/100 ml in 6, 11-12 ug/100 ml in 25, 13-14 ug/100 ml in 50, and 15-27 ug/100 ml in 81 No significant correlation with social class, or with outcome of intelligence, attainment or behavior tests. Schoolchildren living near urban road, London, England AAS

BLOOD; ENVIRONMENTAL EXPOSURE; UNITED KINGDOM; CHILDREN; LEAD; BIOACCUMULATION; URBAN AREAS
Lansdown, R.; Yule, W.; Urbanowicz, M.-A.; Hunter, J. 1986 International Archives of Occupational and Environmental Health 57:225-235

Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12216 Blood	20	22-59 ug/dL	38 ug/dL	Gun metal foundry workers (males) employed 2-17 (mean 10) yr, no histories of renal disease. 34-59 (mean 49) yr-olds occupationally exposed to Pb, Zn, Cu AAS

OCCUPATIONAL EXPOSURE; LEAD; MERCURY; CADMIUM; ZINC; COPPER; MANGANESE; CHROMIUM; URINE; BLOOD; BLOOD PLASMA; BLOOD CELLS; CHELATING AGENTS; OCCUPATIONAL HAZARDS; METALS
Araki, S.; Aono, H.; Murata, K. 1986 British Journal of Industrial Medicine 43:636-641

Tissue	Cases Exposure Route	Range	Mean	General Information
12217 Blood	49	Not given	2.35+/-0.7 umol/L	Workers exposed to Pb stearate and tribasic Pb sulphate in the manufacture of Pb-based stabilisers. Neuropsychological testing found the workers performed significantly less well than 36 controls (presumed mean PbB level 0 70+/-0 13 umol/L) in perceptual motor speed, attention concentration, manual dexterity, and eye hand coordination. Factory workers, mean age 26.1+/-7.6 yr, Singapore Anxiety and depressed mood, poor concentration, forgetfulness. Other somatic complaints such as headache, dizziness, and numbness in limbs. Spectrophotometry

BLOOD; OCCUPATIONAL EXPOSURE; SINGAPORE; COMPARATIVE EVALUATIONS; LEAD; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; NEUROLOGIC MANIFESTATIONS
Jeyaratnam, J.; Boey, K.W.; Ong, C.N.; Chia, C.B.; Phoon, W.O. 1986 British Journal of Industrial Medicine 43:626-629

Tissue	Cases Exposure Route	Range	Mean	General Information
12218 Blood	a) 13 b) 31	a) 7.4-16.8 ug/dL b) 7.9-25.8 ug/dL	a) 12.1+/-3.4 ug/dL b) 15.5+/-3.2 ug/dL	a) Zinc protoporphyrin levels <40 ug/dL b) ZPP levels >/=40 ug/dL Sea-level neighborhood with much vehicular traffic, 4.5 km from industrial zone. a) and b) significantly different, p<0.01. Study also reported levels of PbB and ZPP, in conjunction with various demographic factors, in a total of 729 children in 3 Haifa neighborhoods. 0-12 yr old healthy children, Kiryat Yam, Israel AAS

BLOOD; ENVIRONMENTAL EXPOSURE; ISRAEL; CHILDREN; LEAD; BIOACCUMULATION; INDUSTRIAL AREAS; METABOLISM; POPULATION EXPOSURE; AUTOMOTIVE; HEALTH HAZARDS
Richter, E.D.; Berant, M.; Grauer, F.; Tamir, A.; Berkowitz, A.; Oppenheim, D. 1986 Science of the Total Environment 48:109-121

Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12219 Blood	About 125	a) 1.0-27.0 ug/dL b) 3.0-23.0 ug/dL c) 6.0-49.0 ug/dL	a) 7.9+/-1.6 ug/dL b) 4.2+/-2.0 ug/dL c) 16.8+/-1.6 ug/dL Geometric means	a) Prenatal b) 10 d old c) 18 mo old No relationship found between levels and measures of attention given by the subjects to a structured problem-solving task. Black children living in poor neighborhoods, Cincinnati, Ohio

BLOOD; ENVIRONMENTAL EXPOSURE; OHIO; CHILDREN; INFANTS; LEAD; BIOACCUMULATION; URBAN AREAS
Padich, R.A.; Dietrich, K.N.; Pearson, D.T. 1985 Environmental Research 38:137-143

Tissue	Cases Exposure Route	Range	Mean	General Information
12220 Blood	a) 17 b) 42 c) 10 d) 11 e) 38 f) 25	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 133.8 ug/L b) 165.1 ug/L c) 133.7 ug/L d) 142.2 ug/L e) 129.1 ug/L f) 92.6 ug/L	a) Seal meat eaten at least 6 x/wk, Angmagssalik b) Same diet group, Isortoq c) Seal eaten 2-5 x/wk, Angmagssalik d) Same diet group, Isortoq e) Seal eaten 0-1 x/wk, Angmagssalik f) Same diet group, Denmark Mean level in males 148 ug/L, in females 128 ug/L. Eskimos living in Angmagssalik (main town) or Isortoq, Angmagssalik district, Greenland, or in Denmark Sister chromatid exchange in diet group 1>in diet group 2>in diet group 3.

BLOOD; ESKIMOS; GREENLAND; DENMARK; COMPARATIVE EVALUATIONS; CADMIUM; LEAD; MERCURY; SELENIUM; BIOACCUMULATION; DIETS; SMOKING; ENVIRONMENTAL EXPOSURE
Wulf, H.C.; Kromann, N.; Kousgaard, N.; Hansen, J.C.; Niebuhr, E.; Alboge, K. 1986 Science of the Total Environment 48:81-94

Tissue	Cases Exposure Route	Range	Mean	General Information
12221 Blood		a) 6-59 ug/dL b) 2-30 ug/dL	a) Not given b) Not given	a) Initial levels (1977-78), 104 cases b) 5 yr later, 50 of original group Levels in a), b) highly correlated (for each child) as were original and follow-up IQ scores. Lead effects on IQ significant in a). Other socioeconomic factors considered. 10 mo-6.5 yr old children of low socioeconomic status, 94% black, Wake County, NC

BLOOD; ENVIRONMENTAL EXPOSURE; NORTH CAROLINA; AGE; CHILDREN; LEAD; BIOACCUMULATION
Schroeder, S.R.; Hawk, B.; Otto, D.A.; Mushak, P.; Hicks, R.E. 1985 Environmental Research 38:144-154

Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12222 Blood		a) 9-60 ug/dL b) 5-58 ug/dL	a) 31.2 ug/dL b) 23.1+/-11.6 ug/dL	a) 34 subjects b) 2-9 mo later, 41 subjects Industrial workers producing leaded glass or paint pigment

BONES; BLOOD; URINE; OCCUPATIONAL EXPOSURE; IN VIVO ANALYSIS; LEAD; BIOACCUMULATION; INDUSTRIES; OCCUPATIONAL HAZARDS; PAINTS; PIGMENTS
Wielopolski, L.; Ellis, K.J.; Vaswani, A.N.; Cohn, S.H.; Greenberg, A.; Puschett, J.B.; Parkinson, D.K.; Fetterolf, D.E.; Landrigan, P.J. 1986 American Journal of Industrial Medicine 9:221-226

Tissue	Cases Exposure Route	Range	Mean	General Information
12223 Blood	a) 1 b) 1 c) 1 Inhalation	a) Not applicable b) Not applicable c) Not applicable	a) 63 ug/100 mL b) 42 ug/100 mL c) 58 ug/100 mL	a) Case 1, exposed to 0.39 mg/cu m (personal air sample) b) Case 2, 0.16 mg/cu m c) Case 3, 0.38 mg/cu m Background level in a), b) 0.2 mg/cu m. Raised Pb-B attributed to dust rising during weighing and mixing of flux (lead oxide, borax and sodium carbonate). Background level in c) 0.02 mg/cu m. Raised level due to (chemical balance room) worker's cleaning of instruments on her protective coat, thus flicking lead flux dust into her breathing zone. Precious metal assay workers

BLOOD; OCCUPATIONAL EXPOSURE; CASE HISTORIES; INDUSTRIAL HYGIENE; LEAD; ACCIDENTAL POISONING; METAL POISONING; BIOACCUMULATION; DUST; HEALTH HAZARDS; INDUSTRIES; INHALATION; OCCUPATIONAL HAZARDS
Samuel, A.M.; Baxter, P.J. 1986 British Journal of Industrial Medicine 43:420-421

Tissue	Cases Exposure Route	Range	Mean	General Information
12224 Blood		a) Not given b) Not given c) Not given d) Not given e) Not given	a) 14.3 ug/dL b) 20.9 ug/dL c) 21.2 ug/dL d) 19.8 ug/dL e) 17.9 ug/dL Geometric	a) 6 mo old, 652 cases b) 15 mo old, 619 cases c) 2 yr old, 601 cases d) 3 yr old, 344 cases e) 4 yr old, 150 cases Pb-smelter on outskirts of town. No significant difference found between girls and boys. Strong positive gradient in relation to soil lead level. Seasonal trends also discussed. Children born 1979-82 in Port Pirie, South Australia and immediate environs AAS

BLOOD; ENVIRONMENTAL EXPOSURE; AUSTRALIA; INFANTS; CHILDREN; LEAD; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIAL AREAS; LAND POLLUTION; POPULATION EXPOSURE; SMELTERS
McMichael, A.J.; Baghurst, P.; Robertson, E.F.; Vimpani, G.V.; Wigg, N.R. 1986 Medical Journal of Australia 143:499-503

Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12225 Blood		a) 1-29 ug/dL b) 1-24 ug/dL c) 1-33 ug/dL d) 2-55 ug/dL e) 3-46 ug/dL	a) 5.3+/-1.9 ug/dL b) 4.9+/-1.9 ug/dL c) 7.0+/-1.9 ug/dL d) 11.0+/-1.9 ug/dL e) 14.2+/-1.7 ug/dL Geometric means	a) 10 d old, 123 cases b) 3 mo old, 121 c) 6 mo old, 136 d) 9 mo old, 123 e) 12 mo old, 124 Investigation of early sensorimotor development, including developmental covariates such as birth weight and home environment, showed no significant correlation with levels. Black infants of lower socioeconomic status, Cincinnati, Ohio ASV

BLOOD; ENVIRONMENTAL EXPOSURE; OHIO; INFANTS; LEAD; BIOACCUMULATION; URBAN AREAS
Dietrich, K.N.; Krafft, K.M.; Pearson, D.T.; Bornschein, R.L.; Hammond, P.B.; Succop, P.A. 1985 Environmental Research 38:130-136

Tissue	Cases Exposure Route	Range	Mean	General Information
12226 Blood	Ingestion	a) 4.0-56.0 ug/100 mL b) 2.8-33.9 ug/100 mL c) 5.0-61.0 ug/100 mL d) 3.3-25.3 ug/100 mL	a) 14.5 ug/100 mL b) 8.1 ug/100 mL c) 20.5 ug/100 mL d) 9.5 ug/100 mL	a) Mothers postpartum, Glasgow (1977/78), before water treatment. 236 cases b) After water treatment (1980/81). 475 cases c) Mothers of children <5 yr old, Ayr (1980/81), before water treatment. 96 cases d) Subgroup of c), Ayr (1982/83), after water treatment. 92 cases Mean levels in water: a) 244+/-326 ug/L, b) 13+/-19 ug/L, c) 474+/-523 ug/L, d) 51+/-60 ug/L. Excess in a), c) caused by dissolution from plumbing system, and removed by raising pH of water supplies. Blood levels varied as cube root of water levels. Scotland AAS

BLOOD; ENVIRONMENTAL EXPOSURE; SCOTLAND; LEAD; BIOACCUMULATION; DRINKING WATER; HEALTH HAZARDS; POPULATION EXPOSURE; WATER POLLUTION
Moore, M.R.; Richards, W.N.; Sherlock, J.G. 1985 Environmental Research 38:67-76

Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12227 Blood		a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 15.3+/-0.02 ug/dL b) 22.9+/-0.03 ug/dL c) 24.6+/-0.04 ug/dL d) 15.5+/-0.02 ug/dL e) 23.6+/-0.03 ug/dL f) 23.9+/-0.04 ug/dL S.E.	a) 6 mo old males, 274 cases b) 15 mo old males, 278 cases c) 24 mo old males, 221 cases d) 6 mo old females, 281 cases e) 15 mo old females, 275 cases f) 24 mo old females, 233 cases Levels 20% higher in infants whose fathers had blue-collar jobs at Pb smelter, compared to those whose fathers worked outside smelter. Levels strongly associated with soil Pb content around home. Increase found during summer months in b), e). Behavioral factors also studied. Children born in Port Pirie, South Australia or surrounding rural townships, 5-79 to 5-82 Rapid rise in free erythrocyte protoporphyrin at levels above 15-20 ug/dL. AAS

BLOOD; ENVIRONMENTAL EXPOSURE; AUSTRALIA; INFANTS; CHILDREN; LEAD; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIAL AREAS; INDUSTRIES; LAND POLLUTION; POPULATION EXPOSURE; SMELTERS

Baghurst, P.; Oldfield, R.; Wigg, N.; McMichael, A.; Robertson, E.; Vimpani, G. 1985 Environmental Research 38:24-30

Tissue	Cases Exposure Route	Range	Mean	General Information
12228 Blood		a) 18.1-20.6 ug/dL b) 27.9-32.4 ug/dL c) 28.0-31.2 ug/dL d) 11.3-15.8 ug/dL e) 16.2-23.6 ug/dL f) 17.9-24.8 ug/dL	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 6 mo old, living in Pirie West, Solomontown, or Inner Port Pirie b) 15 mo old c) 2 yr old d) 6 mo old living in Other Port Pirie, periphery, or adjacent town Ranges of means, grouped by location. First three locations near, or downwind of, Pb smelter. Study began with 659 infants. Children born over 3 yr period in Port Pirie, South Australia, or surrounding townships

BLOOD; ENVIRONMENTAL EXPOSURE; AUSTRALIA; INFANTS; CHILDREN; LEAD; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIAL AREAS; INDUSTRIES; POPULATION EXPOSURE; SMELTERS

Vimpani, G.; McMichael, A.; Robertson, E.; Wigg, N. 1985 Environmental Research 38:19-23

Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12229 Blood	a) 11 b) 6 c) 14 d) 15	a) 5-12 ug/dL b) 7-17 ug/dL c) 7-20 ug/dL d) 6-33 ug/dL Geometric means	a) Not given b) Not given c) Not given d) Not given	a) 10 d-18 mo old, living in public housing b) Pre-World War II housing of satisfactory appearance c) Rehabilitated housing d) Pre-World II housing of deteriorated or dilapidated appearance Ranges of means. Surface Pb content of public and rehabilitated housing 0.6-15.2 mg/sq cm, of other housing types 0.1-35 mg/sq cm. Interior surface dust levels showed similar trend. Other sources also monitored. Values estimated from figure Children in Cincinnati, Ohio ASV

BLOOD; ENVIRONMENTAL EXPOSURE; OHIO; CHILDREN; INFANTS; COMPARATIVE EVALUATIONS; LEAD; BIOACCUMULATION; DUST; HEALTH HAZARDS; URBAN AREAS
Clark, C.S.; Bornschein, R.L.; Succop, P.; Que Hee, S.S.; Hammond, P.B.; Peace, B. 1095 Environmental Research 38:46-53

Tissue	Cases Exposure Route	Range	Mean	General Information
12230 Blood		a) 5-22 ug/dL b) 5-10 ug/dL Geometric means	a) Not given b) Not given	a) At birth-18 mo old b) At birth-18 mo old Ranges of means. FEP and ZPP measurements compared for purposes of stablishing dose-effect and dose-response relationships. Values estimated from figure. Children in Cincinnati, Ohio Free erythrocyte protoporphyrin levels at 18 mo 45 ug/dL in a), 28 ug/dL in b). ASV; Isotope dilution mass spectrometry

BLOOD; ENVIRONMENTAL EXPOSURE; OHIO; CHILDREN; INFANTS; LEAD; BIOACCUMULATION; HEALTH HAZARDS; URBAN AREAS
Hammond, P.B.; Bornschein, R.L.; Succop, P. 1985 Environmental Research 38:187-196

Tissue	Cases Exposure Route	Range	Mean	General Information
12231 Blood		a) 0-49 ug/dl b) 0-31 ug/dl c) 0.27 ug/dl d) 0-64 ug/dl	a) 6.2 ug/dl b) 7.8 ug/dl c) 6.8 ug/dl d) 7.0 ug/dl	a) 6 mo olds, 221 cases b) 12 mo olds, 204 cases c) 18 mo olds, 213 cases d) 24 mo olds, 202 cases. Subjects drawn equally from highest, lowest, and middle deciles of umbilical cord PbB, Boston Lying-In Hospital, 9/79-4/81. Levels >15 ug/dl associated with greater incidence of elevated erythrocyte protoporphyrin (>34 ug/dl.) ASV

BLOOD; ENVIRONMENTAL EXPOSURE; INFANTS; LEAD; MASSACHUSETTS; BIOACCUMULAITON; HEALTH HAZARDS
Rabinowitz, M.; Leviton, A.; Needleman, H.L. 1986 Environmental Research 39:253-257

Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12232 Blood	a) 93 b) 12 c) 15 d) 5 e) 59	a) 26.6-38.5 ug/dL b) 30.2-38.5 ug/dL c) 21.7-28.8 ug/dL d) 25.6-30 ug/dL e) 30.3-53 ug/dL Geometric, as antilogarithm	a) Not given b) Not given c) Not given d) Not given	a) At discharge and 3 mo later. Lived in old housing with Pb-in-paint hazards abated b) Lived in Pb-free housing, regular visits to older homes (a,e) c) Lived in Pb-free housing, did not visit older homes d) Lived in old homes that had been gutted and renovated e) Lived in homes with incomplete Pb-in-paint hazard abatement Ranges of means. PbB before chelation therapy >/= 50 ug/dL. c) significantly lower than a), b), p<0.001. PbB >/=50 ug/dL recurred in all cases in e). 12-74 (mean 31) mo old children who received chelation therapy, Baltimore ASV

BLOOD; ENVIRONMENTAL EXPOSURE; MARYLAND; CHILDREN; METAL POISONING; LEAD; ACCIDENTAL POISONING; BIOACCUMULATION; HEALTH HAZARDS; PAINTS; URBAN AREAS
Chisolm, J.J.; Mellits, E.D.; Quaskey, S.A. 1985 Environmental Research 38:31-45

Tissue	Cases Exposure Route	Range	Mean	General Information
12233 Blood	65	a) 39-160 ug/100 ml b) 57-127 ug/100 ml c) 140-30 ug/dl d) 100-65 ug/dl e) 130-40 ug/dl	a) 94 ug/100 ml b) 88 ug/100 ml c) Not applicable d) Not applicable e) Not applicable	a) Normal renal function, initial level, mean exposure time 7 yr, 57 cases b) Abnormal renal function, initial levels, mean exposure time 22 yr, 8 cases c) Representative patient from a), 33 mo exposure, 0-850 d d) Representative patient from a), 13 yr exposure, 0-1550 d e) Representative patient from b), 4 yr exposure, 0-1800 d Initial samples taken upon removal from exposure. c), d) 3 courses chelation therapy, 31 g EDTA over 200 d period. e) 4 courses therapy, 51 g EDTA over 275 d period. Levels decline during chelation and rebound to prechelation levels at end of treatment. Lead intoxication patients, Occupational Medicine Clinic, Cook County Hospital, 7/76-12/82. 52 black males, 9 white males, 4 black females, 21-66 yrs old AAS

BLOOD; ILLINOIS; OCCUPATIONAL EXPOSURE; LEAD POISONING; KIDNEY DISEASES; LEAD; BIOLOGICAL MONITORING; BIOACCUMULATION; INDUSTRIAL ATMOSPHERES; INDUSTRIES; OCCUPATIONAL HAZARDS; SMELTERS
Hryhorczuk, D.; Rabinowitz, M.; Hessl, S.M.; Hoffman, D.; Hogan, M.M.; Mallin, K.; Finch, H.; Orris, P.; Berman, E. 1985 American Journal of Industrial Medicine 8:33-42

Tissue	Cases Exposure Route	Range	Mean	General Information
12234 Blood, cells	20	50-138 ug/dL	98 ug/dL	Gun metal foundry workers (males) employed 2-17 (mean 10) yr, no histories of renal disease. 34-59 (mean 49) yr-olds occupationally exposed to Pb, Zn, Cu AAS

(next page)

Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C

(continued)

Tissue	Cases Exposure Route	Range	Mean	General Information
12235 Blood, plasma	20	0.30-1.00 ug/dL	0.67 ug/dL	Gun metal foundry workers (males) employed 2-17 (mean 10) yr, no histories of renal disease. 34-59 (mean 49) yr-olds occupationally exposed to Pb, Zn, Cu AAS

OCCUPATIONAL EXPOSURE; LEAD; MERCURY; CADMIUM; ZINC; COPPER; MANGANESE; CHROMIUM; URINE; BLOOD; BLOOD PLASMA; BLOOD CELLS; CHELATING AGENTS; OCCUPATIONAL HAZARDS; METALS
Araki, S.; Aono, H.; Murata, K. 1986 British Journal of Industrial Medicine 43:636-641

Tissue	Cases Exposure Route	Range	Mean	General Information
12236 Blood, whole	292	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given k) Not given l) Not given	a) 35.64+/-13.53 ug/dl b) 27.48+/-11.18 ug/dl c) 36.97+/-10.28 ug/dl d) 36.33+/-12.24 ug/dl e) 31.09+/-11.57 ug/dl f) 32.95+/-10.74 ug/dl g) 26.78+/-11.09 ug/dl h) 34.51+/-10.29 ug/dl i) 32.94+/-11.33 ug/dl j) 28.89+/-9.45 ug/dl k) 34.99+/-10.15 ug/dl l) 34.06+/-12.05 ug/dl	a) All cases b) Age 0-15 yr, 19 cases c) 16-30 yr, 62 d) 31-45 yr, 77 e) 46-60 yr, 34 f) >61 yr, 7 g) Blood type A, 60 cases h) Type B, 74 cases i) Type O, 76 cases j) Type AB, 20 cases k) Males, 106 cases l) Females, 32 cases. Subjects not occupationally exposed, no symptoms of poisoning. Subjects not occupationally exposed to lead, in Bombay, India. No clinical symptoms of lead poisoning. AAS

BLOOD; ENVIRONMENTAL EXPOSURE; INDIA; ADULTS; CHILDREN; ADOLESCENTS; LEAD; BIOLOGICAL MONITORING; POPULATION EXPOSURE
Annapurna, V.; Mahajan, B.A.; Murti, M.V.R. 1985 International Journal of Environmental Studies 24:239-243

Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12237 Blood, whole	12	a) 459+/-33-571+/-36 ug/L b) 226+/-19-616+/-58 ug/L c) 407+/-48-598+/-56 ug/L d) 382+/-22-581+/-43 ug/L e) 378+/-29-556+/-51 ug/L f) 228+/-27-627+/-46 ug/L g) 228+/-26-623+/-35 ug/L h) 226+/-26-610+/-41 ug/L	a) 474 ug/L b) 469 ug/L c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) Heparin, 4 deg C, glass tube, 6 cases b) EDTA, 4 deg C, glass tube, 6 cases c) Heparin, 4 deg C, polypropylene tube, undiluted, 6 cases d) -20 deg C, undiluted, 6 cases e) -20 deg C, diluted 1:10, 6 cases f) EDTA, 4 deg C, prolypropylene tube, undiluted, 6 cases g) -20 deg C, undiluted, 6 cases h) -20 deg C, diluted 1:10, 6 cases Collection and storage conditions. Measured 1 time/wk over 10 wk. Ranges of means. Workers employed by Canada Metal Company, Toronto, Canada AAS

BLOOD; OCCUPATIONAL EXPOSURE; CANADA; LEAD POISONING; MEASUREMENT METHODS; METALS; LEAD; BIOACCUMULATION
Wang, S.T.; Peter, F. 1985 Journal of Analytical Toxicology 9:85-88

Tissue	Cases Exposure Route	Range	Mean	General Information
12238 Blood, whole	a) 60 b) 132 c) 17 Inhalation	a) 6-51 ug/100 ml b) 6-60 ug/100 ml c) 18-264 ug/100 ml	a) 24 ug/100 ml b) 25 ug/100 ml c) Not given	a) Controls, 18-52 yr old b) Official Government Press workers, 20-66 yr old c) Paint factory workers High level in a) may result from high Pb content of petrol used in Syria. Face masks not used in c). Frequency distributions of levels correlated with specific exposure conditions for group b). Two occupationally exposed groups, one control group. Damascus City, Syria Dizziness, appetite loss, arm weakness, headache in 4 of group c with levels >80 ug/100 ml AAS

BLOOD; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; SYRIA; METAL POISONING; LEAD; AUTOMOTIVE; AIR POLLUTION; FUEL ADDITIVES; GASOLINE; HEALTH HAZARDS; INDUSTRIES; INHALATION; OCCUPATIONAL HAZARDS; PAINTS; PRINTING INDUSTRY
Othman, I. 1985 Science of the Total Environment 43:141-148

Tissue	Cases Exposure Route	Range	Mean	General Information
12239 Blood, whole	45	4.7-39.7 ug/dl	11.2+/-5.8 ug/dl	Place of residence accounted for 15.5% of total variation. 12.70+/-1.60 ug/dl in subjects living in houses with windows facing street with heavy traffic, 9.21+/-1.37 ug/dl in those living in low density traffic areas. 15-43 (mean 27) yr old mother, not occupationally exposed. Italy. AAS

BLOOD; EMBRYONIC/FETAL TISSUES; ENVIRONMENTAL EXPOSURE; ITALY; ABORTION; FETUS; LEAD; BIOACCUMULATION; PREGNANCY; URBAN AREAS
Borella, P.; Picco, P.; Masellis, G. 1986 International Archives of Occupational and Environmental Health 57:93-99

Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12240 Blood, whole		a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 7.2+/-5.3 ug/dL b) 6.2+/-7.1 ug/dL c) 7.7+/-6.5 ug/dL d) 7.6+/-5.7 ug/dL e) 6.8+/-6.3 ug/dL f) 7.0+/-5.1 ug/dL	a) At birth, cord blood, 249 cases b) 6 mo old, 221 cases c) 12 mo old, 208 cases e) 24 mo old, 202 cases f) Postnatal Cases initially selected from 3 categories: <3, 6-7, or >10 ug/dL. f) calculated from all available 6, 12, 18 and 24 mo values for 232 cases. At specific ages, PbB correlated significantly with levels in soil, paint, and dust (but not in air and water). These correlations tended to increase with age. Newborns, Boston Hospital for Women, 4/79-4/81. Mothers of mean age 29, 87% white. ASV

BLOOD; ENVIRONMENTAL EXPOSURE; MASSACHUSETTS; CHILDREN; INFANTS; NEWBORN; LEAD; BIOACCUMULATION; DUST; PAINTS; AGE; URBAN AREAS
Rabinowitz, M.; Leviton, A.; Needleman, H.; Bellinger, D.; Waternaux, C. 1985 Environmental Research 38:96-107

Tissue	Cases Exposure Route	Range	Mean	General Information
12241 Blood, whole		a) 3.9-11.8 ug/dL b) 3.0-10.8 ug/dL c) 3.0-11.8 ug/dL d) 2.6-14.7 ug/dL e) 2.6-10.8 ug/dL f) 2.6-14.7 ug/dL	a) 6.8+/-1.8 ug/dL b) 6.2+/-1.7 ug/dL c) 6.4+/-1.8 ug/dL d) 5.8+/-2.2 ug/dL e) 5.7+/-1.8 ug/dL f) 5.7+/-2.0 ug/dL	a) 68 black mother b) 140 white mothers c) All (208) mothers d) 56 black newborns, cord blood e) 122 white newborns f) All (178) newborns 142 were mother-infant pairs. Maternal alcohol use and smoking during pregnancy were independently related to levels, while history of alcohol abuse was unrelated. Women receiving antenatal care, and their newborn infants, Cleveland Metropolitan General Hospital Significantly correlated with hematocrit levels in cord blood, and with serum thiocyanate levels in both cord and maternal blood AAS

BLOOD; ENVIRONMENTAL EXPOSURE; NEWBORN; LEAD; BIOACCUMULATION; ALCOHOLIC BEVERAGES; PREGNANCY; SMOKING; TRANSPLACENTAL TRANSFER; HEALTH HAZARDS
Ernhart, C.B.; Wolf, A.W.; Sokol, R.J.; Brittenham, G.M.; Erhard, P. 1985 Environmental Research 38:54-66

Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12242 Bone	a) 148 b) 18	a) 6.4+/-8.9-91+/-67 ug/g b) 5.0-35 ug/g	a) Not given b) 16.9+/-10.1 ug/g	a) Ranges of means. Ancient specimens, mostly limbs, from 10 sites. Bronze Age (3000 yr BP) to 18th century periods. Two bones from Neolithic and one from 800 yr BP excluded from calculations b) Contemporary femora, tibiae, vertebrae and ribs (29 bones) collected at autopsies, 2-3/1984, Paris Fragments collected for analysis from layers about 0.5-4 mm below surface of medullary cavity, from a 5-10 sq cm area. Pb has tended to migrate out of ancient bones. Additional data on significance of concentration gradients within bone, conditions of burial site, fossilization changes, geography, and historical/cultural factors. France AAS; MS

BONES; FRANCE; AUTOPSIES; COMPARATIVE EVALUATIONS; CADMIUM; LEAD; ZINC; BARIUM; MAGNESIUM; CALCIUM; MINERALS; ENVIRONMENTAL EXPOSURE
Jaworowski, Z.; Barbalat, F.; Blain, C.; Peyre, E. 1985 Science of the Total Environment 43:103-126

Tissue	Cases Exposure Route	Range	Mean	General Information
12243 Bone	43	0-198 ug/g Wet wt	52.9+/-47.4 ug/g Wet wt	Detection limit about 20 ug/g wet wt. Measured in tibial shaft surface. Industrial workers producing leaded glass or paint pigment X-ray fluores

BONES; BLOOD; URINE; OCCUPATIONAL EXPOSURE; IN VIVO ANALYSIS; LEAD; BIOACCUMULATION; INDUSTRIES; OCCUPATIONAL HAZARDS; PAINTS; PIGMENTS
Wielopolski, L.; Ellis, K.J.; Vaswani, A.N.; Cohn, S.H.; Greenberg, A.; Puschett, J.B.; Parkinson, D.K.; Fetterolf, D.E.; Landrigan, P.J. 1986 American Journal of Industrial Medicine 9:221-226

Tissue	Cases Exposure Route	Range	Mean	General Information
12244 Embryonic/fetal	50	0.07-5.29 ug/g	1.72+/-1.30 ug/g	Total content 0.03-3.92 (geometric mean 1.14) ug. Levels not significantly correlated with mother's blood. Included some placenta. First trimester abortion specimans, obtained from non-occupationally exposed mothers, Italy. AAS

BLOOD; EMBRYONIC/FETAL TISSUES; ENVIRONMENTAL EXPOSURE; ITALY; ABORTION; FETUS; LEAD; BIOACCUMULATION; PREGNANCY; URBAN AREAS
Borella, P.; Picco, P.; Masellis, G. 1986 International Archives of Occupational and Environmental Health 57:93-99

Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12245 Hair	10	2.6+/-1.5-10.8+/-7.8 ppm Dry wt	5.4+/-2.6 ppm Dry wt	Hair from 4 parts of scalp. Range of means. Mean for each case is average of levels measured monthly for 10-12 mo. Healthy adult Japanese, age 27-47 yr. AAS

HAIR; NAILS; ENVIRONMENTAL EXPOSURE; JAPAN; ADULTS; METALS; MERCURY; LEAD; CADMIUM; COPPER; NICKEL; IRON; ZINC; MANGANESE; BIOLOGICAL MONITORING; POPULATION EXPOSURE
Nishihara, T.; Watabe, K.; Ichikawa, T.; Kondo, M.; Fujii, M. 1985 Chemosphere 14(8):1133-1141

Tissue	Cases Exposure Route	Range	Mean	General Information
12246 Hair	239	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 30.0+/-3.5 ppm b) 11.1+/-2.8 ppm c) 7.5+/-2.6 ppm d) 34.4+/-3.7 ppm e) 7.6+/-3.5 ppm f) 7.5+/-3.8 ppm g) 54.1+/-6.1 ppm h) 14.7+/-4.0 ppm Dry wt	a) Male, 109 cases b) Female, 130 cases c) White, 150 cases d) Black, 89 cases e) White male, 82 cases f) White female, 68 cases g) Black male, 27 cases h) Black female, 62 cases Correlations of systolic, diastolic, and pulse blood pressure discussed. 13-19 yr olds at 4-H conference, Mississippi State University. AAS

HAIR; ENVIRONMENTAL EXPOSURE; MISSISSIPPI; METAL POISONING; CADMIUM; LEAD; COPPER; ZINC; SEX; RACIAL STUDIES; ADOLESCENTS; BIOACCUMULATION; BLOOD PRESSURE
Medeiros, D.M.; Pellum, L.K. 1985 Bulletin of Environmental Contamination and Toxicology 34:163-169

Tissue	Cases Exposure Route	Range	Mean	General Information
12247 Hair	a) 1 b) 1	a) 1.61-47.0 ppm b) 0.5-19 ppm	a) 11.6+/-8.8 ppm b) 5.48+/-3.98 ppm	a) Subject 1 b) Subject 2 Samples sent to 13 commercial laboratories for analysis. Values here are combined from all. Considerable variance within same laboratory, among different laboratories and disagreement about what was "normal" or "unusual". Authors conclude commercial use of hair analysis for management of disease, nutrition unscientific, uneconomical, probably illegal.

HAIR; ALUMINUM; ARSENIC; BERYLLIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; GOLD; IRON; LEAD; LITHIUM; MAGNESIUM; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; RUBIDIUM; SELENIUM; SILICON; SODIUM; TIN; VANADIUM; ZINC; ELEMENTS; TRACE ELEMENTS; METALS
Barrett, S. 1985 Journal of the American Medical Association 254(8):1041-1045

Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12248 Hair	a) 92 b) 55 c) 46 d) 457 e) 255	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 5.38 ppm b) 5.35 ppm c) 2.52 ppm d) 3.62 ppm e) 13.2 ppm	a) Canada b) U.S.A. c) Poland d) Japan e) India Part of international survey of 21 elements. Japanese, 2-80 yr olds. Rest were 30-60 yr old. ES; AAS

ENVIRONMENTAL EXPOSURE; HAIR; CANADA; UNITED STATES; POLAND; JAPAN; INDIA; MAGNESIUM; CALCIUM; PHOSPHORUS; SODIUM; POTASSIUM; IRON; COPPER; MANGANESE; ZINC; SELENIUM; CHROMIUM; NICKEL; COBALT; VANADIUM; LEAD; CADMIUM; ALUMINUM; ANTIMONY; MERCURY; TIN; ARSENIC; AGE; SEX; COMPARATIVE EVALUATIONS

Takagi, Y.; Matsuda, S.; Imai, S.; Ohmori, Y.; Masuda, T.; Vinson, J.A.; Mehra, M.C.; Puri, B.K.; Kaniewski, A. 1986 Bulletin of Environmental Contamination and Toxicology 36:793-800

Tissue	Cases Exposure Route	Range	Mean	General Information
12249 Kidney	1	Not given	12 ug/g	Postmortem examination. Normal range 0.1-0.6 ug/dl. Had been given folk remedies from India since 2 mo of age. 9 mo old Asian Indian boy, Florida Became lethargic and stopped crawling at 8 mo follwed by tremors and refusal of food. One mo later, he had seizures and was hospitalized. Died 2 d later.

BLOOD; URINE; LIVER; KIDNEYS; LEAD; FLORIDA; INFANTS; CASE HISTORIES; AUTOPSIES; LEAD POISONING; DELIBERATE EXPOSURE; ACCIDENTAL POISONING; BIOACCUMULATION

Colgrove, M.L.; Zinion, M. 1985 Veterinary and Human Toxicology 27(1):63

Tissue	Cases Exposure Route	Range	Mean	General Information
12250 Kidney		a) <=0.1-0.8 mg/kg b) <=0.1-0.9 mg/kg c) <=0.1-1.3 mg/kg d) <=0.1-0.8 mg/kg Wet wt	a) <=0.1 mg/kg b) <=0.1 mg/kg c) <=0.1 mg/kg d) <=0.1 mg/kg Wet wt Median	a) Cortex, Kingston, 76 cases b) Ottawa, 66 cases c) Medulla, Kingston, 76 d) Ottawa, 66 Detection limit 0.1 mg/kg wet wt. Autopsy samples from normal subjects, Kingston and Ottawa, Ontario AAS

KIDNEYS; LIVER; CANADA; AUTOPSIES; CALCIUM; POTASSIUM; MAGNESIUM; SODIUM; PHOSPHORUS; COPPER; IRON; MANGANESE; SELENIUM; ZINC; CADMIUM; MERCURY; LEAD

Subramanian, K.S.; Meranger, J.C.; Burnett, R.T. 1985 Science of the Total Environment 42:223-235

Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12251 Kidney	a) 7 b) 11 c) 8 d) 46 e) 8 f) 6 g) 16	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 280 ppb b) 150 ppb c) 295 ppb d) 390 ppb e) 440 ppb f) 400 ppb g) 235 ppb Medians	a) Deaths from lung cancer b) From gastrointestinal cancer c) From other malignancies d) From cardiovascular diseases e) From cerebrovascular diseases f) From other causes g) Controls, residents of rural area 50 km from smelter Median, all workers 348470 ppb. Copper smelter workers who died after after April 1975, and controls, Sweden. AAS

LUNGS; LIVER; KIDNEYS; OCCUPATIONAL EXPOSURE; SWEDEN; NEOPLASMS; CADMIUM; LEAD; ZINC; METALS; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; SMELTERS; SMOKING
Gerhardsson, L.; Brune, D.; Nordberg, G.F.; Wester, P.O. 1986 Science of the Total Environment 50:65-85

Tissue	Cases Exposure Route	Range	Mean	General Information
12252 Liver	1 Ingestion	Not given	62 ug/g	Postmortem examination. Normal range 0.21-0.55 ug/dl. Had been given folk remedies from India since 2 mo of age. 9 mo old Asian Indian boy, Florida Became lethargic and stopped crawling at 8 mo follwed by tremors and refusal of food. One mo later, he had seizures and was hospitalized. Died 2 d later.

BLOOD; URINE; LIVER; KIDNEYS; LEAD; FLORIDA; INFANTS; CASE HISTORIES; AUTOPSIES; LEAD POISONING; DELIBERATE EXPOSURE; ACCIDENTAL POISONING; BIOACCUMULATION
Colgrove, M.L.; Zinion, M. 1985 Veterinary and Human Toxicology 27(1):63

Tissue	Cases Exposure Route	Range	Mean	General Information
12253 Liver	a) 7 b) 11 c) 8 d) 46 e) 8 f) 16	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 425 ppb b) 380 ppb c) 475 pb d) 620 ppb e) 665 ppb f) 285 ppb Medians	a) Deaths from lung cancer b) From gastrointestinal cancer c) From other malignancies d) From cardiovascular diseases e) From cerebrovascular diseases f) Controls, residents of rural area 50 km from smelter Median, all workers 470 ppb. Copper smelter workers who died after after April 1975, and controls, Sweden. AAS

LUNGS; LIVER; KIDNEYS; OCCUPATIONAL EXPOSURE; SWEDEN; NEOPLASMS; CADMIUM; LEAD; ZINC; METALS; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; SMELTERS; SMOKING
Gerhardsson, L ; Brune, D.; Nordberg, G.F.; Wester, P.O. 1986 Science of the Total Environment 50:65-85

Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12254 Lung		a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 320 ppm b) 140 ppm c) 197 ppm d) 141 ppm e) 151 ppm f) 130 ppm g) 140 ppm h) 55 ppm i) 39 ppm	a) Lung cancer, 7 cases b) GI cancer, 11 cases c) Other malignancies, 7 cases d) Cardiovascular disease, 8 cases f) Other causes, 5 cases g) All workers, 76 cases h) Matched controls from Burtrask and Jorn, 15 cases Controls. Swedish Cu-smelter workers consecutively dead since 4/75. Means: age 68.1+/-9.1 (range 66.0+/-19.5-71.3+/-8.6), retired 7.2+/-5.9 yr (5.3+/-4.9-11.2+/-7.7), exposed 31.2+/-8.4 yr (25.8+/-10.5-32.1+/-9.3) NA

SWEDEN; OCCUPATIONAL EXPOSURE; LUNGS; SELENIUM; TIN; ARSENIC; CADMIUM; CHROMIUM; COBALT; LANTHANUM; LEAD; METALS; SMELTERS; OCCUPATIONAL HAZARDS; NEOPLASMS; AUTOPSIES; CARCINOGEN
Gerhardsson, L.; Brune, D.; Nordberg, I.G.F.; Wester, P.O. 1985 British Journal of Industrial Medicine 42:617-626

Tissue	Cases Exposure Route	Range	Mean	General Information
12255 Lung	a) 7 b) 11 c) 8 d) 46 e) 8 f) 6 g) 16 h) 10	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 320 ppb b) 140 ppb c) 198 ppb d) 140 ppb e) 151 ppb f) 130 ppb g) 54 ppb h) 39 ppb Medians	a) Deaths from lung cancer b) From gastrointestinal cancer c) From other malignancies d) From cardiovascular diseases e) From cerebrovascular diseases f) From other causes g) Controls, residents of rural area 50 km from smelter h) Controls, residents of Stockholm (800 km from smelter) Median, all workers 140 ppb. Copper smelter workers who died after after April 1975, and controls, Sweden. AAS

LUNGS; LIVER; KIDNEYS; OCCUPATIONAL EXPOSURE; SWEDEN; NEOPLASMS; CADMIUM; LEAD; ZINC; METALS; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; SMELTERS; SMOKING
Gerhardsson, L.; Brune, D.; Nordberg, G.F.; Wester, P.O. 1986 Science of the Total Environment 50:65-85

Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12256 Milk	1	Not given	58 ug/l	About 3X normal level. 3 mo after birth of infant. No sources of contamination in environment. Suggest Pb mobilized from long-term body stores from previous exposure. 36 yr old woman with acute Pb-encephalopathy when 18 mo old. No subsequent exposure. History of miscarriages/probable miscarriages. Reproductive inefficiency, lethargy, abdominal cramps during pregnancy and lactation Hemolytic anemia, basophilic stippling of RBC's 3 mo after birth of infant.

ENVIRONMENTAL EXPOSURE; LEAD; BLOOD; AUSTRALIA; PREGNANCY; MILK; LEAD POISONING
Thompson, G.N.; Robertson, E.F.; Fitzgerald, S. 1985 Medical Journal of Australia 143:131

Tissue	Cases Exposure Route	Range	Mean	General Information
12257 Milk	100	0-7.2 ug/dl	1.7+/-0.2 ug/dl	Levels in formula milk (73 samples) ranged 0-17.8 (mean 2.3+/-0.3 ug/dl) and in tap water (249 samples) 0-34 ug/dl (mean 0.6+/-0.1 ug/dl). Levels in milk at 1 and 6 months did not differ much. Poorly correlated with cord blood. Mothers involved in longitudinal study of sources of Pb, developmental effects of exposure. Births between 9/79-4/81 ASV

LEAD; BLOOD; MILK; NEWBORN; URBAN AREAS; INFANTS; DIETS; DRINKING WATER; ENVIRONMENTAL EXPOSURE
Rabinowitz, M.; Leviton, A.; Needleman, H. 1985 Archives of Environmental Health 40(5):283-286

Tissue	Cases Exposure Route	Range	Mean	General Information
12258 Teeth		21.1-43 ug/g	Not given	Siblings of three cases of "near-miss" sudden infant death syndrome, 11 day-8 mo old. All mothers had uncomplicated pregnancies and deliveries. Babies showed no disposition to febrile convulsion or epilepsy. No recurrence of paroxysmal morbidity after resuscitation. Possible contribution of Pb exposure to the occurrence of SIDS requires investigation. First-grade children with high levels (>/=18.7 ug/g) dentin lead, Aarhus, Denmark.

TEETH; ENVIRONMENTAL EXPOSURE; DENMARK; CASE HISTORIES; NEWBORN; INFANTS; RESPIRATORY DISEASES; LEAD; BIOACCUMULATION; HEALTH HAZARDS
Lyngbye, T.; Hansen, O.N.; Vangbert, L.; Grandjean, P. 1985 New England Journal of Medicine 313(15):954-955

Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12259 Urine	1 Ingestion	Not given	173 ug/dl	Postmortem examination. Normal range 0-50 ug/dl. Had been given folk remedies from India since 2 mo of age. 9 mo old Asian Indian boy, Florida Became lethargic and stopped crawling at 8 mo follwed by tremors and refusal of food. One mo later, he had seizures and was hospitalized. Died 2 d later.

BLOOD; URINE; LIVER; KIDNEYS; LEAD; FLORIDA; INFANTS; CASE HISTORIES; AUTOPSIES; LEAD POISONING; DELIBERATE EXPOSURE; ACCIDENTAL POISONING; BIOACCUMULATION
Colgrove, M.L.; Zinion, M. 1985 Veterinary and Human Toxicology 27(1):63

Tissue	Cases Exposure Route	Range	Mean	General Information
12260 Urine	236	a) >50 ug b) >50 ug c) >50ug /g creatinine	a) Not given b) Not given c) Not given	a) Factory A, 19.2% of workers b) Factory B, 69.0% c) Factory C, 45.0% Ceramic factory workers, Italy AAS

BLOOD; URINE; OCCUPATIONAL EXPOSURE; ITALY; ADULTS; COMPARATIVE EVALUATIONS; INDUSTRIAL HYGIENE; LEAD; BIOLOGICAL MONITORING; INDUSTRIAL PLANTS
Cornelio, G.; De Zotti, R.; Patussi, V.; Cociancich, L; Furlan, G. 1985 International Archives of Occupational and Environmental Health 55:207-215

Tissue	Cases Exposure Route	Range	Mean	General Information
12261 Urine	a) 69 b) 31 c) 25 d) 13 e) 42 f) 69 g) 23	a) 1.7-36.0 ug/g b) 3.8-36.9 ug/g c) 21.8-111.4 ug/g d) 49.7-587 ug/g e) 3.4-49.5 ug/g f) 1.9-26.8 ug/g g) 10.2-334.7 ug/g Creatinine basis	a) 7.7+/-5.3 ug/g b) 16.7+/-10.1 ug/g c) 59.1+/-26.6 ug/g d) 132.0+/-152.0 ug/g e) 17.4+/-10.6 ug/g f) 6.0+/-4.1 ug/g g) 71.4+/-69.7 ug/g Creatinine basis	a) Matched, unexposed controls, males b) Matched unexposed controls, females c) Pb-exposed, males, smelter, ceramic factory workers d) Pb-exposed, females, smelter, ceramic factory workers e) Cd-exposed, males primary Cd/En smelter workers f) Hg-exposed, males, chlor-alkaline plant or battery plant workers g) Pb-Cd exposed, males, non-ferrous smelter workers Examined relationship of exposure to erythrocytic enzymes. Pyrimidine 5'-nucleotidase inhibited by Pb, not by Cd or Hg.

BLOOD; URINE; OCCUPATIONAL EXPOSURE; BELGIUM; METAL POISONING; LEAD POISONING; LEAD; CADMIUM; MERCURY; ENZYMES; METALS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS
Mohammed-Brahim, B.; Buchet, J.P.; Lauwerys, R. 1985 International Archives of Occupational and Environmental Health 55:247-252

Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12262 Urine	a) 26 b) 26	a) 16.8-229.6 ug/l b) 7.5-55.0 ug/l	a) 73.8 ug/l b) 24.9 ug/l	a) Air levels of tetraethyllead 0.004-0.810 mg/cu m b) Controls In the 21 workers exposed to no more than 0.050 mg/cu m, excretion did not exceed 60 ug/l. Correlation between tetraethyllead in air and Pb-U (r=0.84). No correlation between Pb-B and Pb-U. Results also given adjusted to mean specific gravity of urine, and in ug/g creatinine. 26-58 yr old petrol company workers, employment period 0.5-22.0 (mean 8.1) yr. Controls. AAS

BLOOD; URINE; OCCUPATIONAL EXPOSURE; LEAD; LEAD ORGANIC COMPOUNDS; INDUSTRIAL CHEMICALS; AUTOMOTIVE; BIOACCUMULATION; FUEL ADDITIVES; GASOLINE; HEALTH HAZARDS; INDUSTRIES; METABOLISM; METABOLITES; OCCUPATIONAL HAZARDS
Turlakiewicz, Z.; Chmielnicka, J. 1985 British Journal of Industrial Medicine 42:682-685

Tissue	Cases Exposure Route	Range	Mean	General Information
12263 Urine	1 Ingestion	Not given	1925 ug	24 hr collection. No known industrial exposure. Taking non-prescription Indian drug for diabetes. Normal level <80 ug. 35 yr old Asian Indian male Weakness, malaise, nausea, abdominal pain Hemoglobin 103 g/L. Coarse hasophilic stippling, reticulocyte count 172X10(E+9)/L, circulating nucleated RBC's, increased sideroblasts, erythroid hyperplasia, elevated protoporphyin

DELIBERATE EXPOSURE; CONSUMER EXPOSURE; LEAD; BLOOD; URINE; INDIA; LEAD POISONING
Pontifex, A.H ; Garg, A.K. 1985 Canadian Medical Association Journal 133:1227-1228

Tissue	Cases Exposure Route	Range	Mean	General Information
12264 Urine	1	389-137 ug	Not given	Excretion during day 1 and 5 of chelation therapy with 250 mg EDTA/6 hr. Gunshot injury 12 wks earlier had left multiple fragments of uncoated birdshot throughout abdomen and pelvis. 8 yr old Peak level of free erythrocyte protoporphyrin 149 ug/dL

BLOOD; URINE; CHILDREN; METAL POISONING; LEAD; BIOACCUMULATION
Selbst, S.M.; Henretig, F.; Fee, M.A.; Levy, S.E.; Kitts, A.W. 1986 Pediatrics 77(3):413-416

Lead
7439-92-1
Pb
AtW 207.2, MP 327.4 C, BP 1740 C, VP 1.77 mm Hg at 1000 C, 1 mm Hg at 970 C, 10 mm Hg at 1160 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12265 Urine	20	a) 0.02-0.2 mg/24 hr b) 0.16-2.05 mg/24 hr	a) 0.1 mg/24 hr b) 1.08 mg/24 hr	a) Before treatment, samples during 24 hr b) After treatment with 20 mg/kg (I.V. in 250 ml 5% glucose) of CaEDTA, 24 hr samples Values estimated from graph. Gun metal foundry workers (males) employed 2-17 (mean 10) yr, no histories of renal disease. 34-59 (mean 49) yr-olds occupationally exposed to Pb, Zn, Cu AAS

OCCUPATIONAL EXPOSURE; LEAD; MERCURY; CADMIUM; ZINC; COPPER; MANGANESE; CHROMIUM; URINE; BLOOD; BLOOD PLASMA; BLOOD CELLS; CHELATING AGENTS; OCCUPATIONAL HAZARDS; METALS
Araki, S.; Aono, H.; Murata, K. 1986 British Journal of Industrial Medicine 43:636-641

Tissue	Cases Exposure Route	Range	Mean	General Information
12266 Urine	41	1-56 ug/L	20.3+/-16.2 ug/L	Total lead (estimated from figure) 100-2200 ug/48 hr, measured in 37 subjects after administration of 1 g Ca-EDTA. Industrial workers producing leaded glass or paint pigment

BONES; BLOOD; URINE; OCCUPATIONAL EXPOSURE; IN VIVO ANALYSIS; LEAD; BIOACCUMULATION; INDUSTRIES; OCCUPATIONAL HAZARDS; PAINTS; PIGMENTS
Wielopolski, L.; Ellis, K.J.; Vaswani, A.N.; Cohn, S.H.; Greenberg, A.; Puschett, J.B.; Parkinson, D.K.; Fetterolf, D.E.; Landrigan, P.J. 1986 American Journal of Industrial Medicine 9:221-226

Tissue	Cases Exposure Route	Range	Mean	General Information
12267 Urine	3	a) 0.05-0.15 ug/min b0 0.18-0.54 ug/min	a) 0.09 ug/min b) 0.40 ug/min	a) Pre-immersion b) Second hour of immersion Lead workers, immersed 3 hr, up to the neck, in water at 35 deg C. Subjects left tank hourly for urine collection and to drink 200 ml water. Mean pre-immersion urinary volume 2.11 mL/min, second hour 8.16 mL/min. Total Pb excretion (during immersion) 34.10, 47.39, and 65.68 ug. Immersion 3X/wk used as one aspect in treatment of lead poisoning at Bath Hospital. Some values estimated from figure. Volunteers with moderately raised Pb-B levels AAS

URINE; OCCUPATIONAL EXPOSURE; UNITED KINGDOM; LEAD; BIOACCUMULATION; OCCUPATIONAL HAZARDS
Heywood, A.; Waldron, H.A.; O'Hare, P.; Dieppe, P.A. 1986 British Journal of Industrial Medicine 43:713-715

Lead(2+), diethyl- ion (8 CI); Plumbanediylium, diethyl- (9 CI)
24952-65-6
C4-H10-Pb

Tissue	Cases Exposure Route	Range	Mean	General Information
12268 Urine	52	3.0-25.0 ug/l	6.6 ug/l	Air levels of tetraethyllead were 0.004-0.810 mg/cu m for 26 exposed workers. In the 5 exposed to the highest level of 0.050-0.810 (mean 0.205) mg/cu m the amount of metabolite excreted was significantly higher than in the less exposed 21. Correlation found between air levels of tetraethylled, and diethyllead (r=0.68) indicates the permissible level of diethyllead for occupationally exposed workers to be about 8 ug/g creatinine. Not detected in 26 controls. Results also given adjusted to mean specific gravity of urine, and in ug/g creatinine. 26-58 yr old petrol company workers, employment period 0.5-22.0 (mean 8.1) yr. Controls. AAS

BLOOD; URINE; OCCUPATIONAL EXPOSURE; LEAD; LEAD ORGANIC COMPOUNDS; INDUSTRIAL CHEMICALS; AUTOMOTIVE; BIOACCUMULATION; FUEL ADDITIVES; GASOLINE; HEALTH HAZARDS; INDUSTRIES; METABOLISM; METABOLITES; OCCUPATIONAL HAZARDS
Turlakiewicz, Z.; Chmielnicka, J. 1985 British Journal of Industrial Medicine 42:682-685

Lithium
7439-93-2
Li
AtW 6.941, MP 180.54 C, BP 1336 C, VP 1 mm Hg at 723 C, 10 mm Hg at 890 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12269 Hair	a) 1 b) 1	a) 0.001-2.2 ppm b) 0.001-0.6 ppm	a) 0.20+/-0.58 ppm b) 0.10+/-0.15 ppm	a) Subject 1 b) Subject 2 Samples sent to 13 commercial laboratories for analysis. Values here are combined from all. Considerable variance within same laboratory, among different laboratories and disagreement about what was "normal" or "unusual". Authors conclude commercial use of hair analysis for management of disease, nutrition unscientific, uneconomical, probably illegal.

HAIR; ALUMINUM; ARSENIC; BERYLLIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; GOLD; IRON; LEAD; LITHIUM; MAGNESIUM; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; RUBIDIUM; SELENIUM; SILICON; SODIUM; TIN; VANADIUM; ZINC; ELEMENTS; TRACE ELEMENTS; METALS
Barrett, S. 1985 Journal of the American Medical Association 254(8):1041-1045

Lutetium
7439-94-3
Lu
AtW 174.97, MP 1652 C (also reported as 1663 C), BP 3395 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12270 Blood, plasma	15	0.3-0.5 ng/ml	0.4+/-0.1 ng/mL	Before patients received therapy. 43-76 yr old laryngeal carcinoma patients NA

BLOOD PLASMA; BLOOD; LARYNX; CARCINOMAS; COMPARATIVE EVALUATIONS; LANTHANUM; CERIUM; YTTERBIUM; TRACE ELEMENTS
Esposito, M.; Collecchi, P.; Brera, S.; Mora, E.; Mazzucotelli, A.; Cutolo, M.; Oddone, M. 1986 Science of the Total Environment 50:55-63

Lutetium
7439-94-3
Lu
AtW 174.97, MP 1652 C (also reported as 1663 C), BP 3395 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12271 Bronchoalveolar lavage	1	Not applicable	2.4 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old Rare-earth pneumoconiosis Micronodular lung changes, restrictive spirometric impairment NA

BRONCHOALVEOLAR LAVAGE; NAILS; OCCUPATIONAL EXPOSURE; CASE HISTORIES; PNEUMOCONIOSIS; OCCUPATIONAL DISEASES; RESPIRATORY DISEASES; LAVAGE; CERIUM; LANTHANUM; TERBIUM; YTTERBIUM; SILVER; ARSENIC; GOLD; CADMIUM; COBALT; CHROMIUM; CESIUM; IRON; MERCURY; INDIUM; IRIDIUM; MOLYBDENUM; NICKEL; RUBIDIUM; ANTIMONY; SCANDIUM; SELENIUM; TIN; THORIUM; URANIUM; ZINC; TRACE ELEMENTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; SMOKING

Sulotto, F.; Romano, C.; Berra, A.; Botta, G.C.; Rubino, G.F.; Sabbioni, E.; Pietra, R. 1986 American Journal of Industrial Medicine 9:567-575

Tissue	Cases Exposure Route	Range	Mean	General Information
12272 Larynx	15	a) 0.3-0.9 ng/g b) 0.4-0.9 ng/g	a) 0.6+/-0.2 ng/g b) 0.6+/-0.2 ng/g	a) Malignant tissue b) Normal adjacent tissue 43-76 yr old laryngeal carcinoma patients NA

BLOOD PLASMA; BLOOD; LARYNX; CARCINOMAS; COMPARATIVE EVALUATIONS; LANTHANUM; CERIUM; YTTERBIUM; TRACE ELEMENTS

Esposito, M.; Collecchi, P.; Brera, S.; Mora, E.; Mazzucotelli, A.; Cutolo, M.; Oddone, M. 1986 Science of the Total Environment 50:55-63

m-Toluamide, N,N-diethyl- (8 CI); Benzamide, N,N-diethyl-3-methyl- (9 CI)
134-62-3
C12-H17-N-O
MW 191.26, MP less than 25 C, BP 160 C at 19 mm Hg, 111 C at 1.0 mm Hg

Tissue	Cases Exposure Route	Range	Mean	General Information
12273 Blood	1	Not applicable	2.7 mg/L	Postmortem specimen from woman who had ingested the compound and was subsequently killed by an oncoming train. Corrected level, 40% recovery was 6.8 mg/L. 18 yr old woman, Australia GC
12274 Liver	1	Not applicable	23 mg/kg	Postmortem specimen from woman who had ingested the compound and was subsequently killed by an oncoming train. Corrected level, 45% recovery was 51 mg/kg. 18 yr old woman, Australia GC

DELIBERATE EXPOSURE; PESTICIDES; AUSTRALIA; STOMACH; LIVER; BLOOD; URINE; AUTOPSIES; INGESTION

Crowley, R.J.; Geyer, R.; Muir, S.G. 1985 Journal of Forensic Sciences 31(1):280-282

m-Toluamide, N,N-diethyl- (8 CI); Benzamide, N,N-diethyl-3-methyl- (9 CI)
134-62-3
C12-H17-N-O
MW 191.26, MP less than 25 C, BP 160 C at 19 mm Hg, 111 C at 1.0 mm Hg

Tissue	Cases Exposure Route	Range	Mean	General Information
12275 Skin				Review of biodistribution/toxicity. Discussion of skin penetration, absorption, excretion, depot storage. Need for research into absorption, carcinogenicity, neurotoxicity. Animal studies also discussed.

CONSUMER EXPOSURE; REVIEW; URINE; SKIN; INSECT REPELLENT
Robbins, P.J.; Cherniack, M.G. 1986 Journal of Toxicology and Environmental Health 18:503-525

Tissue	Cases Exposure Route	Range	Mean	General Information
12276 Stomach	1 Ingestion	Not applicable	460 mg	Postmortem specimen from woman who had ingested the compound and was subsequently killed by an oncoming train. Corrected level, 60% recovery was 767 mg. Includes stomach and contents. 18 yr old woman, Australia GC
12277 Urine	1	Not applicable	0.3 mg/L	Postmortem specimen from woman who had ingested the compound and was subsequently killed by an oncoming train. Corrected level, 70% recovery was 0.4 mg/L. 18 yr old woman, Australia GC

DELIBERATE EXPOSURE; PESTICIDES; AUSTRALIA; STOMACH; LIVER; BLOOD; URINE; AUTOPSIES; INGESTION
Crowley, R.J.; Geyer, R.; Muir, S.G. 1985 Journal of Forensic Sciences 31(1):280-282

Tissue	Cases Exposure Route	Range	Mean	General Information
12278 Urine				Review of biodistribution/toxicity. Discussion of skin penetration, absorption, excretion, depot storage. Need for research into absorption, carcinogenicity, neurotoxicity. Animal studies also discussed.

CONSUMER EXPOSURE; REVIEW; URINE; SKIN; INSECT REPELLENT
Robbins, P.J.; Cherniack, M.G. 1986 Journal of Toxicology and Environmental Health 18:503-525

m-Xylene (8 CI); Benzene, 1,3-dimethyl- (9 CI)
108-38-3
C8-H10
MW 106.16, MP -47.4 C, VP 10 mm Hg at 28.3 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12279 Blood	35 Inhalation	39.2+/-32.7-143.6+/-121.1 ug/l	109.9+/-103.9 ug/l	Spraymen varnishing vehicles. Alkyl-, phenol- and polyester varnishes dissolved in solvent mixtures. Mean air level, o-xylene, 6 different areas, 7.9 ppm. Range of means. Also measured phenolic and carbonic metabolites of alkylbenzenes and benzene in urine. 24-52 yr olds (mean 38.8) employed 2-24 yr (mean 8.2). Summer, Autumn 1983 Altered blood cell counts, decreased hemoglobin level GC
OCCUPATIONAL EXPOSURE; BLOOD; URINE; OCCUPATIONAL HAZARDS; INHALATION; SOLVENTS; LEAD Angerer, J.; Wulf, H. 1985 International Archives of Occupational and Environmental Health 56:307-321				

Tissue	Cases Exposure Route	Range	Mean	General Information
12280 Blood	8-9 Inhalation	a) 9.3-29.4 umol/l b) 19.3-31.9 umol/l c) 24.7-58.3 umol/l d) 32.9-50.6 umol/l e) 15.5-37.8 umol/l f) 21.8-52.3 umol/l g) 40.8-58.4 umol/l h) 51.8-72.5 umol/l	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) In exposure chamber, at rest, 9-12 cm, air level 8.2 umol/l (200 ppm) b) 12:40-1:40 pm, same conditions, after 40 min lunch break outside chamber c) During exercise, otherwise same as a) d) During exercise, otherwise same as b) e) At rest, 9-12 am, air level fluctuating between 5.2-16.4 umol/l (135-400 ppm) f) 12:40-1:40 pm, same conditions, after 40 min lunch break outside chamber g) During exercise, otherwise same as e) h) During exercise, otherwise same as f) Venous blood. Crossover study. Some dose-related effect on sense of balance, as suggested by measurements of body sway. Healthy volunteers, average age 21, ht 185 cm, wt 74 kg GC
BLOOD; DELIBERATE EXPOSURE; SOLVENTS; XYLENE; HEALTH HAZARDS; INDUSTRIES; INHALATION; OCCUPATIONAL HAZARDS Savolainen, K.; Riihimaki, V.; Luukikonen, R.; Muona, O. 1985 British Journal of Industrial Medicine 42:765-769				

Magnesium
7439-95-4
Mg
AtW 24.305, MP 651 C, BP 1100 C, VP 1 mm Hg at 621 C, 10 mm Hg at 740 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12281 Blood, whole	a) 10 b) 10	a) Not given b) Not given	a) 36.9+/-6.2 ug/ml b) 41.2+/-5.6 ug/ml	a) Patients with multiple sclerosis b) Controls Significant difference, borderline. Patients and controls, matched for sex and age. NA

BLOOD; HAIR; ENVIRONMENTAL EXPOSURE; UNITED KINGDOM; NEUROMUSCULAR DISEASES; TRACE ELEMENTS; BIOACCUMULATION; BIOINDICATORS; ALUMINUM; ANTIMONY; ARSENIC; BARIUM; BROMINE; CESIUM; GOLD; IODINE; MANGANESE; MOLYBDENUM; SELENIUM; VANADIUM; ZINC; COPPER; IRON; MAGNESIUM; POTASSIUM; SULFUR
Ward, N.I.; Bryce-Smith, D.; Minski, M.; Matthews, W.B. 1985 Biological Trace Element Research 7:153-159

Tissue	Cases Exposure Route	Range	Mean	General Information
12282 Bone	37	a) 63.5-200 ug/g b) 14-245 ug/g c) Not given Wet wt	a) 90.9+/-49.3 ug/g b) 99.3+/-62.2 ug/g c) 270+/-130 ug/g Wet wt	a) Neoplastic samples from surgically resected tissues, 16 cases b) Samples from normal-looking areas outside the tumor, 9 cases c) Normal samples, control subjects, 21 cases. Patients at Tata Memorial Hospital Pathology Dept, India. AAS

ORAL TISSUE; BREAST; LUNGS; ESOPHAGUS; STOMACH; INTESTINES; REPRODUCTIVE ORGANS; BONES; BONE MARROW; INDIA; CARCINOMAS; NEOPLASMS; SARCOMAS; BIOPSIES; COMPARATIVE EVALUATIONS; CALCIUM; MAGNESIUM; POTASSIUM; SODIUM; SURGERY
Ranade, S.S.; Panday, V.K. 1985 Science of the Total Environment 41:79-89

Tissue	Cases Exposure Route	Range	Mean	General Information
12283 Bone	a) 148 b) 18	a) 757+/-116-2661+/-545 ug/g b) 1230-3015 ug/g	a) Not given b) 2460+/-347 ug/g	a) Ranges of means. Ancient specimens, mostly limbs, from 10 sites. Bronze Age (3000 yr BP) to 18th century periods. Two bones from Neolithic and one from 800 yr BP excluded from calculations b) Contemporary femora, tibiae, vertebrae and ribs (29 bones) collected at autopsies, 2-3/1984, Paris Fragments collected for analysis from layers about 0.5-4 mm below surface of medullary cavity, from a 5-10 sq cm area. Mg tended to migrate out of ancient bones. Additional data on significance of concentration gradients within bone, conditions of burial site, fossilization changes, geography, and historical/cultural factors. France ICP-AES

BONES; FRANCE; AUTOPSIES; COMPARATIVE EVALUATIONS; CADMIUM; LEAD; ZINC; BARIUM; MAGNESIUM; CALCIUM; MINERALS; ENVIRONMENTAL EXPOSURE
Jaworowski, Z.; Barbalat, F.; Blain, C.; Peyre, E. 1985 Science of the Total Environment 43:103-126

Magnesium
7439-95-4
Mg
AtW 24.305, MP 651 C, BP 1100 C, VP 1 mm Hg at 621 C, 10 mm Hg at 740 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12284 Bone marrow	27	a) 40.2-86.7 ug/g b) 39.3-99.6 ug/g Wet wt	a) 62.0+/-14.5 ug/g b) 61.1+/-19.3 ug/g Wet wt	a) Neoplastic samples from surgically resected tissues, 27 cases b) Samples from normal-looking areas outside the tumor, 8 cases. Patients at Tata Memorial Hospital Pathology Dept, India. AAS
12285 Breast	36	a) 25.2-272 ug/g b) 15.0-218.0 ug/g c) Not given Wet wt	a) 109.3+/-65.9 ug/g b) 89.3+/-67.7 ug/g c) 340+/-20 ug/g Wet wt	a) Neoplastic samples from surgically resected tissues, 36 cases b) Samples from normal-looking areas outside the tumor, 21 cases c) Normal samples, control subjects, 4 cases. Patients at Tata Memorial Hospital Pathology Dept, India. AAS
12286 Esophagus	16	a) 98.5-221 ug/g b) 99.9-257 ug/g c) Not given Wet wt	a) 153.2+/-50.5 ug/g b) 147.7+/-58.1 ug/g c) 210+/-90 ug/g Wet wt	a) Neoplastic samples from surgically resected tissues, 7 cases b) Samples from normal-looking areas outside the tumor, 7 cases c) Normal samples, control subjects, 9 cases. Patients at Tata Memorial Hospital Pathology Dept, India. AAS

ORAL TISSUE; BREAST; LUNGS; ESOPHAGUS; STOMACH; INTESTINES; REPRODUCTIVE ORGANS; BONES; BONE MARROW; INDIA; CARCINOMAS; NEOPLASMS; SARCOMAS; BIOPSIES; COMPARATIVE EVALUATIONS; CALCIUM; MAGNESIUM; POTASSIUM; SODIUM; SURGERY

Ranade, S.S.; Panday, V.K. 1985 Science of the Total Environment 41:79-89

Tissue	Cases Exposure Route	Range	Mean	General Information
12287 Hair	a) 1 b) 1	a) 14.6-492 ppm b) 23.6-320 ppm	a) 330+/-152 ppm b) 186+/-83.2 ppm	a) Subject 1 b) Subject 2 Samples sent to 13 commercial laboratories for analysis. Values here are combined from all. Considerable variance within same laboratory, among different laboratories and disagreement about what was "normal" or "unusual". Authors conclude commercial use of hair analysis for management of disease, nutrition unscientific, uneconomical, probably illegal.

HAIR; ALUMINUM; ARSENIC; BERYLLIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; GOLD; IRON; LEAD; LITHIUM; MAGNESIUM; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; RUBIDIUM; SELENIUM; SILICON; SODIUM; TIN; VANADIUM; ZINC; ELEMENTS; TRACE ELEMENTS; METALS

Barrett, S. 1985 Journal of the American Medical Association 254(8):1041-1045

Magnesium
7439-95-4
Mg
AtW 24.305, MP 651 C, BP 1100 C, VP 1 mm Hg at 621 C, 10 mm Hg at 740 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12288 Hair	a) 92 b) 55 c) 46 d) 457 e) 255	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 64.0 ppm b) 36.1 ppm c) 61.6 ppm d) 127 ppm e) 156 ppm	a) Canada b) U.S.A. c) Poland d) Japan e) India Part of international survey of 21 elements. Japanese, 2-80 yr olds. Rest were 30-60 yr old. ES; AAS

ENVIRONMENTAL EXPOSURE; HAIR; CANADA; UNITED STATES; POLAND; JAPAN; INDIA; MAGNESIUM; CALCIUM; PHOSPHORUS; SODIUM; POTASSIUM; IRON; COPPER; MANGANESE; ZINC; SELENIUM; CHROMIUM; NICKEL; COBALT; VANADIUM; LEAD; CADMIUM; ALUMINUM; ANTIMONY; MERCURY; TIN; ARSENIC; AGE; SEX; COMPARATIVE EVALUATIONS

Takagi, Y.; Matsuda, S.; Imai, S.; Ohmori, Y.; Masuda, T.; Vinson, J.A.; Mehra, M.C.; Puri, B.K.; Kaniewski, A. 1986 Bulletin of Environmental Contamination and Toxicology 36:793-800

Tissue	Cases Exposure Route	Range	Mean	General Information
12289 Intestine	21	a) 54-244 ug/g b) 49.2-214 ug/g Wet wt	a) 148.2+/-52.1 ug/g b) 120.4+/-44.1 ug/g Wet wt	a) Neoplastic samples from surgically resected tissues, 21 cases b) Samples from normal-looking areas outside the tumor, 19 cases In rectum and colon. Patients at Tata Memorial Hospital Pathology Dept, India. AAS

ORAL TISSUE; BREAST; LUNGS; ESOPHAGUS; STOMACH; INTESTINES; REPRODUCTIVE ORGANS; BONES; BONE MARROW; INDIA; CARCINOMAS; NEOPLASMS; SARCOMAS; BIOPSIES; COMPARATIVE EVALUATIONS; CALCIUM; MAGNESIUM; POTASSIUM; SODIUM; SURGERY

Ranade, S.S.; Panday, V.K. 1985 Science of the Total Environment 41:79-89

Tissue	Cases Exposure Route	Range	Mean	General Information
12290 Kidney		a) 41-207 mg/kg b) 94-163 mg/kg c) 80-223 mg/kg d) 42-179 mg/kg Wet wt	a) 132 mg/kg b) 127 mg/kg c) 132 mg/kg d) 117 mg/kg Wet wt Median	a) Cortex, Kingston, 73 cases b) Ottawa, 65 cases c) Medulla, Kingston, 72 d) Ottawa, 63 Autopsy samples from normal subjects, Kingston and Ottawa, Ontario ICP-AES
12291 Liver	a) 74 b) 64	a) 92-228 mg/kg b) 79-213 mg/kg Wet wt	a) 164 mg/kg b) 134 mg/kg Wet wt Median	a) Kingston b) Ottawa Autopsy samples from normal subjects, Kingston and Ottawa, Ontario ICP-AES

KIDNEYS; LIVER; CANADA; AUTOPSIES; CALCIUM; POTASSIUM; MAGNESIUM; SODIUM; PHOSPHORUS; COPPER; IRON; MANGANESE; SELENIUM; ZINC; CADMIUM; MERCURY; LEAD

Subramanian, K.S.; Meranger, J.C.; Burnett, R.T. 1985 Science of the Total Environment 42:223-235

Magnesium
7439-95-4
Mg
AtW 24.305, MP 651 C, BP 1100 C, VP 1 mm Hg at 621 C, 10 mm Hg at 740 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12292 Lung	37	a) 63-237 ug/g b) 26.9-233 ug/g c) Not given Wet wt	a) 137.55+/-50.0 ug/g b) 101.6+/-51.4 ug/g c) 180+/-100 ug/g Wet wt	a) Neoplastic samples from surgically resected tissues, 16 cases b) Samples from normal-looking areas outside the tumor, 15 cases c) Normal samples, control subjects, 21 cases. Patients at Tata Memorial Hospital Pathology Dept, India. AAS

ORAL TISSUE; BREAST; LUNGS; ESOPHAGUS; STOMACH; INTESTINES; REPRODUCTIVE ORGANS; BONES; BONE MARROW; INDIA; CARCINOMAS; NEOPLASMS; SARCOMAS; BIOPSIES; COMPARATIVE EVALUATIONS; CALCIUM; MAGNESIUM; POTASSIUM; SODIUM; SURGERY
Ranade, S.S.; Panday, V.K. 1985 Science of the Total Environment 41:79-89

Tissue	Cases Exposure Route	Range	Mean	General Information
12293 Milk	52 Ingestion	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 1.13 mM b) 1.14 mM c) 1.28 mM d) 1.27 mM e) 1.30 mM f) 1.25 mM g) 1.21mM	a) 1 month b) 2 months c) 3 months d) 4 months e) 5 months f) 6 months g) 7-20 months Times postpartum. Half on normal diet, half on vegetarian diet. No significant differences due to diet. Lactating women, mean age 29 yr. AAS

MILK; ADULTS; DIETS; COMPARATIVE EVALUATIONS; IRON; COPPER; ZINC; SODIUM; POTASSIUM; CALCIUM; MAGNESIUM; MINERALS; TRACE ELEMENTS; LACTATION
Finley, D.A.; Lonnerdal, B.; Dewey, K.G.; Grivetti, L.E. 1985 Journal of Nutrition 115:772-781

Tissue	Cases Exposure Route	Range	Mean	General Information
12294 Oral	25	a) 105-414.6 ug/g b) 44.6-469.4 ug/g c) Not given Wet wt	a) 192.3+/-115.4 ug/g b) 179.6+/-151.8 ug/g c) 240+/-110 ug/g Wet wt	a) Neoplastic samples from surgically resected tissues, 6 cases b) Samples from normal-looking areas outside the tumor, 6 cases c) Normal samples, control subjects, 19 cases. Patients at Tata Memorial Hospital Pathology Dept, India. AAS
12295 Reproductive organs	39	a) 28.7-356 ug/g b) 36.5-471 ug/g c) Not given Wet wt	a) 145.6+/-84.2 ug/g b) 160.8+/-23.0 ug/g c) 180+/-90 ug/g Wet wt	a) Neoplastic samples from surgically resected tissues, 26 cases b) Samples from normal-looking areas outside the tumor, 17 cases c) Normal samples, control subjects, 13 cases. Patients at Tata Memorial Hospital Pathology Dept, India. AAS

(next page)

Magnesium
7439-95-4
Mg
AtW 24.305, MP 651 C, BP 1100 C, VP 1 mm Hg at 621 C, 10 mm Hg at 740 C

(continued)

Tissue	Cases Exposure Route	Range	Mean	General Information
12296 Stomach	30	a) 80-483 ug/g b) 44-171 ug/g c) Not given Wet wt	a) 172.8+/-109.0 ug/g b) 118.2+/-45.5 ug/g c) 200+/-100 ug/g Wet wt	a) Neoplastic samples from surgically resected tissues, 12 cases b) Samples from normal-looking areas outside the tumor, 13 cases c) Normal samples, control subjects, 17 cases. Patients at Tata Memorial Hospital Pathology Dept, India. AAS

ORAL TISSUE; BREAST; LUNGS; ESOPHAGUS; STOMACH; INTESTINES; REPRODUCTIVE ORGANS; BONES; BONE MARROW; INDIA; CARCINOMAS; NEOPLASMS; SARCOMAS; BIOPSIES; COMPARATIVE EVALUATIONS; CALCIUM; MAGNESIUM; POTASSIUM; SODIUM; SURGERY

Ranade, S.S.; Panday, V.K. 1985 Science of the Total Environment 41:79-89

Mandelic acid (8 CI); Benzeneacetic acid, alpha-hydroxy- (9 CI)
90-64-2
C8-H8-O3
MW 152.14, MP 119 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12297 Urine	11	a) 323-1570 mg b) 287-4838 mg c) 202-1598 mg d) 740-1680 mg /g creatinine	a) 816+/-405 mg b) 1660+/-1276 mg c) 1101+/-516 mg d) 1224+/-343 mg /g creatinine	a) Post-shift sampling, March 1980 b) May 1982 c) December 1982 d) March 1983 After styrene exposures for 3-7 yr, median 4 yr. No adverse effects on peripheral nervous system if current allowable limit values are not exceeded. 24-54 yr old workers, polyester resin boat industry. HPLC

BLOOD; URINE; OCCUPATIONAL EXPOSURE; OCCUPATIONAL HAZARDS; STYRENES; INHALATION; GERMANY

Triebig, G.; Schaller, K.-H.; Valentin, H. 1985 International Archives of Occupational and Environmental Health 56:239-247

Tissue	Cases Exposure Route	Range	Mean	General Information
12298 Urine	4 Dermal	12.5-83.5 mg	27.8+/-16.2 mg	Diurnal excretion after 2-hr exposure to 1354-3180 mg/cu m styrene in air. Volunteers inside exposure chamber, wearing only shorts, breathing pure air through respirator. Highest exposure excluded from calculation of mean. Dermal vapour absorption coefficient 0.022 cu m/h. 25-35 yr old volunteers GC

URINE; DELIBERATE EXPOSURE; INDUSTRIAL MEDICINE; STYRENES; INDUSTRIAL CHEMICALS; BIOACCUMULATION; METABOLITES

Wieczorek, H. 1985 International Archives of Occupational and Environmental Health 57:71-75

Mandelic acid (8 CI); Benzeneacetic acid, alpha-hydroxy- (9 CI)
90-64-2
C8-H8-O3
MW 152.14, MP 119 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12299 Urine	7 Inhalation	a) 16+/-6.9-24+/-5.7% b) 30+/-30-38+/-11% c) 1.5-10.4 mg/l	a) 20% b) 35% c) 5.1 mg/l	a) Excretion during 8 hr exposure (0.5 hr break after first 4 hr). Air levels of styrene 40.9 and 96.2 mg/cu m, respectively b) During 24 hr from beginning of 8 hr exposure. Air levels 200 and 96.2 mg/cu m c) Controls Mean retention of styrene vapors in respiratory tract 70.8%. No correlation with level or duration of exposure. Volunteers, Poland GC
URINE; DELIBERATE EXPOSURE; POLAND; STYRENES; INDUSTRIAL CHEMICALS; BIOACCUMULATION; INDUSTRIES; INHALATION; METABOLITES Wieczorek, H.; Piotrowski, J.K. 1985 International Archives of Occupational and Environmental Health 57:57-69				

Manganese
7439-96-5
Mn
AtW 54.9380, MP 1244 C, BP 2095 C, VP 1 mm Hg at 1292 C, 10 mm Hg at 1510 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12300 Blood	20	0.1-0.4 ug/dL	0.2 ug/dL	Gun metal foundry workers (males) employed 2-17 (mean 10) yr, no histories of renal disease. 34-59 (mean 49) yr-olds occupationally exposed to Pb, Zn, Cu AAS
12301 Blood, cells	20	0.1-0.4 ug/dL	0.2 ug/dL	Gun metal foundry workers (males) employed 2-17 (mean 10) yr, no histories of renal disease. 34-59 (mean 49) yr-olds occupationally exposed to Pb, Zn, Cu AAS
OCCUPATIONAL EXPOSURE; LEAD; MERCURY; CADMIUM; ZINC; COPPER; MANGANESE; CHROMIUM; URINE; BLOOD; BLOOD PLASMA; BLOOD CELLS; CHELATING AGENTS; OCCUPATIONAL HAZARDS; METALS Araki, S.; Aono, H.; Murata, K. 1986 British Journal of Industrial Medicine 43:636-641				

Tissue	Cases Exposure Route	Range	Mean	General Information
12302 Hair	10	0.45+/-0.19-2.36+/-1.30 ppm Dry wt	1.13+/-0.66 ppm Dry wt	Hair from 4 parts of scalp. Range of means. Mean for each case is average of levels measured monthly for 10-12 mo. Healthy adult Japanese, age 27-47 yr. AAS
HAIR; NAILS; ENVIRONMENTAL EXPOSURE; JAPAN; ADULTS; METALS; MERCURY; LEAD; CADMIUM; COPPER; NICKEL; IRON; ZINC; MANGANESE; BIOLOGICAL MONITORING; POPULATION EXPOSURE Nishihara, T.; Watabe, K.; Ichikawa, T.; Kondo, M.; Fujii, M. 1985 Chemosphere 14(8):1133-1141				

Manganese
7439-96-5
Mn
AtW 54.9380, MP 1244 C, BP 2095 C, VP 1 mm Hg at 1292 C, 10 mm Hg at 1510 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12303 Hair	a) 10 b) 10	a) Not given b) Not given	a) 0.553+/-0.112 ug/g b) 0.602+/-0.126 ug/g	a) Patients with multiple sclerosis b) Controls Significant difference, borderline. Patients and controls, matched for sex and age. NA

BLOOD; HAIR; ENVIRONMENTAL EXPOSURE; UNITED KINGDOM; NEUROMUSCULAR DISEASES; TRACE ELEMENTS; BIOACCUMULATION; BIOINDICATORS; ALUMINUM; ANTIMONY; ARSENIC; BARIUM; BROMINE; CESIUM; GOLD; IODINE; MANGANESE; MOLYBDENUM; SELENIUM; VANADIUM; ZINC; COPPER; IRON; MAGNESIUM; POTASSIUM; SULFUR
Ward, N.I.; Bryce-Smith, D.; Minski, M.; Matthews, W.B. 1985 Biological Trace Element Research 7:153-159

Tissue	Cases Exposure Route	Range	Mean	General Information
12304 Hair	a) 1 b) 1	a) 0.06-5.23 ppm b) 0.06-8.23 ppm	a) 0.86+/-0.94 ppm b) 0.87+/-1.53 ppm	a) Subject 1 b) Subject 2 Samples sent to 13 commercial laboratories for analysis. Values here are combined from all. Considerable variance within same laboratory, among different laboratories and disagreement about what was "normal" or "unusual". Authors conclude commercial use of hair analysis for management of disease, nutrition unscientific, uneconomical, probably illegal.

HAIR; ALUMINUM; ARSENIC; BERYLLIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; GOLD; IRON; LEAD; LITHIUM; MAGNESIUM; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; RUBIDIUM; SELENIUM; SILICON; SODIUM; TIN; VANADIUM; ZINC; ELEMENTS; TRACE ELEMENTS; METALS
Barrett, S. 1985 Journal of the American Medical Association 254(8):1041-1045

Tissue	Cases Exposure Route	Range	Mean	General Information
12305 Hair	a) 92 b) 55 c) 46 d) 457 e) 255	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 3.2 ppm b) 7.32 ppm c) 0.82 ppm d) 2.4 ppm e) 2.23 ppm	a) Canada b) U.S.A. c) Poland d) Japan e) India Part of international survey of 21 elements. Japanese, 2-80 yr olds. Rest were 30-60 yr old. ES; AAS

ENVIRONMENTAL EXPOSURE; HAIR; CANADA; UNITED STATES; POLAND; JAPAN; INDIA; MAGNESIUM; CALCIUM; PHOSPHORUS; SODIUM; POTASSIUM; IRON; COPPER; MANGANESE; ZINC; SELENIUM; CHROMIUM; NICKEL; COBALT; VANADIUM; LEAD; CADMIUM; ALUMINUM; ANTIMONY; MERCURY; TIN; ARSENIC; AGE; SEX; COMPARATIVE EVALUATIONS
Takagi, Y.; Matsuda, S.; Imai, S.; Ohmori, Y.; Masuda, T.; Vinson, J.A.; Mehra, M.C.; Puri, B.K.; Kaniewski, A. 1986 Bulletin of Environmental Contamination and Toxicology 36:793-800

Manganese
7439-96-5
Mn
AtW 54.9380, MP 1244 C, BP 2095 C, VP 1 mm Hg at 1292 C, 10 mm Hg at 1510 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12306 Kidney		a) 0.3-1.4 mg/kg b) 0.5-1.7 mg/kg c) 0.3-1.1 mg/kg d) 0.2-4.4 mg/kg Wet wt	a) 0.69 mg/kg b) 0.85 mg/kg c) 0.60 mg/kg d) 0.70 mg/kg Wet wt Median	a) Cortex, Kingston, 74 cases b) Ottawa, 65 cases c) Medulla, Kingston, 75 d) Ottawa, 60 Autopsy samples from normal subjects, Kingston and Ottawa, Ontario ICP-AES
12307 Liver	a) 71 b) 65	a) 0.4-3.2 mg/kg b) 0.1-2.6 mg/kg Wet wt	a) 1.30 mg/kg b) 1.20 mg/kg Wet wt Median	a) Kingston b) Ottawa Autopsy samples from normal subjects, Kingston and Ottawa, Ontario ICP-AES

KIDNEYS; LIVER; CANADA; AUTOPSIES; CALCIUM; POTASSIUM; MAGNESIUM; SODIUM; PHOSPHORUS; COPPER; IRON; MANGANESE; SELENIUM; ZINC; CADMIUM; MERCURY; LEAD

Subramanian, K.S.; Meranger, J.C.; Burnett, R.T. 1985 Science of the Total Environment 42:223-235

Tissue	Cases Exposure Route	Range	Mean	General Information
12308 Milk				Review of longitudinal changes of trace element components in human milk. Mean daily intakes of breast-fed, cow's milk-fed infants and recommended daily allowances compared. Determination of Se status and consequences of deficiency discussed.

MILK; REVIEW; TRACE ELEMENTS; IRON; COPPER; ZINC; MANGANESE; MOLYBDENUM; CHROMIUM; COBALT; ARSENIC; SELENIUM; ITALY; UNITED STATES; GREECE; INDIA; FINLAND; FRANCE

Roekens, E.; Deelstra, H.; Robberecht, H. 1985 Science of the Total Environment 42:91-108

Tissue	Cases Exposure Route	Range	Mean	General Information
12309 Urine	20	a) 0.002-0.01 mg/24 hr b) 0.0075-0.06 mg/24 hr	a) 0.005 mg/24 hr b) 0.023 mg/24 hr	a) Before treatment, samples during 24 hr b) After treatment with 20 mg/kg (I.V. in 250 ml 5% glucose) of CaEDTA, 24 hr samples Values estimated from graph. Gun metal foundry workers (males) employed 2-17 (mean 10) yr, no histories of renal disease. 34-59 (mean 49) yr-olds occupationally exposed to Pb, Zn, Cu AAS

OCCUPATIONAL EXPOSURE; LEAD; MERCURY; CADMIUM; ZINC; COPPER; MANGANESE; CHROMIUM; URINE; BLOOD; BLOOD PLASMA; BLOOD CELLS; CHELATING AGENTS; OCCUPATIONAL HAZARDS; METALS

Araki, S.; Aono, H.; Murata, K. 1986 British Journal of Industrial Medicine 43:636-641

Mercury
7439-97-6
Hg
AtW 200.59, MP -38.87 C, BP 356.72 C, VP 2X10(E-3) mm Hg at 25 C, 100 mm Hg at 260 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12310 Blood	a) 440 b) 745 c) 2064 d) 600 e) 811 f) 1885	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 0.34 ug/dl b) 0.29 ug/dl c) 0.23 ug/dl d) 0.36 ug/dl e) 0.30 ug/dl f) 0.26 ug/dl Geometric mean	a) Males, coastal Brittany b) Non-coastal Brittany c) Lorraine d) Females, coastal Brittany e) Non-coastal Brittany f) Lorraine Ages 16->65. Decrease in levels with increased distance from coast. Geometric mean 0.28 ug/dl for all women vs 0.26 ug/dl for all men in study ($p<0.001$). These data included 109 females and 93 males <16 yr old, geometric means 0.23 and 0.30 ug/dl, respectively. Non-occupationally exposed residents, Brittany and Lorraine, France AAS

BLOOD; ENVIRONMENTAL EXPOSURE; FRANCE; AGE; MERCURY; BIOACCUMULATION; POPULATION EXPOSURE
Grasmick, C.; Huel, G.; Sarmini, H.; Moreau, T. 1985 Science of the Total Environment 44:101-109

Tissue	Cases Exposure Route	Range	Mean	General Information
12311 Blood	20	0.12-0.38 ug/dL	0.23 ug/dL	Gun metal foundry workers (males) employed 2-17 (mean 10) yr, no histories of renal disease. Total organic/inorganic mean 0.32 (range 0.15-0.77) ug/dl. 34-59 (mean 49) yr-olds occupationally exposed to Pb, Zn, Cu AAS

OCCUPATIONAL EXPOSURE; LEAD; MERCURY; CADMIUM; ZINC; COPPER; MANGANESE; CHROMIUM; URINE; BLOOD; BLOOD PLASMA; BLOOD CELLS; CHELATING AGENTS; OCCUPATIONAL HAZARDS; METALS
Araki, S.; Aono, H.; Murata, K. 1986 British Journal of Industrial Medicine 43:636-641

Tissue	Cases Exposure Route	Range	Mean	General Information
12312 Blood		Not given	5.2 ug/L Geometric mean	No occupational exposure. Ambient air level in Bombay residential areas 0.7 ng/cu m (geometric mean). Estimated average daily intake from air 0.02 ug. Relationship between dietary intake and long-term blood levels. Adults of middle socio-economic class, India AAS

BLOOD; HAIR; URINE; ENVIRONMENTAL EXPOSURE; INDIA; MERCURY; BIOACCUMULATION; DIETS; INHALATION; POPULATION EXPOSURE
Panday, V.K.; Parameswaran, M.; Soman, S.D. 1986 Science of the Total Environment 48:223-230

Mercury
7439-97-6
Hg
AtW 200.59, MP -38.87 C, BP 356.72 C, VP 2X10(E-3) mm Hg at 25 C, 100 mm Hg at 260 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12313 Blood	a) 17 b) 42 c) 10 d) 11 e) 38 f) 25	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 41.90 ug/L b) 65.41 ug/L c) 23.15 ug/L d) 51.00 ug/L e) 26.35 ug/L f) 5.42 ug/L	a) Seal meat eaten at least 6 x/wk, Angmagssalik b) Same diet group, Isortoq c) Seal eaten 2-5 x/wk, Angmagssalik d) Same diet group, Isortoq e) Seal eaten 0-1 x/wk, Angmagssalik f) Same diet group, Denmark Mean level 62.5 ug/L in diet group 1, 22.2 ug/L in diet group 3. Positively correlated with age. Eskimos living in Angmagssalik (main town) or Isortoq, Angmagssalik district, Greenland, or in Denmark Positively correlated with sister chromatid exchange.

BLOOD; ESKIMOS; GREENLAND; DENMARK; COMPARATIVE EVALUATIONS; CADMIUM; LEAD; MERCURY; SELENIUM; BIOACCUMULATION; DIETS; SMOKING; ENVIRONMENTAL EXPOSURE
Wulf, H.C.; Kromann, N.; Kousgaard, N.; Hansen, J.C.; Niebuhr, E.; Alboge, K. 1986 Science of the Total Environment 48:81-94

Tissue	Cases Exposure Route	Range	Mean	General Information
12314 Blood, cells	20	0.15-0.42 ug/dL	0.29 ug/dL	Gun metal foundry workers (males) employed 2-17 (mean 10) yr, no histories of renal disease. Total organic/inorganic mean 0.49 (range 0.30-0.82) ug/dl. 34-59 (mean 49) yr-olds occupationally exposed to Pb, Zn, Cu AAS

OCCUPATIONAL EXPOSURE; LEAD; MERCURY; CADMIUM; ZINC; COPPER; MANGANESE; CHROMIUM; URINE; BLOOD; BLOOD PLASMA; BLOOD CELLS; CHELATING AGENTS; OCCUPATIONAL HAZARDS; METALS
Araki, S.; Aono, H.; Murata, K. 1986 British Journal of Industrial Medicine 43:636-641

Tissue	Cases Exposure Route	Range	Mean	General Information
12315 Breath	167	a) 0.2-28 ng/l b) 0.2-24 ng/l c) 0.2-64 ng/l	a) 3.19+/-4.78 ng/l b) 1.92+/-2.93 ng/l c) 8.17+/-10.9 ng/l	a) 167 subjects, median 1.30 ng/l b) Subgroup of a), before tooth brushing, 106 subjects, median 1.00 ng/l c) Same as b), after tooth brushing for 1 min, median 4.1 ng/l Samples collected by exhaling 2 l/min. Range estimated from graph. Adults with silver-tin amalgam fillings AAS; Photoacoustic detection

BREATH; DELIBERATE EXPOSURE; NEW ZEALAND; DENTAL CARIES; METAL POISONING; DENTISTRY; MERCURY; METALS
Patterson, J.E.; Weissberg, B.G.; Dennison, P.J. 1985 Bulletin of Environmental Contamination and Toxicology 34:459-468

Mercury
7439-97-6
Hg
AtW 200.59, MP -38.87 C, BP 356.72 C, VP 2X10(E-3) mm Hg at 25 C, 100 mm Hg at 260 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12316 Bronchoalveolar lavage	1	Not applicable	2.0 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old NA

BRONCHOALVEOLAR LAVAGE; NAILS; OCCUPATIONAL EXPOSURE; CASE HISTORIES; PNEUMOCONIOSIS; OCCUPATIONAL DISEASES; RESPIRATORY DISEASES; LAVAGE; CERIUM; LANTHANUM; TERBIUM; YTTERBIUM; SILVER; ARSENIC; GOLD; CADMIUM; COBALT; CHROMIUM; CESIUM; IRON; MERCURY; INDIUM; IRIDIUM; MOLYBDENUM; NICKEL; RUBIDIUM; ANTIMONY; SCANDIUM; SELENIUM; TIN; THORIUM; URANIUM; ZINC; TRACE ELEMENTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; SMOKING

Sulotto, F.; Romano, C.; Berra, A.; Botta, G.C.; Rubino, G.F.; Sabbioni, E.; Pietra, R. 1986 American Journal of Industrial Medicine 9:567-575

Tissue	Cases Exposure Route	Range	Mean	General Information
12317 Hair	10	a) 1.67+/-0.48-4.60+/-0.83 ppm b) 1.18+/-0.25-4.80+/-0.40 ppm Dry wt	a) 2.74+/-1.22 ppm b) 2.01+/-1.06 ppm Dry wt	a) Hair from 4 parts of scalp b) Mustache Ranges of means. Samples from each person taken 1 mo for 12 mo. Means are 12 mo averages. Healthy adult Japanese, age 27-47 yr. Hg analyzer

HAIR; NAILS; ENVIRONMENTAL EXPOSURE; JAPAN; ADULTS; METALS; MERCURY; LEAD; CADMIUM; COPPER; NICKEL; IRON; ZINC; MANGANESE; BIOLOGICAL MONITORING; POPULATION EXPOSURE

Nishihara, T.; Watabe, K.; Ichikawa, T.; Kondo, M.; Fujii, M. 1985 Chemosphere 14(8):1133-1141

Tissue	Cases Exposure Route	Range	Mean	General Information
12318 Hair	106	1.29-129.47 ug/g	7.96 ug/g Geometric mean	No appreciable difference between mean levels in males (7.03+/-7.49 ug/g) and females (8.59+/-17.34 ug/g). Highest levels all found in two families, means 67.89+/-11.43 and 92.42+/-29.14 ug/g. Mean levels 12.45+/-15.57 in 18 who were occupationally exposed. Mean levels in 10 nursing babies 7.87+/-5.82 ug/g, compared to 5.09+/-2.56 in their mothers. No correlation between levels and number of amalgam dental fillings. Residents of Madrid, Spain. 1/83-6/83. AAS

HAIR; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; SPAIN; INFANTS; MERCURY; BIOACCUMULATION; HEALTH HAZARDS; LACTATION; POPULATION EXPOSURE

Gonzalez, M.J.; Rico, M.C.; Hernandez, L.M.; Baluja, G. 1985 Archives of Environmental Health 40(4):225-228

Mercury
7439-97-6
Hg
AtW 200.59, MP -38.87 C, BP 356.72 C, VP 2X10(E-3) mm Hg at 25 C, 100 mm Hg at 260 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12319 Hair	a) 1 b) 1	a) 0-2.90 ppm b) 0-2.6 ppm	a) 0.74+/-0.68 ppm b) 0.86+/-0.84 ppm	a) Subject 1 b) Subject 2 Samples sent to 13 commercial laboratories for analysis. Values here are combined from all. Considerable variance within same laboratory, among different laboratories and disagreement about what was "normal" or "unusual". Authors conclude commercial use of hair analysis for management of disease, nutrition unscientific, uneconomical, probably illegal.

HAIR; ALUMINUM; ARSENIC; BERYLLIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; GOLD; IRON; LEAD; LITHIUM; MAGNESIUM; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; RUBIDIUM; SELENIUM; SILICON; SODIUM; TIN; VANADIUM; ZINC; ELEMENTS; TRACE ELEMENTS; METALS

Barrett, S. 1985 Journal of the American Medical Association 254(8):1041-1045

Tissue	Cases Exposure Route	Range	Mean	General Information
12320 Hair	a) 92 b) 55 c) 46 d) 457 e) 255	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 0.93 ppm b) 0.74 ppm c) 0.23 ppm d) 2.2 ppm e) 1.3 ppm	a) Canada b) U.S.A. c) Poland d) Japan e) India Part of international survey of 21 elements. Japanese, 2-80 yr olds. Rest were 30-60 yr old. AAS

ENVIRONMENTAL EXPOSURE; HAIR; CANADA; UNITED STATES; POLAND; JAPAN; INDIA; MAGNESIUM; CALCIUM; PHOSPHORUS; SODIUM; POTASSIUM; IRON; COPPER; MANGANESE; ZINC; SELENIUM; CHROMIUM; NICKEL; COBALT; VANADIUM; LEAD; CADMIUM; ALUMINUM; ANTIMONY; MERCURY; TIN; ARSENIC; AGE; SEX; COMPARATIVE EVALUATIONS

Takagi, Y.; Matsuda, S.; Imai, S.; Ohmori, Y.; Masuda, T.; Vinson, J.A.; Mehra, M.C.; Puri, B.K.; Kaniewski, A. 1986 Bulletin of Environmental Contamination and Toxicology 36:793-800

Tissue	Cases Exposure Route	Range	Mean	General Information
12321 Hair		0.15-8.4 ug/g	1.2 ug/g Geometric mean	No occupational exposure. Ambient air level in Bombay residential areas 0.7 ng/cu m (geometric mean). Estimated average daily intake from air 0.02 ug. Adults of middle socio-economic class, India AAS

BLOOD; HAIR; URINE; ENVIRONMENTAL EXPOSURE; INDIA; MERCURY; BIOACCUMULATION; DIETS; INHALATION; POPULATION EXPOSURE

Panday, V.K.; Parameswaran, M.; Soman, S.D. 1986 Science of the Total Environment 48:223-230

Mercury
7439-97-6
Hg
AtW 200.59, MP -38.87 C, BP 356.72 C, VP 2X10(E-3) mm Hg at 25 C, 100 mm Hg at 260 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12322 Hair	10	0.20-2.4 mg/kg Dry wt	1.2 mg/kg Dry wt	Autopsy samples. 48-62 yr old Caucasians, Sweden NA

HAIR; KIDNEYS; LIVER; SWEDEN; AUTOPSIES; SILVER; COBALT; CHROMIUM; IRON; MERCURY; ANTIMONY; SELENIUM; ZINC; MINERALS; TRACE ELEMENTS; BIOACCUMULATION
Muramatsu, Y.; Parr, R.M. 1985 International Atomic Energy Agency Report on the Second Research Co-ordination Meeting, Neuherberg, FRG, Sept 1985

Tissue	Cases Exposure Route	Range	Mean	General Information
12323 Kidney		a) 0.01-1.18 mg/kg b) 0.01-1.92 m/gkg c) 0.01-1.26 mg/kg d) 0.01-1.34 mg/kg Wet wt	a) 0.17 mg/kg b) 0.28 mg/kg c) 0.16 mg/kg d) 0.22 mg/kg Wet wt Median	a) Cortex, Kingston, 72 cases b) Ottawa, 65 cases c) Medulla, Kingston, 71 d) Ottawa, 62 Autopsy samples from normal subjects, Kingston and Ottawa, Ontario AAS

KIDNEYS; LIVER; CANADA; AUTOPSIES; CALCIUM; POTASSIUM; MAGNESIUM; SODIUM; PHOSPHORUS; COPPER; IRON; MANGANESE; SELENIUM; ZINC; CADMIUM; MERCURY; LEAD
Subramanian, K.S.; Meranger, J.C.; Burnett, R.T. 1985 Science of the Total Environment 42:223-235

Tissue	Cases Exposure Route	Range	Mean	General Information
12324 Kidney	10	0.21-2.1 mg/kg Dry wt	0.94 mg/kg Dry wt	Autopsy samples. Cortex. 48-62 yr old Caucasians, Sweden NA

HAIR; KIDNEYS; LIVER; SWEDEN; AUTOPSIES; SILVER; COBALT; CHROMIUM; IRON; MERCURY; ANTIMONY; SELENIUM; ZINC; MINERALS; TRACE ELEMENTS; BIOACCUMULATION
Muramatsu, Y.; Parr, R.M. 1985 International Atomic Energy Agency Report on the Second Research Co-ordination Meeting, Neuherberg, FRG, Sept 1985

Tissue	Cases Exposure Route	Range	Mean	General Information
12325 Liver	a) 72 b) 62	a) 0.01-0.34 mg/kg b) 0.01-0.37 mg/kg Wet wt	a) 0.05 mg/kg b) 0.05 mg/kg Wet wt Median	a) Kingston b) Ottawa Autopsy samples from normal subjects, Kingston and Ottawa, Ontario AAS

KIDNEYS; LIVER; CANADA; AUTOPSIES; CALCIUM; POTASSIUM; MAGNESIUM; SODIUM; PHOSPHORUS; COPPER; IRON; MANGANESE; SELENIUM; ZINC; CADMIUM; MERCURY; LEAD
Subramanian, K.S.; Meranger, J.C.; Burnett, R.T. 1985 Science of the Total Environment 42:223-235

Mercury
7439-97-6
Hg
AtW 200.59, MP -38.87 C, BP 356.72 C, VP 2X10(E-3) mm Hg at 25 C, 100 mm Hg at 260 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12326 Liver	10	0.04-0.48 mg/kg Dry wt	0.27 mg/kg Dry wt	Autopsy samples. 48-62 yr old Caucasians, Sweden NA

HAIR; KIDNEYS; LIVER; SWEDEN; AUTOPSIES; SILVER; COBALT; CHROMIUM; IRON; MERCURY; ANTIMONY; SELENIUM; ZINC; MINERALS; TRACE ELEMENTS; BIOACCUMULATION
Muramatsu, Y.; Parr, R.M. 1985 International Atomic Energy Agency Report on the Second Research Co-ordination Meeting, Neuherberg, FRG, Sept 1985

Tissue	Cases Exposure Route	Range	Mean	General Information
12327 Nail	10	0.47+/-0.09-2.78+/-0.49 ppm Dry wt	1.44+/-0.64 ppm Dry wt	Fingernail and toenail. Range of means. Average of samples taken monthly for 7 or 12 mo from each case. Healthy adult Japanese, age 27-47 yr. Hg analyzer

HAIR; NAILS; ENVIRONMENTAL EXPOSURE; JAPAN; ADULTS; METALS; MERCURY; LEAD; CADMIUM; COPPER; NICKEL; IRON; ZINC; MANGANESE; BIOLOGICAL MONITORING; POPULATION EXPOSURE
Nishihara, T.; Watabe, K.; Ichikawa, T.; Kondo, M.; Fujii, M. 1985 Chemosphere 14(8):1133-1141

Tissue	Cases Exposure Route	Range	Mean	General Information
12328 Placenta	22	<0.005-0.230 ug/g	0.076 ug/g	After normal births. 26-95% (mean 65%) as organic Hg. Dietary habits of all subjects similar. No high seafood consumption. Residents of Genova, Italy AAS

PLACENTA; ITALY; MERCURY; SELENIUM; BIOACCUMULATION; ENVIRONMENTAL EXPOSURE
Capelli, R.; Minganti, V.; Semino, G.; Bertarini, W.; 1986 Science of the Total Environment 48:69-79

Tissue	Cases Exposure Route	Range	Mean	General Information
12329 Urine	a) 69 b) 31 c) 25 d) 13 e) 42 f) 69 g) 23	a) 0.3-4.9 ug/g b) 0.3-3.9 ug/g c) 0.3-3.8 ug/g d) 0.3-4.2 ug/g e) 0.4-4.3 ug/g f) 8-224 ug/g g) 0.3-3.8 ug/g Creatinine basis	a) 1.6+/-1.2 ug/g b) 1.1+/-0.8 ug/g c) 1.3+/-0.7 ug/g d) 1.4+/-1.1 ug/g e) 1.1+/-0.8 ug/g f) 62.7+/-48.0 ug/g g) 1.5+/-0.9 ug/g Creatinine basis	a) Matched, unexposed controls, males b) Matched unexposed controls, females c) Pb-exposed, males, smelter, ceramic factory workers d) Pb-exposed, females, smelter, ceramic factory workers e) Cd-exposed, males primary Cd/En smelter workers f) Hg-exposed, males, chlor-alkaline plant or battery plant workers g) Pb-Cd exposed, males, non-ferrous smelter workers Examined relationship of exposure to erythrocytic enzymes. Pyrimidine 5'-nucleotidase inhibited by Pb, not by Cd or Hg.

BLOOD; URINE; OCCUPATIONAL EXPOSURE; BELGIUM; METAL POISONING; LEAD POISONING; LEAD; CADMIUM; MERCURY; ENZYMES; METALS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS
Mohammed-Brahim, B.; Buchet, J.P ; Lauwerys, R. 1985 International Archives of Occupational and Environmental Health 55:247-252

Mercury
7439-97-6
Hg
AtW 200.59, MP -38.87 C, BP 356.72 C, VP 2X10(E-3) mm Hg at 25 C, 100 mm Hg at 260 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12330 Urine	20	a) 0.002-0.0085 mg/24 hr b) 0.0011-0.0094 mg/24 hr	a) 0.0049 mg/24 hr b) 0.0051 mg/24 hr	a) Before treatment, samples during 24 hr b) After treatment with 20 mg/kg (I.V. in 250 ml 5% glucose) of CaEDTA, 24 hr samples Values estimated from graph. Gun metal foundry workers (males) employed 2-17 (mean 10) yr, no histories of renal disease. 34-59 (mean 49) yr-olds occupationally exposed to Pb, Zn, Cu AAS

OCCUPATIONAL EXPOSURE; LEAD; MERCURY; CADMIUM; ZINC; COPPER; MANGANESE; CHROMIUM; URINE; BLOOD; BLOOD PLASMA; BLOOD CELLS; CHELATING AGENTS; OCCUPATIONAL HAZARDS; METALS
Araki, S.; Aono, H.; Murata, K. 1986 British Journal of Industrial Medicine 43:636-641

Tissue	Cases Exposure Route	Range	Mean	General Information
12331 Urine		Not given	6.2 ug/L *Geometric mean*	12-hr samples. No occupational exposure. Ambient air level in Bombay residential areas 0.7 ng/cu m (geometric mean). Estimated average daily intake from air 0.02 ug. Adults of middle socio-economic class, India AAS

BLOOD; HAIR; URINE; ENVIRONMENTAL EXPOSURE; INDIA; MERCURY; BIOACCUMULATION; DIETS; INHALATION; POPULATION EXPOSURE
Panday, V.K.; Parameswaran, M.; Soman, S.D. 1986 Science of the Total Environment 48:223-230

Tissue	Cases Exposure Route	Range	Mean	General Information
12332 Urine	a) 51 b) 50 c) 9 Inhalation	a) 36.0-365 ug/L b) 11.5-267 ug/L c) 6.0-44 ug/L	a) 133 ug/L b) 69 ug/L c) 31 ug/L	a) Workers spending 30-40 hr/wk in cell room b) 1-10 hr/wk c) No exposure Vapor levels usually 0.05-0.10 mg/cu m, occasionally 0.13 mg/cu m. No correlation found with adverse health effects or weight loss. In separate study of 121 workers conducted at different plant, 3 workers with levels >500 ug/L showed poisoning symptoms. After removal from exposure, the tremors and gingivitis resolved. Proteinuria (200 mg/L) remained. Chloralkali plant workers, 1957-1978 AAS; Colorimetry

URINE; OCCUPATIONAL EXPOSURE; METAL POISONING; MERCURY; ACCIDENTAL POISONING; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIES; INHALATION; OCCUPATIONAL HAZARDS
Bunn, W.B.; McGill, C.M.; Barber, T.E.; Cromer, J.W.; Goldwater, L.J. 1986 American Industrial Hygiene Association Journal 47(5):249-254

Metallothionein
9038-94-2
EXACT COMPOSITION UNKNONWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
12333 Liver	1	Not applicable	2,133+/-135 pg/ug Wet wt	Autopsy sample. Normal values for 3 subjects were 187+/-13, 75+/-5, 183+/-16 pg/ug. Worked 20 yr in assembly of Ni-Cd batteries. Last years of work monitoring showed blood Cd of 69 ug/L (normal <10), beta2-microglobulin 10,700 ug/L (normal <4-370). Breathing zone in area had 64-320 ug/cu m (NIOSH criterion for Cd=129 ug/cu m). Levels 15 mo later were 20.5, 26.5, 31,751 ug/L respectively. 57 yr old woman, heavy smoker for >20 yr, found to have metastatic carcinoma of the lung, death within 7 mo. Morphologic lessions in stomach, lung, liver, kidneys RIA
OCCUPATIONAL EXPOSURE; CADMIUM; METALLOTHIONEIN; LIVER; KIDNEYS; BIOLOGICAL MONITORING; NEOPLASMS Garry, V.F.; Pohlman, B.L.; Wick, M.R.; Garvey, J.S.; Zeisler, R. 1986 American Journal of Industrial Medicine 10:153-161				

Methane, chloro-
74-87-3
C-H3-Cl
MW 50.49, MP -97 C, BP -23.7 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12334 Blood	6 Inhalation	a) 100-6 ng/ml b) 30-0.2 ng/ml c) 25-2.5 ng/ml d) 7-0.1 ng/ml	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) 1-10 hr, plateau (100 ng/ml) 1-6 hr during 6 hr 50 ppm exposure, biexponential decline thereafter, 2 cases b) 1-10 hr, plateau (30 ng/ml) 1-6 hr during 6 hr 50 ppm exposure, biexponential decline, 4 cases c) 1-10 hr, plateau (25 ng/ml) 1-6 hr during 6 hr 10 ppm exposure, biexponential decline, 2 cases d) 1-10 hr, plateau (7 ng/ml) 1-6 hr during 6 hr 10 ppm exposure, biexponential decline, 4 cases Values estimated from graph. Healthy volunteers, 25-41 yr old, wt 72-116 kg, ht 173-191 cm. GC-EC
12335 Breath	6 Inhalation	a) 80-3.5 ng/ml b) 50-0.2 ng/ml c) 15-0.9 ng/ml d) 10-0.1 ng/ml	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) 1-8 hr, plateau (80 ng/ml) 1-6 hr during 6 hr 50 ppm exposure, biexponential decline, 2 cases b) 1-8 hr, plateau (50 ng/ml) 1-6 hr during 6 hr 50 ppm exposure, biexponential decline, 4 cases c) 1-8 hr, plateau (15 ng/ml) 1-6 hr during 6 hr 10 ppm exposure, biexponential decline, 2 cases d) 1-8 hr, plateau (10 ng/ml) 1-6 hr during 6 hr 10 ppm exposure, biexponential decline, 4 cases Values estimated from graph. Healthy volunteers, 25-41 yr old, wt 72-116 kg, ht 173-191 cm. GC-EC
BLOOD; BREATH; DELIBERATE EXPOSURE; ADULTS; ANESTHETICS; DRUGS; BIOACCUMULATION; INHALATION; METABOLISM; METABOLITES Nolan, R.J.; Rick, D.L.; Landry, T.D.; McCarty, L.P.; Agin, G.L.; Saunders, J.H. 1985 Fundamental and Applied Toxicology 5:361-369				

Methane, dichloro-
75-09-2
C-H2-Cl2
MW 84.94, MP -95.1 C, BP 39.75 C, VP 380 mm Hg at 22 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12336 Blood, whole	250	a) Not detected-25 ng/mL b) Not given c) Not detected-0.7 ng/mL	a) 0.7 ng/mL b) 0.75 ng/mL c) Not given	a) Cases, test populations screened for volatile organics. In 3 cases levels were >2 S.D. above the mean, thus, most specimens not significantly different from one another b) 16 workers occupationally exposed at wire-manufacturing company c) Patient drinking contaminated water from municipal well in 1981. Contaminants included trichloroethane, ethylene. Range is of measurements on day 67 and day 0 after ceasing to drink contaminated water Values in b), c) estimated from graphs. Patients with high sensitivity to synthetic chemicals GC/MS
BLOOD; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; CHLORINATED HYDROCARBONS; BENZENES; STYRENES; INDUSTRIAL CHEMICALS; TOLUENE; XYLENE; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; WATER POLLUTION; DRINKING WATER Antoine, S.R.; DeLeon, I.R.; O'dell-Smith, R.M. 1986 Bulletin of Environmental Contamination and Toxicology 36:364-371				

Methane, tribromo-
75-25-2
C-H-Br3
MW 252.77, MP 6-7 C, BP 149.5 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12337 Blood, whole	250	a) Not detected-3.4 ng/mL b) Not given c) Not detected-1.2 ng/mL	a) 0.6 ng/mL b) 0.22 ng/mL c) Not given	a) Cases, test populations screened for volatile organics. In 11 cases levels were >2 S.D. above the mean, thus, most specimens not significantly different from one another b) 16 workers occupationally exposed at wire-manufacturing company c) Patient drinking contaminated water from municipal well in 1981. Contaminants included trichloroethane, ethylene. Range is of measurements on day 67 and day 0 after ceasing to drink contaminated water Values in b), c) estimated from graphs. Patients with high sensitivity to synthetic chemicals GC/MS
BLOOD; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; CHLORINATED HYDROCARBONS; BENZENES; STYRENES; INDUSTRIAL CHEMICALS; TOLUENE; XYLENE; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; WATER POLLUTION; DRINKING WATER Antoine, S.R.; DeLeon, I.R.; O'dell-Smith, R.M. 1986 Bulletin of Environmental Contamination and Toxicology 36:364-371				

Methane, trichlorofluoro-
75-69-4
C-Cl3-F
-32.3 C at 60 mm Hg, -39.0 C at 40 mm Hg, -49.7 C at 20 mm Hg, -59.0 C at 10 mm Hg, -67.6 C at 5 mm Hg, -84.3 C at 1.0 mm Hg

Tissue	Cases Exposure Route	Range	Mean	General Information
12338 Blood, whole	3	169.1-835.8 ug/L	Not given	Sampled during work day after 4-6 exposure to trichlorofluoromethane used as dry-cleaning agent. Dry-cleaners and pressers, FRG GC-EC
BLOOD; BLOOD SERUM; URINE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; GERMANY; CHLORINATED HYDROCARBONS; INDUSTRIAL CHEMICALS; SOLVENTS; FLUORINE COMPOUNDS; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIAL SOLVENTS; INDUSTRIES; OCCUPATIONAL HAZARDS Hajimiragha, H.; Ewers, U.; Jansen-Rosseck, R.; Brockhaus, A. 1986 International Archives of Occupational and Environmental Health 58:141-150				

Methanol
67-56-1
C-H4-O
MW 32.04, MP -97.8 C, BP 64.7 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12339 Breath	2 Inhalation	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given	a) 1 ppm b) 18.5 ppm c) 25 ppm d) 3.5 ppm e) 1.5 ppm f) 1 ppm g) 17.5 ppm h) 21 ppm i) 4 ppm j) 2 ppm	a) 10 min, 121 ppm exposure, 1 case b) 50 min c) 130 min, end of exposure d) 150 min e) 310 min f) 25 min, 117 ppm exposure, 1 case g) 50 min h) 130 min, end of exposure i) 150 min j) 350 min After start of exposure. Estimated from graphs. Subjects enclosed in chamber, breathing air loaded with solvent. MS
BREATH; DELIBERATE EXPOSURE; CHLORINATED HYDROCARBONS; METHANOL; BIOLOGICAL MONITORING; INHALATION Benoit, F.M.; Davidson, W.R.; Lovett, A.M.; Nacson, S.; Ngo, A. 1985 International Archives of Occupational and Environmental Health 55:113-120				

Methylheptadecanoic acid, methyl ester (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12340 Aorta	2	a) 10 ppb-not detected b) Not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS
AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534				

Methylpentadecanoic acid, methyl ester (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12341 Aorta	2	a) 50 ppb-not detected b) 30-20 ppb	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS
AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534				

Mineral dust (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12342 Lung	Inhalation	a) 2.3-24.5% b) 4.6-21.1% c) 2.0-85.1% d) 2.9-43.6% e) 8.6-43.1% f) 4.9-49.7% g) 8.8-49.2% Dry wt	a) 8.8+/-4.2% b) 11.4+/-4.1% c) 15.4+/-13.1% d) 18.8+/-9.9% e) 20.2+/-7.4% f) 20.9+/-12.6% g) 23.7+/-12.3% Dry wt	a) 49 whole lungs, from opposite side to that for dissected lesions b) 31 hilar lymph nodes c) 48 palpable dusted areas d) 49 parenchymal fibrotic nodules 1-<10 mm diameter f) 14 peripherial areas from e) g) 14 central areas from e) 95% of dust recovered was coal, quartz, kaolin+mica. Differences in proportions discussed. Deceased British coalworkers Virtually all had full range of pathology associated with dust in lungs Gravimetric
OCCUPATIONAL EXPOSURE; UNITED KINGDOM; AUTOPSIES; OCCUPATIONAL HAZARDS; DUST; COAL; LUNGS Chapman, J.S.; Ruckley, V.A. 1985 British Journal of Industrial Medicine 42:551-555				

Mineral dust (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12343 Lung	28 Inhalation	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 135+/-116 b) 56+/-61 c) 114+/-161 d) 28+/-20 e) 103+/-76 f) 61+/-87 g) 58+/-54 h) 23+/-13 X10(E+6)particles/g Dry wt	a) Kaolinite count, 14 lung cancer cases b) 14 matched controls c) Talc count, 14 lung cancer cases d) 14 matched controls e) Mica count, 14 lung cancer cases f) 14 matched controls g) Feldsar count, 14 lung cancer cases h) 14 matched controls No history of occupational exposure. Counts done on autopsy samples. Also found silica, aluminum, titanium, iron, and apatite in higher levels in cancer victims. Smokers had higher levels than nonsmokers. 63 yr old lung cancer victims and controls EM; X-ray spectrom
LUNGS; ENVIRONMENTAL EXPOSURE; CANADA; RESPIRATORY DISEASES; AUTOPSIES; ADULTS; MINERALS; BIOACCUMULATION; CARCINOGEN; FIBERS; PARTICULATES; MINERAL DEPOSITS; SMOKING Churg, A.; Wiggs, B. 1985 Environmental Research 37:364-372				

Mineral fibers (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12344 Lung	28 Inhalation	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 1.1+/-1.4 b) 0.5+/-0.5 c) 4.7+/-8.1 d) 0.7+/-0.5 e) 3.9+/-7.6 f) 0.3+/-0.3 g) 1.5+/-3.7 h) 0.6+/-0.4 X10(E+6)fibers/g Dry wt	a) Kaolinite count, 14 lung cancer cases b) 14 matched controls c) Talc count, 14 lung cancer cases d) 14 matched controls e) Mica count, 14 lung cancer cases f) 14 matched controls g) Feldsar count, 14 lung cancer cases h) 14 matched controls No history of occupational exposure. Counts done on autopsy samples. Also found silica, aluminum, titanium, iron, and apatite in higher levels in cancer victims. Smokers had higher levels than nonsmokers. 63 yr old lung cancer victims and controls EM; X-ray spectrom
LUNGS; ENVIRONMENTAL EXPOSURE; CANADA; RESPIRATORY DISEASES; AUTOPSIES; ADULTS; MINERALS; BIOACCUMULATION; CARCINOGEN; FIBERS; PARTICULATES; MINERAL DEPOSITS; SMOKING Churg, A.; Wiggs, B. 1985 Environmental Research 37:364-372				

Molybdenum
7439-98-7
Mo
AtW 95.94, MP 2622 C, BP 4825 C (approx), VP 1 mm Hg at 3300 C, 10 mm Hg at 3770 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12345 Bronchoalveolar lavage	1	Not applicable	20 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old NA

BRONCHOALVEOLAR LAVAGE; NAILS; OCCUPATIONAL EXPOSURE; CASE HISTORIES; PNEUMOCONIOSIS; OCCUPATIONAL DISEASES; RESPIRATORY DISEASES; LAVAGE; CERIUM; LANTHANUM; TERBIUM; YTTERBIUM; SILVER; ARSENIC; GOLD; CADMIUM; COBALT; CHROMIUM; CESIUM; IRON; MERCURY; INDIUM; IRIDIUM; MOLYBDENUM; NICKEL; RUBIDIUM; ANTIMONY; SCANDIUM; SELENIUM; TIN; THORIUM; URANIUM; ZINC; TRACE ELEMENTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; SMOKING

Sulotto, F.; Romano, C.; Berra, A.; Botta, G.C.; Rubino, G.F.; Sabbioni, E.; Pietra, R. 1986 American Journal of Industrial Medicine 9:567-575

Tissue	Cases Exposure Route	Range	Mean	General Information
12346 Hair	a) 10 b) 10	a) Not given b) Not given	a) 0.060+/-0.013 ug/g b) 0.066+/-0.019 ug/g	a) Patients with multiple sclerosis b) Controls Significant difference, borderline. Patients and controls, matched for sex and age. NA

BLOOD; HAIR; ENVIRONMENTAL EXPOSURE; UNITED KINGDOM; NEUROMUSCULAR DISEASES; TRACE ELEMENTS; BIOACCUMULATION; BIOINDICATORS; ALUMINUM; ANTIMONY; ARSENIC; BARIUM; BROMINE; CESIUM; GOLD; IODINE; MANGANESE; MOLYBDENUM; SELENIUM; VANADIUM; ZINC; COPPER; IRON; MAGNESIUM; POTASSIUM; SULFUR

Ward, N.I.; Bryce-Smith, D.; Minski, M.; Matthews, W.B. 1985 Biological Trace Element Research 7:153-159

Tissue	Cases Exposure Route	Range	Mean	General Information
12347 Hair	a) 1 b) 1	a) 0-5.10 ppm b) 0-6.4 ppm	a) 0.97+/-1.58 ppm b) 1.02+/-1.78 ppm	a) Subject 1 b) Subject 2 Samples sent to 13 commercial laboratories for analysis. Values here are combined from all. Considerable variance within same laboratory, among different laboratories and disagreement about what was "normal" or "unusual". Authors conclude commercial use of hair analysis for management of disease, nutrition unscientific, uneconomical, probably illegal.

HAIR; ALUMINUM; ARSENIC; BERYLLIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; GOLD; IRON; LEAD; LITHIUM; MAGNESIUM; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; RUBIDIUM; SELENIUM; SILICON; SODIUM; TIN; VANADIUM; ZINC; ELEMENTS; TRACE ELEMENTS; METALS

Barrett, S. 1985 Journal of the American Medical Association 254(8):1041-1045

Molybdenum
7439-98-7
Mo
AtW 95.94, MP 2622 C, BP 4825 C (approx), VP 1 mm Hg at 3300 C, 10 mm Hg at 3770 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12348 Milk				Review of longitudinal changes of trace element components in human milk. Mean daily intakes of breast-fed, cow's milk-fed infants and recommended daily allowances compared. Determination of Se status and consequences of deficiency discussed.

MILK; REVIEW; TRACE ELEMENTS; IRON; COPPER; ZINC; MANGANESE; MOLYBDENUM; CHROMIUM; COBALT; ARSENIC; SELENIUM; ITALY; UNITED STATES; GREECE; INDIA; FINLAND; FRANCE
Roekens, E.; Deelstra, H.; Robberecht, H. 1985 Science of the Total Environment 42:91-108

Mullite [Al6O5(SiO4)2]
1302-93-8
Al6-O13-Si2

Tissue	Cases Exposure Route	Range	Mean	General Information
12349 Lung	a) 19 b) 36 c) 69 d) 49 e) 16 Inhalation	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 34% b) 24% c) 17% d) 14% e) 5% % of total fibers	a) No asbestosis. Mean (total asbestos) fiber count 23.0X10(E+6) b) Minimal asbestosis, mean fiber count 42.1X10(E+6) c) Slight asbestosis, 59.5X10(E+6) d) Moderate asbestosis, 343.2X10(E+6) e) Marked/severe asbestosis, 2550.3X10(E+6) Direct correlation between pathological grading and asbestos exposure rating. Autopsies. Former dockyard workers, mean ages 63-66 yr, United Kingdom 39% of deaths caused by mesothelioma, 26% by carcinoma of lung. EM

LUNGS; OCCUPATIONAL EXPOSURE; UNITED KINGDOM; AUTOPSIES; PULMONARY DISEASES; RESPIRATORY DISEASES; CARCINOMAS; NEOPLASMS; ASBESTOS; BIOACCUMULATION; FIBERS; HEALTH HAZARDS; INDUSTRIES; INHALATION; OCCUPATIONAL HAZARDS
Wagner, J.C.; Moncrieff, C.B.; Coles, R.; Griffiths, D.M.; Munday, D.E. 1986 British Journal of Industrial Medicine 43:391-395

Myristaldehyde (8 CI); Tetradecanal (9 CI)
124-25-4
C14-H28-O

Tissue	Cases Exposure Route	Range	Mean	General Information
12350 Aorta	2	a) Not detected b) Not detected-40 ppb	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Myristic acid (8 CI); Tetradecanoic acid (9 CI)
544-63-8
C14-H28-O2
MW 228.36, MP 58.5 C, BP 250.5 at 100 mm Hg

Tissue	Cases Exposure Route	Range	Mean	General Information
12351 Aorta	2	a) Not detected b) 50 ppb-not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Myristic acid, methyl ester (8 CI); Tetradecanoic acid, methyl ester (9 CI)
124-10-7
C15-H30-O2
MW 242.41, MP 19 C, BP 295 C at 751 mm Hg

Tissue	Cases Exposure Route	Range	Mean	General Information
12352 Aorta	2	a) 10 ppb-not detected b) Not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Naphthalene
91-20-3
C10-H8
MW 128.16, MP 80.1 C, BP 217.9 C, VP 1 mm Hg at 52.6 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12353 Aorta	2	a) Not detected-10 ppb b) Not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES

Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Naphthalene, dimethyl-
28804-88-8
C12-H12
MW 156.23, MP 7.66 C, BP 268 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12354 Aorta	2	a) 30 ppb-Not detected b) Not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GS/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES

Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Naphthalene, methyl-
1321-94-4
C11-H10
MW 142, MP -22 C, BP 244.6 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12355 Aorta	2	a) Not detected b) Not detected-10 ppb	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Naphthalene, trimethyl- (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12356 Aorta	2	a) 30 ppb-not detected b) Not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Neodymium
7440-00-8
Nd
AtW 144.24, MP approx 1024 C (also reported as 1021 C), BP approx 3000 C (also reported as 3068 C), VP 400 mm Hg at 2870 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12357 Bronchoalveolar lavage	1	Not applicable	405 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old Rare-earth pneumoconiosis Micronodular lung changes, restrictive spirometric impairment NA

(next page)

Neodymium
7440-00-8
Nd
AtW 144.24, MP approx 1024 C (also reported as 1021 C), BP approx 3000 C (also reported as 3068 C), VP 400 mm Hg at 2870 C

(continued)

Tissue	Cases Exposure Route	Range	Mean	General Information
12358 Nail	1	Not applicable	26,200 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old Rare-earth pneumoconiosis Micronodular lung changes, restrictive spirometric impairment NA

BRONCHOALVEOLAR LAVAGE; NAILS; OCCUPATIONAL EXPOSURE; CASE HISTORIES; PNEUMOCONIOSIS; OCCUPATIONAL DISEASES; RESPIRATORY DISEASES; LAVAGE; CERIUM; LANTHANUM; TERBIUM; YTTERBIUM; SILVER; ARSENIC; GOLD; CADMIUM; COBALT; CHROMIUM; CESIUM; IRON; MERCURY; INDIUM; IRIDIUM; MOLYBDENUM; NICKEL; RUBIDIUM; ANTIMONY; SCANDIUM; SELENIUM; TIN; THORIUM; URANIUM; ZINC; TRACE ELEMENTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; SMOKING

Sulotto, F.; Romano, C.; Berra, A.; Botta, G.C.; Rubino, G.F.; Sabbioni, E.; Pietra, R. 1986 American Journal of Industrial Medicine 9:567-575

Nickel
7440-02-0
Ni
AtW 58.71, MP 1455 C, BP 2837 C, VP 10 mm Hg at 2090 C, 100 mm Hg at 2370 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12359 Bronchoalveolar lavage	1	Not applicable	<60 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old NA

BRONCHOALVEOLAR LAVAGE; NAILS; OCCUPATIONAL EXPOSURE; CASE HISTORIES; PNEUMOCONIOSIS; OCCUPATIONAL DISEASES; RESPIRATORY DISEASES; LAVAGE; CERIUM; LANTHANUM; TERBIUM; YTTERBIUM; SILVER; ARSENIC; GOLD; CADMIUM; COBALT; CHROMIUM; CESIUM; IRON; MERCURY; INDIUM; IRIDIUM; MOLYBDENUM; NICKEL; RUBIDIUM; ANTIMONY; SCANDIUM; SELENIUM; TIN; THORIUM; URANIUM; ZINC; TRACE ELEMENTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; SMOKING

Sulotto, F.; Romano, C.; Berra, A.; Botta, G.C.; Rubino, G.F.; Sabbioni, E.; Pietra, R. 1986 American Journal of Industrial Medicine 9:567-575

Tissue	Cases Exposure Route	Range	Mean	General Information
12360 Hair	10	1.7+/-0.9-4.2+/-2.0 ppm Dry wt	2.4+/-0.8 ppm Dry wt	Hair from 4 parts of scalp. Range of means. Mean for each case is average of levels measured monthly for 10-12 mo. Healthy adult Japanese, age 27-47 yr. AAS

HAIR; NAILS; ENVIRONMENTAL EXPOSURE; JAPAN; ADULTS; METALS; MERCURY; LEAD; CADMIUM; COPPER; NICKEL; IRON; ZINC; MANGANESE; BIOLOGICAL MONITORING; POPULATION EXPOSURE

Nishihara, T.; Watabe, K.; Ichikawa, T.; Kondo, M.; Fujii, M. 1985 Chemosphere 14(8):1133-1141

Nickel
7440-02-0
Ni
AtW 58.71, MP 1455 C, BP 2837 C, VP 10 mm Hg at 2090 C, 100 mm Hg at 2370 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12361 Hair	a) 1 b) 1	a) 0.240-6.30 ppm b) 0.09-3.7 ppm	a) 2.46+/-1.24 ppm b) 1.47+/-1.00 ppm	a) Subject 1 b) Subject 2 Samples sent to 13 commercial laboratories for analysis. Values here are combined from all. Considerable variance within same laboratory, among different laboratories and disagreement about what was "normal" or "unusual". Authors conclude commercial use of hair analysis for management of disease, nutrition unscientific, uneconomical, probably illegal.

HAIR; ALUMINUM; ARSENIC; BERYLLIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; GOLD; IRON; LEAD; LITHIUM; MAGNESIUM; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; RUBIDIUM; SELENIUM; SILICON; SODIUM; TIN; VANADIUM; ZINC; ELEMENTS; TRACE ELEMENTS; METALS
Barrett, S. 1985 Journal of the American Medical Association 254(8):1041-1045

Tissue	Cases Exposure Route	Range	Mean	General Information
12362 Hair	a) 92 b) 55 c) 46 d) 457 e) 255	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 0.26 ppm b) 1.01 ppm c) 0.52 ppm d) 2.70 ppm e) 0.35 ppm	a) Canada b) U.S.A. c) Poland d) Japan e) India Part of international survey of 21 elements. Japanese, 2-80 yr olds. Rest were 30-60 yr old. ES

ENVIRONMENTAL EXPOSURE; HAIR; CANADA; UNITED STATES; POLAND; JAPAN; INDIA; MAGNESIUM; CALCIUM; PHOSPHORUS; SODIUM; POTASSIUM; IRON; COPPER; MANGANESE; ZINC; SELENIUM; CHROMIUM; NICKEL; COBALT; VANADIUM; LEAD; CADMIUM; ALUMINUM; ANTIMONY; MERCURY; TIN; ARSENIC; AGE; SEX; COMPARATIVE EVALUATIONS
Takagi, Y.; Matsuda, S.; Imai, S.; Ohmori, Y.; Masuda, T.; Vinson, J.A.; Mehra, M.C.; Puri, B.K.; Kaniewski, A. 1986 Bulletin of Environmental Contamination and Toxicology 36:793-800

Nickel
7440-02-0
Ni
AtW 58.71, MP 1455 C, BP 2837 C, VP 10 mm Hg at 2090 C, 100 mm Hg at 2370 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12363 Urine	16-17 Inhalation	a) 2.2-13 ug/l b) 4.2-12 ug/l c) 8.5-19 ug/l	a) 5.1 ug/l b) 8.7 ug/l c) 13 ug/l	a) Controls, 10 cases b) Welders, 6-7 cases. Monday a.m. of wk 1, after 1 mo without welding c) Monday a.m., wk 2-6 Average air level during welding 0.44 mg/cu m. b) significantly higher than a), ($p<0.05$), c) higher than b), ($p=0.05$). Average level 18 ug/l on Thursday p.m., wk 1-6. Significantly higher than Mondays ($p<0.0001$). Hand shields and portable exhaust devices used. No correlation between levels in air and urine. Data suggest at least one pool with slow, and one with faster elimination. Levels also reported in ug/mmol creatinine. High-Ni (75% Ni, 15% Cr) alloy welders, median age 33 (22-59) yr, median welding time 10 (15-17) yr. Controls. One or more symptoms (irritation of upper airways, headache, tiredness) occurred more often in all cases than when welding ordinary stainless steel. AAS

URINE; OCCUPATIONAL EXPOSURE; CHROMIUM; NICKEL; METALS; HEALTH HAZARDS; INDUSTRIAL ATMOSPHERES; INDUSTRIAL PLANTS; INHALATION; MINERAL METABOLISM; OCCUPATIONAL HAZARDS

Akesson, B.; Skerfving, S. 1985 International Archives of Occupational and Environmental Health 56:111-117

Nicotine (8 CI); Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)- (9 CI)
54-11-5
C10-H14-N2
MW 162.23, MP less than -80 C, BP 247 C (partial decomp) at 745 mm Hg, 123-125 C at 17 mm Hg, VP 1 mm Hg at 61.8 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12364 Blood, plasma	5 Inhalation	Not given	3.54+/-1.58 ng/ml	At end of 3 hr exposure to side-stream smoke from smoking machine, in exposure chamber. 24 packs cigarettes consumed. 18-65 yr old non-smoking volunteers RIA
12365 Saliva	10 Inhalation	a) Not given b) 24.7-186.5 ng/ml c) 2-125 ng/ml	a) 3.81+/-4.06 ng/ml b) 89.7 ng/ml, median c) 30.3+/-40.57 ng/ml	a) Immediately before exposure b) At end of 3 hr exposure c) 3 hr after exposure Side-stream smoke from smoking machine in exposure chamber. 24 packs cigarettes consumed. 50% drop in levels found upon repeated sampling. Stimulation of saliva secretion with lemon juice and water did not affect this change. Some values estimated from figure. 18-65 yr old non-smoking volunteers RIA

(next page)

Nicotine (8 CI); Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)- (9 CI)
54-11-5
C10-H14-N2
MW 162.23, MP less than -80 C, BP 247 C (partial decomp) at 745 mm Hg, 123-125 C at 17 mm Hg, VP 1 mm Hg at 61.8 C

(continued)

Tissue	Cases Exposure Route	Range	Mean	General Information
12366 Urine	10 Inhalation	a) Not given b) Not given	a) 134.41+/-95.84 ug b) 105.3+/-88.4 ug	a) Recovery 0-24 hr. RIA analysis b) GC analysis Exposure 0-3 hr to side-stream smoke from smoking machine, in exposure chamber. 24 packs cigarettes consumed. Means significantly different, $p<0.05$. 18-65 yr old non-smoking volunteers RIA; GC
BLOOD PLASMA; SALIVA; URINE; DELIBERATE EXPOSURE; MEASUREMENT METHODS; NICOTINE; INHALATION; METABOLITES; SMOKE; SMOKING Johnson, L.C.; Letzel, H.; Kleinschmidt, J. 1985 International Archives of Occupational and Environmental Health 56:99-110				

Nicotine, 1'-demethyl-1'-nitroso- (8 CI); Pyridine, 3-(1-nitroso-2-pyrrolidinyl)-, (S)- (9 CI)
16543-55-8
C9-H11-N3-O
MW 177.23, BP 154 C at 0.2 mm Hg

Tissue	Cases Exposure Route	Range	Mean	General Information
12367 Saliva	a) 10 b) 7 c) 10 d) 9 Ingestion	a) 10.0-430.0 ppb b) 15.00-50.00 ppb c) 3.0-85.7 ppb d) 14.3-43.5 ppb	a) 91.9+/-38 ppb b) 34.5+/-11.9 ppb c) 34.3+/-29.5 ppb d) 23.7+/-12.3 ppb S.E.	a) Males, after 20 min chewing 500 mg tobacco with lime, 2 different days b) Males, after 20 min chewing 500 mg tobacco with betel quid c) Females, after 20 min chewing 200 mg tobacco with betel quid d) Females, 20 min after 200 mg masheri (pyrolysed tobacco product) applied to gums 25-45 yr old habitual users of tobacco products, Bombay, India GLC-TEA
SALIVA; DELIBERATE EXPOSURE; INDIA; COMPARATIVE EVALUATIONS; NITROSAMINES; HEALTH HAZARDS; INGESTION; TOBACCOS Bhide, S.V.; Nair, U.J.; Nair, J.; Spiegelhalder, B.; Preussmann, R. 1986 Food and Chemical Toxicology 24(4):293-297				

Nitrosamines (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12368 Saliva	a) 10 b) 7 c) 10 d) 9 Ingestion	a) 22-600 ppb b) 26-129 ppb c) 6-128 ppb d) 14-121 ppb	a) 165+/-61 ppb b) 63+/-35.3 ppb c) 62.5+/-47.75 ppb d) 61.0+/-30.2 ppb S.E.	a) Males, after 20 min chewing 500 mg tobacco with lime, 2 different days b) Males, after 20 min chewing 500 mg tobacco with betel quid c) Females, after 20 min chewing 200 mg tobacco with betel quid d) Females, 20 min after 200 mg masheri (pyrolysed tobacco product) applied to gums 25-45 yr old habitual users of tobacco products, Bombay, India GLC-TEA
SALIVA; DELIBERATE EXPOSURE; INDIA; COMPARATIVE EVALUATIONS; NITROSAMINES; HEALTH HAZARDS; INGESTION; TOBACCOS Bhide, S.V.; Nair, U.J.; Nair, J.; Spiegelhalder, B.; Preussmann, R. 1986 Food and Chemical Toxicology 24(4):293-297				

Nonenal
30551-15-6
C9-H16-O

Tissue	Cases Exposure Route	Range	Mean	General Information
12369 Aorta	2	a) Not detected-30 ppb b) Not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

o-Cresol (8 CI); Phenol, 2-methyl- (9 CI)
95-48-7
C7-H8-O
MW 108.15, MP 30.94 C, BP 190.95 C at 760 mm Hg, VP 1 mm Hg at 38.2 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12370 Urine	14	a) 185-711 ug b) 110-555 ug c) 94-524 ug /g creatinine	a) 445+/-172 ug b) 294+/-151 ug c) 296+/-122 ug /g creatinine	a) 14 workers, end of workshift, Wednesday b) Same workers, Thursday c) 13 of same workers, Friday Workers exposed to toluene at levels well below current proposed TLV. Statistical correlation with mean daily exposure on Thurs and Fri, not on Wed. Not correlated with different halves of the workday. Workers in printing plant where toluene used in diluting ink, and cleaning equipment HPLC; Fluorimetry

OCCUPATIONAL EXPOSURE; URINE; METABOLITES; OCCUPATIONAL HAZARDS; ITALY; TOLUENE; INHALATION
De Rosa, E.; Brugnone, F.; Perbellini, L.; Bellomo, M.L.; Gori, G.P.; Sigon, M.; Corona, P.C. 1985 International Archives of Occupational and Environmental Health 56:135-145

Tissue	Cases Exposure Route	Range	Mean	General Information
12371 Urine	29	<0.1-10.6 mg/l	3.11+/-2.52 mg/l	End of 8 hr shift. Metabolite. Mean air level of toluene 140 ppm (ambient monitoring). External exposure estimated (from blood levels of toluene and urine levels of hippuric acid) at between 90-118 ppm toluene. 6 samples with specific gravity <1.01 excluded from data. Levels recommended for biological monitoring of toluene-exposed workers. 23-57 (mean 43.7+/-9.2) yr old printing workers, duration of employment 2-30 (mean 22.9+/-14.7) yr GC/MS

BLOOD; URINE; OCCUPATIONAL EXPOSURE; PHENOLS; INDUSTRIAL CHEMICALS; TOLUENE; BIOACCUMULATION; BIOLOGICAL MONITORING; HEALTH HAZARDS; INDUSTRIES; INHALATION; METABOLITES; OCCUPATIONAL HAZARDS; PRINTING INDUSTRY
Angerer, J. 1985 International Archives of Occupational and Environmental Health 56:323-328

o-Cresol (8 CI); Phenol, 2-methyl- (9 CI)
95-48-7
C7-H8-O
MW 108.15, MP 30.94 C, BP 190.95 C at 760 mm Hg, VP 1 mm Hg at 38.2 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12372 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982). GC
URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983				

o-Xylene (8 CI); Benzene, 1,2-dimethyl- (9 CI)
95-47-6
C8-H10
MW 106.16, MP -25 C, BP 144 C, VP 10 mm Hg at 32.1 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12373 Blood	35 Inhalation	8.4+/-6.7-39.2+/-20.9 ug/l	26.6+/-26.5 ug/l	Spraymen varnishing vehicles. Alkyl-, phenol- and polyester varnishes dissolved in solvent mixtures. Mean air level, o-xylene, 6 different areas, 2.1 ppm. Range of means. Also measured phenolic and carbonic metabolites of alkylbenzenes and benzene in urine. 24-52 yr olds (mean 38.8) employed 2-24 yr (mean 8.2). Summer, Autumn 1983 Altered blood cell counts, decreased hemoglobin level GC
OCCUPATIONAL EXPOSURE; BLOOD; URINE; OCCUPATIONAL HAZARDS; INHALATION; SOLVENTS; LEAD Angerer, J.; Wulf, H. 1985 International Archives of Occupational and Environmental Health 56:307-321				

Octadecane
593-45-3
C18-H38
MW 254.51, BP 316.1 C, VP 1 mm Hg at 119.6 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12374 Aorta	2	a) 80 ppb-not detected b) Not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS
AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534				

p-Cresol (8 CI); Phenol, 4-methyl- (9 CI)

106-44-5
C7-H8-O
MW 108.13, MP 35.5 C, also reported as 34.8 C, BP 201.8 C at 760 mm Hg, also reported as 140.0 C at 100 mm Hg, VP 1 mm Hg at 53.0 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12375 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982). GC

URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES

Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983

p-Cresol, 2,6-di-tert-butyl- (8 CI); Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- (9 CI)

128-37-0
C15-H24-O
MW 220.3, MP 70 C, BP 265 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12376 Aorta	2	a) 10 ppb-not detected b) Not detected-10 ppb	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. A BHT derivative was also found in the F2 fractions: 10 ppb in a), 30 ppb in b). 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES

Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

p-Xylene (8 CI); Benzene, 1,4-dimethyl- (9 CI)

106-42-3
C8-H10
MW 106.16, MP 13-14 C, BP 137-138 C, VP 10 mm Hg at 27.3 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12377 Blood	35 Inhalation	10.7+/-8.1-53.1+/-52.2 ug/l	39.7+/-41.3 ug/l	Spraymen varnishing vehicles. Alkyl-, phenol- and polyester varnishes dissolved in solvent mixtures. Mean air level, o-xylene, 6 different areas, 2.8 ppm. Range of means. Also measured phenolic and carbonic metabolites of alkylbenzenes and benzene in urine. 24-52 yr olds (mean 38.8) employed 2-24 yr (mean 8.2). Summer, Autumn 1983 Altered blood cell counts, decreased hemoglobin level GC

OCCUPATIONAL EXPOSURE; BLOOD; URINE; OCCUPATIONAL HAZARDS; INHALATION; SOLVENTS; LEAD

Angerer, J.; Wulf, H. 1985 International Archives of Occupational and Environmental Health 56:307-321

Palmitaldehyde (8 CI); Hexadecanal (9 CI)
629-80-1
C16-H32-O

Tissue	Cases Exposure Route	Range	Mean	General Information
12378 Aorta	2	a) Not detected-60 ppb b) 200-110 ppb	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Palmitic acid (8 CI); Hexadecanoic acid (9 CI)
57-10-3
C16-H32-O2
MW 256.42, MP 63-64 C, BP 215 C at 15 mm Hg

Tissue	Cases Exposure Route	Range	Mean	General Information
12379 Aorta	2	a) Not detected-30 ppb b) 1600-20 ppb	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Palmitic acid, methyl ester (8 CI); Hexadecanoic acid, methyl ester (9 CI)
112-39-0
C17-H34-O2
MW 270.46, MP 30 C, BP 415-418 C at 747 mm Hg

Tissue	Cases Exposure Route	Range	Mean	General Information
12380 Aorta	2	a) Not detected-9 ppb b) 120 ppb-not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS
AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534				

Palmitoylpentachlorophenol (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12381 Adipose	1	Not applicable	0.1 ug	From anterior abdominal wall. Corresponding to 0.24 ug/g fat. PCB present as exter of palmitic acid. Mechanism for formation unknown. Autopsy sample HPLC; TLC; MS
ADIPOSE TISSUE; AUTOPSIES; PHENOLS; CHLORINE ORGANIC COMPOUNDS Ansari, G.A.S.; Britt, S.G.; Reynolds, E.S. 1985 Bulletin of Environmental Contamination and Toxicology 34:661-667				

Pentadecanal
2765-11-9
C15-H30-O

Tissue	Cases Exposure Route	Range	Mean	General Information
12382 Aorta	2	a) Not detected b) Not detected-60 ppb	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS
AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534				

Pentadecane
629-62-9
C15-H32
MW 212.42, MP 10 C, BP 270.63 C, VP 1 mm Hg at 91.6 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12383 Aorta	2	a) 50 ppb-Not detected b) 140-20 ppb	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Pentadecane, 2,6,10,14-tetramethyl-
1921-70-6
C19-H40
MW 268.51, BP 296 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12384 Aorta	2	a) 140 ppb-Not detected b) 50 ppb-Not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Phenanthrene
85-01-8
C14-H10
MW 178.22, MP 100 C, BP 340 C, VP 1 mm Hg at 118.3 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12385 Aorta	2	a) 8-10 ppb b) Not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Phenethyl alcohol (8 CI); Benzeneethanol (9 CI)
60-12-8
C8-H10-O
MW 122.16, MP -25.8 C, BP 218.2 C at 760 mm Hg, VP 1 mm Hg at 58 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12386 Urine	a) 11 b) 6 c) 10 Inhalation	a) Not given b) Not given c) Not given	a) 1.38+/-0.32 mg/L b) 0.92+/-0.81 mg/L c) 0.20+/-0.23 mg/L	a) Males b) Females c) Male controls Metabolite. a), b) sampled after occupational exposure to approx 100 ppm styrene during 9 hr work shift. a), b) significantly higher than c), $p<0.001$. New analytical method. Test subjects and controls GC/MS

URINE; OCCUPATIONAL EXPOSURE; MEASUREMENT METHODS; STYRENES; INDUSTRIAL CHEMICALS; INHALATION; METABOLISM; METABOLITES; OCCUPATIONAL HAZARDS
Korn, M.; Wodarz, R.; Drysch, K.; Schoknecht, W.; Schmahl, F.W. 1986 Archives of Toxicology 58:110-114

Phenol
108-95-2
C6-H6-O
MW 94.11, MP 40.85 C, BP 182 C, VP 1 mm Hg at 40.1 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12387 Urine				Review. The occurrence and analysis of priority toxic pollutants in human urine, covering the ten-year period 1973-1983, is discussed.

URINE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; DELIBERATE EXPOSURE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PHTHALLIC ACIDS; PHENOLS; BIOACCUMULATION; PESTICIDES
Fatiadi, A.J. 1984 Environment International 10:175-205

Phenol
108-95-2
C6-H6-O
MW 94.11, MP 40.85 C, BP 182 C, VP 1 mm Hg at 40.1 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12388 Urine	29	0.1-27.1 mg/l	5.29+/-4.84 mg/l	End of 8 hr shift. Metabolite. Mean air level of toluene 140 ppm (ambient monitoring). 23-57 (mean 43.7+/-9.2) yr old printing workers, duration of employment 2-30 (mean 22.9+/-14.7) yr GC/MS

BLOOD; URINE; OCCUPATIONAL EXPOSURE; PHENOLS; INDUSTRIAL CHEMICALS; TOLUENE; BIOACCUMULATION; BIOLOGICAL MONITORING; HEALTH HAZARDS; INDUSTRIES; INHALATION; METABOLITES; OCCUPATIONAL HAZARDS; PRINTING INDUSTRY
Angerer, J. 1985 International Archives of Occupational and Environmental Health 56:323-328

Tissue	Cases Exposure Route	Range	Mean	General Information
12389 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982). GC

URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES
Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983

Phenol, dichloro-
25167-81-1
C6-H4-Cl2-O

Tissue	Cases Exposure Route	Range	Mean	General Information
12390 Urine				Review. The occurrence and analysis of priority toxic pollutants in human urine, covering the ten-year period 1973-1983, is discussed.

URINE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; DELIBERATE EXPOSURE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PHTHALLIC ACIDS; PHENOLS; BIOACCUMULATION; PESTICIDES
Fatiadi, A.J. 1984 Environment International 10:175-205

Phenol, m-chloro- (8 CI); Phenol, 3-chloro- (9 CI)
108-43-0
C6-H5-Cl-O
MW 128.56, MP 33.5 C, BP 214 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12391 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982). LC-MS

URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES
Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983

Phenol, o-chloro- (8 CI); Phenol, 2-chloro- (9 CI)
95-57-8
C6-H5-Cl-O
MW 128.56, MP 9.3 C, BP 175 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12392 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982). LC-MS

URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES
Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983

Phenol, p-chloro- (8 CI); Phenol, 4-chloro- (9 CI)
106-48-9
C6-H5-Cl-O
MW 128.56, MP 43.2-43.7 C, BP 220 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12393 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982). LC-MS

URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES
Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983

Phenol, p-nitro- (8 CI); Phenol, 4-nitro- (9 CI)
100-02-7
C6-H5-N-O3
MW 139.11, MP 114.9-115.6 C, BP 279 C (decomp)

Tissue	Cases Exposure Route	Range	Mean	General Information
12394 Urine				Review. The occurrence and analysis of priority toxic pollutants in human urine, covering the ten-year period 1973-1983, is discussed.

URINE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; DELIBERATE EXPOSURE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PHTHALLIC ACIDS; PHENOLS; BIOACCUMULATION; PESTICIDES
Fatiadi, A.J. 1984 Environment International 10:175-205

Tissue	Cases Exposure Route	Range	Mean	General Information
12395 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982). LC; Spectrophotometry

URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES
Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983

Phenol, pentachloro-
87-86-5
C6-H-Cl5-O
MW 266.35, MP 190-191 C, BP 309-310 C (decomp), VP 40 mm Hg at 211.2 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12396 Blood	14	Trace-21.33 ppb	8.8 ppb	Range of means. At least trace levels found in all samples analyzed. Urine levels higher than blood, suggesting active secretion. Residents of Bendal State. GC

URINE; BLOOD; ENVIRONMENTAL EXPOSURE; NIGERIA; PENTACHLOROPHENOL; BIOACCUMULATION
Atuma, S.S.; Okor, D.I. 1985 Bulletin of Environmental Contamination and Toxicology 35:406-410

Tissue	Cases Exposure Route	Range	Mean	General Information
12397 Urine				Review. The occurrence and analysis of priority toxic pollutants in human urine, covering the ten-year period 1973-1983, is discussed.

URINE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; DELIBERATE EXPOSURE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PHTHALLIC ACIDS; PHENOLS; BIOACCUMULATION; PESTICIDES
Fatiadi, A.J. 1984 Environment International 10:175-205

Phenol, pentachloro-
87-86-5
C6-H-Cl5-O
MW 266.35, MP 190-191 C, BP 309-310 C (decomp), VP 40 mm Hg at 211.2 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12398 Urine	14	0.025-0.23 ppm	0.09 ppm	Range of means. At least trace levels found in all samples analyzed. Urine levels higher than blood, suggesting active secretion. Residents of Bendal State. GC

URINE; BLOOD; ENVIRONMENTAL EXPOSURE; NIGERIA; PENTACHLOROPHENOL; BIOACCUMULATION
Atuma, S.S.; Okor, D.I. 1985 Bulletin of Environmental Contamination and Toxicology 35:406-410

Tissue	Cases Exposure Route	Range	Mean	General Information
12399 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982). GC-EC; LC-Electrochem; GC; LC-MS

URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES
Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983

Phenol, tetrachloro-
25167-83-3
C6-H2-Cl4-O

Tissue	Cases Exposure Route	Range	Mean	General Information
12400 Urine				Review. The occurrence and analysis of priority toxic pollutants in human urine, covering the ten-year period 1973-1983, is discussed.

URINE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; DELIBERATE EXPOSURE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PHTHALLIC ACIDS; PHENOLS; BIOACCUMULATION; PESTICIDES
Fatiadi, A.J. 1984 Environment International 10:175-205

Phenol, trichloro-
25167-82-2
C6-H3-Cl3-O

Tissue	Cases Exposure Route	Range	Mean	General Information
12401 Urine				Review. The occurrence and analysis of priority toxic pollutants in human urine, covering the ten-year period 1973-1983, is discussed.

URINE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; DELIBERATE EXPOSURE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PHTHALLIC ACIDS; PHENOLS; BIOACCUMULATION; PESTICIDES
Fatiadi, A.J. 1984 Environment International 10:175-205

Phenol, 2,3-dichloro-
576-24-9
C6-H4-Cl2-O
MW 163.00, MP 57-59 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12402 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982). GC-EC; LC-Electrochem; GC
URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983				

Phenol, 2,3,4-trichloro-
15950-66-0
C6-H3-Cl3-O
MW 197.45, MP 83.5 C, BP (sublimes)

Tissue	Cases Exposure Route	Range	Mean	General Information
12403 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982). LC-MS
URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983				

Phenol, 2,3,4,5-tetrachloro-
4901-51-3
C6-H2-Cl4-O
MW 231.89, MP 116-117 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12404 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982). GC; LC-MS; GC-EC
URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983				

Phenol, 2,3,4,6-tetrachloro-
58-90-2
C6-H2-Cl4-O
MW 231.9, MP 69-70 C, 288 C (decomp), VP 1 mm Hg at 100.0 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12405 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982). GC-EC; LC-Electrochem; GC

URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES
Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983

Phenol, 2,3,5-trichloro-
933-78-8
C6-H3-Cl3-O
MW 197.45, MP 62 C, BP 248.5-249.5 at 250 mm Hg

Tissue	Cases Exposure Route	Range	Mean	General Information
12406 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982). LC-MS

URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES
Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983

Phenol, 2,3,5,6-tetrachloro-
935-95-5
C6-H2-Cl4-O
MW 231.89, MP 115 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12407 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982). LC-MS

URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES
Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983

Phenol, 2,3,6-trichloro-
933-75-5
C6-H3-Cl3-O
MW 197.45, MP 62 C (also reported as 58 C), BP 253 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12408 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982). GC-EC; LC-Electrochem; LC-MS

URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES
Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983

Phenol, 2,4-dichloro-
120-83-2
C6-H4-Cl2-O
MW 163.0, MP 45 C, BP 209-210 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12409 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982). GC-EC; LC-Electrochem; GC

URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES
Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983

Phenol, 2,4,5-trichloro-
95-95-4
C6-H3-Cl3-O
MW 197.5, BP 252 C, VP 1 mm Hg at 72 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12410 Urine				Review. The occurrence and analysis of priority toxic pollutants in human urine, covering the ten-year period 1973-1983, is discussed.

URINE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; DELIBERATE EXPOSURE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PHTHALLIC ACIDS; PHENOLS; BIOACCUMULATION; PESTICIDES
Fatiadi, A.J. 1984 Environment International 10:175-205

Phenol, 2,4,5-trichloro-
95-95-4
C6-H3-Cl3-O
MW 197.5, BP 252 C, VP 1 mm Hg at 72 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12411 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982). GC-EC; LC-Electrochem; GC; LC-MS
URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983				

Phenol, 2,4,6-trichloro-
88-06-2
C6-H3-Cl3-O
MW 197.5, MP 68 C, BP 244.5 C, VP 1 mm Hg at 76.5 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12412 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982). GC-EC; LC-Electrochem; GC
URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983				

Phenol, 2,5-dichloro-
583-78-8
C6-H4-Cl2-O
MW 163.00, MP 59 C, BP 211 C at 744 mm Hg

Tissue	Cases Exposure Route	Range	Mean	General Information
12413 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982). GC-EC; LC-Electrochem; LC-MS
URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983				

Phenol, 2,6-dichloro-
87-65-0
C6-H4-Cl2-O
MW 163.00, MP 68-69 C, BP 219-220 C at 740 mm Hg, VP 1 mm Hg at 59.5 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12414 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982). GC-EC; LC-Electrochem; GC
URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983				

Phenol, 3,4-dichloro-
95-77-2
C6-H4-Cl2-O
MW 163.00, MP 68 C, BP 253.5 C at 767 mm Hg

Tissue	Cases Exposure Route	Range	Mean	General Information
12415 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982). GC; LC-MS; GC-EC
URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983				

Phenol, 3,4,5-trichloro-
609-19-8
C6-H3-Cl3-O
MW 197.45, MP 101 C, BP 271-277 C at 746 mm Hg

Tissue	Cases Exposure Route	Range	Mean	General Information
12416 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982). GC; LC-MS
URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983				

Phenol, 3,5-dichloro-
591-35-5
C6-H4-Cl2-O
MW 163.00, MP 68 C, BP 233 C at 757 mm Hg (also reported as 122-124 C at 8 mm Hg)

Tissue	Cases Exposure Route	Range	Mean	General Information
12417 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982). GC-EC; LC-Electrochem; LC-MS

URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES
Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983

Phenylhexanone (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12418 Aorta	2	a) Not detected b) 40 ppb-Not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Phosphoric acid tributyl ester
126-73-8
C12-H27-O4-P

Tissue	Cases Exposure Route	Range	Mean	General Information
12419 Aorta	2	a) Not detected b) Not detected-10 ppb	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Phosphoric acid, diethyl ester
598-02-7
C4-H11-O4-P
MW 154.10, BP 203.3 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12420 Urine				Review. The occurrence and analysis of priority toxic pollutants in human urine, covering the ten-year period 1973-1983, is discussed.

URINE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; DELIBERATE EXPOSURE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PHTHALLIC ACIDS; PHENOLS; BIOACCUMULATION; PESTICIDES
Fatiadi, A.J. 1984 Environment International 10:175-205

Tissue	Cases Exposure Route	Range	Mean	General Information
12421 Urine	a) 332 b) 265	a) Not given b) Not given	a) 0.41+/-0.068 ppm b) 0.09+/-0.007 ppm S.E.	a) Spraying season b) Harvest Collected at workplace at end of day. Random sampling from 436 growers and 1,811 Florida citrus workers including pesticide applicators, mixers, loaders, tractor drivers, scouts, fieldhands, and pickers.

URINE; OCCUPATIONAL EXPOSURE; FLORIDA; PESTICIDES; AGRICULTURE; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES; INSECTICIDES
Griffith, J.G.; Duncan, R.C. 1985 Bulletin of Environmental Contamination and Toxicology 34:210-215

Tissue	Cases Exposure Route	Range	Mean	General Information
12422 Urine	a) 8 b) 7 c) 10 d) 9	a) Not given b) Not given c) Not given d) Not given	a) 0.094+/-0.087 ppm b) 0.584+/-0.761 ppm c) 0.071+/-0.036 ppm d) 1.131+/-0.156 ppm	a) Lowest (reported muscle weakness) of 228 subjects, spray season b) Highest (reported conjunctivitis) c) Lowest (reported conjunctivitis) of 114 subjects, harvest season d) Highest (reported disorientation) Metabolite of organophosphorus pesticides. These and additional data, reported in greater detail, were grouped by presence/absence of symptoms and overall, means within seasonal groups were not significantly different. Only trace levels found in 104 spray season and 151 harvest season workers. Detection limit 0.02-0.04 ppm. Paid volunteers, citrus fieldworkers, Florida

URINE; OCCUPATIONAL EXPOSURE; FLORIDA; ORGANOPHOSPHATES; PESTICIDES; BIOACCUMULATION; METABOLITES; ORCHARDS; PESTICIDE RESIDUES
Duncan, R.C.; Griffith, J. 1985 Journal of Toxicology and Environmental Health 16:509-521

Tissue	Cases Exposure Route	Range	Mean	General Information
12423 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982).

URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES
Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983

Phosphoric acid, dimethyl ester
813-78-5
C2-H7-O4-P
MW 126.05, BP 172-176 (decomp)

Tissue	Cases Exposure Route	Range	Mean	General Information
12424 Urine				Review. The occurrence and analysis of priority toxic pollutants in human urine, covering the ten-year period 1973-1983, is discussed.

URINE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; DELIBERATE EXPOSURE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PHTHALLIC ACIDS; PHENOLS; BIOACCUMULATION; PESTICIDES
Fatiadi, A.J. 1984 Environment International 10:175-205

Tissue	Cases Exposure Route	Range	Mean	General Information
12425 Urine	a) 332 b) 264	a) Not given b) Not given	a) 0.16+/-0.035 ppm b) 0.39+/-0.198 ppm S.E.	a) Spraying season b) Harvest Collected at workplace at end of day. Random sampling from 436 growers and 1,811 Florida citrus workers including pesticide applicators, mixers, loaders, tractor drivers, scouts, fieldhands, and pickers.

URINE; OCCUPATIONAL EXPOSURE; FLORIDA; PESTICIDES; AGRICULTURE; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES; INSECTICIDES
Griffith, J.G.; Duncan, R.C. 1985 Bulletin of Environmental Contamination and Toxicology 34:210-215

Tissue	Cases Exposure Route	Range	Mean	General Information
12426 Urine	a) 8 b) 13 c) 1 d) 1	a) Not given b) Not given c) Not applicable d) Not applicable	a) 0.082+/-0.032 ppm b) 0.267+/-0.475 ppm c) 0.160 ppm d) 3.180 ppm	a) Lowest (reported muscle weakness) of 160 subjects, spray season b) Highest (reported dizziness) c) Lowest (reported muscle twitching) of 16 subjects, harvest season d) Highest (reported muscle tremor) Metabolite of organophosphorus pesticides. These and additional data, reported in greater detail, were grouped by presence/absence of symptoms and overall, means within seasonal groups were not significantly different. Only trace levels found in 172 spray season and 248 harvest season workers. Detection limit 0.02-0.04 ppm. Paid volunteers, citrus fieldworkers, Florida

URINE; OCCUPATIONAL EXPOSURE; FLORIDA; ORGANOPHOSPHATES; PESTICIDES; BIOACCUMULATION; METABOLITES; ORCHARDS; PESTICIDE RESIDUES
Duncan, R.C.; Griffith, J. 1985 Journal of Toxicology and Environmental Health 16:509-521

Tissue	Cases Exposure Route	Range	Mean	General Information
12427 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982).

URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES
Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983

Phosphorodithioic acid, O,O-diethyl ester
298-06-6
C4-H11-O2-P-S2
MW 186.24

Tissue	Cases Exposure Route	Range	Mean	General Information
12428 Urine	a) 331 b) 262	a) Not given b) Not given	a) 0.24+/-0.057 ppm b) 0.06+/-0.006 ppm S.E.	a) Spraying season b) Harvest Collected at workplace at end of day. Random sampling from 436 growers and 1,811 Florida citrus workers including pesticide applicators, mixers, loaders, tractor drivers, scouts, fieldhands, and pickers.

URINE; OCCUPATIONAL EXPOSURE; FLORIDA; PESTICIDES; AGRICULTURE; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES; INSECTICIDES
Griffith, J.G.; Duncan, R.C. 1985 Bulletin of Environmental Contamination and Toxicology 34:210-215

Tissue	Cases Exposure Route	Range	Mean	General Information
12429 Urine	a) 5 b) 5 c) 2 d) 1	a) Not given b) Not given c) Not given d) Not applicable	a) 0.067+/-0.065 ppm b) 0.418+/-0.560 ppm c) 0.039+/-0.002 ppm d) 0.090 ppm	a) Lowest (reported excessive sweating) of 76 subjects, spray season b) Highest (reported muscle tremor) c) Lowest (reported excitability) of 14 subjects, harvest season d) Highest (reported excessive sweating) Metabolite of organophosphorus pesticides. These and additional data, reported in greater detail, were grouped by presence/absence of symptoms and overall, means within seasonal groups were not significantly different. Only trace levels found in 255 spray season and 248 harvest season workers. Detection limit 0.02-0.04 ppm. Paid volunteers, citrus fieldworkers, Florida

URINE; OCCUPATIONAL EXPOSURE; FLORIDA; ORGANOPHOSPHATES; PESTICIDES; BIOACCUMULATION; METABOLITES; ORCHARDS; PESTICIDE RESIDUES
Duncan, R.C.; Griffith, J. 1985 Journal of Toxicology and Environmental Health 16:509-521

Phosphorodithioic acid, O,O-dimethyl ester
756-80-9
C2-H7-O2-P-S2
MW 158.18

Tissue	Cases Exposure Route	Range	Mean	General Information
12430 Urine				Review. The occurrence and analysis of priority toxic pollutants in human urine, covering the ten-year period 1973-1983, is discussed.

URINE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; DELIBERATE EXPOSURE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PHTHALLIC ACIDS; PHENOLS; BIOACCUMULATION; PESTICIDES
Fatiadi, A.J. 1984 Environment International 10:175-205

Phosphorodithioic acid, O,O-dimethyl ester
756-80-9
C2-H7-O2-P-S2
MW 158.18

Tissue	Cases Exposure Route	Range	Mean	General Information
12431 Urine	a) 331 b) 265	a) Not given b) Not given	a) 0.11+/-0.019 ppm b) 0.25+/-0.106 ppm S.E.	a) Spraying season b) Harvest Collected at workplace at end of day. Random sampling from 436 growers and 1,811 Florida citrus workers including pesticide applicators, mixers, loaders, tractor drivers, scouts, fieldhands, and pickers.

URINE; OCCUPATIONAL EXPOSURE; FLORIDA; PESTICIDES; AGRICULTURE; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES; INSECTICIDES
Griffith, J.G.; Duncan, R.C. 1985 Bulletin of Environmental Contamination and Toxicology 34:210-215

Tissue	Cases Exposure Route	Range	Mean	General Information
12432 Urine	a) 1 b) 2 c) 2 d) 1	a) Not applicable b) Not given c) Not given d) Not applicable	a) 0.030 ppm b) 0.236+/-0.218 ppm c) 0.080+/-0.014 ppm d) 1.90 ppm	a) Lowest (reported conjunctivitis) of 23 subjects, spray season b) Highest (reported excitablity) c) Lowest (reported muscle twitching) of 18 subjects, harvest season d) Highest (reported disorientation) Metabolite of organophosphorus pesticides. These and additional data, reported in greater detail, were grouped by presence/absence of symptoms and overall, means within seasonal groups were not significantly different. Only trace levels found in 308 spray season and 247 harvest season workers. Detection limit 0.02-0.04 ppm. Paid volunteers, citrus fieldworkers, Florida

URINE; OCCUPATIONAL EXPOSURE; FLORIDA; ORGANOPHOSPHATES; PESTICIDES; BIOACCUMULATION; METABOLITES; ORCHARDS; PESTICIDE RESIDUES
Duncan, R.C.; Griffith, J. 1985 Journal of Toxicology and Environmental Health 16:509-521

Tissue	Cases Exposure Route	Range	Mean	General Information
12433 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982).

URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES
Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983

Phosphorothioic acid, O,O-diethyl ester
2465-65-8
C4-H11-O3-P-S
MW 170

Tissue	Cases Exposure Route	Range	Mean	General Information
12434 Kidney	2	39-56 ppt Whole wt	48 ppt	At autopsy. No known abnormal exposure. 1290-1410 ppt, lipid basis. Relative proportions of individual dioxins appeared the same among all tissues studied. Mean calculated by extractor. Elderly trauma and stroke victims. GC/MS

ADIPOSE TISSUE; KIDNEYS; LIVER; MUSCLES; ENVIRONMENTAL EXPOSURE; AUTOPSIES; CHLORINE ORGANIC COMPOUNDS; HERBICIDES; BIOACCUMULATION
Ryan, J.J.; Schecter, A.; Lizotte, R.; Sun, W.-F.; Miller, L. 1985 Chemosphere 14(6/7):929-932

Tissue	Cases Exposure Route	Range	Mean	General Information
12435 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982).

URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES
Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983

Phosphorothioic acid, O,O-dimethyl ester
1112-38-5
C2-H7-O3-P-S
MW 234

Tissue	Cases Exposure Route	Range	Mean	General Information
12436 Urine				Review. The occurrence and analysis of priority toxic pollutants in human urine, covering the ten-year period 1973-1983, is discussed.

URINE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; DELIBERATE EXPOSURE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PHTHALLIC ACIDS; PHENOLS; BIOACCUMULATION; PESTICIDES
Fatiadi, A.J. 1984 Environment International 10:175-205

Phosphorothioic acid, O,O-dimethyl ester
1112-38-5
C2-H7-O3-P-S
MW 234

Tissue	Cases Exposure Route	Range	Mean	General Information
12437 Urine	16	a) Not detected-65 ug b) Not detected-520 ug c) Not detected-27 ug d) Not detected-280 ug	a) 12 ug b) 139 ug c) 2 ug d) 87 ug	a) New method, before exposure, 11 cases b) Total excretion by day 3 after exposure, 16 cases c) Old method, before exposure, 12 cases d) Total excretion by day 3 after exposure, 16 cases Exposure to pesticide fenitrothion, metabolite measured. Limits of detection, new method 0.001 ug/ml, old method 0.01-0.10 ug/ml. Workers involved in aerial application of pesticide in Quebec forests. GC

URINE; OCCUPATIONAL EXPOSURE; CANADA; MEASUREMENT METHODS; PESTICIDES; INSECTICIDES; BIOACCUMULATION; METABOLISM; METABOLITES; FORESTRY; PESTICIDE RESIDUES
Moody, R.P.; Franklin, C.A.; Riedel, D.; Muir, N.I.; Greenhalgh, R.; Hladka, A. 1985 Journal of Agricultural and Food Chemistry 33:464-467

Tissue	Cases Exposure Route	Range	Mean	General Information
12438 Urine	a) 323 b) 262	a) Not given b) Not given	a) 0.08+/-0.017 ppm b) 0.15+/-0.083 ppm S.E.	a) Spraying season b) Harvest Collected at workplace at end of day. Random sampling from 436 growers and 1,811 Florida citrus workers including pesticide applicators, mixers, loaders, tractor drivers, scouts, fieldhands, and pickers.

URINE; OCCUPATIONAL EXPOSURE; FLORIDA; PESTICIDES; AGRICULTURE; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES; INSECTICIDES
Griffith, J.G.; Duncan, R.C. 1985 Bulletin of Environmental Contamination and Toxicology 34:210-215

Tissue	Cases Exposure Route	Range	Mean	General Information
12439 Urine	a) 2 b) 3 c) 2 d) 1	a) Not given b) Not given c) Not given d) Not applicable	a) 0.020+/-0.00 ppm b) 0.182+/-0.267 ppm c) 0.030+/-0.014 ppm d) 0.890 ppm	a) Lowest (reported conjunctivitis) of 57 subjects, spray season b) Highest (reported excitablity) c) Lowest (reported conjunctivitis) of 10 subjects, harvest season d) Highest (reported muscle tremor) Metabolite of organophosphorus pesticides. These and additional data, reported in greater detail, were grouped by presence/absence of symptoms and overall, means within seasonal groups were not significantly different. Only trace levels found in 266 spray season and 252 harvest season workers. Detection limit 0.02-0.04 ppm. Paid volunteers, citrus fieldworkers, Florida

URINE; OCCUPATIONAL EXPOSURE; FLORIDA; ORGANOPHOSPHATES; PESTICIDES; BIOACCUMULATION; METABOLITES; ORCHARDS; PESTICIDE RESIDUES
Duncan, R.C.; Griffith, J. 1985 Journal of Toxicology and Environmental Health 16:509-521

Phosphorothioic acid, O,O-dimethyl ester
1112-38-5
C2-H7-O3-P-S
MW 234

Tissue	Cases Exposure Route	Range	Mean	General Information
12440 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982).

URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES

Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983

Phosphorus
7723-14-0
P
AtW 30.97376, MP 44.1 C, BP 280 C, VP 10 mm Hg at 127 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12441 Hair	a) 1 b) 1	a) 56-192 ppm b) 65.7-181 ppm	a) 108.8+/-28.6 ppm b) 119+/-28.5 ppm	a) Subject 1 b) Subject 2 Samples sent to 13 commercial laboratories for analysis. Values here are combined from all. Considerable variance within same laboratory, among different laboratories and disagreement about what was "normal" or "unusual". Authors conclude commercial use of hair analysis for management of disease, nutrition unscientific, uneconomical, probably illegal.

HAIR; ALUMINUM; ARSENIC; BERYLLIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; GOLD; IRON; LEAD; LITHIUM; MAGNESIUM; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; RUBIDIUM; SELENIUM; SILICON; SODIUM; TIN; VANADIUM; ZINC; ELEMENTS; TRACE ELEMENTS; METALS

Barrett, S. 1985 Journal of the American Medical Association 254(8):1041-1045

Tissue	Cases Exposure Route	Range	Mean	General Information
12442 Hair	a) 92 b) 55 c) 46 d) 457 e) 255	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 118 ppm b) 105 ppm c) 114 ppm d) 151 ppm e) 133 ppm	a) Canada b) U.S.A. c) Poland d) Japan e) India Part of international survey of 21 elements. Japanese, 2-80 yr olds. Rest were 30-60 yr old. ES

ENVIRONMENTAL EXPOSURE; HAIR; CANADA; UNITED STATES; POLAND; JAPAN; INDIA; MAGNESIUM; CALCIUM; PHOSPHORUS; SODIUM; POTASSIUM; IRON; COPPER; MANGANESE; ZINC; SELENIUM; CHROMIUM; NICKEL; COBALT; VANADIUM; LEAD; CADMIUM; ALUMINUM; ANTIMONY; MERCURY; TIN; ARSENIC; AGE; SEX; COMPARATIVE EVALUATIONS

Takagi, Y.; Matsuda, S.; Imai, S.; Ohmori, Y.; Masuda, T.; Vinson, J.A.; Mehra, M.C.; Puri, B.K.; Kaniewski, A. 1986 Bulletin of Environmental Contamination and Toxicology 36:793-800

Phosphorus
7723-14-0
P
AtW 30.97376, MP 44.1 C, BP 280 C, VP 10 mm Hg at 127 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12443 Kidney		a) 749-3665 mg/kg b) 1220-2570 mg/kg c) 980-3220 mg/kg d) 1070-2630 mg/kg Wet wt	a) 1740 mg/kg b) 1740 mg/kg c) 1620 mg/kg d) 1505 mg/kg Wet wt Median	a) Cortex, Kingston, 73 cases b) Ottawa, 65 cases c) Medulla, Kingston, 75 d) Ottawa, 61 Autopsy samples from normal subjects, Kingston and Ottawa, Ontario ICP-AES
12444 Liver	a) 76 b) 65	a) 1570-3600 mg/kg b) 1670-3410 mg/kg Wet wt	a) 2530 mg/kg b) 2470 mg/kg Wet wt Median	a) Kingston b) Ottawa Autopsy samples from normal subjects, Kingston and Ottawa, Ontario ICP-AES

KIDNEYS; LIVER; CANADA; AUTOPSIES; CALCIUM; POTASSIUM; MAGNESIUM; SODIUM; PHOSPHORUS; COPPER; IRON; MANGANESE; SELENIUM; ZINC; CADMIUM; MERCURY; LEAD
Subramanian, K.S.; Meranger, J.C.; Burnett, R.T. 1985 Science of the Total Environment 42:223-235

Phthalic acid, bis(2-ethylhexyl) ester (8 CI); 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI)
117-81-7
C24-H38-O4
MW 390.54

Tissue	Cases Exposure Route	Range	Mean	General Information
12445 Aorta	2	a) Not detected b) 350 ppb-Not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Tissue	Cases Exposure Route	Range	Mean	General Information
12446 Urine				Review. The occurrence and analysis of priority toxic pollutants in human urine, covering the ten-year period 1973-1983, is discussed.

URINE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; DELIBERATE EXPOSURE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PHTHALLIC ACIDS; PHENOLS; BIOACCUMULATION; PESTICIDES
Fatiadi, A.J. 1984 Environment International 10:175-205

Phthalic acid, bis(2-ethylhexyl) ester (8 CI); 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (9 CI)
117-81-7
C24-H38-O4
MW 390.54

Tissue	Cases Exposure Route	Range	Mean	General Information
12447 Urine	2 Ingestion	a) 3.36-0.02 mg b) 1.87-0.11 mg c) 1.15-2.22 mg d) 2.30-2.46 mg e) 1.09-1.87 mg f) 1.50-3.31 mg g) 0.03-0.36 mg	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 2.2.5-18.hr and 44.5-48.5 hr, 30 mg dose, case 1 b) 0-12 hr and 36-58 hr, 30 mg, case 2 c) Day 1, 10 mg/d for 4 d, 2 cases d) Day 2 e) Day 3 f) Day 4 g) Day 5 Total amount excreted within given time. Healthy volunteers, age 34-47 yr old, 61-71 kg GC/MS

URINE; DELIBERATE EXPOSURE; ADULTS; METABOLITES; MEASUREMENT METHODS; INDUSTRIAL CHEMICALS
Schmid, P.; Schlatter, CH. 1985 Xenobiotica 15(3):251-256

Tissue	Cases Exposure Route	Range	Mean	General Information
12448 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982).

URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES
Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983

Phthalic acid, dibutyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dibutyl ester (9 CI)
84-74-2
C16-H22-O4
MW 278.34, MP -35 C, BP 340 C, VP 14 mm Hg at 200 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12449 Aorta	2	a) 120-140 ppb b) Not detected-6 ppb	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Phthalic acid, diethyl ester (8 CI); 1,2-Benzenedicarboxylic acid, diethyl ester (9 CI)
84-66-2
C12-H14-O4
MW 222.23, MP -40.5 C, BP 295 C, VP 14 mm Hg at 163 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12450 Aorta	2	a) 860-710 ppb b) 20-10 ppb	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Phthalic acid, dimethyl ester (8 CI); 1,2-Benzenedicarboxylic acid, dimethyl ester (9 CI)
131-11-3
C10-H10-O4
MW 194.18, MP 0-2 C, BP 283.7 C, VP 1 mm Hg at 100.3 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12451 Aorta	2	a) 40 ppb-Not detected b) Not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Plutonium
7440-07-5
Pu
AtW 242, 244 (most stable known isotopes), MP 639.5 C (also reported as 641 C), BP 3232 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12452 Body		a) <0.01-21 nCi b) 1.2-80 nCi	a) 3.3 nCi b) 9.6 nCi	a) Estimates from autopsy data b) Estimates from health physics data Estimates based on wet wt, were of systemic body burden. Means calculated from table. 41 cases in ashed samples from 13 of these cases, estimate (mean) from autopsy was 9.8 nCi compared with 5.0 from same cases. Workers for whom estimates of body burdens were at least 1 nCi
PLUTONIUM; OCCUPATIONAL EXPOSURE; OCCUPATIONAL HAZARDS; AUTOPSIES; BODY Heid, K.R. 1981 CONF-8110126-3 (PNL-SA-9883, DE82 005986)				

Tissue	Cases Exposure Route	Range	Mean	General Information
12453 Bone				Review of National Plutonium Workers' Study, a result of the clinical followup of workers with body burdens >10 nCi. Review includes analysis of cancer mortalities at Rocky Flats plant and of malignant melanomas at Los Alamos National Laboratory.
OCCUPATIONAL EXPOSURE; LYMPH NODES; LUNGS; LIVER; KIDNEYS; BONES; REVIEW; AUTOPSIES; OCCUPATIONAL HAZARDS; PLUTONIUM Acquavella, J.F.; Wilkinson, G.S. 1983 LA-9545-SR (UC 41, De83 010136)				

Tissue	Cases Exposure Route	Range	Mean	General Information
12454 Bone, femur	a) 9 b) 8 c) 6 d) 6	a) 1.4-8.9 mBq/kg b) 1.8-11 mBq/kg c) 1.9-5.8 mBq/kg d) 4-11 mBq/kg	a) Not given b) Not given c) Not given d) 6.2 mBq/kg Median	a) Central Scotland b) Northeast England c) Oxfordshire d) West Cumbria Pu-processing industry located in Cumbria. Median value for a)-c) 3.8 mBq/kg. Significantly lower than d), $p<0.05$. Autopsy tissues from subjects >/=50 yr old, England and Scotland Spectrometry
12455 Bone, rib	a) 9 b) 8 c) 13 d) 6	a) 1.7-40 mBq/kg b) 6-233 mBq/kg c) 1-14 mBq/kg d) 0.4-22 mBq/kg	a) Not given b) Not given c) Not given d) 12.5 mBq/kg Median	a) Central Scotland b) Northeast England c) Oxfordshire d) West Cumbria Pu-processing industry located in Cumbria. Median value for a)-c) 7.4 mBq/kg. Not significantly different from d). Autopsy tissues from subjects >/=50 yr old, England and Scotland Spectrometry

(next page)

Plutonium
7440-07-5
Pu
AtW 242, 244 (most stable known isotopes), MP 639.5 C (also reported as 641 C), BP 3232 C

(continued)

Tissue	Cases Exposure Route	Range	Mean	General Information
12456 Bone, vertebra	a) 10 b) 8 c) 13 d) 4	a) 2-9 mBq/kg b) 0.3-99 mBq/kg c) 1.9-10 mBq/kg d) 3.9-11 mBq/kg	a) Not given b) Not given c) Not given d) 9 mBq/kg Median	a) Central Scotland b) Northeast England c) Oxfordshire d) West Cumbria Pu-processing industry located in Cumbria. Median value for a)-c) 5.1 mBq/kg. Not significantly different from d). *Autopsy tissues from subjects >/=50 yr old, England and Scotland* Spectrometry

RIBS; VERTEBRAE; FEMUR; LIVER; LUNGS; LYMPH NODES; ENVIRONMENTAL EXPOSURE; UNITED KINGDOM; AUTOPSIES; COMPARATIVE EVALUATIONS; PLUTONIUM; BIOACCUMULATION; INDUSTRIAL AREAS; POPULATION EXPOSURE; RADIATION DOSES
Popplewell, D.S.; Ham, G.J.; Johnson, T.E.; Barry, S.F. 1985 Health Physics 49(2):304-309

Tissue	Cases Exposure Route	Range	Mean	General Information
12457 Kidney				Review of National Plutonium Workers' Study, a result of the clinical followup of workers with body burdens >10 nCi. Review includes analysis of cancer mortalities at Rocky Flats plant and of malignant melanomas at Los Alamos National Laboratory.
12458 Liver				Review of National Plutonium Workers' Study, a result of the clinical followup of workers with body burdens >10 nCi. Review includes analysis of cancer mortalities at Rocky Flats plant and of malignant melanomas at Los Alamos National Laboratory.

OCCUPATIONAL EXPOSURE; LYMPH NODES; LUNGS; LIVER; KIDNEYS; BONES; REVIEW; AUTOPSIES; OCCUPATIONAL HAZARDS; PLUTONIUM
Acquavella, J.F.; Wilkinson, G.S. 1983 LA-9545-SR (UC 41, De83 010136)

Tissue	Cases Exposure Route	Range	Mean	General Information
12459 Liver	a) 10 b) 8 c) 11 d) 5	a) 8-54 mBq/kg b) 9.5-49 mBq/kg c) 4.7-5.7 mBq/kg d) 37-110 mBq/kg	a) Not given b) Not given c) Not given d) 52 mBq/kg Median	a) Central Scotland b) Northeast England c) Oxfordshire d) West Cumbria Pu-processing industry located in Cumbria. Median value for a)-c) 26 mBq/kg, significantly lower than d), $p<0.01$. *Autopsy tissues from subjects >/=50 yr old, England and Scotland* Spectrometry

RIBS; VERTEBRAE; FEMUR; LIVER; LUNGS; LYMPH NODES; ENVIRONMENTAL EXPOSURE; UNITED KINGDOM; AUTOPSIES; COMPARATIVE EVALUATIONS; PLUTONIUM; BIOACCUMULATION; INDUSTRIAL AREAS; POPULATION EXPOSURE; RADIATION DOSES
Popplewell, D.S.; Ham, G.J.; Johnson, T.E.; Barry, S.F. 1985 Health Physics 49(2):304-309

Plutonium
7440-07-5
Pu
AtW 242, 244 (most stable known isotopes), MP 639.5 C (also reported as 641 C), BP 3232 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12460 Lung				Review of National Plutonium Workers' Study, a result of the clinical followup of workers with body burdens >10 nCi. Review includes analysis of cancer mortalities at Rocky Flats plant and of malignant melanomas at Los Alamos National Laboratory.

OCCUPATIONAL EXPOSURE; LYMPH NODES; LUNGS; LIVER; KIDNEYS; BONES; REVIEW; AUTOPSIES; OCCUPATIONAL HAZARDS; PLUTONIUM
Acquavella, J.F.; Wilkinson, G.S. 1983 LA-9545-SR (UC 41, De83 010136)

Tissue	Cases Exposure Route	Range	Mean	General Information
12461 Lung	a) 10 b) 8 c) 12 d) 6	a) 0.7-7.6 mBq/kg b) 0.2-16 mBq/kg c) 0.6-5 mBq/kg d) 2.2-17 mBq/kg	a) Not given b) Not given c) Not given d) 7.1 mBq/kg Median	a) Central Scotland b) Northeast England c) Oxfordshire d) West Cumbria Pu-processing industry located in Cumbria. Median value for a)-c) 2.2 mBq/kg, significantly lower than d), p<0.001. Autopsy tissues from subjects >/=50 yr old, England and Scotland Spectrometry

RIBS; VERTEBRAE; FEMUR; LIVER; LUNGS; LYMPH NODES; ENVIRONMENTAL EXPOSURE; UNITED KINGDOM; AUTOPSIES; COMPARATIVE EVALUATIONS; PLUTONIUM; BIOACCUMULATION; INDUSTRIAL AREAS; POPULATION EXPOSURE; RADIATION DOSES
Popplewell, D.S.; Ham, G.J.; Johnson, T.E.; Barry, S.F. 1985 Health Physics 49(2):304-309

Tissue	Cases Exposure Route	Range	Mean	General Information
12462 Lymph node				Review of National Plutonium Workers' Study, a result of the clinical followup of workers with body burdens >10 nCi. Review includes analysis of cancer mortalities at Rocky Flats plant and of malignant melanomas at Los Alamos National Laboratory.

OCCUPATIONAL EXPOSURE; LYMPH NODES; LUNGS; LIVER; KIDNEYS; BONES; REVIEW; AUTOPSIES; OCCUPATIONAL HAZARDS; PLUTONIUM
Acquavella, J.F.; Wilkinson, G.S. 1983 LA-9545-SR (UC 41, De83 010136)

Plutonium
7440-07-5
Pu
AtW 242, 244 (most stable known isotopes), MP 639.5 C (also reported as 641 C), BP 3232 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12463 Lymph node	a) 8 b) 7 c) 10 d) 6	a) 4-84 mBq/kg b) 9-130 mBq/kg c) 1.8-36 mBq/kg d) 10-145 mBq/kg	a) Not given b) Not given c) Not given d) 39 mBq/kg Median	a) Central Scotland b) Northeast England c) Oxfordshire d) West Cumbria Pu-processing industry located in Cumbria. Median value for a)-c) 12 mBq/kg, Not significantly different from d). Autopsy tissues from subjects >/=50 yr old, England and Scotland Spectrometry
RIBS; VERTEBRAE; FEMUR; LIVER; LUNGS; LYMPH NODES; ENVIRONMENTAL EXPOSURE; UNITED KINGDOM; AUTOPSIES; COMPARATIVE EVALUATIONS; PLUTONIUM; BIOACCUMULATION; INDUSTRIAL AREAS; POPULATION EXPOSURE; RADIATION DOSES Popplewell, D.S.; Ham, G.J.; Johnson, T.E.; Barry, S.F. 1985 Health Physics 49(2):304-309				

Plutonium, isotope of mass 239
15117-48-3
Pu

Tissue	Cases Exposure Route	Range	Mean	General Information
12464 Urine	23	0.02-1.52 pCi/24 hr	Not given	History of high exposure at Los Alamos during 1944-45. 1982 estimated body burdens also given, 2-95 nCi. Manhattan Project workers
URINE; OCCUPATIONAL EXPOSURE; NEW MEXICO; ADULTS; CASE HISTORIES; PLUTONIUM; BIOLOGICAL MONITORING; RADIOISOTOPES; BIOCONCENTRATION Voelz, G.L.; Grier, R.S.; Hempelmann, L.H. 1985 Health Physics 48(3):249-259				

Polybrominated biphenyls (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12465 Adipose	15 Ingestion	32-1650 ng/g Wet wt	475+/-131 ng/g Wet wt S.E.	Autopsy samples, renal fat. Highest single level and mean of all tissues tested. Deaths from natural causes or accident. Subjects had lived in Grand Rapids, Michigan area in 1973, when animal feed was contaminated. GC-EC
12466 Adrenal gland	14 Ingestion	17-850 ng/g Wet wt	265+/-80 ng/g Wet wt S.E.	Autopsy samples. Mean ratio to fat (renal) level 0.56. Fat elimination half-time estimated to be =/>7.8 yr. Deaths from natural causes or accident. Subjects had lived in Grand Rapids, Michigan area in 1973, when animal feed was contaminated. GC-EC

(next page)

Polybrominated biphenyls (No postings in CHEMLINE).

(continued)

Tissue	Cases Exposure Route	Range	Mean	General Information
12467 Aorta	14 Ingestion	6-1011 ng/g Wet wt	216+/-77 ng/g Wet wt S.E.	Autopsy samples. Mean ratio to fat (renal) level 0.45. Fat elimination half-time estimated to be =/>7.8 yr. Deaths from natural causes or accident. Subjects had lived in Grand Rapids, Michigan area in 1973, when animal feed was contaminated. GC-EC
12468 Brain	14 Ingestion	1-103 ng/g Wet wt	27+/-12 ng/g Wet wt S.E.	Autopsy samples. Mean ratio to fat (renal) level 0.06. Fat elimination half-time estimated to be =/>7.8 yr. Deaths from natural causes or accident. Subjects had lived in Grand Rapids, Michigan area in 1973, when animal feed was contaminated. GC-EC
12469 Heart	15 Ingestion	4-233 ng/g Wet wt	46+/-16 ng/g Wet wt S.E.	Autopsy samples, left ventricle. Mean ratio to fat (renal) level 0.10. Fat elimination half-time estimated to be =/>7.8 yr. Deaths from natural causes or accident. Subjects had lived in Grand Rapids, Michigan area in 1973, when animal feed was contaminated. GC-EC
12470 Kidney	15 Ingestion	a) 2-95 ng/g b) 2-100 ng/g Wet wt	a) 25+/-7 ng/g b) 35+/-9 ng/g Wet wt S.E.	a) Cortex. Mean ratio to fat (renal) level 0.05 b) Medulla. Mean ratio 0.07 Autopsy samples. Fat elimination half-time estimated to be =/>7.8 yr. Deaths from natural causes or accident. Subjects had lived in Grand Rapids, Michigan area in 1973, when animal feed was contaminated. GC-EC
12471 Liver	15 Ingestion	0-259 ng/g Wet wt	61+/-18 ng/g Wet wt S.E.	Autopsy samples. Mean ratio to fat (renal) level 0.15. Fat elimination half-time estimated to be =/>7.8 yr. Deaths from natural causes or accident. Subjects had lived in Grand Rapids, Michigan area in 1973, when animal feed was contaminated. GC-EC
12472 Lung	15 Ingestion	2-93 ng/g Wet wt	31+/-9 ng/g Wet wt S.E.	Autopsy samples. Mean ratio to fat (renal) level 0.07. Fat elimination estimated to be =/>7.8 yr. Deaths from natural causes or accident. Subjects had lived in Grand Rapids, Michigan area in 1973, when animal feed was contaminated. GC-EC
12473 Muscle	15 Ingestion	2-84 ng/g Wet wt	27+/-6 ng/g Wet wt S.E.	Autopsy samples, skeletal. Mean ratio to fat (renal) level 0.06. Fat elimination half-time estimated to be =/>7.8 yr. Deaths from natural causes or accident. Subjects had lived in Grand Rapids, Michigan area in 1973, when animal feed was contaminated. GC-EC
12474 Pancreas	15 Ingestion	4-653 ng/g Wet wt	131+/-41 ng/g Wet wt S.E.	Autopsy samples. Mean ratio to fat (renal) level 0.28. Fat elimination half-time estimated to be =/>7.8 yr. Deaths from natural causes or accident. Subjects had lived in Grand Rapids, Michigan area in 1973, when animal feed was contaminated. GC-EC
12475 Spleen	15 Ingestion	0-312 ng/g Wet wt	43+/-21 ng/g Wet wt S.E.	Autopsy samples. Mean ratio to fat (renal) level 0.09. Fat elimination half-time estimated to be =/>7.8 yr. Deaths from natural causes or accident. Subjects had lived in Grand Rapids, Michigan area in 1973, when animal feed was contaminated. GC-EC

(next page)

Polybrominated biphenyls (No postings in CHEMLINE).

(continued)

Tissue	Cases Exposure Route	Range	Mean	General Information
12476 Thymus	7 Ingestion	29-617 ng/g Wet wt	243+/-140 ng/g Wet wt S.E.	Autopsy samples. Mean ratio to fat (renal) level 0.51. Fat elimination half-time estimated to be =/>7.8 yr. Deaths from natural causes or accident. Subjects had lived in Grand Rapids, Michigan area in 1973, when animal feed was contaminated. GC-EC
12477 Thyroid gland	13 Ingestion	3-80 ng/g Wet wt	22+/-6 ng/g Wet wt S.E.	Autopsy samples. Mean ratio to fat (renal) level 0.06. Fat elimination half-time estimated to be =/>7.8 yr. Deaths from natural causes or accident. Subjects had lived in Grand Rapids, Michigan area in 1973, when animal feed was contaminated. GC-EC

ADRENAL GLANDS; AORTA; BRAIN; HEART; KIDNEYS; LIVER; LUNGS; PANCREAS; ADIPOSE TISSUE; MUSCLES; SPLEEN; THYMUS; THYROID GLANDS; CONSUMER EXPOSURE; ENVIRONMENTAL EXPOSURE; MICHIGAN; AUTOPSIES; INDUSTRIAL CHEMICALS; POLYBROMINATED BIPHENYLS; ACCIDENTAL POISONING; ANIMAL FEEDS; BIOACCUMULATION; FOOD CONTAMINATION; POPULATION EXPOSURE; AUTOPSIES

Miceli, J.N.; Nolan, D.C.; Marks, B.; Hariharan, M 1985 *Environmental Health Perspectives* 60:399-403

Polychlorinated dibenzo-p-dioxin (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12478 Adipose	2	a) 618-867 ppt b) 751-888 ppt Whole wt	a) 743 ppt b) 820 ppt	a) Abdominal fat. 871-1155 ppt, lipid basis b) Subcutaneous fat. 1121-1184 ppt, lipid basis At autopsy. No known abnormal exposure. Relative proportions of individual dioxins appeared the same among all tissues studied. Means calculated by extractor. Elderly trauma and stroke victims. GC/MS
12479 Liver	2	253-448 ppt Whole wt	350 ppt	At autopsy. No known abnormal exposure. 4215 ppt (6% liver lipid) and 2037 ppt (22% liver lipid) in respective cases. Relative proportions of individual dioxins appeared the same among all tissues studied. Mean calculated by extractor. Elderly trauma and stroke victims. GC/MS
12480 Muscle	2	88-194 ppt Whole wt	141 ppt	At autopsy. No known abnormal exposure. 1261-2156 ppt, lipid basis. Relative proportions of individual dioxins appeared the same among all tissues studied. Mean calculated by extractor. Elderly trauma and stroke victims. GC/MS

ADIPOSE TISSUE; KIDNEYS; LIVER; MUSCLES; ENVIRONMENTAL EXPOSURE; AUTOPSIES; CHLORINE ORGANIC COMPOUNDS; HERBICIDES; BIOACCUMULATION

Ryan, J.J.; Schecter, A.; Lizotte, R.; Sun, W.-F.; Miller, L. 1985 Chemosphere 14(6/7):929-932

Polychlorinated dibenzofurans (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12481 Adipose	1 Ingestion	a) Not applicable b) Not applicable c) Not applicable	a) 0.9 ppm b) 4.0 ppm c) 7.8 ppm	a) 1,2,4,7,8-PCDF b) 2,3,4,7,8-PCDF c) 1,2,3,4,7,8-PCDF Autopsy data. Patient who died 2 yr after onset of PCB-poisoning. GC-EC

BLOOD; ADIPOSE TISSUE; BRONCHUS; INTESTINES; HEART; STOMACH; LIVER; KIDNEYS; LUNGS; BRAIN; SPLEEN; CONSUMER EXPOSURE; TAIWAN; NUTRITIONAL DISORDERS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUARTEPHENYLS; BIOACCUMULATION; FOOD CONTAMINATION; RICE; ACCIDENTAL POISONING; HEALTH HAZARDS; AUTOPSIES

Chen, P.H.; Wong, C.-K.; Rappe, C.; Nygren, M. 1985 Environmental Health Perspectives 59:59-65

Tissue	Cases Exposure Route	Range	Mean	General Information
12482 Adipose	4 Ingestion	a) 0.2-4.3 ppb b) Not detected-0.3 ppb c) 0.2-1.0 ppb d) 0.1-5.7 ppb e) Not detected-1.7 ppb	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 2,3,6,8-tetrachloro-DF b) 2,3,7,8-tetrachloro-DF c) 1,2,4,7,8-pentachloro-DF d) 2,3,4,7,8-pentachloro-DF e) 1,2,3,4,7,8-hexachloro-DF Congener. Yusho patients ingested contaminated rice oil in western Japan in 1968. Autopsies. Time of death July, 1969-March, 1977. Limit of detection 0.005 ppb. Fukuoka, Japan Acneform eruptions, hypersecretion of Meibomian glands, hyperpigmentation of the face, eyelids, gingiva, nails and mucous membrane, abdominal pain, headache, general fatigue. GC-EC

BLOOD; LIVER; ADIPOSE TISSUE; LUNGS; ENVIRONMENTAL EXPOSURE; JAPAN; TAIWAN; AUTOPSIES; INFANTS; ADULTS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUATERPHENYLS; CHLORINE ORGANIC COMPOUNDS; ACCIDENTAL POISONING; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; RICE

Masuda, Y.; Kuroki, H.; Haraguchi, K.; Nagayama, J. 1985 Environmental Health Perspectives 59:53-58

Tissue	Cases Exposure Route	Range	Mean	General Information
12483 Adipose	a) 1 b) 1 c) 14 Ingestion	a) Not applicable b) Not applicable c) Not given	a) 5.3 ppb b) 9.6 ppb c) 0.019 ppb	a) 1 yr b) 4 yr c) Controls After ingestion of contaminated rice oil in 1968. Autopsies. Controls and patients from Fukuoka, Japan GC-EC

LIVER; INTESTINES; ADIPOSE TISSUE; MILK; ENVIRONMENTAL EXPOSURE; JAPAN; TAIWAN; ADULTS; AUTOPSIES; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUARTERPHENYLS; CHLORINE ORGANIC COMPOUNDS; ACCIDENTAL POISONING; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; RICE

Miyata, H.; Fukushima, S.; Kashimoto, T.; Kunita, N. 1985 Environmental Health Perspectives 59:67-72

Polychlorinated dibenzofurans (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12484 Adipose	2	a) 60-84 ppt b) 51-78 ppt Whole wt	a) 72 ppt b) 64 ppt	a) Abdominal fat. 85-112 ppt, lipid basis b) Subcutaneous fat. 68-116 ppt, lipid basis At autopsy. No known abnormal exposure. Relative proportions of individual furans appeared the same among all tissues studied. Means calculated by extractor. Elderly trauma and stroke victims. GC/MS

ADIPOSE TISSUE; KIDNEYS; LIVER; MUSCLES; ENVIRONMENTAL EXPOSURE; AUTOPSIES; CHLORINE ORGANIC COMPOUNDS; HERBICIDES; BIOACCUMULATION

Ryan, J.J.; Schecter, A.; Lizotte, R.; Sun, W.-F.; Miller, L. 1985 Chemosphere 14(6/7):929-932

Tissue	Cases Exposure Route	Range	Mean	General Information
12485 Blood	a) 56 b) 69 c) 3 d) 113 e) 60	a) Not given b) Not given c) Not given d) Not given e) Not given	a) Not detected b) Not detected c) Not detected d) 0.076+/-0.038 ppb e) Not detected	a) Yusho patients, 1979, 11 yr after termination of exposure b) Workers charging transformers with fresh Kanechlor (42-54% chlorine), 1979-81, 9 yr after c) Workers reclaiming products used as heat exchanger, 1979, 9 yr after d) Yu-Cheng patients, teachers and students at a school, 1979-81, 6 mo after e) Unexposed individuals Detected in all Yusho patients, respective levels increasing with degree of severity of skin signs. Detection limit 0.01 ppb. Had probably been present at earlier stages of Yusho poisoning. Also found in liver and adipose tissue of deceased Yusho patients, and in oil samples of both Yusho and Yu-Cheng incidents. PCDFs deduced to be the primary causal agents of both incidents. Individuals exposed to PCB-related compounds, Japan and Taiwan. Controls. GC/MS

BLOOD; CONSUMER EXPOSURE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; JAPAN; TAIWAN; CASE HISTORIES; SKIN DISEASES; COMPARATIVE EVALUATIONS; CHLORINE ORGANIC COMPOUNDS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUATERPHENYLS; INDUSTRIAL CHEMICALS; ACCIDENTAL POISONING; FOOD CONTAMINATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; POLYCHLORINATED DIBENZOFURANS

Kashimoto, T.; Miyata, H.; Fukushima, S.; Kunita, N.; Ohi, G.; Tungt, T.-C. 1985 Environmental Health Perspectives 59:73-78

Tissue	Cases Exposure Route	Range	Mean	General Information
12486 Blood	65 Ingestion	a) 0.200-<0.250 ppb b) 0.150-<0.200 ppb c) 0.100-<0.150 ppb d) 0.100-<0.100 ppb e) 0-<0.050 ppb f) 0.005-0.231 ppb	a) Not given b) Not given c) Not given d) Not given e) Not given f) 0.076+/-0.038 ppb	a) 1.5% of total cases, 1 patient b) 1.5%, 1 c) 21.6%, 14 patients d) 52.3%, 34 e) 23.1%, 15 f) All cases Patients ate daily at a kitchen serving rice oil contaminated with PCB from 9/78 to 4/79. Neurological evaluations and blood sampled 11/79-4/80. Taiwan, 2-66 yr olds. Headaches Nerve damage GC

BLOOD; CONSUMER EXPOSURE; TAIWAN; ADULTS; ADOLESCENTS; CHILDREN; NEUROLOGIC MANIFESTATIONS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUATERPHENYLS; ACCIDENTAL POISONING; BIOLOGICAL MONITORING; FOOD CONTAMINATION

Chen, R.; Tang, S.; Miyata, H.; Kashimoto, T.; Chang, Y.; Chang, K.; Tung, T. 1985 Environmental Research 37:340-348

Polychlorinated dibenzofurans (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12487 Blood	10 Ingestion	0.02-0.20 ppb	Not given	Collected 9-27 mo after onset of poisoning. Major PCDFs found were 1,2,3,4,7,8-HxCDF and 2,3,4,7,8-PNCDF. Minor amounts of 1,2,3,4,6,7,8-HpCDF and 1,2,4,7,8-PnCDF also found. Patients from Taichung and Changhwa in central Taiwan. GC/MS

BLOOD; ADIPOSE TISSUE; BRONCHUS; INTESTINES; HEART; STOMACH; LIVER; KIDNEYS; LUNGS; BRAIN; SPLEEN; CONSUMER EXPOSURE; TAIWAN; NUTRITIONAL DISORDERS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUARTEPHENYLS; BIOACCUMULATION; FOOD CONTAMINATION; RICE; ACCIDENTAL POISONING; HEALTH HAZARDS; AUTOPSIES

Chen, P.H.; Wong, C.-K.; Rappe, C.; Nygren, M. 1985 Environmental Health Perspectives 59:59-65

Tissue	Cases Exposure Route	Range	Mean	General Information
12488 Blood, plasma	3	0.062-0.129 ppb	0.095+/-0.034 ppb	One year after termination of exposure. Yusho patients, Taichung, Taiwan GC

BLOOD PLASMA; CONSUMER EXPOSURE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; JAPAN; TAIWAN; AGE; SKIN DISEASES; COMPARATIVE EVALUATIONS; POLYCHLORINATED DIBENZOFURANS; INDUSTRIAL CHEMICALS; ACCIDENTAL POISONING; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; INDUSTRIES; METABOLISM; OCCUPATIONAL HAZARDS

Takamatsu, M.; Oki, M.; Maeda, K.; Inoue, Y.; Hirayama, H.; Yoshizuka, K. 1985 Environmental Health Perspectives 59:91-97

Tissue	Cases Exposure Route	Range	Mean	General Information
12489 Brain	1 Ingestion	a) Not applicable b) Not applicable c) Not applicable	a) 0.01 ppm b) 0.06 ppm c) 0.15 ppm	a) 1,2,4,7,8-PCDF b) 2,3,4,7,8-PCDF c) 1,2,3,4,7,8-PCDF Autopsy data. Patient who died 2 yr after onset of PCB-poisoning. GC-EC
12490 Bronchus	1 Ingestion	a) Not applicable b) Not applicable c) Not applicable	a) 0.4 ppm b) 1.8 ppm c) 3.2 ppm	a) 1,2,4,7,8-PCDF b) 2,3,4,7,8-PCDF c) 1,2,3,4,7,8-PCDF Autopsy data. Patient who died 2 yr after onset of PCB-poisoning. GC-EC

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Polychlorinated dibenzofurans (No postings in CHEMLINE).

(continued)

Tissue	Cases Exposure Route	Range	Mean	General Information
12491 Heart	1 Ingestion	a) Not applicable b) Not applicable c) Not applicable	a) 0.2 ppm b) 0.8 ppm c) 1.4 ppm	a) 1,2,4,7,8-PCDF b) 2,3,4,7,8-PCDF c) 1,2,3,4,7,8-PCDF Autopsy data. Patient who died 2 yr after onset of PCB-poisoning. GC-EC
12492 Intestine	1 Ingestion	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not applicable	a) 0.3 ppm b) 0.05 ppm c) 1.2 ppm d) 0.21 ppm e) 2.3 ppm f) 0.34 ppm	a) 1,2,4,7,8-PCDF, large intestine b) Small intestine c) 2,3,4,7,8-PCDF, large intestine d) Small intestine e) 1,22,3,4,7,8-PCDF, large intestine f) Small intestine Autopsy data. Patient who died 2 yr after onset of PCB-poisoning. GC-EC

BLOOD; ADIPOSE TISSUE; BRONCHUS; INTESTINES; HEART; STOMACH; LIVER; KIDNEYS; LUNGS; BRAIN; SPLEEN; CONSUMER EXPOSURE; TAIWAN; NUTRITIONAL DISORDERS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUARTEPHENYLS; BIOACCUMULATION; FOOD CONTAMINATION; RICE; ACCIDENTAL POISONING; HEALTH HAZARDS; AUTOPSIES

Chen, P.H.; Wong, C.-K.; Rappe, C.; Nygren, M. 1985 Environmental Health Perspectives 59:59-65

Tissue	Cases Exposure Route	Range	Mean	General Information
12493 Intestine	a) 1 b) 1 c) 1 Ingestion	a) Not applicable b) Not applicable c) Not applicable	a) 2.5 ppb b) 2.2 ppb c) 0.2 ppb	a) 7 yr b) 9 yr c) 9 yr After ingestion of contaminated rice oil in 1968. Autopsies. Patients from Fukuoka, Japan GC-EC

LIVER; INTESTINES; ADIPOSE TISSUE; MILK; ENVIRONMENTAL EXPOSURE; JAPAN; TAIWAN; ADULTS; AUTOPSIES; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUARTERPHENYLS; CHLORINE ORGANIC COMPOUNDS; ACCIDENTAL POISONING; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; RICE

Miyata, H.; Fukushima, S.; Kashimoto, T.; Kunita, N. 1985 Environmental Health Perspectives 59.67-72

Tissue	Cases Exposure Route	Range	Mean	General Information
12494 Kidney	1 Ingestion	a) Not applicable b) Not applicable c) Not applicable	a) 0.04 ppm b) 0.18 ppm c) 0.32 ppm	a) 1,2,4,7,8-PCDF b) 2,3,4,7,8-PCDF c) 1,2,3,4,7,8-PCDF Autopsy data. Patient who died 2 yr after onset of PCB-poisoning. GC-EC

BLOOD; ADIPOSE TISSUE; BRONCHUS; INTESTINES; HEART; STOMACH; LIVER; KIDNEYS; LUNGS; BRAIN; SPLEEN; CONSUMER EXPOSURE; TAIWAN; NUTRITIONAL DISORDERS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUARTEPHENYLS; BIOACCUMULATION; FOOD CONTAMINATION; RICE; ACCIDENTAL POISONING; HEALTH HAZARDS; AUTOPSIES

Chen, P.H.; Wong, C.-K.; Rappe, C.; Nygren, M. 1985 Environmental Health Perspectives 59:59-65

Polychlorinated dibenzofurans (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12495 Kidney	2	2.1-4.7 ppt Whole wt	3.4 ppt	At autopsy. No known abnormal exposure. 70-118 ppt, lipid basis. Relative proportions of individual furans appeared the same among all tissues studied. Mean calculated by extractor. Elderly trauma and stroke victims. GC/MS

ADIPOSE TISSUE; KIDNEYS; LIVER; MUSCLES; ENVIRONMENTAL EXPOSURE; AUTOPSIES; CHLORINE ORGANIC COMPOUNDS; HERBICIDES; BIOACCUMULATION

Ryan, J.J.; Schecter, A.; Lizotte, R.; Sun, W.-F.; Miller, L. 1985 Chemosphere 14(6/7):929-932

Tissue	Cases Exposure Route	Range	Mean	General Information
12496 Liver	1 Ingestion	a) Not applicable b) Not applicable c) Not applicable	a) 3.4 ppm b) 6.3 ppm c) 25.4 ppm	a) 1,2,4,7,8-PCDF b) 2,3,4,7,8-PCDF c) 1,2,3,4,7,8-PCDF Autopsy data. Patient who died 2 yr after onset of PCB-poisoning. GC-EC

BLOOD; ADIPOSE TISSUE; BRONCHUS; INTESTINES; HEART; STOMACH; LIVER; KIDNEYS; LUNGS; BRAIN; SPLEEN; CONSUMER EXPOSURE; TAIWAN; NUTRITIONAL DISORDERS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUARTEPHENYLS; BIOACCUMULATION; FOOD CONTAMINATION; RICE; ACCIDENTAL POISONING; HEALTH HAZARDS; AUTOPSIES

Chen, P.H.; Wong, C.-K.; Rappe, C.; Nygren, M. 1985 Environmental Health Perspectives 59:59-65

Tissue	Cases Exposure Route	Range	Mean	General Information
12497 Liver	4 Ingestion	a) Not detected-0.7 ppb b) Not detected-0.3 ppb c) 0.02-7.1 ppb d) 0.1-6.9 ppb e) 0.03-2.6 ppb	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 2,3,6,8-tetrachloro-DF b) 2,3,7,8-tetrachloro-DF c) 1,2,4,7,8-pentachloro-DF d) 2,3,4,7,8-pentachloro-DF e) 1,2,3,4,7,8-hexachloro-DF Congener. Yusho patients ingested contaminated rice oil in western Japan in 1968. Autopsies. Time of death July, 1969-March, 1977. Limit of detection 0.005 ppb. Fukuoka, Japan Acneform eruptions, hypersecretion of Meibomian glands, hyperpigmentation of the face, eyelids, gingiva, nails and mucous membrane, abdominal pain, headache, general fatigue. GC-EC

BLOOD; LIVER; ADIPOSE TISSUE; LUNGS; ENVIRONMENTAL EXPOSURE; JAPAN; TAIWAN; AUTOPSIES; INFANTS; ADULTS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUATERPHENYLS; CHLORINE ORGANIC COMPOUNDS; ACCIDENTAL POISONING; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; RICE

Masuda, Y.; Kuroki, H.; Haraguchi, K.; Nagayama, J. 1985 Environmental Health Perspectives 59:53-58

Polychlorinated dibenzofurans (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12498 Liver	a) 1 b) 1 c) 1 d) 1 e) 1 f) 14 Ingestion	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not given	a) 70.1 ppb b) 15.5 ppb c) 6.2 ppb d) 6.1 ppb e) 0.02 ppb f) 0.006 ppb	a) 1 yr b) 4 yr c) 7 yr d) 9 yr e) 9 yr f) Controls After ingestion of contaminated rice oil in 1968. Autopsies. Controls and patients from Fukuoka, Japan GC-EC

LIVER; INTESTINES; ADIPOSE TISSUE; MILK; ENVIRONMENTAL EXPOSURE; JAPAN; TAIWAN; ADULTS; AUTOPSIES; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUARTERPHENYLS; CHLORINE ORGANIC COMPOUNDS; ACCIDENTAL POISONING; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; RICE

Miyata, H.; Fukushima, S.; Kashimoto, T.; Kunita, N. 1985 Environmental Health Perspectives 59:67-72

Tissue	Cases Exposure Route	Range	Mean	General Information
12499 Liver	2	6.3-30 ppt Whole wt	18 ppt	At autopsy. No known abnormal exposure. 105 ppt (6% liver lipid) and 137 ppt (22% liver lipid in respective cases. Relative proportions of individual furans appeared the same among all tissues studied. Mean calculated by extractor. Elderly trauma and stroke victims. GC/MS

ADIPOSE TISSUE; KIDNEYS; LIVER; MUSCLES; ENVIRONMENTAL EXPOSURE; AUTOPSIES; CHLORINE ORGANIC COMPOUNDS; HERBICIDES; BIOACCUMULATION

Ryan, J.J.; Schecter, A.; Lizotte, R.; Sun, W.-F.; Miller, L. 1985 Chemosphere 14(6/7):929-932

Tissue	Cases Exposure Route	Range	Mean	General Information
12500 Lung	1 Ingestion	a) Not applicable b) Not applicable c) Not applicable	a) 0.01 ppm b) 0.06 ppm c) 0.15 ppm	a) 1,2,4,7,8-PCDF b) 2,3,4,7,8-PCDF c) 1,2,3,4,7,8-PCDF Autopsy data. Patient who died 2 yr after onset of PCB-poisoning. GC-EC

BLOOD; ADIPOSE TISSUE; BRONCHUS; INTESTINES; HEART; STOMACH; LIVER; KIDNEYS; LUNGS; BRAIN; SPLEEN; CONSUMER EXPOSURE; TAIWAN; NUTRITIONAL DISORDERS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUARTEPHENYLS; BIOACCUMULATION; FOOD CONTAMINATION; RICE; ACCIDENTAL POISONING; HEALTH HAZARDS; AUTOPSIES

Chen, P.H.; Wong, C.-K.; Rappe, C.; Nygren, M. 1985 Environmental Health Perspectives 59:59-65

Polychlorinated dibenzofurans (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12501 Milk, fat	Ingestion	Not applicable	0.02 ppb	11 yr after exposure in 1977. Asymptomatic after discontinuation of exposure. Occupationally exposed worker, Japan Dermal lesions, chloracne, dark-colored pigmentation. GC-EC
LIVER; INTESTINES; ADIPOSE TISSUE; MILK; ENVIRONMENTAL EXPOSURE; JAPAN; TAIWAN; ADULTS; AUTOPSIES; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUARTERPHENYLS; CHLORINE ORGANIC COMPOUNDS; ACCIDENTAL POISONING; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; RICE Miyata, H.; Fukushima, S.; Kashimoto, T.; Kunita, N. 1985 Environmental Health Perspectives 59:67-72				

Tissue	Cases Exposure Route	Range	Mean	General Information
12502 Muscle	2	1.7-3.2 ppt Whole wt	Not given	At autopsy. No known abnormal exposure. 24-36 ppt, lipid basis. Relative proportions of individual furans appeared the same among all tissues studied. Mean calculated by extractor. Elderly trauma and stroke victims. GC/MS
ADIPOSE TISSUE; KIDNEYS; LIVER; MUSCLES; ENVIRONMENTAL EXPOSURE; AUTOPSIES; CHLORINE ORGANIC COMPOUNDS; HERBICIDES; BIOACCUMULATION Ryan, J.J.; Schecter, A.; Lizotte, R.; Sun, W.-F.; Miller, L. 1985 Chemosphere 14(6/7):929-932				

Tissue	Cases Exposure Route	Range	Mean	General Information
12503 Spleen	1 Ingestion	a) Not applicable b) Not applicable c) Not applicable	a) 0.01 ppm b) 0.08 ppm c) 0.10 ppm	a) 1,2,4,7,8-PCDF b) 2,3,4,7,8-PCDF c) 1,2,3,4,7,8-PCDF Autopsy data. Patient who died 2 yr after onset of PCB-poisoning. GC-EC
12504 Stomach	1 Ingestion	a) Not applicable b) Not applicable c) Not applicable	a) 0.05 ppm b) 0.23 ppm c) 0.40	a) 1,2,4,7,8-PCDF b) 2,3,4,7,8-PCDF c) 1,2,3,4,7,8-PCDF Autopsy data. Patient who died 2 yr after onset of PCB-poisoning. GC-EC
BLOOD; ADIPOSE TISSUE; BRONCHUS; INTESTINES; HEART; STOMACH; LIVER; KIDNEYS; LUNGS; BRAIN; SPLEEN; CONSUMER EXPOSURE; TAIWAN; NUTRITIONAL DISORDERS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUARTEPHENYLS; BIOACCUMULATION; FOOD CONTAMINATION; RICE; ACCIDENTAL POISONING; HEALTH HAZARDS; AUTOPSIES Chen, P.H.; Wong, C.-K.; Rappe, C.; Nygren, M. 1985 Environmental Health Perspectives 59:59-65				

Polychlorinated quaterphenyl (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12505 Adipose	1 Ingestion	Not applicable	3.8 ppm	Autopsy data. Large intestine and heart also contained high levels (not reported). Patient who died 2 yr after onset of PCB-poisoning. GC-EC

BLOOD; ADIPOSE TISSUE; BRONCHUS; INTESTINES; HEART; STOMACH; LIVER; KIDNEYS; LUNGS; BRAIN; SPLEEN; CONSUMER EXPOSURE; TAIWAN; NUTRITIONAL DISORDERS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUARTEPHENYLS; BIOACCUMULATION; FOOD CONTAMINATION; RICE; ACCIDENTAL POISONING; HEALTH HAZARDS; AUTOPSIES

Chen, P.H.; Wong, C.-K.; Rappe, C.; Nygren, M. 1985 Environmental Health Perspectives 59:59-65

Tissue	Cases Exposure Route	Range	Mean	General Information
12506 Adipose	a) 1 b) 1 c) 14 Ingestion	a) Not applicable b) Not applicable c) Not given	a) 2400 ppb b) 1444 ppb c) 1.53 ppb	a) 1 yr b) 4 yr c) Controls After ingestion of contaminated rice oil in 1968. Autopsies. Controls and patients from Fukuoka, Japan GC-EC

LIVER; INTESTINES; ADIPOSE TISSUE; MILK; ENVIRONMENTAL EXPOSURE; JAPAN; TAIWAN; ADULTS; AUTOPSIES; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUARTERPHENYLS; CHLORINE ORGANIC COMPOUNDS; ACCIDENTAL POISONING; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; RICE

Miyata, H.; Fukushima, S.; Kashimoto, T.; Kunita, N. 1985 Environmental Health Perspectives 59:67-72

Tissue	Cases Exposure Route	Range	Mean	General Information
12507 Blood	a) 56 b) 69 c) 3 d) 113 e) 60	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 2.0+/-2.0 ppb b) Not detected c) 0.9+/-0.9 ppb d) 8.6+/-4.8 ppb e) Not detected	a) Yusho patients, 1979, 11 yr after termination of exposure b) Workers charging transformers with fresh Kanechlor (42-54% chlorine), 1979-81, 9 yr after c) Workers reclaiming products used as heat exchanger, 1979, 9 yr after d) Yu-Cheng patients, teachers and students at a school, 1979-81, 6 mo after e) Unexposed individuals Detected in 54 Yusho patients, and in all Yu-Cheng patients. Detection limit 0.02 ppb. Discussion of patterns with respect to length of time since exposure. Individuals exposed to PCB-related compounds, Japan and Taiwan. Controls. GC/MS

BLOOD; CONSUMER EXPOSURE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; JAPAN; TAIWAN; CASE HISTORIES; SKIN DISEASES; COMPARATIVE EVALUATIONS; CHLORINE ORGANIC COMPOUNDS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUATERPHENYLS; INDUSTRIAL CHEMICALS; ACCIDENTAL POISONING; FOOD CONTAMINATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; POLYCHLORINATED DIBENZOFURANS

Kashimoto, T.; Miyata, H.; Fukushima, S.; Kunita, N.; Ohi, G.; Tungt, T.-C. 1985 Environmental Health Perspectives 59:73-78

Polychlorinated quaterphenyl (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12508 Blood	65 Ingestion	a) 25-<30 ppb b) 15-<20 ppb c) 10-<15 ppb d) 5-<10 ppb e) 0-<5 ppb f) 0.3-28.1 ppb	a) Not given b) Not given c) Not given d) Not given e) Not given f) 8.6+/-4.8 ppb	a) 1.5% of total cases, 1 patient b) 12.3%, 8 patients c) 15.4%, 10 d) 52.3%, 34 e) 18.5%, 12 f) All cases Patients ate daily at a kitchen serving rice oil contaminated with PCB from 9/78 to 4/79. Neurological evaluations and blood sampled 11/79-4/80. Taiwan, 2-66 yr olds. Headaches Nerve damage GC

BLOOD; CONSUMER EXPOSURE; TAIWAN; ADULTS; ADOLESCENTS; CHILDREN; NEUROLOGIC MANIFESTATIONS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUATERPHENYLS; ACCIDENTAL POISONING; BIOLOGICAL MONITORING; FOOD CONTAMINATION

Chen, R.; Tang, S.; Miyata, H.; Kashimoto, T.; Chang, Y.; Chang, K.; Tung, T. 1985 Environmental Research 37:340-348

Tissue	Cases Exposure Route	Range	Mean	General Information
12509 Blood, plasma	a) 5 b) 3 c) 5 d) 14 e) 7 f) 40	a) 0.34-5.7 ppb b) 10.2-11.8 ppb c) 4.5-7.8 ppb d) Not detected e) Not detected f) Not detected	a) 2.7+/-2.2 ppb b) 10.8+/-0.89 ppb c) 5.6+/-1.4 ppb d) Not applicable e) Not applicable f) Not applicable	a) 14 yr after termination of exposure, in one family of Japanese Yusho patients b) 1 yr after, in Taiwanese patients c) 1.5-2 yr after, in Taiwanese patients d) Subjects previously exposed for unknown period to contaminated machine oil (containing 8-10,000 ppm PCB) used in silk thread production e) 10 yr after termination of exposure to Kanechlor 600 (60% chlorine) used in paint manufacturing f) Controls Detection limit 0.02 ppb. Yusho patients, Japan and Taiwan. Occupationally exposed subjects and controls, Japan. In a) adults had dermal manifestations typical of Yusho, as well as abdominal pain, fatigue, headache. Children had muscosal pigmentation and increased eye discharge. Symptoms milder and fewer in workers [d), e)], indicating PCB alone less toxic than PCQ and PCDF. GC

BLOOD PLASMA; CONSUMER EXPOSURE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; JAPAN; TAIWAN; AGE; SKIN DISEASES; COMPARATIVE EVALUATIONS; POLYCHLORINATED DIBENZOFURANS; INDUSTRIAL CHEMICALS; ACCIDENTAL POISONING; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; INDUSTRIES; METABOLISM; OCCUPATIONAL HAZARDS

Takamatsu, M.; Oki, M.; Maeda, K.; Inoue, Y.; Hirayama, H.; Yoshizuka, K. 1985 Environmental Health Perspectives 59:91-97

Polychlorinated quaterphenyl (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12510 Bronchus	1 Ingestion	Not applicable	4.3 ppm	Autopsy data. Large intestine and heart also contained high levels (not reported). Patient who died 2 yr after onset of PCB-poisoning. GC-EC

BLOOD; ADIPOSE TISSUE; BRONCHUS; INTESTINES; HEART; STOMACH; LIVER, KIDNEYS; LUNGS; BRAIN; SPLEEN; CONSUMER EXPOSURE; TAIWAN; NUTRITIONAL DISORDERS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUARTEPHENYLS; BIOACCUMULATION; FOOD CONTAMINATION; RICE; ACCIDENTAL POISONING; HEALTH HAZARDS; AUTOPSIES

Chen, P.H.; Wong, C.-K.; Rappe, C.; Nygren, M. 1985 *Environmental Health Perspectives* 59:59-65

Tissue	Cases Exposure Route	Range	Mean	General Information
12511 Intestine	a) 1 b) 1 c) 1 Ingestion	a) Not applicable b) Not applicable c) Not applicable	a) 1770 ppb b) 416 ppb c) 24.5 ppb	a) 7 yr b) 9 yr c) 9 yr After ingestion of contaminated rice oil in 1968. Autopsies. Patients from Fukuoka, Japan GC-EC
12512 Liver	a) 1 b) 1 c) 1 d) 1 e) 1 f) 14 Ingestion	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable f) Not given	a) 218 ppb b) 144 ppb c) 51.7 ppb d) 6.3 ppb e) 0.95 ppb f) 0.41 ppb	a) 1 yr b) 4 yr c) 7 yr d) 9 yr e) 9 yr f) Controls After ingestion of contaminated rice oil in 1968. Autopsies. Controls and patients from Fukuoka, Japan GC-EC
12513 Milk, fat	Ingestion	Not applicable	0.2 ppb	11 yr after exposure in 1977. Asymptomatic after discontinuation of exposure. Occupationally exposed worker, Japan Dermal lesions, chloracne, dark-colored pigmentation. GC-EC

LIVER; INTESTINES; ADIPOSE TISSUE; MILK; ENVIRONMENTAL EXPOSURE; JAPAN; TAIWAN; ADULTS; AUTOPSIES; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUARTERPHENYLS; CHLORINE ORGANIC COMPOUNDS; ACCIDENTAL POISONING; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; RICE

Miyata, H.; Fukushima, S.; Kashimoto, T.; Kunita, N. 1985 *Environmental Health Perspectives* 59:67-72

Polychlorinated terpenes (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12514 Milk, fat		Not given	0.1 mg/kg	From 10 kg sample collected in 1978 and 1979 as part of WHO Collaborative Study on the Quantity and Quality of Breast Milk. New methodology. Lactating mothers, Uppsala, Sweden GC/MS
MILK; ENVIRONMENTAL EXPOSURE; ADULTS; SWEDEN; HEXACHLOROCYCLOHEXANE; DDE; DDD; DDT; OXYCHLORDANE; NONACHLOR; POLYCHLORINATED BIPHENYLS; INSECTICIDES; BIOACCUMULATION; LACTATION; PESTICIDE RESIDUES Vaz, R.; Blomkvist, G. 1985 Chemosphere 14(2):223-231				

Polysorbate (No postings in CHEMLINE).
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
12515 Ascites fluid	1 Injection	Not applicable	100 ug/ml	After IV treatment with E-ferol, a new vitamin E supplement using 10% polysorbate 80 and polysorbate 20 as emulsifier. Autopsy data. Sensitivity limit of assay was 5 ug/mL. Premature infant HPLC; Spectroscopy
ASCITES FLUID; DELIBERATE EXPOSURE; PREMATURE INFANTS; MEASUREMENT METHODS; VITAMINS; VITAMIN E; CARBOHYDRATES; BIOACCUMULATION; HEALTH HAZARDS; FOOD PRESERVATIVES; AUTOPSIES McKean, D.L.; Pesce, A.J. 1985 Journal of Analytical Toxicology 9:174-176				

Potassium
7440-09-7
K
AtW 39.098, MP 63.2 C, BP 765.5 C, VP 100 mm Hg at 590 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12516 Blood, whole	a) 10 b) 10	a) Not given b) Not given	a) 1780+/-115 ug/ml b) 1688+/-67 ug/ml	a) Patients with multiple sclerosis b) Controls Significant difference. Patients and controls, matched for sex and age. NA
BLOOD; HAIR; ENVIRONMENTAL EXPOSURE; UNITED KINGDOM; NEUROMUSCULAR DISEASES; TRACE ELEMENTS; BIOACCUMULATION; BIOINDICATORS; ALUMINUM; ANTIMONY; ARSENIC; BARIUM; BROMINE; CESIUM; GOLD; IODINE; MANGANESE; MOLYBDENUM; SELENIUM; VANADIUM; ZINC; COPPER; IRON; MAGNESIUM; POTASSIUM; SULFUR Ward, N.I.; Bryce-Smith, D.; Minski, M.; Matthews, W.B. 1985 Biological Trace Element Research 7:153-159				

Potassium
7440-09-7
K
AtW 39.098, MP 63.2 C, BP 765.5 C, VP 100 mm Hg at 590 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12517 Bone	29	a) 47-2956 ug/g b) 308-4347 ug/g c) Not given Wet wt	a) 1141.9+/-910 ug/g b) 1568.3+/-1497.8 ug/g c) 3140+/-1250 Wet wt	a) Neoplastic samples from surgically resected tissues, 11 cases b) Samples from normal-looking areas outside the tumor, 6 cases c) Normal samples, control subjects, 18 cases. Patients at Tata Memorial Hospital Pathology Dept, India. AAS
12518 Bone marrow	20	a) 584-1737 ug/g b) 900-2008 ug/g Wet wt	a) 1315+/-597.9 ug/g b) 1173.5+/-441.1 ug/g Wet wt	a) Neoplastic samples from surgically resected tissues, 20 cases b) Samples from normal-looking areas outside the tumor, 6 cases. Patients at Tata Memorial Hospital Pathology Dept, India. AAS
12519 Breast	37	a) 210-2680 ug/g b) 107-5050 ug/g c) Not given Wet wt	a) 1040.4+/-659.4 ug/g b) 940.9+/-1353.3 ug/g c) 1260+/-970 ug/g Wet wt	a) Neoplastic samples from surgically resected tissues, 33 cases b) Samples from normal-looking areas outside the tumor, 22 cases c) Normal samples, control subjects, 4 cases. Patients at Tata Memorial Hospital Pathology Dept, India. AAS
12520 Esophagus	20	a) 551-2888 ug/g b) 597-1949 ug/g c) Not given Wet wt	a) 1715.3+/-811.0 ug/g b) 1362.4+/-572.0 ug/g c) 1500+/-600 ug/g Wet wt	a) Neoplastic samples from surgically resected tissues, 11 cases b) Samples from normal-looking areas outside the tumor, 7 cases c) Normal samples, control subjects, 9 cases. Patients at Tata Memorial Hospital Pathology Dept, India. AAS

ORAL TISSUE; BREAST; LUNGS; ESOPHAGUS; STOMACH; INTESTINES; REPRODUCTIVE ORGANS; BONES; BONE MARROW; INDIA; CARCINOMAS; NEOPLASMS; SARCOMAS; BIOPSIES; COMPARATIVE EVALUATIONS; CALCIUM; MAGNESIUM; POTASSIUM; SODIUM; SURGERY
Ranade, S.S.; Panday, V.K. 1985 Science of the Total Environment 41:79-89

Tissue	Cases Exposure Route	Range	Mean	General Information
12521 Hair	a) 1 b) 1	a) 4-1,029 ppm b) 1-320 ppm	a) 82.5+/-226 ppm b) 46.9+/-82.3 ppm	a) Subject 1 b) Subject 2 Samples sent to 13 commercial laboratories for analysis. Values here are combined from all. Considerable variance within same laboratory, among different laboratories and disagreement about what was "normal" or "unusual". Authors conclude commercial use of hair analysis for management of disease, nutrition unscientific, uneconomical, probably illegal.

HAIR; ALUMINUM; ARSENIC; BERYLLIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; GOLD; IRON; LEAD; LITHIUM; MAGNESIUM; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; RUBIDIUM; SELENIUM; SILICON; SODIUM; TIN; VANADIUM; ZINC; ELEMENTS; TRACE ELEMENTS; METALS
Barrett, S. 1985 Journal of the American Medical Association 254(8):1041-1045

Potassium
7440-09-7
K
AtW 39.098, MP [illegible] C, BP 765.5 [illegible] VP 100 mm Hg at 500 [illegible]

Tissue	Cases Exposure Route	Range	Mean	General Information
12522 Hair	a) 94 b) [illegible] c) [illegible] d) 157 e) [illegible]	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 9.7 ppm b) 4.84 ppm c) 1.46 ppm d) 12.9 ppm e) 14.1 ppm	a) Canada b) U.S.A. c) Poland d) Japan e) India Part of international survey of 21 elements. Japanese, 2-80 yr olds. Rest were 30-60 yr old. ES

ENVIRONMENTAL EXPOSURE, HAIR; CANADA; UNITED STATES; POLAND; JAPAN; INDIA; MAGNESIUM; CALCIUM; PHOSPHORUS; SODIUM; POTASSIUM; IRON; COPPER; MANGANESE; ZINC; SELENIUM; CHROMIUM; NICKEL; COBALT; VANADIUM; LEAD; CADMIUM; ALUMINUM; ANTIMONY; MERCURY; TIN; ARSENIC; AGE; SEX; COMPARATIVE EVALUATIONS
Tsukazi, Y.; Matsuda, S.; Imai, S.; Ohmori, Y.; Matsuda, T.; Vinson, J.A.; Mehra, M.C.; Puri, B.K.; Kaniewski, A. 1986 Bulletin of Environmental Contamination and Toxicology 36:[illegible]

Tissue	Cases Exposure Route	Range	Mean	General Information
12523 Intestine	21	a) 532-3913 ug/g b) 196-2987 ug/g Wet wt	a) 2052.1+/-975.5 ug/g b) 1436+/-729 ug/g Wet wt	a) Neoplastic samples from surgically resected tissues, 21 cases b) Samples from normal-looking areas outside the tumor, 19 cases In rectum and colon. Patients at Tata Memorial Hospital Pathology Dept, India. AAS

ORAL TISSUE; BREAST; LUNGS; ESOPHAGUS; SKIN; BRAIN; INTESTINES; REPRODUCTIVE ORGANS; BONES; BONE MARROW; INDIA; CARCINOMAS; NEOPLASMS; SARCOMAS; BIOPSIES; COMPARATIVE EVALUATIONS; CALCIUM; MAGNESIUM; POTASSIUM; SODIUM; SURGERY
Rasad, S.S.; Panday, V.K. 1985 Science of the Total Environment 41:79-89

Tissue	Cases Exposure Route	Range	Mean	General Information
12524 Kidney		a) 787-3000 mg/kg b) 1270-2890 mg/kg c) 1210-3540 mg/kg d) 759-3080 mg/kg Wet wt	a) 1683 mg/kg b) 1758 mg/kg c) 1865 mg/kg d) 1690 mg/kg Wet wt Median	a) Cortex, Kingston, 72 cases b) Ottawa, 64 cases c) Medulla, Kingston, 74 d) Ottawa, 63 Autopsy samples from normal subjects, Kingston and Ottawa, Ontario ICP-AES
12525 Liver	a) 74 b) 63	a) 1020-3250 mg/kg b) 815-2960 mg/kg Wet wt	a) 2258 mg/kg b) 2010 mg/kg Wet wt Median	a) Kingston b) Ottawa Autopsy samples from normal subjects, Kingston and Ottawa, Ontario ICP-AES

KIDNEYS; LIVER; CANADA; AUTOPSIES; CALCIUM; POTASSIUM; MAGNESIUM; SODIUM; PHOSPHORUS; COPPER; IRON; MANGANESE; SELENIUM; ZINC; CADMIUM; MERCURY; LEAD
Subramanian, K.S.; McLaughlin, J.C.; Furness, [illegible] 1985 Science of the Total Environment 42:223-235

Potassium
7440-09-7
K
AtW 39.098, MP 63.2 C, BP 765.5 C, VP 100 mm Hg at 590 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12526 Lung	30	a) 1135-3300 ug/g b) 211.44-2443 ug/g c) Not given Wet wt	a) 2187.4+/-1162.9 ug/g b) 865.5+/-598.1 ug/g c) 1780+/-870 ug/g Wet wt	a) Neoplastic samples from surgically resected tissues, 11 cases b) Samples from normal-looking areas outside the tumor, 10 cases c) Normal samples, control subjects, 19 cases. Patients at Tata Memorial Hospital Pathology Dept, India. AAS

ORAL TISSUE; BREAST; LUNGS; ESOPHAGUS; STOMACH; INTESTINES; REPRODUCTIVE ORGANS; BONES; BONE MARROW; INDIA; CARCINOMAS; NEOPLASMS; SARCOMAS; BIOPSIES; COMPARATIVE EVALUATIONS; CALCIUM; MAGNESIUM; POTASSIUM; SODIUM; SURGERY
Ranade, S.S.; Panday, V.K. 1985 Science of the Total Environment 41:79-89

Tissue	Cases Exposure Route	Range	Mean	General Information
12527 Milk	52 *Ingestion*	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 13.4 mM b) 11.2 mM c) 10.6 mM d) 9.7 mM e) 9.7 mM f) 9.4 mM g) 9.0 mM	a) 1 month b) 2 months c) 3 months d) 4 months e) 5 months f) 6 months g) 7-20 months Times postpartum. Half on normal diet, half on vegetarian diet. No significant differences due to diet. Lactating women, mean age 29 yr. AAS

MILK; ADULTS; DIETS; COMPARATIVE EVALUATIONS; IRON; COPPER; ZINC; SODIUM; POTASSIUM; CALCIUM; MAGNESIUM; MINERALS; TRACE ELEMENTS; LACTATION
Finley, D.A.; Lonnerdal, B.; Dewey, K.G.; Grivetti, L.E. 1985 Journal of Nutrition 115:772-781

Tissue	Cases Exposure Route	Range	Mean	General Information
12528 Oral	25	a) 1694-2500 ug/g b) 479-2443 ug/g c) Not given Wet wt	a) 2032.0+/-255.9 ug/g b) 1495.8+/-771.7 ug/g c) 2410+/-1080 ug/g Wet wt	a) Neoplastic samples from surgically resected tissues, 7 cases b) Samples from normal-looking areas outside the tumor, 6 cases c) Normal samples, control subjects, 18 cases. Patients at Tata Memorial Hospital Pathology Dept, India. AAS
12529 Reproductive organs	38	a) 354-4200 ug/g b) 336.8-3110 ug/g c) Not given Wet wt	a) 1958.8+/-1259.9 ug/g b) 1402.7+/-953.1 ug/g c) 1830+/-1830 ug/g Wet wt	a) Neoplastic samples from surgically resected tissues, 25 cases b) Samples from normal-looking areas outside the tumor, 16 cases c) Normal samples, control subjects, 13 cases. Patients at Tata Memorial Hospital Pathology Dept, India. AAS

Potassium
7440-09-7
K
AtW 39.098, MP 63.2 C, BP 765.5 C, VP 100 mm Hg at 590 C

(continued)

Tissue	Cases Exposure Route	Range	Mean	General Information
12530 Stomach	26	a) 1315-3854 ug/g b) 390-2557 ug/g c) Not given Wet wt	a) 2488.4+/-874.2 ug/g b) 1680.1+/-660.5 ug/g c) 1490+/-850 ug/g Wet wt	a) Neoplastic samples from surgically resected tissues, 11 cases b) Samples from normal-looking areas outside the tumor, 11 cases c) Normal samples, control subjects, 15 cases. Patients at Tata Memorial Hospital Pathology Dept, India. AAS

ORAL TISSUE; BREAST; LUNGS; ESOPHAGUS; STOMACH; INTESTINES; REPRODUCTIVE ORGANS; BONES; BONE MARROW; INDIA; CARCINOMAS; NEOPLASMS; SARCOMAS; BIOPSIES; COMPARATIVE EVALUATIONS; CALCIUM; MAGNESIUM; POTASSIUM; SODIUM; SURGERY
Ranade, S.S.; Panday, V.K. 1985 Science of the Total Environment 41:79-89

Propanoic acid, 2-(2,4,5-trichlorophenoxy)-
93-72-1
C9-H7-C13-O3
MW 269.53, MP 182 C (also reported as 181.6 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12531 Urine				Review. The occurrence and analysis of priority toxic pollutants in human urine, covering the ten-year period 1973-1983, is discussed.

URINE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; DELIBERATE EXPOSURE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PHTHALLIC ACIDS; PHENOLS; BIOACCUMULATION; PESTICIDES
Fatiadi, A.J. 1984 Environment International 10:175-205

Tissue	Cases Exposure Route	Range	Mean	General Information
12532 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982).

URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES
Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983

Propylfuranacetaldehyde (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12533 Aorta	2	a) Not detected b) 140-160 ppb	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES

Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Pyrene
129-00-0
C16-H10
MW 202.24, MP 156 C, BP 404 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12534 Aorta	2	a) 20 ppb-not detected b) Not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES

Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Pyridine, 2-(p-bromo-alpha-(2-(dimethylamino)ethyl)benzyl)- (8 CI); 2-Pyridinepropanaminne, gamma-(4-bromophenyl)-N,N-dimethyl- (9 CI)
86-22-6
C16-H19-Br-N2
MW 319.3, BP 147-152 C at 0.5 mm Hg

Tissue	Cases Exposure Route	Range	Mean	General Information
12535 Blood	1 Ingestion	Not applicable	2.40 ppm	Symptoms began within <0.5 hr of ingesting "mouthful" of "Gallicide", an insecticide containing rotenone and ethereal oils (latter may have caused the renal damage which prevented clearance and promoted uptake of rotenone by the g.i. tract). Estimated dose of 10 ml (0.6 g rotenone). 3.5 yr old female Vomiting, drowsiness, then coma. Bilateral mydriasis, anuria, lack of reflexes, blood pH=6.76. Death within about 8 hr. Anoxic hemorrhages in thymus, lung, heart. Pleural effusion, badly aerated lungs, stomach hemorrhage, bloody ascites, cerebral hypoxia. HPLC

DELIBERATE EXPOSURE; BLOOD; KIDNEYS; LIVER; PESTICIDES; INSECTICIDES; BELGIUM; CASE HISTORIES; CHILDREN
De Wilde, A.-R.; Heyndrickx, A.; Carton, D. 1986 Journal of Forensic Sciences 31(4):1492-1498

Pyridine, 3-(1-nitroso-2-piperidinyl)-, (S)-
1133-64-8
C10-H13-N3-O

Tissue	Cases Exposure Route	Range	Mean	General Information
12536 Saliva	17 Ingestion	Not detected-40 ppb	Not given	After 20 min chewing 500 mg (males) or 200 mg (females) tobacco with betel quid. Detectable in 3 cases. 25-45 yr old habitual users of tobacco products, Bombay, India GLC-TEA

SALIVA; DELIBERATE EXPOSURE; INDIA; COMPARATIVE EVALUATIONS; NITROSAMINES; HEALTH HAZARDS; INGESTION; TOBACCOS
Bhide, S.V.; Nair, U.J.; Nair, J.; Spiegelhalder, B.; Preussmann, R. 1986 Food and Chemical Toxicology 24(4):293-297

Pyrrolidine, 1-nitroso-
930-55-2
C4-H8-N2-O
MW 100.2, BP 214 C at 760 mm Hg

Tissue	Cases Exposure Route	Range	Mean	General Information
12537 Saliva	9 Ingestion	Not detected-8.3 ppb	Not given	20 min after 200 mg masheri (pyrolsed tobacco product) applied to gums. Not detected after chewing tobacco with betel quid or lime. 25-45 yr old habitual users of tobacco products, Bombay, India GLC-TEA

SALIVA; DELIBERATE EXPOSURE; INDIA; COMPARATIVE EVALUATIONS; NITROSAMINES; HEALTH HAZARDS; INGESTION; TOBACCOS
Bhide, S.V.; Nair, U.J.; Nair, J.; Spiegelhalder, B.; Preussmann, R. 1986 Food and Chemical Toxicology 24(4):293-297

Rubidium
7440-17-7
Rb
AtW 85.4678, MP 39 C, BP 688 C, VP 10 mm Hg at 390 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12538 Bronchoalveolar lavage	1	Not applicable	15 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old NA

BRONCHOALVEOLAR LAVAGE; NAILS; OCCUPATIONAL EXPOSURE; CASE HISTORIES; PNEUMOCONIOSIS; OCCUPATIONAL DISEASES; RESPIRATORY DISEASES; LAVAGE; CERIUM; LANTHANUM; TERBIUM; YTTERBIUM; SILVER; ARSENIC; GOLD; CADMIUM; COBALT; CHROMIUM; CESIUM; IRON; MERCURY; INDIUM; IRIDIUM; MOLYBDENUM; NICKEL; RUBIDIUM; ANTIMONY; SCANDIUM; SELENIUM; TIN; THORIUM; URANIUM; ZINC; TRACE ELEMENTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; SMOKING

Sulotto, F.; Romano, C.; Berra, A.; Botta, G.C.; Rubino, G.F.; Sabbioni, E.; Pietra, R. 1986 American Journal of Industrial Medicine 9:567-575

Tissue	Cases Exposure Route	Range	Mean	General Information
12539 Hair	a) 1 b) 1	a) 0.2-1.8 ppm b) 0.2-2.4 ppm	a) 1.0+/-1.13 ppm b) 1.3+/-1.56 ppm	a) Subject 1 b) Subject 2 Samples sent to 13 commercial laboratories for analysis. Values here are combined from all. Considerable variance within same laboratory, among different laboratories and disagreement about what was "normal" or "unusual". Authors conclude commercial use of hair analysis for management of disease, nutrition unscientific, uneconomical, probably illegal.

HAIR; ALUMINUM; ARSENIC; BERYLLIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; GOLD; IRON; LEAD; LITHIUM; MAGNESIUM; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; RUBIDIUM; SELENIUM; SILICON; SODIUM; TIN; VANADIUM; ZINC; ELEMENTS; TRACE ELEMENTS; METALS

Barrett, S. 1985 Journal of the American Medical Association 254(8):1041-1045

Samarium
7440-19-9
Sm
AtW 150.4, MP 1072 C, BP 1778 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12540 Bronchoalveolar lavage	1	Not applicable	32.2 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old Rare-earth pneumoconiosis Micronodular lung changes, restrictive spirometric impairment NA

(next page)

Samarium
7440-19-9
Sm
AtW 150.4, MP 1072 C, BP 1778 C

(continued)

Tissue	Cases Exposure Route	Range	Mean	General Information
12541 Nail	1	Not applicable	2,757 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old Rare-earth pneumoconiosis Micronodular lung changes, restrictive spirometric impairment NA
BRONCHOALVEOLAR LAVAGE; NAILS; OCCUPATIONAL EXPOSURE; CASE HISTORIES; PNEUMOCONIOSIS; OCCUPATIONAL DISEASES; RESPIRATORY DISEASES; LAVAGE; CERIUM; LANTHANUM; TERBIUM; YTTERBIUM; SILVER; ARSENIC; GOLD; CADMIUM; COBALT; CHROMIUM; CESIUM; IRON; MERCURY; INDIUM; IRIDIUM; MOLYBDENUM; NICKEL; RUBIDIUM; ANTIMONY; SCANDIUM; SELENIUM; TIN; THORIUM; URANIUM; ZINC; TRACE ELEMENTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; SMOKING Sulotto, F.; Romano, C.; Berra, A.; Botta, G.C.; Rubino, G.F.; Sabbioni, E.; Pietra, R. 1986 American Journal of Industrial Medicine 9:567-575				

Scandium
7440-20-2
Sc
AtW 44.9559, MP 1538 C, BP 2832 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12542 Bronchoalveolar lavage	1	Not applicable	<1.5 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old NA
BRONCHOALVEOLAR LAVAGE; NAILS; OCCUPATIONAL EXPOSURE; CASE HISTORIES; PNEUMOCONIOSIS; OCCUPATIONAL DISEASES; RESPIRATORY DISEASES; LAVAGE; CERIUM; LANTHANUM; TERBIUM; YTTERBIUM; SILVER; ARSENIC; GOLD; CADMIUM; COBALT; CHROMIUM; CESIUM; IRON; MERCURY; INDIUM; IRIDIUM; MOLYBDENUM; NICKEL; RUBIDIUM; ANTIMONY; SCANDIUM; SELENIUM; TIN; THORIUM; URANIUM; ZINC; TRACE ELEMENTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; SMOKING Sulotto, F.; Romano, C.; Berra, A.; Botta, G.C.; Rubino, G.F.; Sabbioni, E.; Pietra, R. 1986 American Journal of Industrial Medicine 9:567-575				

Selenium
7782-49-2
Se
AtW 78.96, MP 170-217 C, BP 685 C, VP 1 mm Hg at 356 C, 10 mm Hg at 429 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12543 Adrenal gland	9	Not given	1.8+/-0.9 ug/g Dry wt S.E.	Newborns-6 mo old. Postmortem samples, at birth-6 mo old. NA
LIVER; KIDNEYS; PANCREAS; ADRENAL GLANDS; AUTOPSIES; CHILDREN; INFANTS; NEWBORN; PREMATURE INFANTS; SELENIUM; ENVIRONMENTAL EXPOSURE Bayliss, P.A.; Buchanan, B.E.; Hancock, R.G.V.; Zlotkin, S.H. 1985 Biological Trace Element Research 7:55-61				

Selenium
7782-49-2
Se
AtW 78.96, MP 170-217 C, BP 685 C, VP 1 mm Hg at 356 C, 10 mm Hg at 429 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12544 Blood	a) 12 b) 21 c) 5 d) 6 e) 22 f) 23	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 170.6 ug/L b) 183.6 ug/L c) 128.3 ug/L d) 124.8 ug/L e) 106.1 ug/L f) 105.4 ug/L	a) Seal meat eaten at least 6 x/wk, Angmagssalik b) Same diet group, Isortoq c) Seal eaten 2-5 x/wk, Angmagssalik d) Same diet group, Isortoq e) Seal eaten 0-1 x/wk, Angmagssalik f) Same diet group, Denmark Levels correlated with diet and sex. Eskimos living in Angmagssalik (main town) or Isortoq, Angmagssalik district, Greenland, or in Denmark

BLOOD; ESKIMOS; GREENLAND; DENMARK; COMPARATIVE EVALUATIONS; CADMIUM; LEAD; MERCURY; SELENIUM; BIOACCUMULATION; DIETS; SMOKING; ENVIRONMENTAL EXPOSURE
Wulf, H.C.; Kromann, N.; Kousgaard, N.; Hansen, J.C.; Niebuhr, E.; Alboge, K. 1986 *Science of the Total Environment* 48:81-94

Tissue	Cases Exposure Route	Range	Mean	General Information
12545 Blood, cells	4	Not given	597+/-24 ng/g Dry wt	Background levels prior to dietary addition. Healthy volunteers, MIT students, 20-25 yr old, wt 54-75 kg. NA
12546 Blood, plasma	4	Not given	114+/-7 ng/ml Dry wt	Background levels prior to dietary addition. Healthy volunteers, MIT students, 20-25 yr old, wt 54-75 kg. NA

URINE; DELIBERATE EXPOSURE; ADULTS; MASSACHUSETTS; NUTRITIONAL DEFICIENCIES; SELENIUM; BIOACCUMULATION; DIETS; FOOD ADDITIVES; RADIOISOTOPES; BLOOD PLASMA; ERYTHROCYTES
Sirichakwal, P.P.; Young, V.R.; Janghorbani, M. 1985 American Journal of Clinical Nutrition 41:264-269

Tissue	Cases Exposure Route	Range	Mean	General Information
12547 Blood, serum	102	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 49.3 ug/l b) 63.5 ug/l c) 49.9 ug/l d) 58.4 ug/l e) 59.5 ug/l f) 60.5 ug/l g) 53.7 ug/l h) 60.9 ug/l	a) Male smokers who died of cancer, patients, 16 cases b) Male smokers, control, no cancer, 16 cases c) Male non-smokers, patients, 14 cases d) Male non-smokers, controls, 14 cases e) Females, patients, 21 cases f) Females, controls, 21 cases g) All patients, 51 cases h) All controls, 51 cases Samples taken during Eastern Finland Heart Survey, 1977 and stored at 20 deg C until analysis, 4/84. Patients and controls matched for age, sex and smoking. Patients died of cancer prior to 12/31/80. Significant difference a) from b) and g) from h), $p<0.05$. 30-64 yr olds in 1977, North Karelia and Kuopio, Finland. AAS

BLOOD SERUM; FINLAND; NEOPLASMS; SELENIUM; VITAMIN A; VITAMIN E; BIOLOGICAL MONITORING
Salonen, J.R.; Salonen, R.; Lappetelainen, R.; Maenpaa, P.H.; Alfthan, G.; Puska, P. 1985 British Medical Journal 290(6466):417-420

Selenium
7782-49-2
Se
AtW 78.96, MP 170-217 C, BP 685 C, VP 1 mm Hg at 356 C, 10 mm Hg at 429 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12548 Blood, serum	1 Ingestion	a) Not given b) Not given	a) 2435 ng/mL b) 2765 ng/mL	a) Day 4 b) Day 5 Admitted to hospital 1 hr after ingesting 30-60 mL liquid gun blueing containing 2% selenious acid (estimated 10-20 ng/kg), and possibly unknown amounts typewriter cleaner (perchloroethylene), gun oil, sewing machine oil, and Liquid Wrench. Death on 8th day. Normal range 85-125 ng/mL. 52 yr old female. Alert upon admission, no palpable blood pressure, vomiting, garlicky odor on breath. Developed hypotension, severe myopathy, and respiratory distress. At autopsy, there was small bowel infarction and necrosis, respiratory distress syndrome, mild atherosclerosis, liver congestion, and kidney necrosis. AAS

BLOOD SERUM; URINE; HEART; MUSCLES; LIVER; DELIBERATE EXPOSURE; CASE HISTORIES; SELENIUM; BIOLOGICAL MONITORING; HYPOTENSION; SUICIDE; HYDROCARBONS
Pentel, P.; Fletcher, D.; Jentzen, J. 1985 Journal of Forensic Sciences 30(2):556-562

Tissue	Cases Exposure Route	Range	Mean	General Information
12549 Blood, serum	1 Ingestion	420-125 ug/L	Not given	Days 1 and 5 after accidental ingestion of selenious acid (in about 15 ml solution). Mechanical ventilation used, then starting on 7th day an extracorporeal membrane oxygenator. Death from LEGIONELLA DUMOFII 17 d after ingestion. Values estimated from figure. 2 yr old, Canada Metabolic acidosis, leucocytosis, hyperglycemia, hemoconcentration, cardiomyopathy. Hepatic, renal, [illegible] dysfunctions.

BLOOD SERUM; URINE; CASE HISTORIES; SELENIUM; ACCIDENTAL POISONING
Nantel, A.J.; Brown, M.; Dery, P.; Lefebvre, M. 1985 Veterinary and Human Toxicology 27(6):531-533

Tissue	Cases Exposure Route	Range	Mean	General Information
12550 Blood, serum	a) 215 b) 12 c) 195 d) 12	a) 0.18+/-0.09-0.13+/-0.03 ug/ml b) Not given c) 0.14+/-0.05-0.16+/-0.08 ug/ml d) Not given 2 S.D.	a) 0.15 ug/ml b) 0.14+/-0.03 ug/ml c) 0.15 ug/ml d) 0.15+/-0.03 ug/ml 2 S.D.	a) Yankton area (southeastern), 17 and 26 wk gestation b) Non-pregnant women c) Rosebud Indian Reservation, 32 and 40 wk gestation d) Non-pregnant women No change in levels during pregnancy a), c) ranges of means. Values estimated from figures. Pregnant and non-pregnant subjects, South Dakota Fluorimetry

BLOOD SERUM; ENVIRONMENTAL EXPOSURE; SOUTH DAKOTA; COMPARATIVE EVALUATIONS; COPPER; SELENIUM; ZINC; DRINKING WATER; PREGNANCY
Kundu, N.; Parke, P.; Petersen, L.P.; Palmer, I.S.; Olson, O. 1985 Archives of Environmental Health 40(5):268-273

Selenium
7782-49-2
Se
AtW 78.96, MP 170-217 C, BP 685 C, VP 1 mm Hg at 356 C, 10 mm Hg at 429 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12551 Blood, whole	1458	2.2-31.4 ug/100 mL	10.7 ug/100 mL	Inversely correlated with age-adjusted total cancer mortality for both sexes, particularly for the major types in China-stomach and esophageal. Study of Qidong county showed incidence of primary liver cancer to be negatively correlated with Se levels in grain. Healthy adults in 24 regions of 8 provinces, China Fluorimetry

BLOOD; CONSUMER EXPOSURE; CHINA; ADULTS; NEOPLASMS; COMPARATIVE EVALUATIONS; SELENIUM; DIETS; ENVIRONMENTAL EXPOSURE
Yu, S.-Y.; Chu, Y.-J.; Gong, X.-L.; Hou, C.; Li, W.-G.; Gong, H.-M.; Xie, J.-R. 1985 Biological Trace Element Research 7:21-29

Tissue	Cases Exposure Route	Range	Mean	General Information
12552 Blood, whole	a) 10 b) 10	a) Not given b) Not given	a) 0.080+/-0.027 ug/ml b) 0.097+/-0.029 ug/ml	a) Patients with multiple sclerosis b) Controls Significant difference, borderline. Patients and controls, matched for sex and age. NA

BLOOD; HAIR; ENVIRONMENTAL EXPOSURE; UNITED KINGDOM; NEUROMUSCULAR DISEASES; TRACE ELEMENTS; BIOACCUMULATION; BIOINDICATORS; ALUMINUM; ANTIMONY; ARSENIC; BARIUM; BROMINE; CESIUM; GOLD; IODINE; MANGANESE; MOLYBDENUM; SELENIUM; VANADIUM; ZINC; COPPER; IRON; MAGNESIUM; POTASSIUM; SULFUR
Ward, N.I.; Bryce-Smith, D.; Miuski, M.; Matthews, W.B. 1985 Biological Trace Element Research 7:153-159

Tissue	Cases Exposure Route	Range	Mean	General Information
12553 Bronchoalveolar lavage	1	Not applicable	6.1 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old NA

BRONCHOALVEOLAR LAVAGE; NAILS; OCCUPATIONAL EXPOSURE; CASE HISTORIES; PNEUMOCONIOSIS; OCCUPATIONAL DISEASES; RESPIRATORY DISEASES; LAVAGE; CERIUM; LANTHANUM; TERBIUM; YTTERBIUM; SILVER; ARSENIC; GOLD; CADMIUM; COBALT; CHROMIUM; CESIUM; IRON; MERCURY; INDIUM; IRIDIUM; MOLYBDENUM; NICKEL; RUBIDIUM; ANTIMONY; SCANDIUM; SELENIUM; TIN; THORIUM; URANIUM; ZINC; TRACE ELEMENTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; SMOKING
Sulotto, F.; Romano, C.; Berra, A.; Botta, G.C.; Rubino, G.F.; Sabbioni, E.; Pietra, R. 1986 American Journal of Industrial Medicine 9:567-575

Selenium
7782-49-2
Se
AtW 78.96, MP 170-217 C, BP 685 C, VP 1 mm Hg at 356 C, 10 mm Hg at 429 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12554 Hair	a) 10 b) 10	a) Not given b) Not given	a) 0.64+/-0.16 ug/g b) 0.57+/-0.13 ug/g	a) Patients with multiple sclerosis b) Controls Significant difference, borderline. Patients and controls, matched for sex and age. NA

BLOOD; HAIR; ENVIRONMENTAL EXPOSURE; UNITED KINGDOM; NEUROMUSCULAR DISEASES; TRACE ELEMENTS; BIOACCUMULATION; BIOINDICATORS; ALUMINUM; ANTIMONY; ARSENIC; BARIUM; BROMINE; CESIUM; GOLD; IODINE; MANGANESE; MOLYBDENUM; SELENIUM; VANADIUM; ZINC; COPPER; IRON; MAGNESIUM; POTASSIUM; SULFUR
Ward, N.I.; Bryce-Smith, D.; Minski, M.; Matthews, W.B. 1985 Biological Trace Element Research 7:153-159

Tissue	Cases Exposure Route	Range	Mean	General Information
12555 Hair	a) 1 b) 1	a) 0.05-20.2 ppm b) 0.06-22.8 ppm	a) 3.85+/-6.61 ppm b) 3.79+/-7.89 ppm	a) Subject 1 b) Subject 2 Samples sent to 13 commercial laboratories for analysis. Values here are combined from all. Considerable variance within same laboratory, among different laboratories and disagreement about what was "normal" or "unusual". Authors conclude commercial use of hair analysis for management of disease, nutrition unscientific, uneconomical, probably illegal.

HAIR; ALUMINUM; ARSENIC; BERYLLIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; GOLD; IRON; LEAD; LITHIUM; MAGNESIUM; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; RUBIDIUM; SELENIUM; SILICON; SODIUM; TIN; VANADIUM; ZINC; ELEMENTS; TRACE ELEMENTS; METALS
Barrett, S. 1985 Journal of the American Medical Association 254(8):1041-1045

Tissue	Cases Exposure Route	Range	Mean	General Information
12556 Hair	a) 92 b) 55 c) 46 d) 457 e) 255	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 16.4 ppm b) 21.7 ppm c) 0.35 ppm d) 3.90 ppm e) 10.8 ppm	a) Canada b) U.S.A. c) Poland d) Japan e) India Part of international survey of 21 elements. Japanese, 2-80 yr olds. Rest were 30-60 yr old. ES; AAS

ENVIRONMENTAL EXPOSURE; HAIR; CANADA; UNITED STATES; POLAND; JAPAN; INDIA; MAGNESIUM; CALCIUM; PHOSPHORUS; SODIUM; POTASSIUM; IRON; COPPER; MANGANESE; ZINC; SELENIUM; CHROMIUM; NICKEL; COBALT; VANADIUM; LEAD; CADMIUM; ALUMINUM; ANTIMONY; MERCURY; TIN; ARSENIC; AGE; SEX; COMPARATIVE EVALUATIONS
Takagi, Y.; Matsuda, S.; Imai, S.; Ohmori, Y.; Masuda, T.; Vinson, J.A.; Mehra, M.C.; Puri, B.K.; Kaniewski, A. 1986 Bulletin of Environmental Contamination and Toxicology 36:793-800

Selenium
7782-49-2
Se
AtW 78.96, MP 170-217 C, BP 685 C, VP 1 mm Hg at 356 C, 10 mm Hg at 429 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12557 Hair	10	0.29-0.53 mg/kg Dry wt	0.44 mg/kg Dry wt	Autopsy samples. 48-62 yr old Caucasians, Sweden NA

HAIR; KIDNEYS; LIVER; SWEDEN; AUTOPSIES; SILVER; COBALT; CHROMIUM; IRON; MERCURY; ANTIMONY; SELENIUM; ZINC; MINERALS; TRACE ELEMENTS; BIOACCUMULATION
Muramatsu, Y.; Parr, R.M. 1985 International Atomic Energy Agency Report on the Second Research Co-ordination Meeting, Neuherberg, FRG, Sept 1985

Tissue	Cases Exposure Route	Range	Mean	General Information
12558 Heart	1 Ingestion	Not given	3.36 ug/g	Postmortem examination. Patient ingested 30-60 mL liquid gun blueing containing 2% selenious acid (estimated 10-20 mg/kg), and possibly unknown amounts typewriter cleaner (perchloroethylene), gun oil, sewing machine oil, and Liquid Wrench. Death on day 8. Normal range 0.004-0.083 ug/g. 52 yr old female. Alert upon admission, no palpable blood pressure, vomiting, garlicky odor on breath. Developed hypotension, severe myopathy, and respiratory distress. At autopsy, there was small bowel infarction and necrosis, respiratory distress syndrome, mild atherosclerosis, liver congestion, and kidney necrosis. AAS

BLOOD SERUM; URINE; HEART; MUSCLES; LIVER; DELIBERATE EXPOSURE; CASE HISTORIES; SELENIUM; BIOLOGICAL MONITORING; HYPOTENSION; SUICIDE; HYDROCARBONS
Pentel, P.; Fletcher, D.; Jentzen, J. 1985 Journal of Forensic Sciences 30(2):556-562

Tissue	Cases Exposure Route	Range	Mean	General Information
12559 Kidney	11	Not given	1.9+/-0.6 ug/g Dry wt S.E.	Newborns-6 mo old. Postmortem samples, at birth-6 mo old. NA

LIVER; KIDNEYS; PANCREAS; ADRENAL GLANDS; AUTOPSIES; CHILDREN; INFANTS; NEWBORN; PREMATURE INFANTS; SELENIUM; ENVIRONMENTAL EXPOSURE
Bayliss, P.A.; Buchanan, B.E.; Hancock, R.G.V.; Zlotkin, S.H. 1985 Biological Trace Element Research 7:55-61

Selenium
7782-49-2
Se
AtW 78.96, MP 170-217 C BP 685 C, VP 1 mm Hg at 356 C, 10 mm Hg at 429 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12560 Kidney		a) 0.20-2.43 mg/kg b) 0.62-2.30 mg/kg c) 0.15-1.30 mg/kg d) 0.06-2.85 mg/kg Wet wt	a) 0.33 mg/kg b) 0.90 mg/kg c) 0.36 mg/kg d) 0.78 mg/kg Wet wt Median	a) Cortex, Kingston, 75 cases b) Ottawa, 65 cases c) Medulla, Kingston, 69 d) Ottawa, 63 Autopsy samples from normal subjects, Kingston and Ottawa, Ontario AAS

KIDNEYS; LIVER; CANADA; AUTOPSIES; CALCIUM; POTASSIUM; MAGNESIUM; SODIUM; PHOSPHORUS; COPPER; IRON; MANGANESE; SELENIUM; ZINC; CADMIUM; MERCURY; LEAD
Subramanian, K.S.; Meranger, J.C.; Burnett, R.T. 1985 Science of the Total Environment 42:223-235

Tissue	Cases Exposure Route	Range	Mean	General Information
12561 Kidney	10	1.79-4.38 mg/kg Dry wt	3.6 mg/kg Dry wt	Autopsy samples. Cortex. 48-62 yr old Caucasians, Sweden NA

HAIR; KIDNEYS; LIVER; SWEDEN; AUTOPSIES; SILVER; COBALT, CHROMIUM; IRON; MERCURY; ANTIMONY; SELENIUM; ZINC; MINERALS; TRACE ELEMENTS; BIOACCUMULATION
Muramatsu, Y.; Parr, R.M. 1985 International Atomic Energy Agency Report on the Second Research Co-ordination Meeting, Neuherberg, FRG, Sept 1985

Tissue	Cases Exposure Route	Range	Mean	General Information
12562 Liver	56	2.1-1.1 ug/g Dry wt	Not given	Less than 7 d old, and 31-365 d old. Increase to 1.5 and 1.7 ug/g dry wt, respectively, for 2-6 yr olds and 7-10 yr olds. Premature newborns had 25+/-8 ug total hepatic Se, full-term newborns 58+/-20 ug. Total content remained stable until 1 yr, then increased with age. Falling concentrations concurrent with stable total content may indicate inadequate intake during first year, or normal redistribution. Ranges of means. Postmortem samples, at birth to 10 yr old. NA

LIVER; KIDNEYS; PANCREAS; ADRENAL GLANDS; AUTOPSIES; CHILDREN; INFANTS; NEWBORN; PREMATURE INFANTS; SELENIUM; ENVIRONMENTAL EXPOSURE
Bayliss, P.A.; Buchanan, B.E.; Hancock, R.G.V.; Zlotkin, S.H. 1985 Biological Trace Element Research 7:55-61

Selenium
7782-49-2
Se
AtW 78.96, MP 170-217 C, BP 685 C, VP 1 mm Hg at 356 C, 10 mm Hg at 429 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12563 Liver	1 Ingestion	Not given	0.79 ug/g	Postmortem examination. Patient ingested 30-60 mL liquid gun blueing containing 2% selenious acid (estimated 10-20 mg/kg), and possibly unknown amounts typewriter cleaner (perchloroethylene), gun oil, sewing machine oil, and Liquid Wrench. Death on day 8. Normal range 0.01-0.79 ug/g. 52 yr old female. Alert upon admission, no palpable blood pressure, vomiting, garlicky odor on breath. Developed hypotension, severe myopathy, and respiratory distress. At autopsy, there was small bowel infarction and necrosis, respiratory distress syndrome, mild atherosclerosis, liver congestion, and kidney necrosis. AAS

BLOOD SERUM; URINE; HEART; MUSCLES; LIVER; DELIBERATE EXPOSURE; CASE HISTORIES; SELENIUM; BIOLOGICAL MONITORING; HYPOTENSION; SUICIDE; HYDROCARBONS
Pentel, P.; Fletcher, D.; Jentzen, J. 1985 Journal of Forensic Sciences 30(2):556-562

Tissue	Cases Exposure Route	Range	Mean	General Information
12564 Liver	a) 73 b) 65	a) 0.22-0.90 mg/kg b) 0.20-1.02 mg/kg Wet wt	a) 0.38 mg/kg b) 0.58 mg/kg Wet wt Median	a) Kingston b) Ottawa Autopsy samples from normal subjects, Kingston and Ottawa, Ontario AAS

KIDNEYS; LIVER; CANADA; AUTOPSIES; CALCIUM; POTASSIUM; MAGNESIUM; SODIUM; PHOSPHORUS; COPPER; IRON; MANGANESE; SELENIUM; ZINC; CADMIUM; MERCURY; LEAD
Subramanian, K.S.; Meranger, J.C.; Burnett, R.T. 1985 Science of the Total Environment 42:223-235

Tissue	Cases Exposure Route	Range	Mean	General Information
12565 Liver	10	0.44-1.65 mg/kg Dry wt	1.2 mg/kg Dry wt	Autopsy samples. 48-62 yr old Caucasians, Sweden NA

HAIR; KIDNEYS; LIVER; SWEDEN; AUTOPSIES; SILVER; COBALT; CHROMIUM; IRON; MERCURY; ANTIMONY; SELENIUM; ZINC; MINERALS; TRACE ELEMENTS; BIOACCUMULATION
Muramatsu, Y.; Parr, R.M. 1985 International Atomic Energy Agency Report on the Second Research Co-ordination Meeting, Neuherberg, FRG, Sept 1985

Selenium
7782-49-2
Se
AtW 78.96, MP 170-217 C, BP 685 C, VP 1 mm Hg at 356 C, 10 mm Hg at 429 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12566 Lung		a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 71 ppb b) 123 ppb c) 175 ppb d) 159 ppb e) 142 ppb f) 215 ppb g) 151 ppb h) 110 ppb i) 136 ppb Medians	a) Lung cancer, 7 cases b) GI cancer, 11 cases c) Other malignancies, 7 cases d) Cardiovascular disease, 8 cases f) Other causes, 5 cases g) All workers, 76 cases h) Matched controls from Burtrask and Jorn, 15 cases Controls from Stockholm, 10 cases. Values in all workers significantly different from control groups and, in a), from c) and d) ($p<0.5$). Swedish Cu-smelter workers consecutively dead since 4/75. Means: age 68.1+/-9.1 (range 66.0+/-19.5-71.3+/-8.6), retired for 7.2+/-5.9 yr (5.3+/-4.9-11.2+/-7.7), exposed 31.2+/-8.4 yr (25.8+/-10.5-32.1+3 NA

SWEDEN; OCCUPATIONAL EXPOSURE; LUNGS; SELENIUM; TIN; ARSENIC; CADMIUM; CHROMIUM; COBALT; LANTHANUM; LEAD; METALS; SMELTERS; OCCUPATIONAL HAZARDS; NEOPLASMS; AUTOPSIES; CARCINOGEN
Gerhardsson, L.; Brune, D.; Nordberg, I.G.F.; Wester, P.O. 1985 British Journal of Industrial Medicine 42:617-626

Tissue	Cases Exposure Route	Range	Mean	General Information
12567 Milk				Review of longitudinal changes of trace element components in human milk. Mean daily intakes of breast-fed, cow's milk-fed infants and recommended daily allowances compared. Determination of Se status and consequences of deficiency discussed.

MILK; REVIEW; TRACE ELEMENTS; IRON; COPPER; ZINC; MANGANESE; MOLYBDENUM; CHROMIUM; COBALT; ARSENIC; SELENIUM; ITALY; UNITED STATES; GREECE; INDIA; FINLAND; FRANCE
Roekens, E.; Deelstra, H.; Robberecht, H. 1985 Science of the Total Environment 42:91-108

Tissue	Cases Exposure Route	Range	Mean	General Information
12568 Milk	5	a) Not given b) Not given c) Not given	a) 34.2+/-12.8 ng/mL b) 24.0+/-4.2 ng/mL c) 22.5+/-4.2 ng/mL	a) Colostrum, 4 d post-partum b) Transitional milk, 7-8 d. 4 samples c) Mature milk, 36-86 d. 13 samples Significant difference between c) and a), $p<0.01$. Negative correlation between lactation time and Se-dependent glutathione peroxidase (GSH-Px), $p<0.01$. Both declines most rapid from birth to 8 d post-partum. Se intake of mother not considered responsible for changes. No significant effect of lactation time on either Se or GSH-Px in mature milk. Significant positive correlation found between Se and GSH-Px levels, $p<0.01$. Percentage of total Se represented by GSH-Px-bound Se not significantly affected by lactation time. 25-28 yr old mother of healthy, fullterm newborns, Kyoto City, Japan Fluorimetry

MILK; URINE; JAPAN; SELENIUM; LACTATION
Hojo, Y. 1986 Science of the Total Environment 52:83-91

Selenium
7782-49-2
Se
AtW 78.96, MP 170-217 C, BP 685 C, VP 1 mm Hg at 356 C, 10 mm Hg at 429 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12569 Muscle	1 Ingestion	Not given	0.14 ug/g	Postmortem examination. Patient ingested 30-60 mL liquid gun blueing containing 2% selenious acid (estimated 10-20 mg/kg), and possibly unknown amounts typewriter cleaner (perchloroethylene), gun oil, sewing machine oil, and Liquid Wrench. Death on day 8. Normal range 0.02-0.22 ug/g. 52 yr old female. Alert upon admission, no palpable blood pressure, vomiting, garlicky odor on breath. Developed hypotension, severe myopathy, and respiratory distress. At autopsy, there was small bowel infarction and necrosis, respiratory distress syndrome, mild atherosclerosis, liver congestion, and kidney necrosis. AAS

BLOOD SERUM; URINE; HEART; MUSCLES; LIVER; DELIBERATE EXPOSURE; CASE HISTORIES; SELENIUM; BIOLOGICAL MONITORING; HYPOTENSION; SUICIDE; HYDROCARBONS
Pentel, P.; Fletcher, D.; Jentzen, J. 1985 Journal of Forensic Sciences 30(2):556-562

Tissue	Cases Exposure Route	Range	Mean	General Information
12570 Pancreas	6	Not given	1.8+/-0.6 ug/g Dry wt S.E.	Newborns-6 mo old. Postmortem samples, at birth-6 mo old. NA

LIVER; KIDNEYS; PANCREAS; ADRENAL GLANDS; AUTOPSIES; CHILDREN; INFANTS; NEWBORN; PREMATURE INFANTS; SELENIUM; ENVIRONMENTAL EXPOSURE
Bayliss, P.A.; Buchanan, B.E.; Hancock, R.G.V.; Zlotkin, S.H. 1985 Biological Trace Element Research 7:55-61

Tissue	Cases Exposure Route	Range	Mean	General Information
12571 Placenta	22	0.38-1.03 ug/g	0.77 ug/g	After normal births. Dietary habits of all subjects similar. No high seafood consumption. Residents of Genova, Italy AAS

PLACENTA; ITALY; MERCURY; SELENIUM; BIOACCUMULATION; ENVIRONMENTAL EXPOSURE
Capelli, R.; Minganti, V.; Semino, G.; Bertarini, W.; 1986 Science of the Total Environment 48:69-79

Selenium
7782-49-2
Se
AtW 78.96, MP 170-217 C, BP 685 C, VP 1 mm Hg at 356 C, 10 mm Hg at 429 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12572 Urine	1 Ingestion	Not given	2435 ug/24 hr	Day 4 after ingesting 30-60 mL liquid gun blueing containing 2% selenious acid (estimated 10-20 mg/kg), and possibly unknown amounts typewriter cleaner (perchloroethylene), gun oil, sewing machine oil, and Liquid Wrench. Death on day 8. Normal <35 ug/24 hr. 52 yr old female. Alert upon admission, no palpable blood pressure, vomiting, garlicky odor on breath. Developed hypotension, severe myopathy, and respiratory distress. At autopsy, there was small bowel infarction and necrosis, respiratory distress syndrome, mild atherosclerosis, liver congestion, and kidney necrosis. AAS

BLOOD SERUM; URINE; HEART; MUSCLES; LIVER; DELIBERATE EXPOSURE; CASE HISTORIES; SELENIUM; BIOLOGICAL MONITORING; HYPOTENSION; SUICIDE; HYDROCARBONS
Pentel, P.; Fletcher, D.; Jentzen, J. 1985 Journal of Forensic Sciences 30(2):556-562

Tissue	Cases Exposure Route	Range	Mean	General Information
12573 Urine	1 Ingestion	650-50 ug/hr	Not given	Excretion 1 and 40 hr after hospitalization (3 hr after accidental ingestion of selenious acid in about 15 ml solution). Peak level 28, 459 ug/L. Mechanical ventilation used, then starting on 7th day an extracorporeal membrane oxygenator. Death from LEGIONELLA DUMOFII 17 d after ingestion. Values estimated from figure. 2 yr old, Canada Metabolic acidosis, leucocytosis, hyperglycemia, hemoconcentration, cardiomyopathy. Hepatic, renal, pulmonary dysfunctions.

BLOOD SERUM; URINE; CASE HISTORIES; SELENIUM; ACCIDENTAL POISONING
Nantel, A.J.; Brown, M.; Dery, P.; Lefebvre, M. 1985 Veterinary and Human Toxicology 27(6):531-533

Tissue	Cases Exposure Route	Range	Mean	General Information
12574 Urine	5	a) Not given b) Not given c) Not given	a) 41.5+/-14.7 ng/mg creatinine b) 54.7+/-11.7 ng/mg creatinine c) 55.8+/-23.7 ng/mg creatinine	a) 4 d post-partum b) 7-8 d post-partum, 4 samples c) 36-86 d post-partum, 13 samples Single-void samples. 25-28 yr old mother of healthy, fullterm newborns, Kyoto City, Japan Fluorimetry

MILK; URINE; JAPAN; SELENIUM; LACTATION
Hojo, Y. 1986 Science of the Total Environment 52:83-91

Selenium, isotope of mass 74
13981-33-4
Se

Tissue	Cases Exposure Route	Range	Mean	General Information
12575 Urine	4 Ingestion	a) 5.7-15.6% b) 16.9-25.3% c) 3.9-20.2% d) 43.6-53.4%	a) 10.4+/-2.3% b) 21.4+/-2.1% c) 9.4+/-3.8% d) 48.9+/-2.5%	a) [74]-Se-labeled egg white b) [74]-Se-labeled egg yolk (148 ug) plus balanced L-amino acid mixture (AA) c) [74]-Se-labeled egg yolk (110 ug) plus balanced AA d) Balanced AA labeled with [74]-Se and [76]-Se % absorbed dose excreted in 10 d. Healthy volunteers, MIT students, 20-25 yr old, wt 54-75 kg. NA

URINE; DELIBERATE EXPOSURE; ADULTS; MASSACHUSETTS; NUTRITIONAL DEFICIENCIES; SELENIUM; BIOACCUMULATION; DIETS; FOOD ADDITIVES; RADIOISOTOPES; BLOOD PLASMA; ERYTHROCYTES
Sirichakwal, P.P.; Young, V.R.; Janghorbani, M. 1985 American Journal of Clinical Nutrition 41:264-269

Silicon
7440-21-3
Si
AtW 28.086, MP 1410 C, BP 2600 C, VP 1 mm Hg at 1724 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12576 Hair	a) 1 b) 1	a) 3.0-7.41 ppm b) 3.86-19.6 ppm	a) 5.44+/-1.55 ppm b) 7.96+/-5.90 ppm	a) Subject 1 b) Subject 2 Samples sent to 13 commercial laboratories for analysis. Values here are combined from all. Considerable variance within same laboratory, among different laboratories and disagreement about what was "normal" or "unusual". Authors conclude commercial use of hair analysis for management of disease, nutrition unscientific, uneconomical, probably illegal.

HAIR; ALUMINUM; ARSENIC; BERYLLIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; GOLD; IRON; LEAD; LITHIUM; MAGNESIUM; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; RUBIDIUM; SELENIUM; SILICON; SODIUM; TIN; VANADIUM; ZINC; ELEMENTS; TRACE ELEMENTS; METALS
Barrett, S. 1985 Journal of the American Medical Association 254(8):1041-1045

Tissue	Cases Exposure Route	Range	Mean	General Information
12577 Lung	a) 3 b) 3 c) 10 d) 8 e) 5 f) 5	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 2.1+/-0.67 mg/g b) 3.1+/-1.6 mg/g c) 4.1+/-1.8 mg/g d) 5.4+/-2.3 mg/g e) 5.7+/-1.5 mg/g f) 4.5+/-1.4 mg/g Dry wt	a) Smokers, 21+/-0.6 yr old b) Nonsmokers, 24+/-3 yr old c) Smokers, 50+/-6 yr old d) Nonsmokers, 52+/-6 yr old e) Smokers, 72+/-8 yr old f) Nonsmokers, 70+/-9 yr old. Autopsies. Death by trauma or cardiovascular disease. ES

LUNGS; ENVIRONMENTAL EXPOSURE; DELIBERATE EXPOSURE; ADULTS; VERMONT; RESPIRATORY DISEASES; AUTOPSIES; MINERALS; BIOACCUMULATION; ALUMINUM; SILICON; PARTICULATES; SMOKING; AGE
Vallyathan, V.; Hahn, L.H. 1985 Archives of Environmental Health 40(2):69-73

Silver
7440-22-4
Ag
AtW 107.868, MP 960.5 C, BP 2000 C, VP 1 mm Hg at 1310 C, 10 mm Hg at 1540 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12578 Blood, serum	1	a) Not applicable b) Not applicable c) Not applicable d) Not applicable	a) 58.0 nmol/l b) 37.5 nmol/l c) 17.8 nmol/l d) 15.0 nmol/l	a) Measured 2/14/84 after removal of prosthesis (12/83) that apparently caused neuropathy b) Measured 4/3/84 c) Measured 6/22/84 d) Measured 1/30/85 Hip fluid at time of prosthesis removal contained very high level, 956.1 nmol/l. Clinical improvement with decreased levels. 78 yr old woman who underwent Christiansen total hip arthroplasty using an Ag-containing cement Caused reversible neuropathy: No activities of femoral, tibial nerves, total paralysis of left quadriceps AAS

SILVER; BLOOD SERUM; DELIBERATE EXPOSURE; SURGERY; CASE HISTORIES; CONSUMER EXPOSURE; NEUROLOGIC MANIFESTATIONS
Vik, H.; Andersen, K.J.; Julshamn, K.; Todnem, K. 1985 Lancet 1(8433):872

Tissue	Cases Exposure Route	Range	Mean	General Information
12579 Bronchoalveolar lavage	1	Not applicable	0.07 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old NA

BRONCHOALVEOLAR LAVAGE; NAILS; OCCUPATIONAL EXPOSURE; CASE HISTORIES; PNEUMOCONIOSIS; OCCUPATIONAL DISEASES; RESPIRATORY DISEASES; LAVAGE; CERIUM; LANTHANUM; TERBIUM; YTTERBIUM; SILVER; ARSENIC; GOLD; CADMIUM; COBALT; CHROMIUM; CESIUM; IRON; MERCURY; INDIUM; IRIDIUM; MOLYBDENUM; NICKEL; RUBIDIUM; ANTIMONY; SCANDIUM; SELENIUM; TIN; THORIUM; URANIUM; ZINC; TRACE ELEMENTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; SMOKING
Sulotto, F.; Romano, C.; Berra, A.; Botta, G.C.; Rubino, G.F.; Sabbioni, E.; Pietra, R. 1986 American Journal of Industrial Medicine 9:567-575

Tissue	Cases Exposure Route	Range	Mean	General Information
12580 Hair	10	Not detected-0.93 mg/kg Dry wt	0.54 mg/kg Dry wt	Autopsy samples. Detection limit 0.05 mg/kg. 48-62 yr old Caucasians, Sweden NA

HAIR; KIDNEYS; LIVER; SWEDEN; AUTOPSIES; SILVER; COBALT; CHROMIUM; IRON; MERCURY; ANTIMONY; SELENIUM; ZINC; MINERALS; TRACE ELEMENTS; BIOACCUMULATION
Muramatsu, Y.; Parr, R.M. 1985 International Atomic Energy Agency Report on the Second Research Co-ordination Meeting, Neuherberg, FRG, Sept 1985

Sodium
7440-23-5
Na
AtW 22.98977, MP 97.82 C, BP 881.4 C, VP 1 mm Hg at 440 C, 10 mm Hg at 546 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12581 Hair	a) 1 b) 1	a) 31.8+/-715 ppm b) 21.7-352 ppm	a) 220+/-176 ppm b) 120+/-87.4 ppm	a) Subject 1 b) Subject 2 Samples sent to 13 commercial laboratories for analysis. Values here are combined from all. Considerable variance within same laboratory, among different laboratories and disagreement about what was "normal" or "unusual". Authors conclude commercial use of hair analysis for management of disease, nutrition unscientific, uneconomical, probably illegal.

HAIR; ALUMINUM; ARSENIC; BERYLLIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; GOLD; IRON; LEAD; LITHIUM; MAGNESIUM; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; RUBIDIUM; SELENIUM; SILICON; SODIUM; TIN; VANADIUM; ZINC; ELEMENTS; TRACE ELEMENTS; METALS

Barrett, S. 1985 Journal of the American Medical Association 254(8):1041-1045

Tissue	Cases Exposure Route	Range	Mean	General Information
12582 Hair	a) 92 b) 55 c) 46 d) 457 e) 255	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 32.6 ppm b) 31.9 ppm c) 3.08 ppm d) 153 ppm e) 17.3 ppm	a) Canada b) U.S.A. c) Poland d) Japan e) India Part of international survey of 21 elements. Japanese, 2-80 yr olds. Rest were 30-60 yr old. ES

ENVIRONMENTAL EXPOSURE; HAIR; CANADA; UNITED STATES; POLAND; JAPAN; INDIA; MAGNESIUM; CALCIUM; PHOSPHORUS; SODIUM; POTASSIUM; IRON; COPPER; MANGANESE; ZINC; SELENIUM; CHROMIUM; NICKEL; COBALT; VANADIUM; LEAD; CADMIUM; ALUMINUM; ANTIMONY; MERCURY; TIN; ARSENIC; AGE; SEX; COMPARATIVE EVALUATIONS

Takagi, Y.; Matsuda, S.; Imai, S.; Ohmori, Y.; Masuda, T.; Vinson, J.A.; Mehra, M.C.; Puri, B.K.; Kaniewski, A. 1986 Bulletin of Environmental Contamination and Toxicology 36:793-800

Tissue	Cases Exposure Route	Range	Mean	General Information
12583 Kidney		a) 1090-3810 mg/kg b) 1350-2740 mg/kg c) 1480-3610 mg/kg d) 940-2990 mg/kg Wet wt	a) 1823 mg/kg b) 1900 mg/kg c) 1885 mg/kg d) 1955 mg/kg Wet wt Median	a) Cortex, Kingston, 73 cases b) Ottawa, 65 cases c) Medulla, Kingston, 74 d) Ottawa, 59 Autopsy samples from normal subjects, Kingston and Ottawa, Ontario ICP-AES
12584 Liver	a) 77 b) 64	a) 775-2660 mg/kg b) 589-2430 mg/kg Wet wt	a) 1405 mg/kg b) 1255 mg/kg Wet wt Median	a) Kingston b) Ottawa Autopsy samples from normal subjects, Kingston and Ottawa, Ontario ICP-AES

KIDNEYS; LIVER; CANADA; AUTOPSIES; CALCIUM; POTASSIUM; MAGNESIUM; SODIUM; PHOSPHORUS; COPPER; IRON; MANGANESE; SELENIUM; ZINC; CADMIUM; MERCURY; LEAD

Subramanian, K.S.; Meranger, J.C.; Burnett, R.T. 1985 Science of the Total Environment 42:223-235

Sodium
7440-23-5
Na
AtW 22.98977, MP 97.82 C, BP 881.4 C, VP 1 mm Hg at 440 C, 10 mm Hg at 546 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12585 Milk	52 Ingestion	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 7.7 mM b) 4.9 mM c) 3.3 mM d) 3.2 mM e) 3.5 mM f) 4.1 mM g) 6.2 mM h) 7.1 mM	a) 1 month b) 2 months c) 4 months d) 8 months e) 12 months f) 16 months g) 19 months h) 20 months Times postpartum. Half on normal diet, half on vegetarian diet. No significant differences due to diet. Lactating women, mean age 29 yr. AAS

MILK; ADULTS; DIETS; COMPARATIVE EVALUATIONS; IRON; COPPER; ZINC; SODIUM; POTASSIUM; CALCIUM; MAGNESIUM; MINERALS; TRACE ELEMENTS; LACTATION
Finley, D.A.; Lonnerdal, B.; Dewey, K.G.; Grivetti, L.E. 1985 Journal of Nutrition 115:772-781

Sodium, ion (Na(1+))
17341-25-2
Na
AtW 22.98977

Tissue	Cases Exposure Route	Range	Mean	General Information
12586 Bone	28	a) 548-3031 ug/g b) 473-2591 ug/g c) Not given Wet wt	a) 1709+/-1013.8 ug/g b) 1187.8+/-757.6 ug/g c) 1460+/-890 ug/g Wet wt	a) Neoplastic samples from surgically resected tissues, 11 cases b) Samples from normal-looking areas outside the tumor, 6 cases c) Normal samples, control subjects, 17 cases. Patients at Tata Memorial Hospital Pathology Dept, India. AAS
12587 Bone marrow	21	a) 522-2855 ug/g b) 2031-3558 ug/g Wet wt	a) 1918.6+/-584.9 ug/g b) 2493.5+/-552.3 ug/g Wet wt	a) Neoplastic samples from surgically resected tissues, 21 cases b) Samples from normal-looking areas outside the tumor, 6 cases Patients at Tata Memorial Hospital Pathology Dept, India. AAS
12588 Breast	36	a) 322.0-4398 ug/g b) 317-1660 ug/g c) Not given Wet wt	a) 1416+/-830.7 ug/g b) 780.6+/-384.2 ug/g c) 2690+/-1300 ug/g Wet wt	a) Neoplastic samples from surgically resected tissues, 33 cases b) Samples from normal-looking areas outside the tumor, 20 cases c) Normal samples, control subjects, 3 cases. Patients at Tata Memorial Hospital Pathology Dept, India. AAS
12589 Esophagus	14	a) 232-1765 ug/g b) 158-1480 ug/g c) Not given Wet wt	a) 1179.3+/-435.0 ug/g b) 1132+/-636.0 ug/g c) 2540+/-910 ug/g Wet wt	a) Neoplastic samples from surgically resected tissues, 8 cases b) Samples from normal-looking areas outside the tumor, 7 cases c) Normal samples, control subjects, 6 cases. Patients at Tata Memorial Hospital Pathology Dept, India. AAS

(next page)

Sodium, ion (Na(1+))
17341-25-2
Na
AtW 22.98977

(continued)

Tissue	Cases Exposure Route	Range	Mean	General Information
12590 Intestine	36	a) 665-3230 ug/g b) 313-3030 ug/g Wet wt	a) 1470.9+/-691.8 ug/g b) 1169.98+/-694.2 ug/g Wet wt	a) Neoplastic samples from surgically resected tissues, 18 cases b) Samples from normal-looking areas outside the tumor, 18 cases In rectum and colon. Patients at Tata Memorial Hospital Pathology Dept, India. AAS
12591 Lung	28	a) 700-2953 ug/g b) 475-4489 ug/g c) Not given Wet wt	a) 1663.6+/-775.8 ug/g b) 1582.1+/-689.8 ug/g c) 2220+/-910 ug/g Wet wt	a) Neoplastic samples from surgically resected tissues, 11 cases b) Samples from normal-looking areas outside the tumor, 11 cases c) Normal samples, control subjects, 17 cases. Patients at Tata Memorial Hospital Pathology Dept, India. AAS
12592 Oral	21	a) 670-3542 ug/g b) 350-4489.8 ug/g c) Not given Wet wt	a) 1830.4+/-1084.8 ug/g b) 1811.5+/-1349.0 ug/g c) 1840+/-950 ug/g Wet wt	a) Neoplastic samples from surgically resected tissues, 6 cases b) Samples from normal-looking areas outside the tumor, 6 cases c) Normal samples, control subjects, 15 cases. Patients at Tata Memorial Hospital Pathology Dept, India. AAS
12593 Reproductive organs	36	a) 493-3089.8 ug/g b) 418-3049 ug/g c) Not given Wet wt	a) 1623.40+/-970.5 ug/g b) 1562.2+/-785.1 ug/g c) 1830+/-970 ug/g Wet wt	a) Neoplastic samples from surgically resected tissues, 23 cases b) Samples from normal-looking areas outside the tumor, 16 cases c) Normal samples, control subjects, 13 cases. Patients at Tata Memorial Hospital Pathology Dept, India. AAS
12594 Stomach	24	a) 630-2253 ug/g b) 500-3340 ug/g c) Not given Wet wt	a) 2025.1+/-961.6 ug/g b) 1571.3+/-882.6 ug/g c) 2010+/-1760 ug/g Wet wt	a) Neoplastic samples from surgically resected tissues, 12 cases b) Samples from normal-looking areas outside the tumor, 10 cases c) Normal samples, control subjects, 12 cases. Patients at Tata Memorial Hospital Pathology Dept, India. AAS

ORAL TISSUE; BREAST; LUNGS; ESOPHAGUS; STOMACH; INTESTINES; REPRODUCTIVE ORGANS; BONES; BONE MARROW; INDIA; CARCINOMAS; NEOPLASMS; SARCOMAS; BIOPSIES; COMPARATIVE EVALUATIONS; CALCIUM; MAGNESIUM; POTASSIUM; SODIUM; SURGERY

Ranade, S.S.; Panday, V.K. 1985 Science of the Total Environment 41:79-89

Stearaldehyde (8 CI); Octadecanal (9 CI)
638-66-4
C18-H36-O

Tissue	Cases Exposure Route	Range	Mean	General Information
12595 Aorta	2	a) Not detected b) Not detected-80 ppb	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Stearic acid (8 CI); Octadecanoic acid (9 CI)
57-11-4
C18-H36-O2
MW 284.50, MP 71.5-72.0 C, BP 232 C at 15 mm Hg, VP 1 mm Hg at 173.7 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12596 Aorta	2	a) Not detected b) 400 ppb-Not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Stearic acid, methyl ester (8 CI); Octadecanoic acid, methyl ester (9 CI)
112-61-8
C19-H38-O2
MW 298.51, MP 38-39 C, BP 215 C at 15 mm Hg

Tissue	Cases Exposure Route	Range	Mean	General Information
12597 Aorta	2	a) Not detected-3 ppb b) Not detected-20 ppb	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Stilbene, methyl- (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12598 Aorta	2	a) Not detected b) Not detected-10 ppb	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS

AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES
Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534

Styrene (8 CI); Benzene, ethenyl- (9 CI)
100-42-5
C8-H8
MW 104.14, MP -31 C, BP 145-146 C, VP 39.4 atm at 374.4 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12599 Blood	11 Inhalation	a) 0.05-3.26 mg/l b) 0.41-1.17 mg/l	a) 0.92+/-0.86 mg/l b) 0.70+/-0.33 mg/l	a) Post-shift sampling, March 1980 b) May 1982 Exposures for 3-7 yr, median 4 yr. No adverse effects on peripheral nervous system if current allowable limit values are not exceeded. Detection limit 0.05 mg/ml. 24-54 yr old workers, polyester resin boat industry. GC

BLOOD; URINE; OCCUPATIONAL EXPOSURE; OCCUPATIONAL HAZARDS; STYRENES; INHALATION; GERMANY
Triebig, G.; Schaller, K.-H.; Valentin, H. 1985 International Archives of Occupational and Environmental Health 56:239-247

Styrene (8 CI); Benzene, ethenyl- (9 CI)
100-42-5
C8-H8
MW 104.14, MP -31 C, BP 145-146 C, VP 39.4 atm at 374.4 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12600 Blood	8 Inhalation	Not given	14.7+/-2.9 umol/L	After 2 hr exposure on Friday to 2.84+/-0.07 mmol/cu m in exposure chamber, during light exercise. Arterial blood, plant workers manufacturing glass reinforced plasitcs. Mean air level in plant 44.4 mg/cu m. Higher levels (previously reported) found in reference group (non-occupationally exposed) under identical experimental conditions, indicating that long term exposure may facilitate metabolism. Metabolic pathway also discussed. 25-47 (mean 34) yr old volunteers, wt 68-105 (mean 76) kg, ht 170-188 (mean 178) cm. Sweden.

BLOOD; LUNGS; DELIBERATE EXPOSURE; OCCUPATIONAL EXPOSURE; SWEDEN; STYRENES; INDUSTRIAL CHEMICALS; BIOACCUMULATION; INDUSTRIES; INHALATION; METABOLISM; OCCUPATIONAL HAZARDS
Lof, A.; Lundgren, E.; Nordqvist, M.B. 1986 British Journal of Industrial Medicine 43:537-543

Tissue	Cases Exposure Route	Range	Mean	General Information
12601 Blood, whole	250	a) Not detected-1.9 ng/mL b) Not given c) 0.2-0.45 ng/mL	a) 0.4 ng/mL b) 0.38 ng/mL c) Not given	a) Cases, test populations screened for volatile organics. In 63 cases levels were >2 S.D. above the mean, thus, most specimens not significantly different from one another b) 16 workers occupationally exposed at wire-manufacturing company c) Patient drinking contaminated water from municipal well in 1981. Contaminants included trichloroethane, ethylene. Range is of measurements on day 67 and day 0 after ceasing to drink contaminated water Values in b), c) estimated from graphs. Patients with high sensitivity to synthetic chemicals GC/MS

BLOOD; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; CHLORINATED HYDROCARBONS; BENZENES; STYRENES; INDUSTRIAL CHEMICALS; TOLUENE; XYLENE; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; WATER POLLUTION; DRINKING WATER
Antoine, S.R.; DeLeon, I.R.; O'dell-Smith, R.M. 1986 Bulletin of Environmental Contamination and Toxicology 36:364-371

Tissue	Cases Exposure Route	Range	Mean	General Information
12602 Breath	7 Dermal	a) 0.01-0.05 ppm b) 0.16-0.48 ppm c) 0.03-0.13 ppm d) 0.05-0.13 ppm	a) Not given b) Not given c) Not given d) Not given	a) 8 min b) 25 min c) 50 min d) 80 min After start of 15 min exposure by immersion to hand. 500 sq cm skin exposure, rate estimated 1+/-0.5 ug/sq cm corresponding to 15 mg in 30 min. Volunteers, 21-42 yr old GC

BREATH; URINE; DELIBERATE EXPOSURE; ADULTS; STYRENES; SOLVENTS; METABOLITES
Berode, M.; Droz, P.; Guillemin, M. 1985 International Archives of Occupational and Environmental Health 55:331-336

Styrene (8 CI); Benzene, ethenyl- (9 CI)
100-42-5
C8-H8
MW 104.14, MP -31 C, BP 145-146 C, VP 39.4 atm at 374.4 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12603 Lung	8 Inhalation	Not given	4.57+/-0.46 mmol	Uptake (calculated from inspired and expired air levels) after 2 hr exposure on Friday to 2.84+/-0.07 mmol/cu m in exposure chamber, during light exercise. Uptake 62.6+/-2.8% of inhaled amount (7.31+/-0.68 mmol). Subjects were workers in plant manufacturing glass reinforced plastics. Mean air level in plant 44.4 mg/cu m. Metabolic pathway discussed. Data also include levels (previously reported) in non-occupationally exposed subjects under identical experimental conditions. 25-47 (mean 34) yr old volunteers, wt 68-105 (mean 76) kg, ht 170-188 (mean 178) cm. Sweden.

BLOOD; LUNGS; DELIBERATE EXPOSURE; OCCUPATIONAL EXPOSURE; SWEDEN; STYRENES; INDUSTRIAL CHEMICALS; BIOACCUMULATION; INDUSTRIES; INHALATION; METABOLISM; OCCUPATIONAL HAZARDS
Lof, A.; Lundgren, E.; Nordqvist, M.B. 1986 British Journal of Industrial Medicine 43:537-543

Tissue	Cases Exposure Route	Range	Mean	General Information
12604 Urine	7 Dermal	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 11 umol b) 26 umol c) 39 umol d) 48 umol e) 7 umol f) 26 umol g) 41 umol h) 48 umol	a) 2 hr, mandelic acid b) 6 hr c) 14 hr d) 36 hr e) 2 hr, phenylglyoxylic acid f) 10 hr g) 22 hr h) 36 hr Metabolites. Estimated from graphs. Volunteers, 21-42 yr old GC

BREATH; URINE; DELIBERATE EXPOSURE; ADULTS; STYRENES; SOLVENTS; METABOLITES
Berode, M.; Droz, P.; Guillemin, M. 1985 International Archives of Occupational and Environmental Health 55:331-336

Succinic acid, mercapto-, diethyl ester, S-ester with O,O-dimethyl phosphorodithioate (8 CI); Butanedioic acid, ((dimethoxyphosphinothioyl)thio)-, diethyl ester (9 CI)
121-75-5
C10-H19-O6-P-S2
MW 330.36, MP 2.9 C, BP 156-57 C at 0.7 mm Hg

Tissue	Cases Exposure Route	Range	Mean	General Information
12605 Urine				Review. The occurrence and analysis of priority toxic pollutants in human urine, covering the ten-year period 1973-1983, is discussed.

URINE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; DELIBERATE EXPOSURE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PHTHALLIC ACIDS; PHENOLS; BIOACCUMULATION; PESTICIDES
Fatiadi, A.J. 1984 Environment International 10:175-205

Sulfur
7704-34-9
S
AtW 32.064, MP 115.21 C, BP about 444.6 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12606 Blood, whole	a) 10 b) 10	a) Not given b) Not given	a) 1760+/-62 ug/ml b) 1810+/-104 ug/ml	a) Patients with multiple sclerosis b) Controls Significant difference. Patients and controls, matched for sex and age. NA

BLOOD; HAIR; ENVIRONMENTAL EXPOSURE; UNITED KINGDOM; NEUROMUSCULAR DISEASES; TRACE ELEMENTS; BIOACCUMULATION; BIOINDICATORS; ALUMINUM; ANTIMONY; ARSENIC; BARIUM; BROMINE; CESIUM; GOLD; IODINE; MANGANESE; MOLYBDENUM; SELENIUM; VANADIUM; ZINC; COPPER; IRON; MAGNESIUM; POTASSIUM; SULFUR
Ward, N.I.; Bryce-Smith, D.; Minski, M.; Matthews, W.B. 1985 Biological Trace Element Research 7:153-159

Sulfur, isotope of mass 35
15117-53-0
S

Tissue	Cases Exposure Route	Range	Mean	General Information
12607 Urine	a) 1 b) 1	a) 5.38-64.89 uCi b) 0.44-10.67 uCi	a) Not applicable b) Not applicable	a) 2 hr-53 day b) 2 hr-16 day Cumulative excretion after probable inhalation. Indeterminate dose. 90% excreted within 1.5 day. University of Missouri Research Reactor employees Scintillation counting

URINE; OCCUPATIONAL EXPOSURE; SULFUR; ACCIDENTAL POISONING; BIOACCUMULATION; BIOLOGICAL MONITORING; INDUSTRIAL ACCIDENTS; HEALTH HAZARDS; IRRADIATION; OCCUPATIONAL HAZARDS; RADIATION DOSES; RADIOISOTOPES
Spate, V.L.; Langhorst, S.M.; DuChemin, A.M. 1985 Health Physics 49(1):84-87

Sulfuryl fluoride
2699-79-8
F2-O2-S
MW 102.07, MP -135.82 C, BP -55.38 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12608 Blood	1 Inhalation	Not applicable	50.42 mg/L	24-36 hr postmortem. Exposure in his apartment 6 hr after fumigation (apartment complex charged with 22.5 kg). 29 yr old suicide victim Respiratory mucosa congested and covered with froth. Lungs congested and edematous. Spectrophotometry

(next page)

Sulfuryl fluoride
2699-79-8
F2-O2-S
MW 102.07, MP -135.82 C, BP -55.38 C

(continued)

Tissue	Cases Exposure Route	Range	Mean	General Information
12609 Blood, serum	1 Inhalation	Not applicable	20 mg/L	Antemortem level. Death 12 hr after exposure in house which was being fumigated. 19 yr old poisoning victim Pulmonary edema, carpal/pedal tetany, cardiac dysrhythmia. Petechiae of the visceral pleurae (autopsy).

BLOOD; BLOOD SERUM; DELIBERATE EXPOSURE; ENVIRONMENTAL EXPOSURE; AUTOPSIES; CASE HISTORIES; SUICIDE; FLUORINE COMPOUNDS; SULFUR; INSECTICIDES; PESTICIDES; FUMES; HEALTH HAZARDS; INHALATION

Scheuerman, E.H. 1986 Journal of Forensic Sciences 31(3):1154-1158

Tantalum
7440-25-7
Ta
MW 180.948, MP 2996 C, BP 5425+/-100 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12610 Bronchoalveolar lavage	1	Not applicable	0.8 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old NA

BRONCHOALVEOLAR LAVAGE; NAILS; OCCUPATIONAL EXPOSURE; CASE HISTORIES; PNEUMOCONIOSIS; OCCUPATIONAL DISEASES; RESPIRATORY DISEASES; LAVAGE; CERIUM; LANTHANUM; TERBIUM; YTTERBIUM; SILVER; ARSENIC; GOLD; CADMIUM; COBALT; CHROMIUM; CESIUM; IRON; MERCURY; INDIUM; IRIDIUM; MOLYBDENUM; NICKEL; RUBIDIUM; ANTIMONY; SCANDIUM; SELENIUM; TIN; THORIUM; URANIUM; ZINC; TRACE ELEMENTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; SMOKING

Sulotto, F.; Romano, C.; Berra, A.; Botta, G.C.; Rubino, G.F.; Sabbioni, E.; Pietra, R. 1986 American Journal of Industrial Medicine 9:567-575

Terbium
7440-27-9
Tb
AtW 158.9254, MP 1356 C, BP 3123 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12611 Bronchoalveolar lavage	1	Not applicable	2.6 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old Rare-earth pneumoconiosis Micronodular lung changes, restrictive spirometric impairment NA
BRONCHOALVEOLAR LAVAGE; NAILS; OCCUPATIONAL EXPOSURE; CASE HISTORIES; PNEUMOCONIOSIS; OCCUPATIONAL DISEASES; RESPIRATORY DISEASES; LAVAGE; CERIUM; LANTHANUM; TERBIUM; YTTERBIUM; SILVER; ARSENIC; GOLD; CADMIUM; COBALT; CHROMIUM; CESIUM; IRON; MERCURY; INDIUM; IRIDIUM; MOLYBDENUM; NICKEL; RUBIDIUM; ANTIMONY; SCANDIUM; SELENIUM; TIN; THORIUM; URANIUM; ZINC; TRACE ELEMENTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; SMOKING Sulotto, F.; Romano, C.; Berra, A.; Botta, G.C.; Rubino, G.F.; Sabbioni, E.; Pietra, R. 1986 American Journal of Industrial Medicine 9:567-575				

Thallium
7440-28-0
Tl
AtW 204.37, MP 303.5 C, BP 1457 C, VP 1 mm Hg at 825 C, 10 mm Hg at 1000 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12612 Adrenal gland	1 Ingestion	Not applicable	7.9 mg/kg	Autopsy sample. Death 9 days after accidental ingestion of 1.2 mg as thallous sulfate. 24 yr old white male Nausea, vomiting, ileus paralyticus, hypertension, tachycardia, restlessness, renal failure. Heavy hyperemic and edemic internal organs, lung hemorrhages. AAS
12613 Blood, plasma	1 Ingestion	a) Not given b) Not given c) Not given d) Not given e) Not given	4) 4.5 mg/l b) 4.2 mg/l c) 4.8 mg/l d) 4.5 mg/l e) 5.7 mg/l	a) At start of hemoperfusion, 3 d after accidentally ingesting 1.2 g as thallous sulfate b) End of hemoperfusion c) At start of hemoperfusion/hemodialysis following above d) At end e) At start of hemoperfusion, 4 d after ingestion Death on d 9. 24 yr old white male. Nausea, vomiting, ileus paralyticus, hypertension, tachycardia, restlessness, renal failure. Heavy hyperemic and edemic internal organs, lung hemorrhages. AAS
12614 Hair	1 Ingestion	Not applicable	5.5 mg/kg	Autopsy sample. Death 9 days after accidental ingestion of 1.2 mg as thallous sulfate. 24 yr old white male Nausea, vomiting, ileus paralyticus, hypertension, tachycardia, restlessness, renal failure. Heavy hyperemic and edemic internal organs, lung hemorrhages. AAS

(next page)

Thallium
7440-28-0
Tl
AtW 204.37, MP 303.5 C, BP 1457 C, VP 1 mm Hg at 825 C, 10 mm Hg at 1000 C

(continued)

Tissue	Cases Exposure Route	Range	Mean	General Information
12615 Heart	1 Ingestion	Not applicable	12.7 mg/kg	Autopsy sample. Death 9 days after accidental ingestion of 1.2 mg as thallous sulfate. 24 yr old white male Nausea, vomiting, ileus paralyticus, hypertension, tachycardia, restlessness, renal failure. Heavy hyperemic and edemic internal organs, lung hemorrhages. AAS
12616 Intestine	1 Ingestion	Not applicable	8.2 mg/kg	Autopsy sample. Death 9 days after accidental ingestion of 1.2 mg as thallous sulfate. 24 yr old white male Nausea, vomiting, ileus paralyticus, hypertension, tachycardia, restlessness, renal failure. Heavy hyperemic and edemic internal organs, lung hemorrhages. AAS
12617 Kidney	1 Ingestion	14.4-16.1 mg/kg	15.2 mg/kg	Autopsy sample. Death 9 days after accidental ingestion of 1.2 mg as thallous sulfate. Mean of left and right kidneys. 24 yr old white male Nausea, vomiting, ileus paralyticus, hypertension, tachycardia, restlessness, renal failure. Heavy hyperemic and edemic internal organs, lung hemorrhages. AAS
12618 Lung	1 Ingestion	12.2-13.0 mg/kg	12.6 mg/kg	Autopsy sample. Death 9 days after accidental ingestion of 1.2 mg as thallous sulfate. Mean of left and right lungs. 24 yr old white male Nausea, vomiting, ileus paralyticus, hypertension, tachycardia, restlessness, renal failure. Heavy hyperemic and edemic internal organs, lung hemorrhages. AAS
12619 Pancreas	1 Ingestion	Not applicable	14.3 mg/kg	Autopsy sample. Death 9 days after accidental ingestion of 1.2 mg as thallous sulfate. 24 yr old white male Nausea, vomiting, ileus paralyticus, hypertension, tachycardia, restlessness, renal failure. Heavy hyperemic and edemic internal organs, lung hemorrhages. AAS
12620 Spinal marrow	1 Ingestion	Not applicable	7.8 mg/kg	Autopsy sample. Death 9 days after accidental ingestion of 1.2 mg as thallous sulfate. 24 yr old white male Nausea, vomiting, ileus paralyticus, hypertension, tachycardia, restlessness, renal failure. Heavy hyperemic and edemic internal organs, lung hemorrhages. AAS

(next page)

Thallium
7440-28-0
Tl
AtW 204.37, MP 303.5 C, BP 1457 C, VP 1 mm Hg at 825 C, 10 mm Hg at 1000 C

(continued)

Tissue	Cases Exposure Route	Range	Mean	General Information
12621 Spleen	1 Ingestion	Not applicable	16.6 mg/kg	Autopsy sample. Death 9 days after accidental ingestion of 1.2 mg as thallous sulfate. 24 yr old white male Nausea, vomiting, ileus paralyticus, hypertension, tachycardia, restlessness, renal failure. Heavy hyperemic and edemic internal organs, lung hemorrhages. AAS
12622 Stomach	1 Ingestion	Not applicable	11.1 mg/kg	Autopsy sample. Death 9 days after accidental ingestion of 1.2 mg as thallous sulfate. 24 yr old white male Nausea, vomiting, ileus paralyticus, hypertension, tachycardia, restlessness, renal failure. Heavy hyperemic and edemic internal organs, lung hemorrhages. AAS
12623 Thyroid gland	1 Ingestion	Not applicable	11.4 mg/kg	Autopsy sample. Death 9 days after accidental ingestion of 1.2 mg as thallous sulfate. 24 yr old white male Nausea, vomiting, ileus paralyticus, hypertension, tachycardia, restlessness, renal failure. Heavy hyperemic and edemic internal organs, lung hemorrhages. AAS
12624 Urine	1 Ingestion	a) Not given b) Not given c) Not given d) Not given	a) 27 mg/l b) 39.62 mg/l c) 26 mg/l d) 9 mg/300 l	a) 24 hr excretion, d 4 (mean 1.6 mg/hr) b) d 5 (mean 1.7 mg/hr) c) d 6, first 12 hr (mean 1.7 mg/hr) d) 6, second 12 hr (mean 0.85 mg/hr) Time after accidentally ingesting 1.2 mg as thallous sulfate. Death on d 9. 24 yr old white male. Nausea, vomiting, ileus paralyticus, hypertension, tachycardia, restlessness, renal failure. Heavy hyperemic and edemic internal organs, lung hemorrhages. AAS

BLOOD PLASMA; URINE; HEART; SPLEEN; PANCREAS; THYROID GLANDS; STOMACH; INTESTINES; ADRENAL GLANDS; SPINAL MARROW; HAIR; KIDNEYS; LUNGS; DELIBERATE EXPOSURE; ACCIDENTAL POISONING; METAL POISONING; THALLIUM

de Groot, G.; van Leusen, R.; van Heijst, A.N.P 1985 Veterinary and Human Toxicology 27(2):115-119

Thiocyanic acid, ion(1-) (8 CI); Thiocyanate (9 CI)
302-04-5
C-N-S
MW 58.08

Tissue	Cases Exposure Route	Range	Mean	General Information
12625 Blood, plasma	6	a) Not given b) Not given c) Not given	a) 70.8+/-9.9 umol/L b) 71.8+/-9.9 umol/L c) 70.7+/-10.2 umol/L S.E.	a) After nonsmoking period b) Passive smoking c) Active smoking Pooled values. Exposed in exposure chamber during 2 wk study. 3 subjects smoking for 2 successive days in wk 1, the other 3 smoking for 2 days wk 2. 2 cigarettes (filtered, self-burning, low tar brand)/person/hr. 30 cigarettes smoked during each 5 hr experimental day. Samples in a) collected before study. 21-31 yr old volunteers Urinary mutagenicity highest after active smoking, lowest in nonsmokeing periods Colorimetry

BLOOD PLASMA; DELIBERATE EXPOSURE; ENVIRONMENTAL EXPOSURE; FINLAND; INHALATION; METABOLITES; SMOKE; SMOKING; BLOOD; URINE; HEMOGLOBINS; THIOCYANATES; THIOETHERS

Sorsa, M.; Einisto, P.; Husgafvel-Pursiainen, K.; Jarventaus, H.; Kivisto, H.; Peltonen, Y.; Tuomi, T.; Valkonen, S. 1986 Journal of Toxicology and Environmental Health 16:523-534

Thiocyanic acid, sodium salt
540-72-7
C-N-S.Na
MW 81.08, MP about 300 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12626 Blood, serum	55 Ingestion	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 1.8+/-0.2 mg/l b) 1.8+/-0.1 mg/l c) 1.7+/-0.1 mg/l d) 3.5+/-0.3 mg/l e) 1.8+/-0.2 mg/l f) 3.4+/-0.5 mg/l	a) Before supplementation, 0 wk, 19 cases b) Same cases, 4 wk after daily intake of 250 ml milk with 3.6 mg/l SCN- c) Before supplementation, 0 wk, 18 cases d) Same cases, 4 wk after daily intake of 250 ml milk with 19 mg/l SCN- e) Before supplementation, given 400 mg iodine, 0 wk, 18 cases f) Same cases, 4 wk after 400 mg iodine, then daily intake of 250 ml milk with 19 mg/l SCN-. Goitrous volunteers, 13-17 yr old, 31 males, 24 females in endemic goiter region, El Fasher, Sudan.

URINE; BLOOD SERUM; DELIBERATE EXPOSURE; ADOLESCENTS; SUDAN; NUTRITIONAL DEFICIENCIES; IODINE; THIOCYANATES; BIOACCUMULATION; DIETS; FOOD PRESERVATIVES; FOOD ADDITIVES; HORMONES

Dahlberg, P.-A.; Bergmark, A.; Eltom, M.; Bjorck, L; Claesson, O. 1985 American Journal of Clinical Nutrition 41:1010-1014

Thioether (No postings in CHEMLINE).

C4-H10-S
MW 90.20

Tissue	Cases Exposure Route	Range	Mean	General Information
12627 Urine	5	a) 2.5-5.5 mmol/mol creatinine b) 5-9 mmol/mol creatinine	a) Not given b) Not given	a) Tuesday b) Sunday Metabolite. Occupationally exposed to perchloroethylene in cleaning areas of dry cleaning workshops Monday through Saturday. Air level 15-50 ppm at end of work day. Another subject, deskworker, smoker (>20 cigarettes/d), had 3.6 mmol/mol creatinine as sampled on Wednesday. 30-50 yr old nonsmokers

URINE; OCCUPATIONAL EXPOSURE; INDUSTRIAL CHEMICALS; CHLORINE ORGANIC COMPOUNDS; THIOETHERS; BIOACCUMULATION; FUMES; HEALTH HAZARDS; INDUSTRIES; METABOLITES; OCCUPATIONAL HAZARDS; SMOKING

Lafuente, A.; Mallol, J. 1986 British Journal of Industrial Medicine 43:68-69

Tissue	Cases Exposure Route	Range	Mean	General Information
12628 Urine	6	a) Not given b) Not given c) Not given	a) 6.0+/-0.8 mmol/mL b) 6.4+/-0.5 mmol/mL c) 6.3+/-0.3 mmol/mL S.E.	a) After nonsmoking period b) Passive smoking c) Active smoking Pooled values. Exposed in exposure chamber during 2 wk study. b), c) sampled after 3 hr morning and 2 hr afternoon periods. 3 subjects smoking for 2 successive days in wk 1, the other 3 smoking for 2 days wk 2. 2 cigarettes (filtered, self-burning, low tar brand)/person/hr. 30 cigarettes smoked during each experimental day. Samples in a) collected before study. 21-31 yr old volunteers Urinary mutagenicity highest after active smoking, lowest in nonsmokeing periods

BLOOD PLASMA; DELIBERATE EXPOSURE; ENVIRONMENTAL EXPOSURE; FINLAND; INHALATION; METABOLITES; SMOKE; SMOKING; BLOOD; URINE; HEMOGLOBINS; THIOCYANATES; THIOETHERS

Sorsa, M.; Einisto, P.; Husgafvel-Pursiainen, K.; Jarventaus, H.; Kivisto, H.; Peltonen, Y.; Tuomi, T.; Valkonen, S. 1986 Journal of Toxicology and Environmental Health 16:523-534

Thorium

7440-29-1
Th
AtW 232.0381, MP 1842 + or - 30 C (also reported as 1690 and 1750 C)

Tissue	Cases Exposure Route	Range	Mean	General Information
12629 Bronchoalveolar lavage	1	Not applicable	8.2 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old NA

BRONCHOALVEOLAR LAVAGE; NAILS; OCCUPATIONAL EXPOSURE; CASE HISTORIES; PNEUMOCONIOSIS; OCCUPATIONAL DISEASES; RESPIRATORY DISEASES; LAVAGE; CERIUM; LANTHANUM; TERBIUM; YTTERBIUM; SILVER; ARSENIC; GOLD; CADMIUM; COBALT; CHROMIUM; CESIUM; IRON; MERCURY; INDIUM; IRIDIUM; MOLYBDENUM; NICKEL; RUBIDIUM; ANTIMONY; SCANDIUM; SELENIUM; TIN; THORIUM; URANIUM; ZINC; TRACE ELEMENTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; SMOKING

Sulotto, F.; Romano, C.; Berra, A.; Botta, G.C.; Rubino, G.F.; Sabbioni, E.; Pietra, R. 1986 American Journal of Industrial Medicine 9:567-575

Tin
7440-31-5
Sn
AtW 118.69, MP 231.9 C, BP 2507 C, VP 1 mm Hg at 1610 C, 10 mm Hg at 1890 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12630 Bronchoalveolar lavage	1	Not applicable	100 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old NA

BRONCHOALVEOLAR LAVAGE; NAILS; OCCUPATIONAL EXPOSURE; CASE HISTORIES; PNEUMOCONIOSIS; OCCUPATIONAL DISEASES; RESPIRATORY DISEASES; LAVAGE; CERIUM; LANTHANUM; TERBIUM; YTTERBIUM; SILVER; ARSENIC; GOLD; CADMIUM; COBALT; CHROMIUM; CESIUM; IRON; MERCURY; INDIUM; IRIDIUM; MOLYBDENUM; NICKEL; RUBIDIUM; ANTIMONY; SCANDIUM; SELENIUM; TIN; THORIUM; URANIUM; ZINC; TRACE ELEMENTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; SMOKING

Sulotto, F.; Romano, C.; Berra, A.; Botta, G.C.; Rubino, G.F.; Sabbioni, E.; Pietra, R. 1986 American Journal of Industrial Medicine 9:567-575

Tissue	Cases Exposure Route	Range	Mean	General Information
12631 Hair	a) 1 b) 1	a) 1.0-19 ppm b) 0-11 ppm	a) 6.49+/-5.84 ppm b) 3.25+/-3.61 ppm	a) Subject 1 b) Subject 2 Samples sent to 13 commercial laboratories for analysis. Values here are combined from all. Considerable variance within same laboratory, among different laboratories and disagreement about what was "normal" or "unusual". Authors conclude commercial use of hair analysis for management of disease, nutrition unscientific, uneconomical, probably illegal.

HAIR; ALUMINUM; ARSENIC; BERYLLIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; GOLD; IRON; LEAD; LITHIUM; MAGNESIUM; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; RUBIDIUM; SELENIUM; SILICON; SODIUM; TIN; VANADIUM; ZINC; ELEMENTS; TRACE ELEMENTS; METALS

Barrett, S. 1985 Journal of the American Medical Association 254(8):1041-1045

Tissue	Cases Exposure Route	Range	Mean	General Information
12632 Hair	a) 92 b) 55 c) 46 d) 457 e) 255	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 0.29 ppm b) 0.31 ppm c) 0.28 ppm d) 0.39 ppm e) 0.19 ppm	a) Canada b) U.S.A. c) Poland d) Japan e) India Part of international survey of 21 elements. Japanese, 2-80 yr olds. Rest were 30-60 yr old. AAS

ENVIRONMENTAL EXPOSURE; HAIR; CANADA; UNITED STATES; POLAND; JAPAN; INDIA; MAGNESIUM; CALCIUM; PHOSPHORUS; SODIUM; POTASSIUM; IRON; COPPER; MANGANESE; ZINC; SELENIUM; CHROMIUM; NICKEL; COBALT; VANADIUM; LEAD; CADMIUM; ALUMINUM; ANTIMONY; MERCURY; TIN; ARSENIC; AGE; SEX; COMPARATIVE EVALUATIONS

Takagi, Y.; Matsuda, S.; Imai, S.; Ohmori, Y.; Masuda, T.; Vinson, J.A.; Mehra, M.C.; Puri, B.K.; Kaniewski, A. 1986 Bulletin of Environmental Contamination and Toxicology 36:793-800

Tin
7440-31-5
Sn
AtW 118.69, MP 231.9 C, BP 2507 C, VP 1 mm Hg at 1610 C, 10 mm Hg at 1890 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12633 Urine				Review. Levels of methyl tin, dimethyl tin, and trimethyl tin were measured (as Sn) in natural waters and biological materials. Metal-organic interactions of significance in environmental pollution were studied in industrially important chemicals such as Cu, Hg, As, Sn, Pb, Au, and Pt.

REVIEW; URINE; ENVIRONMENTAL EXPOSURE; TIN; METALS; WATER POLLUTION
Dissanayake, C.B. 1983 International Journal of Environmental Studies 22:25-42

Toluene (8 CI); Benzene, methyl- (9 CI)
108-88-3
C7-H8
MW 92.13, MP -95 to -94.5 C, BP 110.6 C, VP 36.7 mm Hg at 30 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12634 Blood	27 Inhalation	9.9+/-1.3-37.3+/-19.6 ug/l	22.5+/-20.6 ug/l	Spraymen varnishing vehicles. Alkyl-, phenol- and polyester varnishes dissolved in solvent mixtures. Range of means. Also measured phenolic and carbonic metabolites of alkylbenzenes and benzene in urine. Not detected in 8 additional workers in one area, detection limits not given. From a group of 24-52 yr olds (mean 38.8) employed 2-24 yr (mean 8.2). Summer, Autumn 1983 Altered blood cell counts, decreased hemoglobin level GC

OCCUPATIONAL EXPOSURE; BLOOD; URINE; OCCUPATIONAL HAZARDS; INHALATION; SOLVENTS; LEAD
Angerer, J.; Wulf, H. 1985 International Archives of Occupational and Environmental Health 56:307-321

Tissue	Cases Exposure Route	Range	Mean	General Information
12635 Blood	35 Inhalation	0.09-3.13 mg/l	1.55+/-0.84 mg/l	End of 8 hr shift. Mean air level 140 ppm (ambient monitoring). Average external exposure estimated at about 90 ppm. 23-57 (mean 43.7+/-9.2) yr old printing workers, duration of employment 2-30 (mean 22.9+/-14.7) yr GC

BLOOD; URINE; OCCUPATIONAL EXPOSURE; PHENOLS; INDUSTRIAL CHEMICALS; TOLUENE; BIOACCUMULATION; BIOLOGICAL MONITORING; HEALTH HAZARDS; INDUSTRIES; INHALATION; METABOLITES; OCCUPATIONAL HAZARDS; PRINTING INDUSTRY
Angerer, J. 1985 International Archives of Occupational and Environmental Health 56:323-328

Toluene (8 CI); Benzene, methyl- (9 CI)
108-88-3
C7-H8
MW 92.13, MP -95 to -94.5 C, BP 110.6 C, VP 36.7 mm Hg at 30 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12636 Blood	Inhalation	a) 89-765 ug/L b) 9-66 ug/L	a) 412+/-158 ug/L b) 27.5+/-12.7 ug/L	a) End of workshift, 66 cases. Mean environmental level during shift 146+/-42 ug/L (for 46 cases) b) Morning after workshift, in plant infirmary. 52 cases. Environmental level 4.0+/-3.2 ug/L Good correlation between b) and a), r=0.52, p<0.001. Levels in b) suggest incomplete elimination of previous day's absorption. Industrial workers GC

BREATH; BLOOD; OCCUPATIONAL EXPOSURE; INDUSTRIAL CHEMICALS; TOLUENE; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIES; INHALATION; OCCUPATIONAL HAZARDS; PRINTING INDUSTRY
Brugnone, F.; De Rosa, E.; Perbellini, L.; Bartolucci, G.B. 1986 British Journal of Industrial Medicine 43:56-61

Tissue	Cases Exposure Route	Range	Mean	General Information
12637 Blood				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982). GC

URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES
Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983

Tissue	Cases Exposure Route	Range	Mean	General Information
12638 Blood, whole	250	a) 0.2-38 ng/mL b) Not given c) 0.8-0.9 ng/mL	a) 1.5 ng/mL b) 2.0 ng/mL c) Not given	a) Cases, test populations screened for volatile organics. In 3 cases, levels were >2 S.D. above the mean, thus, most specimens not significantly different from one another b) 16 workers occupationally exposed at wire-manufacturing company c) Patient drinking contaminated water from municipal well in 1981. Contaminants included trichloroethane, ethylene. Range is of measurements on day 67 and day 0 after ceasing to drink contaminated water Values in b), c) estimated from graphs. Patients with high sensitivity to synthetic chemicals GC/MS

BLOOD; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; CHLORINATED HYDROCARBONS; BENZENES; STYRENES; INDUSTRIAL CHEMICALS; TOLUENE; XYLENE; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; WATER POLLUTION; DRINKING WATER
Antoine, S.R.; DeLeon, I.R.; O'dell-Smith, R.M. 1986 Bulletin of Environmental Contamination and Toxicology 36:364-371

Toluene (8 CI); Benzene, methyl- (9 CI)
108-88-3
C7-H8
MW 92.13, MP -95 to -94.5 C, BP 110.6 C, VP 36.7 mm Hg at 30 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12639 Breath	Inhalation	a) 21-134 ug/L b) 0.5-7 ug/L	a) 72.0+/-24.9 ug/L b) 3.2+/-1.7 ug/L	a) End of workshift, >100 cases. Simultaneous environmental level 201+/-53 ug/L b) Morning after workshift, in plant infirmary. 52 cases. Environmental level 4.0+/-3.2 ug/L Alveolar air. Levels in a) correlated (r=0.52) with mean environmental level of 146 ug/L measured continuously during shift for 46 cases. Levels in b) suggest incomplete elimination of previous day's absorption. Additional data on instantaneous sampling of environmental and alveolar air during workshift. Industrial workers GC

BREATH; BLOOD; OCCUPATIONAL EXPOSURE; INDUSTRIAL CHEMICALS; TOLUENE; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIES; INHALATION; OCCUPATIONAL HAZARDS; PRINTING INDUSTRY
Brugnone, F.; De Rosa, E.; Perbellini, L.; Bartolucci, G.B. 1986 British Journal of Industrial Medicine 43:56-61

Tissue	Cases Exposure Route	Range	Mean	General Information
12640 Urine				Review. The occurrence and analysis of priority toxic pollutants in human urine, covering the ten-year period 1973-1983, is discussed.

URINE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; DELIBERATE EXPOSURE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PHTHALLIC ACIDS; PHENOLS; BIOACCUMULATION; PESTICIDES
Fatiadi, A.J. 1984 Environment International 10:175-205

Toluene, ar,ar-dinitro- (8 CI); Benzene, methyldinitro- (9 CI)
25321-14-6
C7-H6-N2-O4
MW 182.14, MP 71 C, BP 300 C, VP 1 mm Hg at 20 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12641 Blood, plasma	5	a) <10-<10 ng/ml b) 20-90 ng/ml c) 70-250 ng/ml	a) <10 ng/ml b) 56+/-34 ng/ml c) 138+/-71 ng/ml	a) Prior to work shift b) Mid-shift c) End-of-shift Total included 2,4- and 2,6-isomers. Major routes dermal, and inhalation. Workers in an explosives factory. Headache, fatigue, vertigo, moderate cyanosis Anemia GC-EC

URINE; BLOOD PLASMA; OCCUPATIONAL EXPOSURE; ADULTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; INDUSTRIAL PLANTS; INDUSTRIES
Woollen, B.H.; Hall, M.G.; Craig, R.; Steel, G.T. 1985 International Archives of Occupational and Environmental Health 55:319-330

Toluene, ar,ar-dinitro- (8 CI); Benzene, methyldinitro- (9 CI)
25321-14-6
C7-H6-N2-O4
MW 182.14, MP 71 C, BP 300 C, VP 1 mm Hg at 20 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12642 Urine	a) 3 b) 10 c) 4	a) 0.38-1.65 nmol/mg creatinine b) 0.04-64.97 nmol/mg creatinine c) 0.08-1.67 nmol/mg creatinine	a) 0.86 nmol/mg creatinine b) 14.42 nmol/mg creatinine c) 0.63 nmol/mg creatinine	a) Maintenance workers b) Production workers c) Office workers Metabolites, primarily from 2,4-DNT (rest from 2,6- and others). a), b) exposed on 3 days to 76.4% 2,4-/18.8% 2,6-, maximum estimated 1-d exposure 0.24-1.0 mg/kg body wt. Exposure to group c) unknown. Additional data on individual metabolites, by worker and work shift. Calculated means. Manufacturing plant employees GC; GC/MS

URINE; OCCUPATIONAL EXPOSURE; TOLUENE; BIOACCUMULATION; INDUSTRIES; METABOLITES; OCCUPATIONAL HAZARDS
Levine, R.J.; Turner, M.J.; Crume, Y.S.; Dale, M.E.; Starr, T.B.; Rickert, D.E. 1985 Journal of Occupational Medicine 27(9):627-638

Transferrins
11096-37-0
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
12643 Blood, serum	a) 71 b) 45 Ingestion	a) Not given b) Not given	a) 266.1+/-43.3 mg/dl b) 301.7+/-35.9 mg/dl	a) Controls, never used contraceptive steroids b) Oral contraceptive agent (OCA) users, continuous for 3 or more yr Blood samples taken mid-menstrual cycle. Dietary Fe 13.2+/-5.1 mg/d (Controls) or 13.5+/-4.1 mg/d (OCA users). OCA users had short menstrual cycles, less loss of blood, enhanced iron status. Significant difference, $p<0.001$. Healthy volunteers, 17.7-25.9 yr old. Immunodiffusion

BLOOD SERUM; ADULTS; CALIFORNIA; IRON; ORAL CONTRACEPTIVES; BIOACCUMULATION; DIETS; MENSTRUATION
Frassinelli-Gunderson, E.P.; Margen, S.; Brown, J.R. 1985 American Journal of Clinical Nutrition 41:703-712

Tremolite (8 CI); Tremolite [Ca2Mg5H2(SiO3)8] (9 CI)
14567-73-8
Ca.4H2-O3-Si.5/2Mg
MW 185.03

Tissue	Cases Exposure Route	Range	Mean	General Information
12644 Lung	a) 20 b) 21 c) 20	a) 0-1.2X10(E+6) fibers/g b) 0.1-20X10(E+6) fibers/g c) 4-2,260X10(E+6) fibers/g Dry wt	a) 0.4X10IE+6) fibers/g b) 3.3X10(E+6) fibers/g c) 221X10(E+6) fibers/g Dry wt	a) Controls, general population, Vancouver. No occupational dust exposures b) Processors of various chrysotile ore types c) Long-term chrysotile miners, Quebec Data on fiber sizes and levels by specific occupation also given. Autopsy data. Unexposed controls. Workers whose occupations were involved with shipyards, insulation, brakes, textiles, manufacturing, mining. Canada In processed-ore-exposed cases: mesothelioma (12), asbestosis (1), lung cancer (6), myocardial infarct (1)
OCCUPATIONAL EXPOSURE; ASBESTOS; LUNGS; CANADA; NEOPLASMS; AUTOPSIES; OCCUPATIONAL HAZARDS; FIBERS; DUST Churg, A.; Wiggs, B. 1986 American Journal of Industrial Medicine 9:143-152				

Triacontane
638-68-6
C30-H62

Tissue	Cases Exposure Route	Range	Mean	General Information
12645 Aorta	2	a) 40 ppb-not detected b) Not detected	a) Not applicable b) Not applicable	a) Case 1 b) Case 2 Fractions 1 and 2, respectively, for each case. Artherosclerotic placque dissected from aortas at autopsy. Semiquantitative analysis. Reported as ppb in anthracene-d(10) equivalents. 65 yr old coronary thrombosis victim, 79 yr old suicide victim with severe heart disease GC/MS
AORTA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; BIOACCUMULATION; PESTICIDE RESIDUES; CHLORINE ORGANIC COMPOUNDS; BENZENES; HEXACHLOROBENZENE; CHLOROBENZENES Ferrario, J.B.; DeLeon, I.R.; Tracy, R.E. 1985 Archives of Environmental Contamination and Toxicology 14:529-534				

Trichothec-9-ene-3alpha,4beta,15-triol, 12,13-epoxy-, 4,15-diacetate (8 CI); Trichothec-9-ene-3,4,15-triol, 12,13-epoxy-, 4,15-diacetate, (3alpha,4beta)- (9 CI)
2270-40-8
C19-H26-O7

Tissue	Cases Exposure Route	Range	Mean	General Information
12646 Kidney	1 Inhalation	Not applicable	2.55 ppm	Victim admitted to field hospital 3/11/82. Recurrent falciparum malaria suspected, treatment included quinine, penicillin, and IV fluids. Histological features and toxicologic studies eliminated death by malaria, viral hepatitis, or nutritional disorders. Pattern of injury indicated death resulted from direct effects of toxic agents. Khmer Rouge soldier exposed to chemical warfare attack 9/19/81, died 3/16/82. Fever, cough, hemoptysis, anuria, jaundice Detailed gross and microscopic examination of heart, stomach, liver, kidney, small intestine, and lung. Aberrations and/or necrosis noted in each tissue. GC/MS
KIDNEYS; STOMACH; LUNGS; INTESTINES; HEART; LIVER; DELIBERATE EXPOSURE; ADULTS; KAMPUCHEA; CASE HISTORIES; AUTOPSIES; AFLATOXINS; BIOACCUMULATION; HEALTH HAZARDS; POPULATION EXPOSURE; MYCOTOXINS; CHEMICAL WARFARE; ASIA Stahl, C.J.; Green, C.C.; Farnum, J.B. 1985 Journal of Forensic Sciences 30(3):317-337				

Trichothec-9-ene-3alpha,4beta,8alpha,15-tetrol, 12,13-epoxy-, 15-acetate 8-isovalerate (8 CI); Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 15-acetate 8-(3-methylbutanoate), (3alpha,4beta,8alpha)- (9 CI)
26934-87-2
C22-H32-O8

Tissue	Cases Exposure Route	Range	Mean	General Information
12647 Heart	1 Inhalation	Not applicable	1.2 ppm	Victim admitted to field hospital 3/11/82. Recurrent falciparum malaria suspected, treatment included quinine, penicillin, and IV fluids. Histological features and toxicologic studies eliminated death by malaria, viral hepatitis, or nutritional disorders. Pattern of injury indicated death resulted from direct effects of toxic agents. Khmer Rouge soldier exposed to chemical warfare attack 9/19/81, died 3/16/82. Fever, cough, hemoptysis, anuria, jaundice Detailed gross and microscopic examination of heart, stomach, liver, kidney, small intestine, and lung. Aberrations and/or necrosis noted in each tissue. GC/MS
12648 Intestine	1 Inhalation	Not applicable	9.6 ppb	Victim admitted to field hospital 3/11/82. Recurrent falciparum malaria suspected, treatment included quinine, penicillin, and IV fluids. Histological features and toxicologic studies eliminated death by malaria, viral hepatitis, or nutritional disorders. Pattern of injury indicated death resulted from direct effects of toxic agents. Khmer Rouge soldier exposed to chemical warfare attack 9/19/81, died 3/16/82. Fever, cough, hemoptysis, anuria, jaundice Detailed gross and microscopic examination of heart, stomach, liver, kidney, small intestine, and lung. Aberrations and/or necrosis noted in each tissue. GC/MS

(next page)

Trichothec-9-ene-3alpha,4beta,8alpha,15-tetrol, 12,13-epoxy-, 15-acetate 8-isovalerate (8 CI); Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 15-acetate 8-(3-methylbutanoate), (3alpha,4beta,8alpha)- (9 CI)
26934-87-2
C22-H32-O8

(continued)

Tissue	Cases Exposure Route	Range	Mean	General Information
12649 Stomach	1 Inhalation	Not applicable	4.02 ppm	Victim admitted to field hospital 3/11/82. Recurrent falciparum malaria suspected, treatment included quinine, penicillin, and IV fluids. Histological features and toxicologic studies eliminated death by malaria, viral hepatitis, or nutritional disorders. Pattern of injury indicated death resulted from direct effects of toxic agents. Khmer Rouge soldier exposed to chemical warfare attack 9/19/81, died 3/16/82. Fever, cough, hemoptysis, anuria, jaundice Detailed gross and microscopic examination of heart, stomach, liver, kidney, small intestine, and lung. Aberrations and/or necrosis noted in each tissue. GC/MS

KIDNEYS; STOMACH; LUNGS; INTESTINES; HEART; LIVER; DELIBERATE EXPOSURE; ADULTS; KAMPUCHEA; CASE HISTORIES; AUTOPSIES; AFLATOXINS; BIOACCUMULATION; HEALTH HAZARDS; POPULATION EXPOSURE; MYCOTOXINS; CHEMICAL WARFARE; ASIA

Stahl, C.J.; Green, C.C.; Farnum, J.B. 1985 Journal of Forensic Sciences 30(3):317-337

Trichothec-9-ene-3alpha,4beta,8alpha,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-isovalerate (8 CI); Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3alpha,4beta,8alpha)- (9 CI)
21259-20-1
C24-H34-O9
MW 466.58, MP 151-152 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12650 Intestine	1 Inhalation	Not applicable	88.0 ppb	Victim admitted to field hospital 3/11/82. Recurrent falciparum malaria suspected, treatment included quinine, penicillin, and IV fluids. Histological features and toxicologic studies eliminated death by malaria, viral hepatitis, or nutritional disorders. Pattern of injury indicated death resulted from direct effects of toxic agents. Khmer Rouge soldier exposed to chemical warfare attack 9/19/81, died 3/16/82. Fever, cough, hemoptysis, anuria, jaundice Detailed gross and microscopic examination of heart, stomach, liver, kidney, small intestine, and lung. Aberrations and/or necrosis noted in each tissue. GC/MS

(next page)

Trichothec-9-ene-3alpha,4beta,8alpha,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-isovalerate (8 CI); Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3alpha,4beta,8alpha)- (9 CI)
21259-20-1
C24-H34-O9
MW 466.58, MP 151-152 C

(continued)

Tissue	Cases Exposure Route	Range	Mean	General Information
12651 Kidney	1 Inhalation	Not applicable	6.8 ppb	Victim admitted to field hospital 3/11/82. Recurrent falciparum malaria suspected, treatment included quinine, penicillin, and IV fluids. Histological features and toxicologic studies eliminated death by malaria, viral hepatitis, or nutritional disorders. Pattern of injury indicated death resulted from direct effects of toxic agents. Khmer Rouge soldier exposed to chemical warfare attack 9/19/81, died 3/16/82. Fever, cough, hemoptysis, anuria, jaundice Detailed gross and microscopic examination of heart, stomach, liver, kidney, small intestine, and lung. Aberrations and/or necrosis noted in each tissue. GC/MS
12652 Lung	1 Inhalation	Not applicable	8.5 ppb	Victim admitted to field hospital 3/11/82. Recurrent falciparum malaria suspected, treatment included quinine, penicillin, and IV fluids. Histological features and toxicologic studies eliminated death by malaria, viral hepatitis, or nutritional disorders. Pattern of injury indicated death resulted from direct effects of toxic agents. Khmer Rouge soldier exposed to chemical warfare attack 9/19/81, died 3/16/82. Fever, cough, hemoptysis, anuria, jaundice Detailed gross and microscopic examination of heart, stomach, liver, kidney, small intestine, and lung. Aberrations and/or necrosis noted in each tissue. GC/MS
12653 Stomach	1 Inhalation	Not applicable	25.1 ppb	Victim admitted to field hospital 3/11/82. Recurrent falciparum malaria suspected, treatment included quinine, penicillin, and IV fluids. Histological features and toxicologic studies eliminated death by malaria, viral hepatitis, or nutritional disorders. Pattern of injury indicated death resulted from direct effects of toxic agents. Khmer Rouge soldier exposed to chemical warfare attack 9/19/81, died 3/16/82. Fever, cough, hemoptysis, anuria, jaundice Detailed gross and microscopic examination of heart, stomach, liver, kidney, small intestine, and lung. Aberrations and/or necrosis noted in each tissue. GC/MS

KIDNEYS; STOMACH; LUNGS; INTESTINES; HEART; LIVER; DELIBERATE EXPOSURE; ADULTS; KAMPUCHEA; CASE HISTORIES; AUTOPSIES; AFLATOXINS; BIOACCUMULATION; HEALTH HAZARDS; POPULATION EXPOSURE; MYCOTOXINS; CHEMICAL WARFARE; ASIA

Stahl, C.J.; Green, C.C.; Farnum, J.B. 1985 Journal of Forensic Sciences 30(3):317-337

Uranium
7440-61-1
U
AtW 238.029, MP 1132 C, BP 3818 C, VP 100 mm Hg at 3270 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12654 Bone	7	a) 0.73+/-0.15-0.92+/-0.18 ppb b) 0.54+/-0.07-1.33+/-0.17 ppb c) 0.32+/-0.06-0.88+/-0.13 ppb Wet wt	a) 0.85 ppb b) 0.83 ppb c) 0.56 ppb Wet wt	a) Skull, 2 males, 1 female b) Rib, 4 males, 3 females c) Femur, 4 males, 3 females. Tokyo, Japan, ages 37-94 yr Fission track method
12655 Brain	2	0.14-0.16 ppb Wet wt	0.15 ppb Wet wt	Cerebrum. Autopsy samples. Order of mean levels in different tissues: lung>bone>heart/muscle>kidney>liver/spleen, different from description in 1982 UNSCEAR Report. Tokyo, Japan Fission track method

ENVIRONMENTAL EXPOSURE; URANIUM; LUNGS; LIVER; KIDNEYS; MUSCLES; SPLEEN; HEART; BRAIN; BONES; JAPAN; AUTOPSIES; RADIONUCLIDES; RADIOISOTOPES
Igarashi, Y.; Yamakawa, A.; Seki, R.; Ikeda, N. 1985 Health Physics 49(5):707-712

Tissue	Cases Exposure Route	Range	Mean	General Information
12656 Bronchoalveolar lavage	1	Not applicable	1.6 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old NA

BRONCHOALVEOLAR LAVAGE; NAILS; OCCUPATIONAL EXPOSURE; CASE HISTORIES; PNEUMOCONIOSIS; OCCUPATIONAL DISEASES; RESPIRATORY DISEASES; LAVAGE; CERIUM; LANTHANUM; TERBIUM; YTTERBIUM; SILVER; ARSENIC; GOLD; CADMIUM; COBALT; CHROMIUM; CESIUM; IRON; MERCURY; INDIUM; IRIDIUM; MOLYBDENUM; NICKEL; RUBIDIUM; ANTIMONY; SCANDIUM; SELENIUM; TIN; THORIUM; URANIUM; ZINC; TRACE ELEMENTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; SMOKING
Sulotto, F.; Romano, C.; Berra, A.; Botta, G.C.; Rubino, G.F.; Sabbioni, E.; Pietra, R. 1986 American Journal of Industrial Medicine 9:567-575

Tissue	Cases Exposure Route	Range	Mean	General Information
12657 Heart	4	0.29-0.86 ppb Wet wt	0.49 ppb Wet wt	Autopsy samples. Order of mean levels in different tissues: lung>bone>heart/muscle>kidney>liver/spleen, different from description in 1982 UNSCEAR Report. Tokyo, Japan Fission track method
12658 Kidney	10	0.12-0.80 ppb Wet wt	0.34 ppb Wet wt	Autopsy samples. Order of mean levels in different tissues: lung>bone>heart/muscle>kidney>liver/spleen, different from description in 1982 UNSCEAR Report. Tokyo, Japan Fission track method

(next page)

Uranium
7440-61-1
U
AtW 238.029, MP 1132 C, BP 3818 C, VP 100 mm Hg at 3270 C

(continued)

Tissue	Cases Exposure Route	Range	Mean	General Information
12659 Liver	11	0.09-0.42 ppb Wet wt	0.24 ppb Wet wt	Autopsy samples. Order of mean levels in different tissues: lung>bone>heart/muscle>kidney>liver/spleen, different from description in 1982 UNSCEAR Report. Tokyo, Japan Fission track method
12660 Lung	11	0.23-5.10 ppb Wet wt	1.70 ppb Wet wt	Autopsy samples. Order of mean levels in different tissues: lung>bone>heart/muscle>kidney>liver/spleen, different from description in 1982 UNSCEAR Report. Tokyo, Japan Fission track method
12661 Muscle	11	0.15-1.16 ppb Wet wt	0.43 ppb Wet wt	Autopsy samples. Order of mean levels in different tissues: lung>bone>heart/muscle>kidney>liver/spleen, different from description in 1982 UNSCEAR Report. Tokyo, Japan Fission track method
12662 Spleen	5	0.03-0.16 ppb Wet wt	0.13 ppb Wet wt	Autopsy samples. Order of mean levels in different tissues: lung>bone>heart/muscle>kidney>liver/spleen, different from description in 1982 UNSCEAR Report. Tokyo, Japan Fission track method

ENVIRONMENTAL EXPOSURE; URANIUM; LUNGS; LIVER; KIDNEYS; MUSCLES; SPLEEN; HEART; BRAIN; BONES; JAPAN; AUTOPSIES; RADIONUCLIDES; RADIOISOTOPES
Igarashi, Y.; Yamakawa, A.; Seki, R.; Ikeda, N. 1985 Health Physics 49(5):707-712

Tissue	Cases Exposure Route	Range	Mean	General Information
12663 Urine	3			Review. Medical, health-physics aspects of cases in which individuals exposed in UF6 release in 1944. In followup studies, excretion patterns suggest retention explainable by presence of pulmonary edema.

URANIUM; URINE; *OCCUPATIONAL EXPOSURE*; *REVIEW*
Moore, R.H.; Kathren, R.L. 1985 Journal of Occupational Medicine 27(10):753-756

Vanadium
7440-62-2
V
AtW 50.9414, MP 1917 C, BP 3000 C, VP 1 mm Hg at 2290 C, 10 mm Hg at 2570 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12664 Blood, whole	a) 10 b) 10	a) Not given b) Not given	a) 0.0092+/-0.0024 ug/ml b) 0.0114+/-0.0026 ug/ml	a) Patients with multiple sclerosis b) Controls Significant difference, borderline. Patients and controls, matched for sex and age. NA
12665 Hair	a) 10 b) 10	a) Not given b) Not given	a) 0.0144+/-0.0068 ug/g b) 0.0288+/-0.009 ug/g	a) Patients with multiple sclerosis b) Controls Significant difference. Patients and controls, matched for sex and age. NA

BLOOD; HAIR; ENVIRONMENTAL EXPOSURE; UNITED KINGDOM; NEUROMUSCULAR DISEASES; TRACE ELEMENTS; BIOACCUMULATION; BIOINDICATORS; ALUMINUM; ANTIMONY; ARSENIC; BARIUM; BROMINE; CESIUM; GOLD; IODINE; MANGANESE; MOLYBDENUM; SELENIUM; VANADIUM; ZINC; COPPER; IRON; MAGNESIUM; POTASSIUM; SULFUR
Ward, N.I.; Bryce-Smith, D.; Minski, M.; Matthews, W.B. 1985 Biological Trace Element Research 7:153-159

Tissue	Cases Exposure Route	Range	Mean	General Information
12666 Hair	a) 1 b) 1	a) 0.04-0.6 ppm b) 0.06-0.80 ppm	a) 0.26+/-0.15 ppm b) 0.24+/-0.20 ppm	a) Subject 1 b) Subject 2 Samples sent to 13 commercial laboratories for analysis. Values here are combined from all. Considerable variance within same laboratory, among different laboratories and disagreement about what was "normal" or "unusual". Authors conclude commercial use of hair analysis for management of disease, nutrition unscientific, uneconomical, probably illegal.

HAIR; ALUMINUM; ARSENIC; BERYLLIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; GOLD; IRON; LEAD; LITHIUM; MAGNESIUM; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; RUBIDIUM; SELENIUM; SILICON; SODIUM; TIN; VANADIUM; ZINC; ELEMENTS; TRACE ELEMENTS; METALS
Barrett, S. 1985 Journal of the American Medical Association 254(8):1041-1045

Tissue	Cases Exposure Route	Range	Mean	General Information
12667 Hair	a) 92 b) 55 c) 46 d) 457 e) 255	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 0.16 ppm b) 0.17 ppm c) 0.056 ppm d) 0.081 ppm e) 0.14 ppm	a) Canada b) U.S.A. c) Poland d) Japan e) India Part of international survey of 21 elements. Japanese, 2-80 yr olds. Rest were 30-60 yr old. ES

ENVIRONMENTAL EXPOSURE; HAIR; CANADA; UNITED STATES; POLAND; JAPAN; INDIA; MAGNESIUM; CALCIUM; PHOSPHORUS; SODIUM; POTASSIUM; IRON; COPPER; MANGANESE; ZINC; SELENIUM; CHROMIUM; NICKEL; COBALT; VANADIUM; LEAD; CADMIUM; ALUMINUM; ANTIMONY; MERCURY; TIN; ARSENIC; AGE; SEX; COMPARATIVE EVALUATIONS
Takagi, Y.; Matsuda, S.; Imai, S.; Ohmori, Y.; Masuda, T.; Vinson, J.A.; Mehra, M.C.; Puri, B.K.; Kaniewski, A. 1986 Bulletin of Environmental Contamination and Toxicology 36:793-800

Vitamin A
11103-57-4
EXACT COMPOSITION UNKNOWN OR UNDETERMINED

Tissue	Cases Exposure Route	Range	Mean	General Information
12668 Blood, serum	102	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 426 ug/l b) 579 ug/l c) 508 ug/l d) 507 ug/l e) 508 ug/l f) 495 ug/l g) 483 ug/l h) 524 ug/l	a) Male smokers who died of cancer, patients, 16 cases b) Male smokers, control, no cancer, 16 cases c) Male non-smokers, patients, 14 cases d) Male non-smokers, controls, 14 cases e) Females, patients, 21 cases f) Females, controls, 21 cases g) All patients, 51 cases h) All controls, 51 cases Samples taken during Eastern Finland Heart Survey, 1977 and stored at 20 deg C until analysis, 4/84. Patients and controls matched for age, sex and smoking. Patients died of cancer prior to 12/31/80. Significant difference a) from b), $p<0.01$. 30-64 yr olds in 1977, North Karelia and Kuopio, Finland. HPLC

BLOOD SERUM; FINLAND; NEOPLASMS; SELENIUM; VITAMIN A; VITAMIN E; BIOLOGICAL MONITORING
Salonen, J.R.; Salonen, R.; Lappetelainen, R.; Maenpaa, P.H.; Alfthan, G.; Puska, P. 1985 British Medical Journal 290(6466):417-420

Xylene (8 CI); Benzene, dimethyl- (9 CI)
1330-20-7
C8-H10
MW 106.18, BP 137-140 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12669 Blood, whole	250	a) 0.5-160 ng/mL b) Not given c) 1.1-2.5 ng/mL	a) 5.2 ng/mL b) 32.0 ng/mL c) Not given	a) Cases, test populations screened for volatile organics. In 7 cases, levels were >2 S.D. above the mean, thus, most specimens not significantly different from one another b) 16 workers occupationally exposed at wire-manufacturing company c) Patient drinking contaminated water from municipal well in 1981. Contaminants included trichloroethane, ethylene. Range is of measurements on day 67 and day 0 after ceasing to drink contaminated water Values in b), c) estimated from graphs. Patients with high sensitivity to synthetic chemicals GC/MS

BLOOD; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; CHLORINATED HYDROCARBONS; BENZENES; STYRENES; INDUSTRIAL CHEMICALS; TOLUENE; XYLENE; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; WATER POLLUTION; DRINKING WATER
Antoine, S.R.; DeLeon, I.R.; O'dell-Smith, R.M. 1986 Bulletin of Environmental Contamination and Toxicology 36:364-371

Ytterbium
7440-64-4
Yb
AtW 173.04, MP 824 C (also reported as 819 C), BP 1194 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12670 Blood, plasma	15	3.1-7.0 ng/mL	6.3+/-1.0 ng/mL	Before patients received therapy. 43-76 yr old laryngeal carcinoma patients NA
BLOOD PLASMA; BLOOD; LARYNX; CARCINOMAS; COMPARATIVE EVALUATIONS; LANTHANUM; CERIUM; YTTERBIUM; TRACE ELEMENTS Esposito, M.; Collecchi, P.; Brera, S.; Mora, E.; Mazzucotelli, A.; Cutolo, M.; Oddone, M. 1986 Science of the Total Environment 50:55-63				

Tissue	Cases Exposure Route	Range	Mean	General Information
12671 Bronchoalveolar lavage	1	Not applicable	<12 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old Rare-earth pneumoconiosis Micronodular lung changes, restrictive spirometric impairment NA
BRONCHOALVEOLAR LAVAGE; NAILS; OCCUPATIONAL EXPOSURE; CASE HISTORIES; PNEUMOCONIOSIS; OCCUPATIONAL DISEASES; RESPIRATORY DISEASES; LAVAGE; CERIUM; LANTHANUM; TERBIUM; YTTERBIUM; SILVER; ARSENIC; GOLD; CADMIUM; COBALT; CHROMIUM; CESIUM; IRON; MERCURY; INDIUM; IRIDIUM; MOLYBDENUM; NICKEL; RUBIDIUM; ANTIMONY; SCANDIUM; SELENIUM; TIN; THORIUM; URANIUM; ZINC; TRACE ELEMENTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; SMOKING Sulotto, F.; Romano, C.; Berra, A.; Botta, G.C.; Rubino, G.F.; Sabbioni, E.; Pietra, R. 1986 American Journal of Industrial Medicine 9:567-575				

Tissue	Cases Exposure Route	Range	Mean	General Information
12672 Larynx	15	a) 3.9-12.7 ng/g b) 6.5-13.8 ng/g	a) 8.5+/-3.3 ng/g b) 9.6+/-2.2 ng/g	a) Malignant tissue b) Normal adjacent tissue 43-76 yr old laryngeal carcinoma patients NA
BLOOD PLASMA; BLOOD; LARYNX; CARCINOMAS; COMPARATIVE EVALUATIONS; LANTHANUM; CERIUM; YTTERBIUM; TRACE ELEMENTS Esposito, M.; Collecchi, P.; Brera, S.; Mora, E.; Mazzucotelli, A.; Cutolo, M.; Oddone, M. 1986 Science of the Total Environment 50:55-63				

Zinc
7440-66-6
Zn
AtW 65.38, MP 419.5 C, BP 908 C, VP 1 mm Hg at 487 C, 10 mm Hg at 590 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12673 Blood	20	77-111 ug/dL	89 ug/dL	Gun metal foundry workers (males) employed 2-17 (mean 10) yr, no histories of renal disease. 34-59 (mean 49) yr-olds occupationally exposed to Pb, Zn, Cu AAS

(next page)

Zinc
7440-66-6
Zn
AtW 65.38, MP 419.5 C, BP 908 C, VP 1 mm Hg at 487 C, 10 mm Hg at 590 C

(continued)

Tissue	Cases Exposure Route	Range	Mean	General Information
12674 Blood, cells	20	613-1,327 ug/dL	889 ug/dL	Gun metal foundry workers (males) employed 2-17 (mean 10) yr, no histories of renal disease. 34-59 (mean 49) yr-olds occupationally exposed to Pb, Zn, Cu AAS

OCCUPATIONAL EXPOSURE; LEAD; MERCURY; CADMIUM; ZINC; COPPER; MANGANESE; CHROMIUM; URINE; BLOOD; BLOOD PLASMA; BLOOD CELLS; CHELATING AGENTS; OCCUPATIONAL HAZARDS; METALS
Araki, S.; Aono, H.; Murata, K. 1986 British Journal of Industrial Medicine 43:636-641

Tissue	Cases Exposure Route	Range	Mean	General Information
12675 Blood, serum	a) 1043 b) 475 c) 660 d) 353 e) 1,316 f) 263 g) 769 h) 320	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 92.0+/-0.76 ug/dl b) 91.6+/-0.90 ug/dl c) 88.3+/-0.96 ug/dl d) 86.9+/-0.99 ug/dl e) 81.1+/-3.11 ug/dl f) 85.0+/-0.61 ug/dl g) 82.5+/-0.97 ug/dl h) 82.8+/-1.79 ug/dl	a) 21-55 yr old males, normal b) High diastolic pressure c) 56-74 yr old males, normal d) High diastolic pressure e) High systolic pressure f) 56-74 yr old females, normal g) High diastolic pressure h) High systolic pressure Significant differences for older males with high systolic pressure, and older females with high diastolic pressure. Civilian, non-institutionalized United States citizens participating in 1976-1980 National Health and Nutrition Examination Survey. AAS

BLOOD; BLOOD SERUM; ENVIRONMENTAL EXPOSURE; ADULTS; UNITED STATES; HYPERTENSION; LEAD POISONING; LEAD; ZINC; BIOACCUMULATION; BLOOD PRESSURE; AGE; SEX; ADOLESCENTS
Harlan, W.R.; Landis, J.R.; Schmouder, R.L.; Goldstein, N.G.; Harlan, L.C. 1985 Journal of the American Medical Association 253(4):530-534

Tissue	Cases Exposure Route	Range	Mean	General Information
12676 Blood, serum	a) 215 b) 11 c) 195 d) 12	a) 0.9+/-0.4-0.7+/-0.2 ug/ml b) Not given c) 1.0+/-0.4-0.7+/-0.2 2 S.D.	a) Not given b) 1.1+/-0.3 ug/ml c) Not given d) 1.1+/-0.2 ug/ml 2 S.D.	a) Yankton area (southeastern), 6 and 43 wk gestation b) Non-pregnant women c) Rosebud Indian Reservation, 12 and 43 wk gestation d) Non-pregnant women Slight decrease with increasing gestation. This trend not observed, however, in separate study of 18 subjects in third trimester of pregnancy. a), c) ranges of means. Values estimated from figures. Pregnant and non-pregnant subjects, South Dakota AAS

BLOOD SERUM; ENVIRONMENTAL EXPOSURE; SOUTH DAKOTA; COMPARATIVE EVALUATIONS; COPPER; SELENIUM; ZINC; DRINKING WATER; PREGNANCY
Kundu, N.; Parke, P.; Petersen, L.P.; Palmer, I.S.; Olson, O. 1985 Archives of Environmental Health 40(5):268-273

Zinc
7440-66-6
Zn
AtW 65.38, MP 419.5 C, BP 908 C, VP 1 mm Hg at 487 C, 10 mm Hg at 590 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12677 Bone	a) 148 b) 18	a) 107+/-14-131+/-60 ug/g b) 78-170 ug/g	a) Not given b) 126+/-21 ug/g	a) Ranges of means. Ancient specimens, mostly limbs, from 10 sites. Bronze Age (3000 yr BP) to 18th century periods. Two bones from Neolithic and one from 800 yr BP excluded from calculations b) Contemporary femora, tibiae, vertebrae and ribs (29 bones) collected at autopsies, 2-3/1984, Paris Fragments collected for analysis from layers about 0.5-4 mm below surface of medullary cavity, from a 5-10 sq cm area. Additional data on significance of concentration gradients within bone, conditions of burial site, fossilization changes, geography, and historical/cultural factors. France ICP-AES

BONES; FRANCE; AUTOPSIES; COMPARATIVE EVALUATIONS; CADMIUM; LEAD; ZINC; BARIUM; MAGNESIUM; CALCIUM; MINERALS; ENVIRONMENTAL EXPOSURE
Jaworowski, Z.; Barbalat, F.; Blain, C.; Peyre, E. 1985 Science of the Total Environment 43:103-126

Tissue	Cases Exposure Route	Range	Mean	General Information
12678 Bronchoalveolar lavage	1	Not applicable	350 ppb	17 yr after 13 yr occupational exposure (photoengraving) to carbon arc lamps. Smoker (25 cigarettes/d). 48 yr old NA

BRONCHOALVEOLAR LAVAGE; NAILS; OCCUPATIONAL EXPOSURE; CASE HISTORIES; PNEUMOCONIOSIS; OCCUPATIONAL DISEASES; RESPIRATORY DISEASES; LAVAGE; CERIUM; LANTHANUM; TERBIUM; YTTERBIUM; SILVER; ARSENIC; GOLD; CADMIUM; COBALT; CHROMIUM; CESIUM; IRON; MERCURY; INDIUM; IRIDIUM; MOLYBDENUM; NICKEL; RUBIDIUM; ANTIMONY; SCANDIUM; SELENIUM; TIN; THORIUM; URANIUM; ZINC; TRACE ELEMENTS; BIOACCUMULATION; HEALTH HAZARDS; OCCUPATIONAL HAZARDS; SMOKING
Sulotto, F.; Romano, C.; Berra, A.; Botta, G.C.; Rubino, G.F.; Sabbioni, E.; Pietra, R. 1986 American Journal of Industrial Medicine 9:567-575

Tissue	Cases Exposure Route	Range	Mean	General Information
12679 Hair	10	142+/-14-222+/-23 ppm Dry wt	181+/-22 ppm Dry wt	Hair from 4 parts of scalp. Range of means. Mean for each case is average of levels measured monthly for 10-12 mo. Healthy adult Japanese, age 27-47 yr. AAS

HAIR; NAILS; ENVIRONMENTAL EXPOSURE; JAPAN; ADULTS; METALS; MERCURY; LEAD; CADMIUM; COPPER; NICKEL; IRON; ZINC; MANGANESE; BIOLOGICAL MONITORING; POPULATION EXPOSURE
Nishihara, T.; Watabe, K.; Ichikawa, T.; Kondo, M.; Fujii, M. 1985 Chemosphere 14(8):1133-1141

Zinc
7440-66-6
Zn
AtW 65.38, MP 419.5 C, BP 908 C, VP 1 mm Hg at 487 C, 10 mm Hg at 590 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12680 Hair	a) 53 b) 60 c) 60	a) Not given b) Not given c) Not given	a) 412+/-183 ug/g b) 312.6+/-124.5 ug/g c) 975.9+/-573.1 ug/g	a) Udaipur city, general population b) Miners, end of 8 hr underground shift c) Smelter workers, during work shift Collected from nape of neck. Udaipur, Rajasthan, India AAS

HAIR; OCCUPATIONAL EXPOSURE; ENVIRONMENTAL EXPOSURE; INDIA; COPPER; ZINC; SMELTERS; INDUSTRIAL PLANTS; MINING; POPULATION EXPOSURE; URBAN AREAS
Raghupathy, L.; Sharma, V.N. 1985 Science of the Total Environment 41:73-78

Tissue	Cases Exposure Route	Range	Mean	General Information
12681 Hair	239	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 245+/-41 ppm b) 317+/-32 ppm c) 284+/-30 ppm d) 278+/-42 ppm e) 276+/-40 ppm f) 291+/-44 ppm g) 214+/-70 ppm h) 342+/-46 ppm Dry wt	a) Male, 109 cases b) Female, 130 cases c) White, 150 cases d) Black, 89 cases e) White male, 82 cases f) White female, 68 cases g) Black male, 27 cases h) Black female, 62 cases Correlations of systolic, diastolic, and pulse blood pressure discussed. 13-19 yr olds at 4-H conference, Mississippi State University. AAS

HAIR; ENVIRONMENTAL EXPOSURE; MISSISSIPPI; METAL POISONING; CADMIUM; LEAD; COPPER; ZINC; SEX; RACIAL STUDIES; ADOLESCENTS; BIOACCUMULATION; BLOOD PRESSURE
Medeiros, D.M.; Pellum, L.K. 1985 Bulletin of Environmental Contamination and Toxicology 34:163-169

Tissue	Cases Exposure Route	Range	Mean	General Information
12682 Hair	a) 10 b) 10	a) Not given b) Not given	a) 172+/-18 ug/g b) 182+/-12 ug/g	a) Patients with multiple sclerosis b) Controls Significant difference, borderline. Patients and controls, matched for sex and age. NA

BLOOD; HAIR; ENVIRONMENTAL EXPOSURE; UNITED KINGDOM; NEUROMUSCULAR DISEASES; TRACE ELEMENTS; BIOACCUMULATION; BIOINDICATORS; ALUMINUM; ANTIMONY; ARSENIC; BARIUM; BROMINE; CESIUM; GOLD; IODINE; MANGANESE; MOLYBDENUM; SELENIUM; VANADIUM; ZINC; COPPER; IRON; MAGNESIUM; POTASSIUM; SULFUR
Ward, N.I.; Bryce-Smith, D.; Minski, M.; Matthews, W.B. 1985 Biological Trace Element Research 7:153-159

Zinc

7440-66-6
Zn
AtW 65.38, MP 419.5 C, BP 908 C, VP 1 mm Hg at 487 C, 10 mm Hg at 590 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12683 Hair	a) 1 b) 1	a) 117-348 ppm b) 90-285 ppm	a) 206.6+/-47.8 ppm b) 169+/-43.7 ppm	a) Subject 1 b) Subject 2 Samples sent to 13 commercial laboratories for analysis. Values here are combined from all. Considerable variance within same laboratory, among different laboratories and disagreement about what was "normal" or "unusual". Authors conclude commercial use of hair analysis for management of disease, nutrition unscientific, uneconomical, probably illegal.

HAIR; ALUMINUM; ARSENIC; BERYLLIUM; CADMIUM; CALCIUM; CHROMIUM; COBALT; COPPER; GOLD; IRON; LEAD; LITHIUM; MAGNESIUM; MANGANESE; MERCURY; MOLYBDENUM; NICKEL; PHOSPHORUS; POTASSIUM; RUBIDIUM; SELENIUM; SILICON; SODIUM; TIN; VANADIUM; ZINC; ELEMENTS; TRACE ELEMENTS; METALS
Barrett, S. 1985 Journal of the American Medical Association 254(8):1041-1045

Tissue	Cases Exposure Route	Range	Mean	General Information
12684 Hair	a) 92 b) 55 c) 46 d) 457 e) 255	a) Not given b) Not given c) Not given d) Not given e) Not given	a) 248 ppm b) 124 ppm c) 160 ppm d) 114 ppm e) 211 ppm	a) Canada b) U.S.A. c) Poland d) Japan e) India Part of international survey of 21 elements. Japanese, 2-80 yr olds. Rest were 30-60 yr old. ES; AAS

ENVIRONMENTAL EXPOSURE; HAIR; CANADA; UNITED STATES; POLAND; JAPAN; INDIA; MAGNESIUM; CALCIUM; PHOSPHORUS; SODIUM; POTASSIUM; IRON; COPPER; MANGANESE; ZINC; SELENIUM; CHROMIUM; NICKEL; COBALT; VANADIUM; LEAD; CADMIUM; ALUMINUM; ANTIMONY; MERCURY; TIN; ARSENIC; AGE; SEX; COMPARATIVE EVALUATIONS
Takagi, Y.; Matsuda, S.; Imai, S.; Ohmori, Y.; Masuda, T.; Vinson, J.A.; Mehra, M.C.; Puri, B.K.; Kaniewski, A. 1986 Bulletin of Environmental Contamination and Toxicology 36:793-800

Tissue	Cases Exposure Route	Range	Mean	General Information
12685 Hair	10	69.4-228 mg/kg Dry wt	130 mg/kg Dry wt	Autopsy samples. 48-62 yr old Caucasians, Sweden NA

HAIR; KIDNEYS; LIVER; SWEDEN; AUTOPSIES; SILVER; COBALT; CHROMIUM; IRON; MERCURY; ANTIMONY; SELENIUM; ZINC; MINERALS; TRACE ELEMENTS; BIOACCUMULATION
Muramatsu, Y.; Parr, R.M. 1985 International Atomic Energy Agency Report on the Second Research Co-ordination Meeting, Neuherberg, FRG, Sept 1985

Zinc
7440-66-6
Zn
AtW 65.38, MP 419.5 C, BP 908 C, VP 1 mm Hg at 487 C, 10 mm Hg at 590 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12686 Kidney		a) 16-145 mg/kg b) 18-160 mg/kg c) 14-156 mg/kg d) 11-142 mg/kg Wet wt	a) 45 mg/kg b) 46 mg/kg c) 35 m/gkg d) 30 mg/kg Wet wt Median	a) Cortex, Kingston, 71 cases b) Ottawa, 64 cases c) Medulla, Kingston, 75 d) Ottawa, 61 Autopsy samples from normal subjects, Kingston and Ottawa, Ontario AAS

KIDNEYS; LIVER; CANADA; AUTOPSIES; CALCIUM; POTASSIUM; MAGNESIUM; SODIUM; PHOSPHORUS; COPPER; IRON; MANGANESE; SELENIUM; ZINC; CADMIUM; MERCURY; LEAD
Subramanian, K.S.; Meranger, J.C.; Burnett, R.T. 1985 Science of the Total Environment 42:223-235

Tissue	Cases Exposure Route	Range	Mean	General Information
12687 Kidney	a) 16 b) 78 c) 8	a) Not given b) Not given c) Not given	a) 31.99+/-1.29 ug/g b) 36+/-1.29 ug/g c) 29.02+/-1.48 ug/g Wet wt Geometric mean	a) Below age 20 b) Age 20-59 c) Age 60 and over Cortex, autopsy samples. Levels by age decile and correlation with Cd levels also presented. Sudden accidental deaths, Ahmedabad, Bangalore, and Calcutta, India AAS

KIDNEYS; INDIA; AGE; AUTOPSIES; CADMIUM; ZINC
Pandya, C.B.; Parikh, D.J.; Patel, T.S.; Kulkarni, P.K.; Sathawara, N.G.; Shah, G.M.; Chatterjee, B.B. 1985 Environmental Research 36:81-88

Tissue	Cases Exposure Route	Range	Mean	General Information
12688 Kidney	a) 7 b) 11 c) 8 d) 46 e) 8 f) 6 g) 16	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given	a) 24.2 ppm b) 31.0 ppm c) 25.1 ppm d) 29.1 ppm e) 32.0 ppm f) 39.0 ppm g) 26.3 ppm Medians	a) Deaths from lung cancer b) From gastrointestinal cancer c) From other malignancies d) From cardiovascular diseases e) From cerebrovascular diseases f) From other causes g) Controls, residents of rural area 50 km from smelter Median, all workers 31.0 ppm. Copper smelter workers who died after after April 1975, and controls, Sweden. AAS

LUNGS; LIVER; KIDNEYS; OCCUPATIONAL EXPOSURE; SWEDEN; NEOPLASMS; CADMIUM; LEAD; ZINC; METALS; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; SMELTERS; SMOKING
Gerhardsson, L.; Brune, D.; Nordberg, G.F.; Wester, P.O. 1986 Science of the Total Environment 50:65-85

Zinc
7440-66-6
Zn
AtW 65.38, MP 419.5 C, BP 908 C, VP 1 mm Hg at 487 C, 10 mm Hg at 590 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12689 Kidney	10	121-716 mg/kg Dry wt	350 mg/kg Dry wt	Autopsy samples. Cortex. 48-62 yr old Caucasians, Sweden NA

HAIR; KIDNEYS; LIVER; SWEDEN; AUTOPSIES; SILVER; COBALT; CHROMIUM; IRON; MERCURY; ANTIMONY; SELENIUM; ZINC; MINERALS; TRACE ELEMENTS; BIOACCUMULATION
Muramatsu, Y.; Parr, R.M. 1985 International Atomic Energy Agency Report on the Second Research Co-ordination Meeting, Neuherberg, FRG, Sept 1985

Tissue	Cases Exposure Route	Range	Mean	General Information
12690 Liver	a) 68 b) 62	a) 25-183 mg/kg b) 20-138 mg/kg Wet wt	a) 67 mg/kg b) 56 mg/kg Wet wt Median	a) Kingston b) Ottawa Autopsy samples from normal subjects, Kingston and Ottawa, Ontario ICP-AES

KIDNEYS; LIVER; CANADA; AUTOPSIES; CALCIUM; POTASSIUM; MAGNESIUM; SODIUM; PHOSPHORUS; COPPER; IRON; MANGANESE; SELENIUM; ZINC; CADMIUM; MERCURY; LEAD
Subramanian, K.S.; Meranger, J.C.; Burnett, R.T. 1985 Science of the Total Environment 42:223-235

Tissue	Cases Exposure Route	Range	Mean	General Information
12691 Liver	a) 7 b) 11 c) 8 d) 46 e) 8 f) 16	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 80.5 ppm b) 66.0 ppm c) 62.6 ppm d) 45.0 ppm e) 64.4 ppm f) 49.8 ppm Medians	a) Deaths from lung cancer b) From gastrointestinal cancer c) From other malignancies d) From cardiovascular diseases e) From cerebrovascular diseases f) Controls, residents of rural area 50 km from smelter Median, all workers 55.7 ppm. Copper smelter workers who died after after April 1975, and controls, Sweden. AAS

LUNGS; LIVER; KIDNEYS; OCCUPATIONAL EXPOSURE; SWEDEN; NEOPLASMS; CADMIUM; LEAD; ZINC; METALS; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; SMELTERS; SMOKING
Gerhardsson, L.; Brune, D.; Nordberg, G.F.; Wester, P.O. 1986 Science of the Total Environment 50:65-85

Tissue	Cases Exposure Route	Range	Mean	General Information
12692 Liver	10	34.2-848 mg/kg Dry wt	280 mg/kg Dry wt	Autopsy samples. 48-62 yr old Caucasians, Sweden NA

HAIR; KIDNEYS; LIVER; SWEDEN; AUTOPSIES; SILVER; COBALT; CHROMIUM; IRON; MERCURY; ANTIMONY; SELENIUM; ZINC; MINERALS; TRACE ELEMENTS; BIOACCUMULATION
Muramatsu, Y.; Parr, R.M. 1985 International Atomic Energy Agency Report on the Second Research Co-ordination Meeting, Neuherberg, FRG, Sept 1985

Zinc
7440-66-6
Zn
AtW 65.38, MP 419.5 C, BP 908 C, VP 1 mm Hg at 487 C, 10 mm Hg at 590 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12693 Lung	a) 7 b) 11 c) 8 d) 46 e) 8 f) 6 g) 16 h) 10	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given g) Not given	a) 13.7 ppm b) 11.6 ppm c) 10.6 ppm d) 10.9 ppm e) 12.0 ppm f) 10.0 ppm g) 10.2 ppm h) 12.2 ppm Medians	a) Deaths from lung cancer b) From gastrointestinal cancer c) From other malignancies d) From cardiovascular diseases e) From cerebrovascular diseases f) From other causes g) Controls, residents of rural area 50 km from smelter h) Controls, Stockholm (800 km from smelter) Median, all workers 11.5 ppm. Copper smelter workers who died after after April 1975, and controls, Sweden. AAS

LUNGS; LIVER; KIDNEYS; OCCUPATIONAL EXPOSURE; SWEDEN; NEOPLASMS; CADMIUM; LEAD; ZINC; METALS; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; SMELTERS; SMOKING
Gerhardsson, L.; Brune, D.; Nordberg, G.F.; Wester, P.O. 1986 Science of the Total Environment 50:65-85

Tissue	Cases Exposure Route	Range	Mean	General Information
12694 Milk				Review of longitudinal changes of trace element components in human milk. Mean daily intakes of breast-fed, cow's milk-fed infants and recommended daily allowances compared. Determination of Se status and consequences of deficiency discussed.

MILK; REVIEW; TRACE ELEMENTS; IRON; COPPER; ZINC; MANGANESE; MOLYBDENUM; CHROMIUM; COBALT; ARSENIC; SELENIUM; ITALY; UNITED STATES; GREECE; INDIA; FINLAND; FRANCE
Roekens, E.; Deelstra, H.; Robberecht, H. 1985 Science of the Total Environment 42:91-108

Tissue	Cases Exposure Route	Range	Mean	General Information
12695 Milk	52 Ingestion	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 5.6 uM b) 3.2 uM c) 2.1 uM d) 1.1 uM e) 0.6 uM f) 0.8 uM g) 2.4 uM h) 1.6 uM	a) 1 month b) 2 months c) 4 months d) 8 months e) 12 months f) 16 months g) 19 months h) 20 months Times postpartum. Half on normal diet, half on vegetarian diet. No significant differences due to diet. Lactating women, mean age 29 yr. AAS

MILK; ADULTS; DIETS; COMPARATIVE EVALUATIONS; IRON; COPPER; ZINC; SODIUM; POTASSIUM; CALCIUM; MAGNESIUM; MINERALS; TRACE ELEMENTS; LACTATION
Finley, D.A.; Lonnerdal, B.; Dewey, K.G.; Grivetti, L.E. 1985 Journal of Nutrition 115:772-781

Zinc
7440-66-6
Zn
AtW 65.38, MP 419.5 C, BP 908 C, VP 1 mm Hg at 487 C, 10 mm Hg at 590 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12696 Urine	20	a) 0.3-2 mg/24 hr b) 4.4-18.1 mg/24 hr	a) 1.1 mg/24 hr b) 11.8 mg/24 hr	a) Before treatment, samples during 24 hr b) After treatment with 20 mg/kg (I.V. in 250 ml 5% glucose) of CaEDTA, 24 hr samples Values estimated from graph. Gun metal foundry workers (males) employed 2-17 (mean 10) yr, no histories of renal disease. 34-59 (mean 49) yr-olds occupationally exposed to Pb, Zn, Cu AAS

OCCUPATIONAL EXPOSURE; LEAD; MERCURY; CADMIUM; ZINC; COPPER; MANGANESE; CHROMIUM; URINE; BLOOD; BLOOD PLASMA; BLOOD CELLS; CHELATING AGENTS; OCCUPATIONAL HAZARDS; METALS
Araki, S.; Aono, H.; Murata, K. 1986 British Journal of Industrial Medicine 43:636-641

Zinc, (dihydrogen 3,7,12,17-tetramethyl-8,13-divinyl-2,18-porphinedipropionate(2-))- (8 CI) Zinc, (7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(2-)-N(2 1),N(22),N(23),N(24))-, (SP-4-2)- (9 CI)
15442-64-5
C34-H30-N4-O4-Zn.2H
MW 626.03

Tissue	Cases Exposure Route	Range	Mean	General Information
12697 Blood	a) 673 b) 143	a) Not given b) Not given	a) 49.6+/-26.7 ug/dl b) 39.9+/-16.5 ug/dl	a) Smelter workers, current and retired b) Miners, never employed in smelter Significantly different. Copper smelter workers less than 30->60 yr old, and copper miners less than 50->60 yr old working for Western Quebec firm. 14 symptoms reported. Significant differences in mean ZPP levels found for fatigue, sleep disturbances, weakness, paresthesia, joint pain.

URINE; BLOOD; OCCUPATIONAL EXPOSURE; ADULTS; CANADA; METAL POISONING; LEAD POISONING; LEAD; ARSENIC; PROTOPORPHYRINS; ZINC; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIES; INDUSTRIAL EMISSIONS; OCCUPATIONAL HAZARDS; MINING; POPULATION EXPOSURE
Lilis, R.; Valciukas, J.A.; Malkin, J.; Weber, J.-P. 1985 Archives of Environmental Health 40(1):38-47

Tissue	Cases Exposure Route	Range	Mean	General Information
12698 Blood	51	a) 69-515 ug/dl b) 14-175 ug/dl c) 10-130 ug/dl d) 5-150 ug/dl	a) 232 ug/dl b) 63 ug/dl c) 41 ug/dl d) 37 ug/dl	a) 49 patients, initial level b) 51 patients, 120 d c) 30 patients at 365 d d) 21 patients at 730 d Times after stopping exposure and undergoing chelation therapy. ZPP level useful index of biologically active Pb pool for at least 2 yr after exposure. 21-65 yr old patients with chronic Pb intoxication from occupational exposures for mean of 8 yr and with blood Pb >60 ug/dl, ZPP>45 ug/dl. Cook County Hospital, 7/1/76-12/31/83.

OCCUPATIONAL EXPOSURE; LEAD; ZINC ORGANIC COMPOUNDS; BLOOD; OCCUPATIONAL HAZARDS; LEAD POISONING; ILLINOIS
Hryhorczuk, D.O.; Hogan, M.M.; Mallin, K.; Hessl, S.M.; Orris, P. 1985 Journal of Occupational Medicine 27(11):817-820

1-Butanone, 4-(methylnitrosoamino)-1-(3-pyridinyl)-
64091-91-4
C10-H13-N3-O2

Tissue	Cases Exposure Route	Range	Mean	General Information
12699 Saliva	a) 10 b) 7 c) 10 Ingestion	a) Not detected-28.5 ppb b) Not detected-8.3 ppb c) Not detected-14.3 ppb	a) Not given b) Not given c) Not given	a) Males after 20 min chewing 500 mg tobacco with lime, 2 different days. Detected in 2 cases b) Males, after 20 min chewing 500 mg tobacco with betel quid. Detected in 1 c) Females, after 20 min chewing 200 mg tobacco with betel quid. Detected in 4 Not detected in females using masheri (pyrolysed tobacco product.) 25-45 yr old habitual users of tobacco products, Bombay, India GLC-TEA

SALIVA; DELIBERATE EXPOSURE; INDIA; COMPARATIVE EVALUATIONS; NITROSAMINES; HEALTH HAZARDS; INGESTION; TOBACCOS
Bhide, S.V.; Nair, U.J.; Nair, J.; Spiegelhalder, B.; Preussmann, R. 1986 Food and Chemical Toxicology 24(4):293-297

1-DL-Phenylethanol (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12700 Urine	a) 11 b) 6 c) 10 Inhalation	a) Not given b) Not given c) Not given	a) 0.79+/-0.61 mg/L b) 0.2+/-0.24 mg/L c) Not detected	a) Males b) Females c) Male controls Metabolite. a), b) sampled after occupational exposure to approx 100 ppm styrene during 9 hr work shift. New analytical method. Test subjects and controls GC/MS

URINE; OCCUPATIONAL EXPOSURE; MEASUREMENT METHODS; STYRENES; INDUSTRIAL CHEMICALS; INHALATION; METABOLISM; METABOLITES; OCCUPATIONAL HAZARDS
Korn, M.; Wodarz, R.; Drysch, K.; Schoknecht, W.; Schmahl, F.W. 1986 Archives of Toxicology 58:110-114

1-Naphthol (8 CI); 1-Naphthalenol
90-15-3
C10-H8-O
MW 144.16, MP 96 C (prisms), BP 288 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12701 Urine				Review. The occurrence and analysis of priority toxic pollutants in human urine, covering the ten-year period 1973-1983, is discussed.

URINE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; DELIBERATE EXPOSURE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PHTHALLIC ACIDS; PHENOLS; BIOACCUMULATION; PESTICIDES
Fatiadi, A.J. 1984 Environment International 10:175-205

1-Pyrenol
5315-79-7
C16-H10-O

Tissue	Cases Exposure Route	Range	Mean	General Information
12702 Urine	a) 16 b) 2 c) 3 Dermal Inhalation	a) 0.1-0.6 ug/g creatinine b) 0.7-500 ug/g creatinine c) 0.3-40 ug/g creatinine	a) 0.290 ug/g creatinine b) Not given c) Not given	a) Single sample, controls b) Before first dose, and on treatment d 2. About 67 mg pyrene/d (as ointment containing 10% pix lithanthracis dermata) applied to arms and legs. Ecxema patients, non-smokers c) During 10 d (Sat-Tues), 2 collections/d: overnight and 10 am-4 pm. Workers in wood-impregnating plant. Highest levels in person most directly involved in wood handling. 2400 kg creosote with 19.8 mg pyrene/g handled/d. Wood creosoted daily, Mon-Fri Metabolite. New method. Detection limit 100 ng/g creatinine. Some values estimated from figure. Ecxema patients. Creosote impregnating workers. Controls. HPLC/FD

URINE; DELIBERATE EXPOSURE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; MEASUREMENT METHODS; POLYCYCLIC AROMATIC HYDROCARBONS; INDUSTRIAL CHEMICALS; HEALTH HAZARDS; INDUSTRIES; INHALATION; METABOLITES; OCCUPATIONAL HAZARDS; WOOD PRESERVATIVES; METABOLITES

Jongeneelen, F.J.; Anzion, R.B.M.; Leijdekkers, Ch.-M.; Bos, R.P.; Henderson, P.Th. 1985 International Archives of Occupational and Environmental Health 57:47-55

1,1'-Biphenyl, 2,2',3,3',4-pentachloro- (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12703 Milk	40	Not given	0.46+/-0.06 ng/g S.E.	1.7% of total level from 22 congeners (all =/>0.19 ng/g <1.0 ng/g) accounting for 30% of mean total PCB residue of 26.5+/-2.5 ng/g (S.E.). Survey from urban and rural areas on Lake Ontario (Rochester, Oswego) and mixed area on Hudson River (Albany). Total of 8 other congeners (not the 22) and p,p'-DDE comprised 88% of detected chlorinated hydrocarbons with latter as primary pollutant (mean 78 ng/g wet wt). Mothers, 3 wk postpartum, New York, collections in 1979. Lake Ontario areas contaminated with Aroclor 1254 and 1260 type mixture and Hudson River with Aroclor 1242-type mixture. GC

MILK; NEW YORK; ENVIRONMENTAL EXPOSURE; URBAN AREAS; RURAL AREAS; WATER POLLUTION; DRINKING WATER

Bush, B.; Snow, J.; Connor, S.; Koblintz, R. 1985 Archives of Environmental Contamination and Toxicology 14:443-450

1,1'-Biphenyl, 2,2',3,3',4,4',5-heptachloro-
35065-30-6
C12-H3-Cl7
MW 395

Tissue	Cases Exposure Route	Range	Mean	General Information
12704 Adipose	a) 38 b) 17 c) 56	a) Not given b) Not given c) Not given	a) 387.1 ppb b) 107.2 ppb c) 73.2 ppb	a) Current exposure b) Previous exposure c) Controls. Predominant exposure to Arochlor 1260. Some exposure to Arochlors 1254 and 1242. Switchgear shop employees engaged in transformer maintenance. GC/MS

BLOOD SERUM; ADIPOSE TISSUE; OCCUPATIONAL EXPOSURE; ADULTS; OCCUPATIONAL DISEASES; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIAL PLANTS; INDUSTRIES; OCCUPATIONAL HAZARDS

Emmett, E.A. 1985 Environmental Health Perspectives 60:185-192

Tissue	Cases Exposure Route	Range	Mean	General Information
12705 Blood	a) 7 b) 9 c) 10 Ingestion	a) Not given b) Not given c) Not given	a) 0.11+/-0.04 pb b) 0.28+/-0.09 ppb c) 1.18+/-0.45 ppb	a) Controls b) Yusho patients exposed in western Japan in 1968 c) Yu-Cheng patients exposed in central Taiwan in 1979 Subjects ingested contaminated rice oil. Limit of detection 0.01 ppb. Controls and patients from Taiwan and Fukuoka, Japan. Acneform eruptions, hypersecretion of Meibomian glands, hyperpigmentation of the face, eyelids, gingiva, nails and mucous membrane, abdominal pain, headache, general fatigue. GC-EC

BLOOD; LIVER; ADIPOSE TISSUE; LUNGS; ENVIRONMENTAL EXPOSURE; JAPAN; TAIWAN; AUTOPSIES; INFANTS; ADULTS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUATERPHENYLS; CHLORINE ORGANIC COMPOUNDS; ACCIDENTAL POISONING; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; RICE

Masuda, Y.; Kuroki, H.; Haraguchi, K.; Nagayama, J. 1985 Environmental Health Perspectives 59:53-58

Tissue	Cases Exposure Route	Range	Mean	General Information
12706 Milk	40	Not given	0.62+/-0.06 ng/g S.E.	2.3% of total level from 22 congeners (all =/>0.19 ng/g <1.0 ng/g) accounting for 30% of mean total PCB residue of 26.5+/-2.5 ng/g (S.E.). Survey from urban and rural areas on Lake Ontario (Rochester, Oswego) and mixed area on Hudson River (Albany). Total of 8 other congeners (not the 22) and p,p'-DDE comprised 88% of detected chlorinated hydrocarbons with latter as primary pollutant (mean 78 ng/g wet wt). Mothers, 3 wk postpartum, New York, collections in 1979. Lake Ontario areas contaminated with Aroclor 1254 and 1260 type mixture and Hudson River with Aroclor 1242-type mixture. GC

MILK; NEW YORK; ENVIRONMENTAL EXPOSURE; URBAN AREAS; RURAL AREAS; WATER POLLUTION; DRINKING WATER

Bush, B.; Snow, J.; Connor, S.; Koblintz, R. 1985 Archives of Environmental Contamination and Toxicology 14:443-450

1,1'-Biphenyl, 2,2',3,3',4,4',5,5'-o ctachloro-
35694-08-7
C12-H2-Cl8
MW 429.74

Tissue	Cases Exposure Route	Range	Mean	General Information
12707 Adipose	a) 38 b) 17 c) 56	a) Not given b) Not given c) Not given	a) 79.9 ppb b) 31.9 ppb c) 26.3 ppb	a) Current exposure b) Previous exposure c) Controls. Predominant exposure to Arochlor 1260. Some exposure to Arochlors 1254 and 1242. Switchgear shop employees engaged in transformer maintenance. GC/MS

BLOOD SERUM; ADIPOSE TISSUE; OCCUPATIONAL EXPOSURE; ADULTS; OCCUPATIONAL DISEASES; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIAL PLANTS; INDUSTRIES; OCCUPATIONAL HAZARDS
Emmett, E.A. 1985 Environmental Health Perspectives 60:185-192

1,1'-Biphenyl, 2,2',3,3',4,5',6,6'-o ctachloro-
40186-71-8
C12-H2-Cl8

Tissue	Cases Exposure Route	Range	Mean	General Information
12708 Milk	40	Not given	0.19+/-0.02 ng/g S.E.	0.8% of total level from 22 congeners (all =/>0.19 ng/g <1.0 ng/g) accounting for 30% of mean total PCB residue of 26.5+/-2.5 ng/g (S.E.). Survey from urban and rural areas on Lake Ontario (Rochester, Oswego) and mixed area on Hudson River (Albany). Total of 8 other congeners (not the 22) and p,p'-DDE comprised 88% of detected chlorinated hydrocarbons with latter as primary pollutant (mean 78 ng/g wet wt). Mothers, 3 wk postpartum, New York, collections in 1979. Lake Ontario areas contaminated with Aroclor 1254 and 1260 type mixture and Hudson River with Aroclor 1242-type mixture. GC

MILK; NEW YORK; ENVIRONMENTAL EXPOSURE; URBAN AREAS; RURAL AREAS; WATER POLLUTION; DRINKING WATER
Bush, B.; Snow, J.; Connor, S.; Koblintz, R. 1985 Archives of Environmental Contamination and Toxicology 14:443-450

1,1'-Biphenyl, 2,2',3,3',4,6,6'-heptachloro-
52663-65-7
C12-H3-Cl7

Tissue	Cases Exposure Route	Range	Mean	General Information
12709 Milk	40	Not given	0.31+/-0.06 ng/g S.E.	1% of total level from 22 congeners (all =/>0.19 ng/g <1.0 ng/g) accounting for 30% of mean total PCB residue of 26.5+/-2.5 ng/g (S.E.). Survey from urban and rural areas on Lake Ontario (Rochester, Oswego) and mixed area on Hudson River (Albany). Total of 8 other congeners (not the 22) and p,p'-DDE comprised 88% of detected chlorinated hydrocarbons with latter as primary pollutant (mean 78 ng/g wet wt). Mothers, 3 wk postpartum, New York, collections in 1979. Lake Ontario areas contaminated with Aroclor 1254 and 1260 type mixture and Hudson River with Aroclor 1242-type mixture. GC
MILK; NEW YORK; ENVIRONMENTAL EXPOSURE; URBAN AREAS; RURAL AREAS; WATER POLLUTION; DRINKING WATER Bush, B.; Snow, J.; Connor, S.; Koblintz, R. 1985 Archives of Environmental Contamination and Toxicology 14:443-450				

1,1'-Biphenyl, 2,2',3,3',5,5',6-heptachloro-
52663-67-9
C12-H3-Cl7

Tissue	Cases Exposure Route	Range	Mean	General Information
12710 Milk	40	Not given	0.22+/-0.03 ng/g S.E.	0.8% of total level from 22 congeners (all =/>0.19 ng/g <1.0 ng/g) accounting for 30% of mean total PCB residue of 26.5+/-2.5 ng/g (S.E.). Survey from urban and rural areas on Lake Ontario (Rochester, Oswego) and mixed area on Hudson River (Albany). Total of 8 other congeners (not the 22) and p,p'-DDE comprised 88% of detected chlorinated hydrocarbons with latter as primary pollutant (mean 78 ng/g wet wt). Mothers, 3 wk postpartum, New York, collections in 1979. Lake Ontario areas contaminated with Aroclor 1254 and 1260 type mixture and Hudson River with Aroclor 1242-type mixture. GC
MILK; NEW YORK; ENVIRONMENTAL EXPOSURE; URBAN AREAS; RURAL AREAS; WATER POLLUTION; DRINKING WATER Bush, B.; Snow, J.; Connor, S.; Koblintz, R. 1985 Archives of Environmental Contamination and Toxicology 14:443-450				

1,1'-Biphenyl, 2,2',3,3',5,6,6'-heptachloro-
52663-64-6
C12-H3-Cl7

Tissue	Cases Exposure Route	Range	Mean	General Information
12711 Milk	40	Not given	2.5+/-0.3 ng/g S.E.	9.4% of total level from 8 congeners (all=/>1 ng/g) accounting for 52% of mean total PCB residue of 26.5+/-2.5 ng/g (S.E.). Survey from urban and rural areas on Lake Ontario (Rochester, Oswego) and mixed area on Hudson River (Albany). Total of 8 congeners and p,p'-DDE comprised 88% of detected chlorinated hydrocarbons with latter as primary pollutant (mean 78 ng/g wet wt). Mothers, 3 wk postpartum, New York, collections in 1979. Lake Ontario areas contaminated with Aroclor 1254 and 1260 type mixture and Hudson River with Aroclor 1242-type mixture. GC

MILK; NEW YORK; ENVIRONMENTAL EXPOSURE; URBAN AREAS; RURAL AREAS; WATER POLLUTION; DRINKING WATER
Bush, B.; Snow, J.; Connor, S.; Koblintz, R. 1985 Archives of Environmental Contamination and Toxicology 14:443-450

1,1'-Biphenyl, 2,2',3,4,4',5,5'-heptachloro-
35065-29-3
C12-H3-Cl7
MW 395

Tissue	Cases Exposure Route	Range	Mean	General Information
12712 Blood	a) 7 b) 9 c) 10 Ingestion	a) Not given b) Not given c) Not given	a) 0.12+/-0.07 ppb b) 0.44+/-0.15 ppb c) 1.73+/-0.63 ppb	a) Controls b) Yusho patients exposed in western Japan in 1968 c) Yu-Cheng patients exposed in central Taiwan in 1979 Subjects ingested contaminated rice oil. Limit of detection 0.01 ppb. Controls and patients from Taiwan and Fukuoka, Japan. Acneform eruptions, hypersecretion of Meibomian glands, hyperpigmentation of the face, eyelids, gingiva, nails and mucous membrane, abdominal pain, headache, general fatigue. GC-EC

BLOOD; LIVER; ADIPOSE TISSUE; LUNGS; ENVIRONMENTAL EXPOSURE; JAPAN; TAIWAN; AUTOPSIES; INFANTS; ADULTS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUATERPHENYLS; CHLORINE ORGANIC COMPOUNDS; ACCIDENTAL POISONING; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; RICE
Masuda, Y.; Kuroki, H.; Haraguchi, K.; Nagayama, J. 1985 Environmental Health Perspectives 59:53-58

1,1'-Biphenyl, 2,2',3,4,4',5,5'-heptachloro-
35065-29-3
C12-H3-Cl7
MW 395

Tissue	Cases Exposure Route	Range	Mean	General Information
12713 Milk	40	Not given	1.2+/-0.1 ng/g S.E.	4.5% of total level from 8 congeners (all=/>1 ng/g) accounting for 52% of mean total PCB residue of 26.5+/-2.5 ng/g (S.E.). Survey from urban and rural areas on Lake Ontario (Rochester, Oswego) and mixed area on Hudson River (Albany). Total of 8 congeners and p,p'-DDE comprised 88% of detected chlorinated hydrocarbons with latter as primary pollutant (mean 78 ng/g wet wt). Mothers, 3 wk postpartum, New York, collections in 1979. Lake Ontario areas contaminated with Aroclor 1254 and 1260 type mixture and Hudson River with Aroclor 1242-type mixture. GC

MILK; NEW YORK; ENVIRONMENTAL EXPOSURE; URBAN AREAS; RURAL AREAS; WATER POLLUTION; DRINKING WATER
Bush, B.; Snow, J.; Connor, S.; Koblintz, R. 1985 Archives of Environmental Contamination and Toxicology 14:443-450

1,1'-Biphenyl, 2,2',3,4,4',5,5',6-octachloro-
52663-76-0
C12-H2-Cl8

Tissue	Cases Exposure Route	Range	Mean	General Information
12714 Milk	40	Not given	0.28+/-0.3 ng/g S.E.	1% of total level from 22 congeners (all =/>0.19 ng/g <1.0 ng/g) accounting for 30% of mean total PCB residue of 26.5+/-2.5 ng/g (S.E.). Survey from urban and rural areas on Lake Ontario (Rochester, Oswego) and mixed area on Hudson River (Albany). Total of 8 other congeners (not the 22) and p,p'-DDE comprised 88% of detected chlorinated hydrocarbons with latter as primary pollutant (mean 78 ng/g wet wt). Mothers, 3 wk postpartum, New York, collections in 1979. Lake Ontario areas contaminated with Aroclor 1254 and 1260 type mixture and Hudson River with Aroclor 1242-type mixture. GC

MILK; NEW YORK; ENVIRONMENTAL EXPOSURE; URBAN AREAS; RURAL AREAS; WATER POLLUTION; DRINKING WATER
Bush, B.; Snow, J.; Connor, S.; Koblintz, R. 1985 Archives of Environmental Contamination and Toxicology 14:443-450

1,1'-Biphenyl, 2,2',3,4,4',5',6-heptachloro-
52663-69-1
C12-H3-Cl7
MW 395.30

Tissue	Cases Exposure Route	Range	Mean	General Information
12715 Milk	40	Not given	0.22+/-0.03 ng/g S.E.	0.8% of total level from 22 congeners (all =/>0.19 ng/g <1.0 ng/g) accounting for 30% of mean total PCB residue of 26.5+/-2.5 ng/g (S.E.). Survey from urban and rural areas on Lake Ontario (Rochester, Oswego) and mixed area on Hudson River (Albany). Total of 8 other congeners (not the 22) and p,p'-DDE comprised 88% of detected chlorinated hydrocarbons with latter as primary pollutant (mean 78 ng/g wet wt). Mothers, 3 wk postpartum, New York, collections in 1979. Lake Ontario areas contaminated with Aroclor 1254 and 1260 type mixture and Hudson River with Aroclor 1242-type mixture. GC
MILK; NEW YORK; ENVIRONMENTAL EXPOSURE; URBAN AREAS; RURAL AREAS; WATER POLLUTION; DRINKING WATER Bush, B.; Snow, J.; Connor, S.; Koblintz, R. 1985 Archives of Environmental Contamination and Toxicology 14:443-450				

1,1'-Biphenyl, 2,2',3,4',5,5'-hexachloro-
51908-16-8
C12-H4-Cl6
MW 360.86

Tissue	Cases Exposure Route	Range	Mean	General Information
12716 Milk	40	Not given	0.57+/-0.1 ng/g S.E.	2.1% of total level from 22 congeners (all =/>0.19 ng/g <1.0 ng/g) accounting for 30% of mean total PCB residue of 26.5+/-2.5 ng/g (S.E.). Survey from urban and rural areas on Lake Ontario (Rochester, Oswego) and mixed area on Hudson River (Albany). Total of 8 other congeners (not the 22) and p,p'-DDE comprised 88% of detected chlorinated hydrocarbons with latter as primary pollutant (mean 78 ng/g wet wt). Mothers, 3 wk postpartum, New York, collections in 1979. Lake Ontario areas contaminated with Aroclor 1254 and 1260 type mixture and Hudson River with Aroclor 1242-type mixture. GC
MILK; NEW YORK; ENVIRONMENTAL EXPOSURE; URBAN AREAS; RURAL AREAS; WATER POLLUTION; DRINKING WATER Bush, B.; Snow, J.; Connor, S.; Koblintz, R. 1985 Archives of Environmental Contamination and Toxicology 14:443-450				

1,1'-Biphenyl, 2,2',3',4,4',5-hexachloro- (No postings in CHEMLINE).
C12-H4-Cl6

Tissue	Cases Exposure Route	Range	Mean	General Information
12717 Milk	40	Not given	2.1+/-0.4 ng/g S.E.	7.8% of total level from 8 congeners (all=/>1 ng/g) accounting for 52% of mean total PCB residue of 26.5+/-2.5 ng/g (S.E.). Survey from urban and rural areas on Lake Ontario (Rochester, Oswego) and mixed area on Hudson River (Albany). Total of 8 congeners and p,p'-DDE comprised 88% of detected chlorinated hydrocarbons with latter as primary pollutant (mean 78 ng/g wet wt). Mothers, 3 wk postpartum, New York, collections in 1979. Lake Ontario areas contaminated with Aroclor 1254 and 1260 type mixture and Hudson River with Aroclor 1242-type mixture. GC
MILK; NEW YORK; ENVIRONMENTAL EXPOSURE; URBAN AREAS; RURAL AREAS; WATER POLLUTION; DRINKING WATER Bush, B.; Snow, J.; Connor, S.; Koblintz, R. 1985 Archives of Environmental Contamination and Toxicology 14:443-450				

1,1'-Biphenyl, 2,2',4,4',5-pentachloro-
38380-01-7
C12-H5-Cl5
MW 326.42

Tissue	Cases Exposure Route	Range	Mean	General Information
12718 Milk	40	Not given	1.1+/-0.1 ng/g S.E.	4% of total level from 8 congeners (all=/>1 ng/g) accounting for 52% of mean total PCB residue of 26.5+/-2.5 ng/g (S.E.). Survey from urban and rural areas on Lake Ontario (Rochester, Oswego) and mixed area on Hudson River (Albany). Total of 8 congeners and p,p'-DDE comprised 88% of detected chlorinated hydrocarbons with latter as primary pollutant (mean 78 ng/g wet wt). Mothers, 3 wk postpartum, New York, collections in 1979. Lake Ontario areas contaminated with Aroclor 1254 and 1260 type mixture and Hudson River with Aroclor 1242-type mixture. GC
MILK; NEW YORK; ENVIRONMENTAL EXPOSURE; URBAN AREAS; RURAL AREAS; WATER POLLUTION; DRINKING WATER Bush, B.; Snow, J.; Connor, S.; Koblintz, R. 1985 Archives of Environmental Contamination and Toxicology 14:443-450				

1,1'-Biphenyl, 2,2',4,4',5,5'-hexachloro-
35065-27-1
C12-H4-Cl6
MW 361

Tissue	Cases Exposure Route	Range	Mean	General Information
12719 Adipose	a) 38 b) 17 c) 56	a) Not given b) Not given c) Not given	a) 25.9 ppb b) 6.8 ppb c) 7.5 ppb	a) Current exposure b) Previous exposure c) Controls. Predominant exposure to Arochlor 1260. Some exposure to Arochlors 1254 and 1242. Switchgear shop employees engaged in transformer maintenance. GC/MS

BLOOD SERUM; ADIPOSE TISSUE; OCCUPATIONAL EXPOSURE; ADULTS; OCCUPATIONAL DISEASES; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIAL PLANTS; INDUSTRIES; OCCUPATIONAL HAZARDS
Emmett, E.A. 1985 Environmental Health Perspectives 60:185-192

Tissue	Cases Exposure Route	Range	Mean	General Information
12720 Adipose	a) 3 b) 2 c) 3 d) 15 e) 12 f) 15 g) 16 h) 24 i) 14 j) 5	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given	a) 22+/-12 ng/gm b) 30+/-10 ng/gm c) 212+/-131 ng/gm d) 82+/-17 ng/gm e) 163+/-61 ng/gm f) 136+/-41 ng/gm g) 154+/-24 ng/gm g) 154+/-24 ng/gm h) 153+/-28 ng/gm i) 128+/-17 ng/gm j) 198+/-97 ng/gm S.E.	a) 0-4 yr olds b) 4-9 c) 10-19 d) 20-29 e) 30-39 f) 40-49 g) 50-59 h) 60-69 i) 70-79 j) 80-89 Autopsy samples from anterior abdominal wall. Texas Gulf Coast residents GC-EC

ADIPOSE TISSUE; ENVIRONMENTAL EXPOSURE; TEXAS; AGE; AUTOPSIES; CHLORINE ORGANIC COMPOUNDS; PESTICIDES; HEXACHLOROBENZENE; DDE; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; PESTICIDE RESIDUES; POPULATION EXPOSURE
Ansari, G.A.S.; James, G.P.; Hu, L.A.; Reynolds, E.S. 1986 Bulletin of Environmental Contamination and Toxicology 36:311-316

Tissue	Cases Exposure Route	Range	Mean	General Information
12721 Blood	a) 7 b) 9 c) 10 Ingestion	a) Not given b) Not given c) Not given	a) 0.15+/-0.07 ppb b) 0.52+/-0.22 ppb c) 2.51+/-0.96 ppb	a) Controls b) Yusho patients exposed in western Japan in 1968 c) Yu-Cheng patients exposed in central Taiwan in 1979 Subjects ingested contaminated rice oil. Limit of detection 0.01 ppb. Controls and patients from Taiwan and Fukuoka, Japan. Acneform eruptions, hypersecretion of Meibomian glands, hyperpigmentation of the face, eyelids, gingiva, nails and mucous membrane, abdominal pain, headache, general fatigue. GC-EC

BLOOD; LIVER; ADIPOSE TISSUE; LUNGS; ENVIRONMENTAL EXPOSURE; JAPAN; TAIWAN; AUTOPSIES; INFANTS; ADULTS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUATERPHENYLS; CHLORINE ORGANIC COMPOUNDS; ACCIDENTAL POISONING; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; RICE
Masuda, Y.; Kuroki, H.; Haraguchi, K.; Nagayama, J. 1985 Environmental Health Perspectives 59:53-58

1,1'-Biphenyl, 2,2',4,4',5,5'-hexachloro-
35065-27-1
C12-H4-Cl6
MW 361

Tissue	Cases Exposure Route	Range	Mean	General Information
12722 Milk	40	Not given	3.2+/-0.4 ng/g S.E.	12% of total level from 8 congeners (all=/>1 ng/g) accounting for 52% of mean total PCB residue of 26.5+/-2.5 ng/g (S.E.). Survey from urban and rural areas on Lake Ontario (Rochester, Oswego) and mixed area on Hudson River (Albany). Total of 8 congeners and p,p'-DDE comprised 88% of detected chlorinated hydrocarbons with latter as primary pollutant (mean 78 ng/g wet wt). Mothers, 3 wk postpartum, New York, collections in 1979. Lake Ontario areas contaminated with Aroclor 1254 and 1260 type mixture and Hudson River with Aroclor 1242-type mixture. GC

MILK; NEW YORK; ENVIRONMENTAL EXPOSURE; URBAN AREAS; RURAL AREAS; WATER POLLUTION; DRINKING WATER
Bush, B.; Snow, J.; Connor, S.; Koblintz, R. 1985 Archives of Environmental Contamination and Toxicology 14:443-450

1,1'-Biphenyl, 2,2',4,5,5'-pentachloro-
37680-73-2
C12-H5-Cl5
MW 326.42

Tissue	Cases Exposure Route	Range	Mean	General Information
12723 Milk	40	Not given	0.27+/-0.03 ng/g S.E.	1% of total level from 22 congeners (all =/>0.19 ng/g <1.0 ng/g) accounting for 30% of mean total PCB residue of 26.5+/-2.5 ng/g (S.E.). Survey from urban and rural areas on Lake Ontario (Rochester, Oswego) and mixed area on Hudson River (Albany). Total of 8 other congeners (not the 22) and p,p'-DDE comprised 88% of detected chlorinated hydrocarbons with latter as primary pollutant (mean 78 ng/g wet wt). Mothers, 3 wk postpartum, New York, collections in 1979. Lake Ontario areas contaminated with Aroclor 1254 and 1260 type mixture and Hudson River with Aroclor 1242-type mixture. GC

MILK; NEW YORK; ENVIRONMENTAL EXPOSURE; URBAN AREAS; RURAL AREAS; WATER POLLUTION; DRINKING WATER
Bush, B.; Snow, J.; Connor, S.; Koblintz, R. 1985 Archives of Environmental Contamination and Toxicology 14:443-450

1,1'-Biphenyl, 2,3,3',4,4',5,5'-heptachloro-
39635-31-9
C12-H3-Cl7

Tissue	Cases Exposure Route	Range	Mean	General Information
12724 Milk	40	Not given	0.41+/-0.05 ng/g S.E.	1% of total level from 22 congeners (all =/>0.19 ng/g <1.0 ng/g) accounting for 30% of mean total PCB residue of 26.5+/-2.5 ng/g (S.E.). Survey from urban and rural areas on Lake Ontario (Rochester, Oswego) and mixed area on Hudson River (Albany). Total of 8 other congeners (not the 22) and p,p'-DDE comprised 88% of detected chlorinated hydrocarbons with latter as primary pollutant (mean 78 ng/g wet wt). Mothers, 3 wk postpartum, New York, collections in 1979. Lake Ontario areas contaminated with Aroclor 1254 and 1260 type mixture and Hudson River with Aroclor 1242-type mixture. GC

MILK; NEW YORK; ENVIRONMENTAL EXPOSURE; URBAN AREAS; RURAL AREAS; WATER POLLUTION; DRINKING WATER
Bush, B.; Snow, J.; Connor, S.; Koblintz, R. 1985 Archives of Environmental Contamination and Toxicology 14:443-450

1,1'-Biphenyl, 2,3,3',4,4',5,6-heptachloro- (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12725 Adipose	a) 38 b) 17 c) 56	a) Not given b) Not given c) Not given	a) 57.1 ppb b) 15.2 ppb c) 12.4 ppb	a) Current exposure b) Previous exposure c) Controls. Predominant exposure to Arochlor 1260. Some exposure to Arochlors 1254 and 1242. Switchgear shop employees engaged in transformer maintenance. GC/MS

BLOOD SERUM; ADIPOSE TISSUE; OCCUPATIONAL EXPOSURE; ADULTS; OCCUPATIONAL DISEASES; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIAL PLANTS; INDUSTRIES; OCCUPATIONAL HAZARDS
Emmett, E.A. 1985 Environmental Health Perspectives 60:185-192

1,1'-Biphenyl, 2,3,3',4,4',6-hexachloro-
74472-42-7
C12-H4-Cl6

Tissue	Cases Exposure Route	Range	Mean	General Information
12726 Adipose	a) 38 b) 17 c) 56	a) Not given b) Not given c) Not given	a) 25.1 ppb b) 3.0 ppb c) 3.6 ppb	a) Current exposure b) Previous exposure c) Controls. Predominant exposure to Arochlor 1260. Some exposure to Arochlors 1254 and 1242. Switchgear shop employees engaged in transformer maintenance. GC/MS

BLOOD SERUM; ADIPOSE TISSUE; OCCUPATIONAL EXPOSURE; ADULTS; OCCUPATIONAL DISEASES; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; HEALTH HAZARDS; INDUSTRIAL PLANTS; INDUSTRIES; OCCUPATIONAL HAZARDS
Emmett, E.A. 1985 Environmental Health Perspectives 60:185-192

1,1'-Biphenyl, 2,3,3',4,4',6-hexachloro- (No postings in CHEMLINE).
C12-H4-Cl6

Tissue	Cases Exposure Route	Range	Mean	General Information
12727 Milk	40	Not given	0.22+/-0.04 ng/g S.E.	0.8% of total level from 22 congeners (all =/>0.19 ng/g <1.0 ng/g) accounting for 30% of mean total PCB residue of 26.5+/-2.5 ng/g (S.E.). Survey from urban and rural areas on Lake Ontario (Rochester, Oswego) and mixed area on Hudson River (Albany). Total of 8 other congeners (not the 22) and p,p'-DDE comprised 88% of detected chlorinated hydrocarbons with latter as primary pollutant (mean 78 ng/g wet wt). Mothers, 3 wk postpartum, New York, collections in 1979. Lake Ontario areas contaminated with Aroclor 1254 and 1260 type mixture and Hudson River with Aroclor 1242-type mixture. e 7 GC
MILK; NEW YORK; ENVIRONMENTAL EXPOSURE; URBAN AREAS; RURAL AREAS; WATER POLLUTION; DRINKING WATER Bush, B.; Snow, J.; Connor, S.; Koblintz, R. 1985 Archives of Environmental Contamination and Toxicology 14:443-450				

1,1'-Biphenyl, 2,3,3',4',5,6-hexachloro- (No postings in CHEMLINE).
C12-H4-Cl6

Tissue	Cases Exposure Route	Range	Mean	General Information
12728 Milk	40	Not given	0.26+/-0.3 ng/g S.E.	1% of total level from 22 congeners (all =/>0.19 ng/g <1.0 ng/g) accounting for 30% of mean total PCB residue of 26.5+/-2.5 ng/g (S.E.). Survey from urban and rural areas on Lake Ontario (Rochester, Oswego) and mixed area on Hudson River (Albany). Total of 8 other congeners (not the 22) and p,p'-DDE comprised 88% of detected chlorinated hydrocarbons with latter as primary pollutant (mean 78 ng/g wet wt). Mothers, 3 wk postpartum, New York, collections in 1979. Lake Ontario areas contaminated with Aroclor 1254 and 1260 type mixture and Hudson River with Aroclor 1242-type mixture. GC
MILK; NEW YORK; ENVIRONMENTAL EXPOSURE; URBAN AREAS; RURAL AREAS; WATER POLLUTION; DRINKING WATER Bush, B.; Snow, J.; Connor, S.; Koblintz, R. 1985 Archives of Environmental Contamination and Toxicology 14:443-450				

1,1'-Biphenyl, 2,4,4'-trichloro-
7012-37-5
C12-H7-Cl3
MW 257.54

Tissue	Cases Exposure Route	Range	Mean	General Information
12729 Milk	40	Not given	0.64+/-0.06 ng/g S.E.	2.4% of total level from 22 congeners (all =/>0.19 ng/g <1.0 ng/g) accounting for 30% of mean total PCB residue of 26.5+/-2.5 ng/g (S.E.). Survey from urban and rural areas on Lake Ontario (Rochester, Oswego) and mixed area on Hudson River (Albany). Total of 8 other congeners (not the 22) and p,p'-DDE comprised 88% of detected chlorinated hydrocarbons with latter as primary pollutant (mean 78 ng/g wet wt). *Mothers, 3 wk postpartum, New York, collections in 1979. Lake Ontario areas* contaminated with Aroclor 1254 and 1260 type mixture and Hudson River with Aroclor 1242-type mixture. GC

MILK; NEW YORK; ENVIRONMENTAL EXPOSURE; URBAN AREAS; RURAL AREAS; WATER POLLUTION; DRINKING WATER
Bush, B.; Snow, J.; Connor, S.; Koblintz, R. 1985 Archives of Environmental Contamination and Toxicology 14:443-450

1,1'-Biphhenyl, 2,2',3,4,4',5'-hexachloro-
35065-28-2
C12-H4-Cl6
MW 361

Tissue	Cases Exposure Route	Range	Mean	General Information
12730 Adipose	a) 3 b) 2 c) 3 d) 15 e) 12 f) 15 g) 16 h) 24 i) 14 j) 5	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given j) Not given	a) 67+/-13 ng/gm b) 77+/-25 ng/gm c) 19+/-19 ng/gm d) 146+/-29 ng/gm e) 253+/-61 ng/gm f) 340+/-110 ng/gm g) 586+/-130 ng/gm h) 296+/-56 ng/gm i) 296+/-73 ng/gm j) 641+/-372 ng/gm S.E.	a) 0-4 yr olds b) 4-9 c) 10-19 d) 20-29 e) 30-39 f) 40-49 g) 50-59 h) 60-69 i) 70-79 j) 80-89 Autopsy samples from anterior abdominal wall. Texas Gulf Coast residents GC-EC

ADIPOSE TISSUE; ENVIRONMENTAL EXPOSURE; TEXAS; AGE; AUTOPSIES; CHLORINE ORGANIC COMPOUNDS; PESTICIDES; HEXACHLOROBENZENE; DDE; POLYCHLORINATED BIPHENYLS; BIOACCUMULATION; PESTICIDE RESIDUES; POPULATION EXPOSURE
Ansari, G.A.S.; James, G.P.; Hu, L.A.; Reynolds, E.S. 1986 Bulletin of Environmental Contamination and Toxicology 36:311-316

1,1'-Biphhenyl, 2,2',3,4,4',5'-hexachloro-
35065-28-2
C12-H4-Cl6
MW 361

Tissue	Cases Exposure Route	Range	Mean	General Information
12731 Blood	a) 7 b) 9 c) 10 Ingestion	a) Not given b) Not given c) Not given	a) 0.17+/-0.07 ppb b) 0.65+/-0.21 ppb c) 4.66+/-1.43 ppb	a) Controls b) Yusho patients exposed in western Japan in 1968 c) Yu-Cheng patients exposed in central Taiwan in 1979 Subjects ingested contaminated rice oil. Limit of detection 0.01 ppb. Controls and patients from Taiwan and Fukuoka, Japan. Acneform eruptions, hypersecretion of Meibomian glands, hyperpigmentation of the face, eyelids, gingiva, nails and mucous membrane, abdominal pain, headache, general fatigue. GC-EC

BLOOD; LIVER; ADIPOSE TISSUE; LUNGS; ENVIRONMENTAL EXPOSURE; JAPAN; TAIWAN; AUTOPSIES; INFANTS; ADULTS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUATERPHENYLS; CHLORINE ORGANIC COMPOUNDS; ACCIDENTAL POISONING; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; RICE

Masuda, Y.; Kuroki, H.; Haraguchi, K.; Nagayama, J. 1985 Environmental Health Perspectives 59:53-58

1,2-Propanediol
57-55-6
C3-H8-O2
MW 76.11, BP 189 C, VP 0.07 mm Hg at 20 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12732 Blood, serum	a) 1 b) 1 c) 1 d) 1 e) 1 Injection	a) 53-6 mg/l b) 422-6 mg/l c) 150-52 mg/l d) 147-22 mg/l e) 13-221 mg/l	a) Not applicable b) Not applicable c) Not applicable d) Not applicable e) Not applicable	a) Initial-64 hr, peak (54 mg/l) 18 hr after 57 mg/kg/d IV b) Initial-217.5 hr, peak (711 mg/l) 120.5 hr after 267 mg/kg/d IV c) Initial-128 hr, peak (150 mg/l) initially after 113 mg/kg/d IV d) Initial-60 hr, peak (173 mg/l) 24.5 hr after 771 mg/kg/d IV e) Initial-8.5 hr, peak (304 mg/l) 5 hr after 512 mg/kg/d IV Intervals between administration of drugs containing propylene glycol as solvent and intial sampling were of highly variable length. High levels were associated with high lactate (metabolite) levels. Possible cause of lactate acidosis. Patients, 2 mo-55 yr old. GC
12733 Cerebrospinal fluid	a) 1 b) 1 c) 1 Injection	a) Not applicable b) Not applicable c) 500-45 mg/l	a) 18 mg/l b) 11 mg/l c) Not applicable	a) At 6.5 hr after 57 mg/kg/d IV b) Initial measurement after 512 mg/kg/d IV c) Initial-166.5 hr, peak (566 mg/l) 11.5 hr after 267 mg/kg/d IV Intervals between administration of drugs containing propylene glycol as solvent and initial sampling were of highly variable lenth. High serum levels possible cause of lactate acidosis. Patients, 2 mo-55 yr old. GC

BLOOD SERUM; CEREBROSPINAL FLUID; DELIBERATE EXPOSURE, DRUG THERAPY; DRUGS; BIOACCUMULATION; HEALTH HAZARDS

Kelner, M.J.; Bailey, D.N. 1985 Journal of Analytical Toxicology 9:40-42

1,3-Butadiene, 1,1,2,3,4,4-hexachloro-
87-68-3
C4-Cl6
MW 260.76, MP -21 C, BP 215 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12734 Adipose	29	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 0.002+/-0.001 ug/g b) 0.002+/-0.001 ug/g c) 0.002+/-0.001 ug/g d) 0.002+/-0.001 ug/g e) 0.003+/-0.001 ug/g f) 0.002+/-0.001 ug/g g) 0.002+/-0.001 ug/g h) 0.001+/-0.000 ug/g i) 0.002+/-0.001 ug/g Wet wt	a) All cases, 29 b) Sudden deaths, 18 c) Others, 11 d) All male cases, 19 e) Male sudden deaths, 12 f) Others, male, 7 g) All female cases, 10 h) Female sudden deaths, 6 i) Others, female, 4 Data compared with previously reported levels in accident victims. Autopsy samples from nonaccidental death victims in Canada. GC; TLC

ADIPOSE TISSUE; CANADA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; CADAVERS; COMPARATIVE EVALUATIONS; POLYCHLORINATED BIPHENYLS; PESTICIDES; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; OXYCHLORDANE; NONACHLOR; HEPTACHLOR EPOXIDE; DIELDRIN; DDE; DDT; BIOLOGICAL MONITORING; POPULATION EXPOSURE; BIOCONCENTRATION

Mes, J.; Davies, D.J.; Turton, D. 1985 Ecotoxicology and Environmental Safety 10:70-74

1,3,4-Metheno-1H-cyclobuta(cd)pentalene, 1,1a,2,2,3,3a,4,5,5,5a,5b,6-do decachlorooctahydro-
2385-85-5
C10-Cl12
MW 545.59, MP 485 C, VP 6X10(E-6) mm Hg at 25 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12735 Adipose	a) 8 b) 10	a) 0.10-0.89 ppm b) Not detected-0.17 ppm	a) Not given b) Not given	a) 1980 b) 1984 Biopsies. Detected in only 2 samples in b). 31-78 yr old patients, St. Francis Hospital, Monroe, Louisiana GC-EC

ADIPOSE TISSUE; ENVIRONMENTAL EXPOSURE; LOUISIANA; BIOPSIES; DDD; DDE; DDT; DIELDRIN; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE; POLYCHLORINATED BIPHENYLS; PESTICIDES; INDUSTRIAL CHEMICALS; BIOACCUMULATION; PESTICIDE RESIDUES; POPULATION EXPOSURE

Holt, R.L.; Cruse, S.; Greer, S. 1986 Bulletin of Environmental Contamination and Toxicology 36:651-655

1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, endo,exo- (8 CI) 1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5alpha,8alpha,8abeta)- (9 CI)
309-00-2
C12-H8-Cl6
MW 365.93, MP 104 C, VP 6X10(E-6) mm Hg at 25 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12736 Milk, whole	50	Not given	0.017 ppm	Samples collected between June 1983 and June 1984. Maximum, 0.114 ppm, 68% occurrence. No occupational exposures. Lactating mothers at 2 Baghdad maternity hospitals, 28 considered younger (</=30 yr old) and 22 older (31-45 yr old). GC
MILK; ENVIRONMENTAL EXPOSURE; ADULTS; IRAQ; ALDRIN; DIELDRIN; DDE; DDD; DDT; BIOACCUMULATION; LACTATION; CHLORINE ORGANIC COMPOUNDS Al-Omar, M.A.; Tawfiq, S.J.; Al-Ogaily, N. 1985 Bulletin of Environmental Contamination and Toxicology 35:65-67				

1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-, endo,endo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2abeta,3alpha,6alpha,6abeta,7beta,7aalpha)- (9 CI)
72-20-8
C12-H8-Cl6-O
MW 380.9, MP 200 C (decomp), also reported as 245 C (decomp)

Tissue	Cases Exposure Route	Range	Mean	General Information
12737 Blood, serum	21	0-254 ppb	17.10 ppb (mean), 1 ppb (median)	Villagers with acute convulsions. No definite source identified. Data suggest source possibly sugar contaminated during transport. Talagang subdistrict, Punjab province, Pakistan, 7/14-9/26, 1984 Convulsions, headaches, nausea, vomiting and muscle spasms. Repeated attacks associated with hypoxia, pulmonary congestion and death
BLOOD SERUM; ENVIRONMENTAL EXPOSURE; PAKISTAN; NEUROLOGIC MANIFESTATIONS; CHLORINATED HYDROCARBONS; PESTICIDES; ACCIDENTAL POISONING; FOOD CONTAMINATION; HEALTH HAZARDS; POPULATION EXPOSURE National Institutes of Health, (Pakistan); World Health Organization; Centers for Disease Control 1985 Veterinary and Human Toxicology 27(2):154-155				

1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-, endo,exo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- (9 CI)
60-57-1
C12-H8-Cl6-O
MW 380.93, MP 176-177 C, VP 7.78X10(E-7) mm Hg at 20 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12738 Adipose	29	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 0.046+/-0.022 ug/g b) 0.051+/-0.025 ug/g c) 0.042+/-0.016 ug/g d) 0.048+/-0.024 ug/g e) 0.055+/-0.028 ug/g f) 0.039+/-0.011 ug/g g) 0.044+/-0.017 ug/g h) 0.040+/-0.012 ug/g i) 0.052+/-0.022 ug/g Wet wt	a) All cases, 29 b) Sudden deaths, 18 c) Others, 11 d) All male cases, 19 e) Male sudden deaths, 12 f) Others, male, 7 g) All female cases, 10 h) Female sudden deaths, 6 i) Others, female, 4 Data compared with previously reported levels in accident victims. Autopsy samples from nonaccidental death victims in Canada. GC; TLC

ADIPOSE TISSUE; CANADA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; CADAVERS; COMPARATIVE EVALUATIONS; POLYCHLORINATED BIPHENYLS; PESTICIDES; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; OXYCHLORDANE; NONACHLOR; HEPTACHLOR EPOXIDE; DIELDRIN; DDE; DDT; BIOLOGICAL MONITORING; POPULATION EXPOSURE; BIOCONCENTRATION
Mes, J.; Davies, D.J.; Turton, D. 1985 Ecotoxicology and Environmental Safety 10:70-74

Tissue	Cases Exposure Route	Range	Mean	General Information
12739 Adipose	a) 8 b) 10	a) 0.04-0.34 ppm b) 0.04-0.11 ppm	a) Not given b) Not given	a) 1980 b) 1984 Biopsies. 50% decrease in levels in b). 31-78 yr old patients, St. Francis Hospital, Monroe, Louisiana GC-EC

ADIPOSE TISSUE; ENVIRONMENTAL EXPOSURE; LOUISIANA; BIOPSIES; DDD; DDE; DDT; DIELDRIN; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE; POLYCHLORINATED BIPHENYLS; PESTICIDES; INDUSTRIAL CHEMICALS; BIOACCUMULATION; PESTICIDE RESIDUES; POPULATION EXPOSURE
Holt, R.L.; Cruse, S.; Greer, S. 1986 Bulletin of Environmental Contamination and Toxicology 36:651-655

Tissue	Cases Exposure Route	Range	Mean	General Information
12740 Blood, serum	a) 300 b) 244	a) Not given b) Not given	a) 1.9+/-0.57 ppb b) 1.8+/-0.27 ppb S.E.	a) During spraying season b) During harvest season Reported cases are those with >trace levels, total of 567 individuals examined. Citrus fieldworkers in Florida, 1981

BLOOD SERUM; OCCUPATIONAL EXPOSURE; LINDANE; HEXACHLOROBENZENE; OXYCHLORDANE; HEPTACHLOR EPOXIDE; DDE; DDT; DIELDRIN; PESTICIDES; INSECTICIDES; BIOACCUMULATION; HEALTH HAZARDS; AGRICULTURE; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES
Griffith, J.; Duncan, R.C. 1985 Bulletin of Environmental Contamination and Toxicology 35:411-417

1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-, endo,exo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- (9 CI)
60-57-1
C12-H8-Cl6-O
MW 380.93, MP 176-177 C, VP 7.78X10(E-7) mm Hg at 20 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12741 Blood, serum	3039	a) Not given b) Not given c) Not given d) 1-16 ppb	a) 1.7 ppb b) 1.4 ppb c) 1.4 ppb d) 1.4 ppb	a) 12-24 yr, 1.3%, 928 cases b) 25-44 yr, 6.4%, 855 cases c) 45-74 yr, 18.1%, 1256 cases d) 12-74 yr, 8.6%, 3039 cases Age group and % population exposed. Limit of detection 1 ppb. Subjects participating in the Second National Health and Nutrition Examination Survey, 1976-80. GC-EC

BLOOD SERUM; ENVIRONMENTAL EXPOSURE; UNITED STATES; ADOLESCENTS; ADULTS; AGE; DDT; DDE; DIELDRIN; HEXACHLOROBENZENE; NONACHLOR; HEPTACHLOR EPOXIDE; OXYCHLORDANE; BIOACCUMULATION; POPULATION EXPOSURE; PESTICIDE RESIDUES; PESTICIDES
Murphy, R.; Harvey, C. 1985 Environmental Health Perspectives 60:115-120

Tissue	Cases Exposure Route	Range	Mean	General Information
12742 Milk, whole	a) 45 b) 95	a) 0.002-0.024 ppm b) 0.000-0.031 ppm	a) 0.009+/-0.006 ppm b) 0.008+/-0.005 ppm	a) Urban area, 130 samples b) Rural area, 137 samples 50 ml samples collected at different stages during feeding and from several feedings. Increase from 1970 level appears to be related to required termite treatment for all new houses. 19-41 yr old breast-feeding mothers, Western Australia. 1979-80. TLC/GC

MILK; ENVIRONMENTAL EXPOSURE; AUSTRALIA; DDT; HEXACHLOROBENZENE; ALDRIN; DIELDRIN; PESTICIDES; BIOLOGICAL MONITORING; BIOACCUMULATION; LACTATION; PESTICIDE RESIDUES; RURAL AREAS; URBAN AREAS
Stacey, C.I.; Perriman, W.S.; Whitney, S. 1985 Archives of Environmental Health 40(2):102-108

Tissue	Cases Exposure Route	Range	Mean	General Information
12743 Milk, whole	50	Not given	0.030 ppm	Samples collected between June 1983 and June 1984. Maximum, 0.809 ppm, 66% occurrence. No occupational exposures. Lactating mothers at 2 Baghdad maternity hospitals, 28 considered younger (<=30 yr old) and 22 older (31-45 yr old). GC

MILK; ENVIRONMENTAL EXPOSURE; ADULTS; IRAQ; ALDRIN; DIELDRIN; DDE; DDD; DDT; BIOACCUMULATION; LACTATION; CHLORINE ORGANIC COMPOUNDS
Al-Omar, M.A.; Tawfiq, S.J.; Al-Ogaily, N. 1985 Bulletin of Environmental Contamination and Toxicology 35:65-67

1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-, endo,exo- (8 CI) 2,7:3,6-Dimethanonaphth(2,3-b)oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)- (9 CI)
60-57-1
C12-H8-Cl6-O
MW 380.93, MP 176-177 C, VP 7.78X10(E-7) mm Hg at 20 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12744 Milk, whole	14	a) 2-35 ng/g b) 26-14 ng/g c) 19-31 ng/g d) 16-16 ng/g	a) 13+/-7 ng/g b) Not applicable c) Not applicable d) Not applicable	a) 74 samples collected in 1980-81, 14 cases b) 2-7 mo, peak (26 ng/g) at 2 mo, 1 case c) 4-9 mo, peak (31 ng/g) at 7 mo, 1 case d) 7-9 mo, peak (24 ng/g) at 8 mo, 1 case b-d) after residence sprayed with aldrin. Residences sprayed with heptachlor, chlordane, aldrin, or non-organochlorine pesticide to control termites. Nursing mothers living in Perth GC

MILK; ENVIRONMENTAL EXPOSURE; ADULTS; AUSTRALIA; HEXACHLOROBENZENE; HEPTACHLOR EPOXIDE; DIELDRIN; DDE; DDT; PESTICIDES; BIOACCUMULATION; PESTICIDE RESIDUES
Stacey, C.I.; Tatum, T. 1985 Bulletin of Environmental Contamination and Toxicology 35:202-208

Tissue	Cases Exposure Route	Range	Mean	General Information
12745 Milk, whole	a) 1 b) 1 c) 1 d) 1	a) Not detected-0.021 mg/kg b) Not detected-0.077 mg/kg c) Not detected-0.105 mg/kg d) Not detected-0.144 mg/kg	a) 0.007+/-0.006 mg/kg b) 0.018+/-0.019 mg/kg c) 0.023+/-0.030 mg/kg d) 0.027+/-0.044 mg/kg	0.5 g collected weekly for 20 wk. Detection limit 1 pptm. Sum of aldrin and dieldrin. Healthy 30-45 yr olds, Baghdad, Iraq GC-EC
12746 Placenta	4	0.006-0.020 mg/kg	Not given	Immediately after delivery. Sum of aldrin and dieldrin. Healthy 30-45 yr olds, Baghdad, Iraq GC-EC

MILK; PLACENTA; ENVIRONMENTAL EXPOSURE; IRAQ; DDT; DIELDRIN; CHLORDANE; HEXACHLOROCYCLOHEXANE; INSECTICIDES; BIOACCUMULATION; HEALTH HAZARDS
Al-Omar, M.; Abdul-Jalil, F.H.; Al-Ogaily, N.; Tawfiq, S.J.; Al-Bassomy, M. 1986 Environmental Pollution (Series A) 42:79-91

2(1H)-Pyridone, 3,5,6-trichloro- (8 CI); 2(1H)-Pyridinone, 3,5,6-trichloro- (9 CI)
6515-38-4
C5-H2-Cl3-N-O

Tissue	Cases Exposure Route	Range	Mean	General Information
12747 Urine				Review. The occurrence and analysis of priority toxic pollutants in human urine, covering the ten-year period 1973-1983, is discussed.

URINE; ENVIRONMENTAL EXPOSURE; OCCUPATIONAL EXPOSURE; DELIBERATE EXPOSURE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PHTHALLIC ACIDS; PHENOLS; BIOACCUMULATION; PESTICIDES
Fatiadi, A.J. 1984 Environment International 10:175-205

2(1H)-Pyridone, 3,5,6-trichloro- (8 CI); 2(1H)-Pyridinone, 3,5,6-trichloro- (9 CI)
6515-38-4
C5-H2-Cl3-N-O

Tissue	Cases Exposure Route	Range	Mean	General Information
12748 Urine				Review. Occurrence and determination of selected toxic pollutants and their metabolites. Emphasis on recent references (1975-mid 1982).

URINE; REVIEW; CHLORINATED HYDROCARBONS; HERBICIDES; INDUSTRIAL CHEMICALS; PESTICIDES; SOLVENTS; PHENOLS; PHTHALLIC ACIDS BIOACCUMULATION; METABOLITES; HEALTH HAZARDS; INDUSTRIES; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES
Fatiadi, A.J. 1983 EPA Report Number EPA 600/X-83-052, August 1983

2-Propanol, 1,3-dichloro-, phosphate (3:1)
13674-87-8
C9-H15-Cl6-O4-P
MW 430.91

Tissue	Cases Exposure Route	Range	Mean	General Information
12749 Adipose	115	a) 0.5-257.1 ng/g b) 0.6-229.5 ng/g c) 0.5-257.1 ng/g Extracted fat basis	a) 28.7+/-66.1 ng/g b) 28.7+/-59.0 ng/g c) 28.7+/-28.7 ng/g Extracted fat basis	a) Males b) Females c) All cases Autopsies. Levels <10 ng/g in 21 cases, not detected in 84 cases. Kingston and Ottawa, Eastern Ontario GC

ADIPOSE TISSUE; CANADA; AUTOPSIES; ORGANOPHOSPHATES; INDUSTRIAL CHEMICALS; BIOACCUMULATION; FIRE RETARDANTS
LeBel, G.L.; Williams D.T. 1986 Bulletin of Environmental Contamination and Toxicology 37:41-46

2,3,4,5,3',4'-Hexachlorobiphenyl (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12750 Blood	a) 7 b) 9 c) 10 Ingestion	a) Not given b) Not given c) Not given	a) 0.04+/-0.02 ppb b) 0.28+/-0.07 ppb c) 1.79+/-0.69	a) Controls b) Yusho patients exposed in western Japan in 1968 c) Yu-Cheng patients exposed in central Taiwan in 1979 Subjects ingested contaminated rice oil. Limit of detection 0.01 ppb. Controls and patients from Taiwan and Fukuoka, Japan. Acneform eruptions, hypersecretion of Meibomian glands, hyperpigmentation of the face, eyelids, gingiva, nails and mucous membrane, abdominal pain, headache, general fatigue. GC-EC

BLOOD; LIVER; ADIPOSE TISSUE; LUNGS; ENVIRONMENTAL EXPOSURE; JAPAN; TAIWAN; AUTOPSIES; INFANTS; ADULTS; POLYCHLORINATED BIPHENYLS; POLYCHLORINATED QUATERPHENYLS; CHLORINE ORGANIC COMPOUNDS; ACCIDENTAL POISONING; BIOACCUMULATION; FOOD CONTAMINATION; HEALTH HAZARDS; RICE
Masuda, Y.; Kuroki, H.; Haraguchi, K.; Nagayama, J. 1985 Environmental Health Perspectives 59:53-58

2,3,4,5,3',4'-Hexachlorobiphenyl (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12751 Milk	40	Not given	1.0+/-0.1 ng/g S.E.	4% of total level from 8 congeners (all=/>1 ng/g) accounting for 52% of mean total PCB residue of 26.5+/-2.5 ng/g (S.E.). Survey from urban and rural areas on Lake Ontario (Rochester, Oswego) and mixed area on Hudson River (Albany). Total of 8 congeners and p,p'-DDE comprised 88% of detected chlorinated hydrocarbons with latter as primary pollutant (mean 78 ng/g wet wt). Mothers, 3 wk postpartum, New York, collections in 1979. Lake Ontario areas contaminated with Aroclor 1254 and 1260 type mixture and Hudson River with Aroclor 1242-type mixture. GC
MILK; NEW YORK; ENVIRONMENTAL EXPOSURE; URBAN AREAS; RURAL AREAS; WATER POLLUTION; DRINKING WATER Bush, B.; Snow, J.; Connor, S.; Koblintz, R. 1985 Archives of Environmental Contamination and Toxicology 14:443-450				

2,3,4,6,2',3',4'-Heptachlorobiphenyl (No postings in CHEMLINE).

Tissue	Cases Exposure Route	Range	Mean	General Information
12752 Milk	40	Not given	0.57+/-0.1 ng/g S.E.	2.1% of total level from 22 congeners (all =/>0.19 ng/g <1.0 ng/g) accounting for 30% of mean total PCB residue of 26.5+/-2.5 ng/g (S.E.). Survey from urban and rural areas on Lake Ontario (Rochester, Oswego) and mixed area on Hudson River (Albany). Total of 8 other congeners (not the 22) and p,p'-DDE comprised 88% of detected chlorinated hydrocarbons with latter as primary pollutant (mean 78 ng/g wet wt). Mothers, 3 wk postpartum, New York, collections in 1979. Lake Ontario areas contaminated with Aroclor 1254 and 1260 type mixture and Hudson River with Aroclor 1242-type mixture. GC
MILK; NEW YORK; ENVIRONMENTAL EXPOSURE; URBAN AREAS; RURAL AREAS; WATER POLLUTION; DRINKING WATER Bush, B.; Snow, J.; Connor, S.; Koblintz, R. 1985 Archives of Environmental Contamination and Toxicology 14:443-450				

2,3'-Bipyridine, 1,2,3,6-tetrahydro-1-nitroso-, (S)-
71267-22-6
C10-H11-N3-O

Tissue	Cases Exposure Route	Range	Mean	General Information
12753 Saliva	10 Ingestion	Not detected-133.0 ppb	Not given	After 20 min chewing 500 mg tobacco with lime, 2 different days. 25-45 yr old habitual users of tobacco products, Bombay, India GLC-TEA
SALIVA; DELIBERATE EXPOSURE; INDIA; COMPARATIVE EVALUATIONS; NITROSAMINES; HEALTH HAZARDS; INGESTION; TOBACCOS Bhide, S.V.; Nair, U.J.; Nair, J.; Spiegelhalder, B.; Preussmann, R. 1986 Food and Chemical Toxicology 24(4):293-297				

2,5-Hexanedione
110-13-4
C6-H10-O2
MW 114.14, BP 188 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12754 Urine	12	0.12-0.78 mg/L	0.45+/-0.20 mg/L	Spot samples from subjects not exposed to n-hexane or related hydrocarbons. Levels depended on pH employed for acid hydrolysis. 21-58 yr olds. GC/MS
URINE; MEASUREMENT METHODS Fedtke, N.; Bolt, H.M. 1986 International Archives of Occupational and Environmental Health 57:143-148				

2H-1-Benzopyran-6-ol, 3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl)-, (2R-(2R(4R,8R)))-
59-02-9
C29-H50-O2
MW 430.69, MP 2.5-3.5 C, BP 200-220 C at 0.1 mm Hg

Tissue	Cases Exposure Route	Range	Mean	General Information
12755 Blood, serum	102	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given	a) 4.6 mg/l b) 5.0 mg/l c) 4.4 mg/l d) 5.6 mg/l e) 5.4 mg/l f) 4.7 mg/l g) 4.9 mg/l h) 5.0 mg/l	a) Male smokers who died of cancer, patients, 16 cases b) Male smokers, control, no cancer, 16 cases c) Male non-smokers, patients, 14 cases d) Male non-smokers, controls, 14 cases e) Females, patients, 21 cases f) Females, controls, 21 cases g) All patients, 51 cases h) All controls, 51 cases Samples taken during Eastern Finland Heart Survey, 1977 and stored at 20 deg C until analysis, 4/84. Patients and controls matched for age, sex and smoking. Patients died of cancer prior to 12/31/80. Significant difference c) from d), $p<0.05$. 30-64 yr olds in 1977, North Karelia and Kuopio, Finland. HPLC
BLOOD SERUM; FINLAND; NEOPLASMS; SELENIUM; VITAMIN A; VITAMIN E; BIOLOGICAL MONITORING Salonen, J.R.; Salonen, R.; Lappetelainen, R.; Maenpaa, P.H.; Alfthan, G.; Puska, P. 1985 British Medical Journal 290(6466):417-420				

2H-1,3,2-Oxazaphosphorine, 2-(bis(2-chloroethyl)amino)tetrahydro-, 2-oxide (8 CI); 2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide (9 CI)
50-18-0
C7-H15-Cl2-N2-O2-P
MW 261.11

Tissue	Cases Exposure Route	Range	Mean	General Information
12756 Urine	20	Not detected-2.5 ug	Not given	24 hour recovery, begun Thursday a.m. 100-1000 (mean+/-350) mg handled 1-30 times between Monday and Thursday. Not detectable (<0.5 ug/24 hr) in 15 cases. Of 5 with detectable levels all were smokers, and 4 had handled cyclophosphamide at least 10 times. Detectable level (1.1 ug/24 hr) found in 1 of 21 controls. 21-55 yr old hospital workers, Holland GC/MS

URINE; OCCUPATIONAL EXPOSURE; NETHERLANDS; CARCINOGEN; BIOLOGICAL MONITORING; BIOACCUMULATION; OCCUPATIONAL HAZARDS; SMOKING
Evelo, C.T.A.; Bos, R.P.; Peters, J.G.P.; Henderson, P.Th. 1986 International Archives of Occupational and Environmental Health 58:151-155

3,6-Pyridazinedione, 1,2-dihydro-
123-33-1
C4-H4-N2-O2
MW 112.09, MP greater than 300 C, VP 0 mm Hg at 10, 30, 50 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12757 Urine	4 Inhalation Dermal	Undetectable-0.02 ppm	Not applicable	Recovery from 0 to 48 hr after 2 exposure periods while harvesting tobacco sprayed 3 d earlier with the K salt formulation (Royal MH-30) at 2.5 kg a.i. (active ingredient)/ha (about 170 mg a.i./plant). Only 24-48 hr samples for the second exposure period had detectable levels (0.02 ppm). Dermal exposure, measured by hand rinses and absorbent pads, averaged 15-2100 ug/h. Respiratory exposure 3.3-4.8 ug/h. Volunteer harvesters, Central Crops Research Station, 1978. Clayton, NC Spectrophotometry

URINE; OCCUPATIONAL EXPOSURE; NORTH CAROLINA; HERBICIDES; AGRICULTURE; FARMS; INHALATION; TOBACCOS
Herman, N.D.; Hunt, T.W.; Sheets, T.J. 1985 Bulletin of Environmental Contamination and Toxicology 34:469-475

Tissue	Cases Exposure Route	Range	Mean	General Information
12758 Urine	a) 4 b) 3 Inhalation Dermal	a) 0.03-0.26 ppm b) <0.03-0.07 ppm	a) Not given b) Not given	a) Recovery immediately before, and during 6-12 hr period after, applying the K salt formulation (Royal MH-30) to tobacco plants, using high-clearance tractor b) Using conventional (low) farm tractors Application rate 2.5 kg a.i. (active ingredient)/ha. Exposure times 1.75-5.5 hr. Exposure rates, as measured with absorbent pads and respirators worn by applicators, much greater (2-25X) in b) than in a). Herbicide applicators, NC Spectrophotometry

URINE; OCCUPATIONAL EXPOSURE; NORTH CAROLINA; HERBICIDES; AGRICULTURE; FARMS; INHALATION; TOBACCOS; OCCUPATIONAL HAZARDS
Hunt, T.W.; Wojeck, G.W.; Sheets, T.J. 1985 Bulletin of Environmental Contamination and Toxicology 34:403-406

4-Biphenylol (8 CI); (1,1'-Biphenyl)-4-ol (9 CI)
92-69-3
C12-H10-O
MW 170.2, MP 164-165 C, BP 305-308 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12759 Urine	19 Inhalation	0.0-1.490 mg/g creatinine	Not applicable	Range of 7-day means. Amount excreted before and after shift with exposure to Dowtherm A (a eutectic mixture of 26.5% diphenyl and 73.5% diphenylether by wt) at a mean of 44 mg/cu m. Individual 7-day means, ranges also given. 2-Hydroxydiphenyl also present. 23-61 (mean 39.4+/-14.6) yr old workers in nylon-producing plant Fluorimetry
OCCUPATIONAL EXPOSURE; OCCUPATIONAL HAZARDS; URINE; BIPHENYL COMPOUNDS; AIR POLLUTION; INHALATION; INDUSTRIAL ATMOSPHERES; INDUSTRIAL POLLUTION Dorgelo, F.O.; Verver, G.; Wieling, G.; Topp, R.J.; Boleij, J.S.M.; Pal, T.M. 1985 International Archives of Occupational and Environmental Health 56:129-134				

4-Cyclohexene-1,2-dicarboximide (8 CI); 1H-Isoindole-1,3-dione, 3a,4,7,7a-tetrahydro- (9 CI)
85-40-5
C8-H9-N-O2
MW 151.1

Tissue	Cases Exposure Route	Range	Mean	General Information
12760 Urine	44	a) 0.024+/-0.012-0.045+/-0.031 ppm b) 0.033+/-0.017-0.059+/-0.51 ppm c) 0.039+/-0.022-0.059+/-0.033 ppm	a) 0.032 ppm b) 0.050 ppm c) 0.047 ppm	a) Background level, sampled before exposure b) Evening sample, 4 hr after exposure c) Morning after exposure Metabolite (THPI). Ranges of means for workers engaged in 3 field operations: thinning on captan-dusted plot (10% formulation), thinning on plot treated with 50% wettable powder (W.P.), and harvesting on W.P.-treated plot. Pre- and post-exposure levels significantly different only for dusted plot. Protective clothing and gloves used, but no respirators. Loader/mixer/applicators also monitored, with and without respirators. No significant trends shown between pre- and post-exposure samples, except for one applicator who wore respirator during dusting (background level 0.04 ppm, evening 0.07 ppm). Foliage and grape residues of captan and THPI were measured, as well as levels found in air samplers and on clothing patches and gloves, which were used to estimate worker exposures. Grape field workers, central California GC
URINE; OCCUPATIONAL EXPOSURE; CALIFORNIA; FUNGICIDES; AGRICULTURE; BIOACCUMULATION; CROP DUSTING; METABOLITES; OCCUPATIONAL HAZARDS; ORCHARDS Winterlin, W.L.; Kilgore, W.W.; Mourer, C.R.; Hall, G.; Hodapp, D. 1986 Archives of Environmental Contamination and Toxicology 15:301-311				

4,4'-Bipyridinium, 1,1'-dimethyl-
4685-14-7
C12-H14-N2
MW 186, MP 300 C (decomp)

Tissue	Cases Exposure Route	Range	Mean	General Information
12761 Adrenal gland	1 Ingestion	Not applicable	2.9 ug/g Wet wt	At autopsy 2 hr after death which occurred 110 hr following ingestion of 200 ml undiluted Gramoxone (40 g paraquat). Estimated total in this tissue, 0.1 mg. 30 yr old man, admitted 2 hr after suicide attempt Various changes in biochemical parameters during treatment for poisoning by multisystem poison. Death from cardiac arrest Necrosis in kidney epithelium. Intrahepatic cholestasis. Lungs showed early fibrosis, congestion, alveolar bleeding, edema, accumulation of macrophages and leucocytes. Erosions in esophagus and stomach Colorimetry

DELIBERATE EXPOSURE; SUICIDE; BLOOD; MUSCLES; PANCREAS; PROSTATE; THYROID GLANDS; LUNGS; BONE MARROW; KIDNEYS; SPLEEN; ADRENAL GLANDS; HEART; LIVER; STOMACH; TESTES; AUTOPSIES; PESTICIDES; HERBICIDES

Van de Vyver, F.L.; Giuliano, R.A.; Paulus, G.J.; Verpooten, G.A.; Franke, J.P.; De Zeeuw, R.A.; Van Gaal, L.F.; De Broe, M.E. 1985 Clinical Toxicology 23(2-3):117-131

Tissue	Cases Exposure Route	Range	Mean	General Information
12762 Blood	4 Ingestion	0.2-25 ug/ml	Not applicable	At postmortem examination, after drinking Gramoxone (3 cases) or 20% shell paraquat (1 case). Improved assay procedure. Poisoning victims Lung congestion and edema, liver and kidney congestion. HPLC

LIVER; BLOOD; URINE; KIDNEYS; DELIBERATE EXPOSURE; ENVIRONMENTAL EXPOSURE; AUTOPSIES; CASE HISTORIES; SUICIDE; MEASUREMENT METHODS; HERBICIDES; ACCIDENTAL POISONING; HEALTH HAZARDS; INHALATION

Queree, E.A.; Dickson, S.J.; Shaw, S.M. 1985 Journal of Analytical Toxicology 9:10-14

Tissue	Cases Exposure Route	Range	Mean	General Information
12763 Blood	1 Ingestion	15.8-1.25 ug/ml	Not given	High, at admission and low, 8 hr later after hemoperfusion and hemodialysis. Low value estimated from graph. After treatment, limited rebound of level never exceeded about 2.6 ug/ml (estimated from graph). 30 yr old man, admitted 2 hr after suicide attempt Various changes in biochemical parameters during treatment for poisoning by multisystem poison. Death from cardiac arrest Necrosis in kidney epithelium. Intrahepatic cholestasis. Lungs showed early fibrosis, congestion, alveolar bleeding, edema, accumulation of macrophages and leucocytes. Erosions in esophagus and stomach Colorimetry

DELIBERATE EXPOSURE; SUICIDE; BLOOD; MUSCLES; PANCREAS; PROSTATE; THYROID GLANDS; LUNGS; BONE MARROW; KIDNEYS; SPLEEN; ADRENAL GLANDS; HEART; LIVER; STOMACH; TESTES; AUTOPSIES; PESTICIDES; HERBICIDES

Van de Vyver, F.L.; Giuliano, R.A.; Paulus, G.J.; Verpooten, G.A.; Franke, J.P.; De Zeeuw, R.A.; Van Gaal, L.F.; De Broe, M.E. 1985 Clinical Toxicology 23(2-3):117-131

4,4'-Bipyridinium, 1,1'-dimethyl-
4685-14-7
C12-H14-N2
MW 186, MP 300 C (decomp)

Tissue	Cases Exposure Route	Range	Mean	General Information
12764 Blood	1	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 35 mg/L b) 41 mg/L c) 41 mg/L d) 37 mg/L e) 34 mg/L f) Not detected	a) Pretreatment of sample: Dialysis, analysis in Krackow b) Analysis in Groningen c) Ultrafiltration, analysis in Krackow d) Analysis in Groningen e) Coagulation, analysis in Krackow f) Analysis in Groningen Parallel determinations at 2 labs. Means of 3-6 determination. Dialysis and ultrafiltration gave cleanest samples, lowest background, latter method considered best. Fatal case of Gramoxone poisoning, Krakow Spectrophotometry

MEASUREMENT METHODS; PARAQUAT; BLOOD; LIVER; COMPARATIVE EVALUATIONS; AUTOPSIES; POLAND; NETHERLANDS; PESTICIDES; PESTICIDE RESIDUES
de Zeeuw, R.A.; Wijsbeek, J.; Franke, J.P.; Bogusz, M.; Klys, M. 1986 Journal of Forensic Sciences 31(2)504-510

Tissue	Cases Exposure Route	Range	Mean	General Information
12765 Bone marrow	1 Ingestion	Not applicable	4.0 ug/g Wet wt	At autopsy 2 hr after death which occurred 110 hr following ingestion of 200 ml undiluted Gramoxone (40 g paraquat). Estimated total in this tissue, 39 mg. 30 yr old man, admitted 2 hr after suicide attempt Various changes in biochemical parameters during treatment for poisoning by multisystem poison. Death from cardiac arrest Necrosis in kidney epithelium. Intrahepatic cholestasis. Lungs showed early fibrosis, congestion, alveolar bleeding, edema, accumulation of macrophages and leucocytes. Erosions in esophagus and stomach Colorimetry
12766 Heart	1 Ingestion	Not applicable	2.8 ug/g	At autopsy 2 hr after death which occurred 110 hr following ingestion of 200 ml undiluted Gramoxone (40 g paraquat). Estimated total in this tissue, 0.9 mg. 30 yr old man, admitted 2 hr after suicide attempt Various changes in biochemical parameters during treatment for poisoning by multisystem poison. Death from cardiac arrest Necrosis in kidney epithelium. Intrahepatic cholestasis. Lungs showed early fibrosis, congestion, alveolar bleeding, edema, accumulation of macrophages and leucocytes. Erosions in esophagus and stomach Colorimetry

DELIBERATE EXPOSURE; SUICIDE; BLOOD; MUSCLES; PANCREAS; PROSTATE; THYROID GLANDS; LUNGS; BONE MARROW; KIDNEYS; SPLEEN; ADRENAL GLANDS; HEART; LIVER; STOMACH; TESTES; AUTOPSIES; PESTICIDES; HERBICIDES
Van de Vyver, F.L.; Giuliano, R.A.; Paulus, G.J.; Verpooten, G.A.; Franke, J.P.; De Zeeuw, R.A.; Van Gaal, L.F.; De Broe, M.E. 1985 Clinical Toxicology 23(2-3):117-131

4,4'-Bipyridinium, 1,1'-dimethyl-
4685-14-7
C12-H14-N2
MW 186, MP 300 C (decomp)

Tissue	Cases Exposure Route	Range	Mean	General Information
12767 Kidney	1 Inhalation	Not applicable	0.9 ug/g	At postmortem examination, after spraying with paraquat. Improved assay procedure. Poisoning victim Lung edema, kidney congestion HPLC

LIVER; BLOOD; URINE; KIDNEYS; DELIBERATE EXPOSURE; ENVIRONMENTAL EXPOSURE; AUTOPSIES; CASE HISTORIES; SUICIDE; MEASUREMENT METHODS; HERBICIDES; ACCIDENTAL POISONING; HEALTH HAZARDS; INHALATION
Queree, E.A.; Dickson, S.J.; Shaw, S.M. 1985 Journal of Analytical Toxicology 9:10-14

Tissue	Cases Exposure Route	Range	Mean	General Information
12768 Kidney	1 Ingestion	Not applicable	3.1 ug/g Wet wt	At autopsy 2 hr after death which occurred 110 hr following ingestion of 200 ml undiluted Gramoxone (40 g paraquat). Estimated total in this tissue, 0.9 mg. 30 yr old man, admitted 2 hr after suicide attempt Various changes in biochemical parameters during treatment for poisoning by multisystem poison. Death from cardiac arrest Necrosis in kidney epithelium. Intrahepatic cholestasis. Lungs showed early fibrosis, congestion, alveolar bleeding, edema, accumulation of macrophages and leucocytes. Erosions in esophagus and stomach Colorimetry

DELIBERATE EXPOSURE; SUICIDE; BLOOD; MUSCLES; PANCREAS; PROSTATE; THYROID GLANDS; LUNGS; BONE MARROW; KIDNEYS; SPLEEN; ADRENAL GLANDS; HEART; LIVER; STOMACH; TESTES; AUTOPSIES; PESTICIDES; HERBICIDES
Van de Vyver, F.L.; Giuliano, R.A.; Paulus, G.J.; Verpooten, G.A.; Franke, J.P.; De Zeeuw, R.A.; Van Gaal, L.F.; De Broe, M.E. 1985 Clinical Toxicology 23(2-3):117-131

Tissue	Cases Exposure Route	Range	Mean	General Information
12769 Liver	5 Ingestion Inhalation	0.3-146 ug/g	Not applicable	At postmortem examination, after drinking Gramoxone (3 cases) or 20% shell paraquat (1 case), or spraying with paraquat (1 case). Improved assay procedure. Poisoning victims Lung congestion and edema, liver and kidney congestion. HPLC

LIVER; BLOOD; URINE; KIDNEYS; DELIBERATE EXPOSURE; ENVIRONMENTAL EXPOSURE; AUTOPSIES; CASE HISTORIES; SUICIDE; MEASUREMENT METHODS; HERBICIDES; ACCIDENTAL POISONING; HEALTH HAZARDS; INHALATION
Queree, E.A.; Dickson, S.J.; Shaw, S.M. 1985 Journal of Analytical Toxicology 9:10-14

4,4'-Bipyridinium, 1,1'-dimethyl-
4685-14-7
C12-H14-N2
MW 186, MP 300 C (decomp)

Tissue	Cases Exposure Route	Range	Mean	General Information
12770 Liver	1 Ingestion	Not applicable	2.3 ug/g Wet wt	At autopsy 2 hr after death which occurred 110 hr following ingestion of 200 ml undiluted Gramoxone (40 g paraquat). Estimated total in this tissue, 3.7 mg. 30 yr old man, admitted 2 hr after suicide attempt Various changes in biochemical parameters during treatment for poisoning by multisystem poison. Death from cardiac arrest Necrosis in kidney epithelium. Intrahepatic cholestasis. Lungs showed early fibrosis, congestion, alveolar bleeding, edema, accumulation of macrophages and leucocytes. Erosions in esophagus and stomach Colorimetry

DELIBERATE EXPOSURE; SUICIDE; BLOOD; MUSCLES; PANCREAS; PROSTATE; THYROID GLANDS; LUNGS; BONE MARROW; KIDNEYS; SPLEEN; ADRENAL GLANDS; HEART; LIVER; STOMACH; TESTES; AUTOPSIES; PESTICIDES; HERBICIDES

Van de Vyver, F.L.; Giuliano, R.A.; Paulus, G.J.; Verpooten, G.A.; Franke, J.P.; De Zeeuw, R.A.; Van Gaal, L.F.; De Broe, M.E. 1985 Clinical Toxicology 23(2-3):117-131

Tissue	Cases Exposure Route	Range	Mean	General Information
12771 Liver	1	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given	a) 127 mg/kg b) 123 mg/kg c) 118 mg/kg d) 129 mg/kg e) 125 mg/kg f) 136 mg/kg	a) Pretreatment of sample: Dialysis, analysis in Krackow b) Analysis in Groningen c) Ultrafiltration, analysis in Krackow d) Analysis in Groningen e) Coagulation, analysis in Krackow f) Analysis in Groningen Parallel determinations at 2 labs. Means of 3-6 determination. Dialysis and ultrafiltration gave cleanest samples, lowest background, latter method considered best. Fatal case of Gramoxone poisoning, Krakow Spectrophotometry

MEASUREMENT METHODS; PARAQUAT; BLOOD; LIVER; COMPARATIVE EVALUATIONS; AUTOPSIES; POLAND; NETHERLANDS; PESTICIDES; PESTICIDE RESIDUES

de Zeeuw, R.A.; Wijsbeek, J.; Franke, J.P.; Bogusz, M.; Klys, M. 1986 Journal of Forensic Sciences 31(2)504-510

4,4'-Bipyridinium, 1,1'-dimethyl-
4685-14-7
C12-H14-N2
MW 186, MP 300 C (decomp)

Tissue	Cases Exposure Route	Range	Mean	General Information
12772 Lung	1 Ingestion	Not applicable	4.0 ug/g Wet wt	At autopsy 2 hr after death which occurred 110 hr following ingestion of 200 ml undiluted Gramoxone (40 g paraquat). Estimated total in this tissue, 1 mg. 30 yr old man, admitted 2 hr after suicide attempt Various changes in biochemical parameters during treatment for poisoning by multisystem poison. Death from cardiac arrest Necrosis in kidney epithelium. Intrahepatic cholestasis. Lungs showed early fibrosis, congestion, alveolar bleeding, edema, accumulation of macrophages and leucocytes. Erosions in esophagus and stomach Colorimetry
12773 Muscle	1 Ingestion	Not applicable	9.4 ug/g Wet wt	At autopsy 2 hr after death which occurred 110 hr following ingestion of 200 ml undiluted Gramoxone (40 g paraquat). Estimated total in this tissue, 263 mg. 30 yr old man, admitted 2 hr after suicide attempt Various changes in biochemical parameters during treatment for poisoning by multisystem poison. Death from cardiac arrest Necrosis in kidney epithelium. Intrahepatic cholestasis. Lungs showed early fibrosis, congestion, alveolar bleeding, edema, accumulation of macrophages and leucocytes. Erosions in esophagus and stomach Colorimetry
12774 Pancreas	1 Ingestion	Not applicable	6 ug/g Wet wt	At autopsy 2 hr after death which occurred 110 hr following ingestion of 200 ml undiluted Gramoxone (40 g paraquat). Estimated total in this tissue, 0.4 mg. 30 yr old man, admitted 2 hr after suicide attempt Various changes in biochemical parameters during treatment for poisoning by multisystem poison. Death from cardiac arrest Necrosis in kidney epithelium. Intrahepatic cholestasis. Lungs showed early fibrosis, congestion, alveolar bleeding, edema, accumulation of macrophages and leucocytes. Erosions in esophagus and stomach Colorimetry
12775 Prostate	1 Ingestion	Not applicable	5.6 ug/g Wet wt	At autopsy 2 hr after death which occurred 110 hr following ingestion of 200 ml undiluted Gramoxone (40 g paraquat). Estimated total in this tissue, 0.1 mg. 30 yr old man, admitted 2 hr after suicide attempt Various changes in biochemical parameters during treatment for poisoning by multisystem poison. Death from cardiac arrest Necrosis in kidney epithelium. Intrahepatic cholestasis. Lungs showed early fibrosis, congestion, alveolar bleeding, edema, accumulation of macrophages and leucocytes. Erosions in esophagus and stomach Colorimetry

(next page)

4,4'-Bipyridinium, 1,1'-dimethyl-
4685-14-7
C12-H14-N2
MW 186, MP 300 C (decomp)

(continued)

Tissue	Cases Exposure Route	Range	Mean	General Information
12776 Spleen	1 Ingestion	Not applicable	2.9 ug/g Wet wt	At autopsy 2 hr after death which occurred 110 hr following ingestion of 200 ml undiluted Gramoxone (40 g paraquat). Estimated total in this tissue, 0.5 mg. 30 yr old man, admitted 2 hr after suicide attempt Various changes in biochemical parameters during treatment for poisoning by multisystem poison. Death from cardiac arrest Necrosis in kidney epithelium. Intrahepatic cholestasis. Lungs showed early fibrosis, congestion, alveolar bleeding, edema, accumulation of macrophages and leucocytes. Erosions in esophagus and stomach Colorimetry
12777 Stomach	1 Ingestion	Not applicable	0.6 ug/g Wet wt	At autopsy 2 hr after death which occurred 110 hr following ingestion of 200 ml undiluted Gramoxone (40 g paraquat). Estimated total in this tissue, 0.1 mg. 30 yr old man, admitted 2 hr after suicide attempt Various changes in biochemical parameters during treatment for poisoning by multisystem poison. Death from cardiac arrest Necrosis in kidney epithelium. Intrahepatic cholestasis. Lungs showed early fibrosis, congestion, alveolar bleeding, edema, accumulation of macrophages and leucocytes. Erosions in esophagus and stomach Colorimetry
12778 Testis	1 Ingestion	Not applicable	0.8 ug/g Wet wt	At autopsy 2 hr after death which occurred 110 hr following ingestion of 200 ml undiluted Gramoxone (40 g paraquat). Estimated total in this tissue, 0.1 mg. 30 yr old man, admitted 2 hr after suicide attempt Various changes in biochemical parameters during treatment for poisoning by multisystem poison. Death from cardiac arrest Necrosis in kidney epithelium. Intrahepatic cholestasis. Lungs showed early fibrosis, congestion, alveolar bleeding, edema, accumulation of macrophages and leucocytes. Erosions in esophagus and stomach Colorimetry
12779 Thyroid gland	1 Ingestion	Not applicable	4.2 ug/g Wet wt	At autopsy 2 hr after death which occurred 110 hr following ingestion of 200 ml undiluted Gramoxone (40 g paraquat). Estimated total in this tissue, 0.4 mg. 30 yr old man, admitted 2 hr after suicide attempt Various changes in biochemical parameters during treatment for poisoning by multisystem poison. Death from cardiac arrest Necrosis in kidney epithelium. Intrahepatic cholestasis. Lungs showed early fibrosis, congestion, alveolar bleeding, edema, accumulation of macrophages and leucocytes. Erosions in esophagus and stomach Colorimetry

DELIBERATE EXPOSURE; SUICIDE; BLOOD; MUSCLES; PANCREAS; PROSTATE; THYROID GLANDS; LUNGS; BONE MARROW; KIDNEYS; SPLEEN; ADRENAL GLANDS; HEART; LIVER; STOMACH; TESTES; AUTOPSIES; PESTICIDES; HERBICIDES

Van de Vyver, F.L.; Giuliano, R.A.; Paulus, G.J.; Verpooten, G.A.; Franke, J.P.; De Zeeuw, R.A.; Van Gaal, L.F.; De Broe, M.E. 1985 Clinical Toxicology 23(2-3):117-131

4,4'-Bipyridinium, 1,1'-dimethyl-
4685-14-7
C12-H14-N2
MW 186, MP 300 C (decomp)

Tissue	Cases Exposure Route	Range	Mean	General Information
12780 Urine	1 Ingestion	Not applicable	192 ug/mL	At postmortem examination, after drinking 20% shell paraquat. Improved assay procedure. Poisoning victim Lung edema, kidney congestion HPLC

LIVER; BLOOD; URINE; KIDNEYS; DELIBERATE EXPOSURE; ENVIRONMENTAL EXPOSURE; AUTOPSIES; CASE HISTORIES; SUICIDE; MEASUREMENT METHODS; HERBICIDES; ACCIDENTAL POISONING; HEALTH HAZARDS; INHALATION
Queree, E.A.; Dickson, S.J.; Shaw, S.M. 1985 Journal of Analytical Toxicology 9:10-14

4,7-Methano-1H-indene, 1,2,3,4,5,6,7,8,8-nonachloro-2,3,3a,4,7,7a-hexahydro-, (1alpha,2beta,3alpha,3aalpha,4beta,7beta,7aalpha)-
39765-80-5
C10-H5-Cl9
MW 444.23

Tissue	Cases Exposure Route	Range	Mean	General Information
12781 Adipose	29	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 0.067+/-0.039 ug/g b) 0.065+/-0.030 ug/g c) 0.080+/-0.051 ug/g d) 0.056+/-0.024 ug/g e) 0.057+/-0.026 ug/g f) 0.062+/-0.020 ug/g g) 0.093+/-0.052 ug/g h) 0.082+/-0.029 ug/g i) 0.114+/-0.078 ug/g Wet wt	a) All cases, 29 b) Sudden deaths, 18 c) Others, 11 d) All male cases, 19 e) Male sudden deaths, 12 f) Others, male, 7 g) All female cases, 10 h) Female sudden deaths, 6 i) Others, female, 4 Paper compares data with previously reported accident victim level. Autopsy samples from nonaccidental death victims in Canada. GC; TLC

ADIPOSE TISSUE; CANADA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; CADAVERS; COMPARATIVE EVALUATIONS; POLYCHLORINATED BIPHENYLS; PESTICIDES; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; OXYCHLORDANE; NONACHLOR; HEPTACHLOR EPOXIDE; DIELDRIN; DDE; DDT; BIOLOGICAL MONITORING; POPULATION EXPOSURE; BIOCONCENTRATION
Mes, J.; Davies, D.J.; Turton, D. 1985 Ecotoxicology and Environmental Safety 10:70-74

4,7-Methano-1H-indene, 1,2,3,4,5,6,7,8,8-nonachloro-2,3,3a,4,7,7a-hexahydro-, (1alpha,2beta,3alpha,3aalpha,4beta,7beta,7aalpha)-
39765-80-5
C10-H5-Cl9
MW 444.23

Tissue	Cases Exposure Route	Range	Mean	General Information
12782 Blood	a) 22 b) 21	a) 0.01-0.29 ng/mL b) 0.01-0.16 ng/mL	a) 0.09+/-2.1 ng/mL b) 0.07+/-1.9 ng/mL Geometric means	a) Males b) Females Levels significantly higher in 7 subjects whose residence had been treated for termite control within past 5 yrs, than in remaining subjects, $p<0.005$. High levels also found in 11 subjects who reported high fish consumption. Levels significantly correlated with oxychlordane levels. 18-56 yr old University of Tokushima students and staff living in Tokushima City area, Japan GC-EC

BLOOD; ENVIRONMENTAL EXPOSURE; JAPAN; NONACHLOR; OXYCHLORDANE; PESTICIDES; BIOACCUMULATION; DIETS; HEALTH HAZARDS; PESTICIDE RESIDUES
Wariishi, M.; Suzuki, Y.; Nishiyama, K. 1986 Bulletin of Environmental Contamination and Toxicology 36:635-643

Tissue	Cases Exposure Route	Range	Mean	General Information
12783 Blood	a) 19 b) 51	a) Not detected b) Not detected-2.9 ppb	a) Not detected b) 0.55 ppb	a) Unexposed workers b) Pest control operators, exposed to chlordane Formulation, 40% emulsifiable concentrate & 2% oil solution. Levels of chlordane & metabolites in a) correlated with number spraying days, amt sprayed. Detectable in 37% of cases. Pest control company workers, 21-64 (mean 34) yr old, employed 0.5-21 (mean 6.1) yr. Workers with no spraying experience, 18-67 (mean 35) yr old, employed 0.4 to 22.8 (mean 6.5) yr. GC-EC

OCCUPATIONAL EXPOSURE; BLOOD; CHLORDANE; HEPTACHLOR EPOXIDE; OXYCHLORDANE; NONACHLOR; PESTICIDES; BIOLOGICAL MONITORING; OCCUPATIONAL HAZARDS
Saito, I.; Kawamura, N.; Uno, K.; Hisanaga, N.; Takeuchi, Y.; Ono, Y.; Iwata, M.; Gotoh, M; Okutani, H.; Matsumoto, T.; Fukaya, Y.; Yoshitomi, S.; Ohno, Y. 1986 International Archives of Occupational and Environmental Health 58:91-97

Tissue	Cases Exposure Route	Range	Mean	General Information
12784 Blood, serum	a) 101 b) 49	a) Not given b) Not given	a) 2.9+/-0.79 ppb b) 1.9+/-0.20 ppb S.E.	a) During spraying season b) During harvest season Reported cases are those with >trace levels, total of 567 individuals examined. Citrus fieldworkers in Florida, 1981

BLOOD SERUM; OCCUPATIONAL EXPOSURE; LINDANE; HEXACHLOROBENZENE; OXYCHLORDANE; HEPTACHLOR EPOXIDE; DDE; DDT; DIELDRIN; PESTICIDES; INSECTICIDES; BIOACCUMULATION; HEALTH HAZARDS; AGRICULTURE; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES
Griffith, J.; Duncan, R.C. 1985 Bulletin of Environmental Contamination and Toxicology 35:411-417

4,7-Methano-1H-indene, 1,2,3,4,5,6,7,8,8-nonachloro-2,3,3a,4,7,7a-hexahydro-, (1alpha,2beta,3alpha,3aalpha,4beta,7beta,7aalpha)-
39765-80-5
C10-H5-Cl9
MW 444.23

Tissue	Cases Exposure Route	Range	Mean	General Information
12785 Blood, serum	3218	a) Not given b) Not given c) Not given d) 1-17 ppb	a) 1.8 ppb b) 1.3 ppb c) 1.4 ppb d) 1.4 ppb	a) 12-24 yr, 1.4%, 987 cases b) 25-44 yr, 3.0%, 902 cases c) 45-74 yr, 8.9%, 1329 cases d) 12-74 yr, 4.4%, 3128 cases Age group and % population exposed. Limit of detection 1 ppb. Subjects participating in the Second National Health and Nutrition Examination Survey, 1976-80. GC-EC

BLOOD SERUM; ENVIRONMENTAL EXPOSURE; UNITED STATES; ADOLESCENTS; ADULTS; AGE; DDT; DDE; DIELDRIN; HEXACHLOROBENZENE; NONACHLOR; HEPTACHLOR EPOXIDE; OXYCHLORDANE; BIOACCUMULATION; POPULATION EXPOSURE; PESTICIDE RESIDUES; PESTICIDES
Murphy, R.; Harvey, C. 1985 Environmental Health Perspectives 60:115-120

Tissue	Cases Exposure Route	Range	Mean	General Information
12786 Milk, fat		Not given	0.02 mg/kg	From 10 kg sample collected in 1978 and 1979 as part of WHO Collaborative Study on the Quantity and Quality of Breast Milk. New methodology. Lactating mothers, Uppsala, Sweden GC/MS

MILK; ENVIRONMENTAL EXPOSURE; ADULTS; SWEDEN; HEXACHLOROCYCLOHEXANE; DDE; DDD; DDT; OXYCHLORDANE; NONACHLOR; POLYCHLORINATED BIPHENYLS; INSECTICIDES; BIOACCUMULATION; LACTATION; PESTICIDE RESIDUES
Vaz, R.; Blomkvist, G. 1985 Chemosphere 14(2):223-231

Tissue	Cases Exposure Route	Range	Mean	General Information
12787 Milk, fat	12	0.01-0.20 mg/kg	0.04 mg/kg	Median was 0.01 mg/kg and mean, on whole milk basis, 1.30 ug/kg. General trend of decreasing levels shows effectiveness of restrictions or bans on use of these substances. 19-36 yr olds (mean 26), 2-12 wk post-parturition. Jerusalem, Israel GC-EC

MILK; ENVIRONMENTAL EXPOSURE; ISRAEL; POLYCHLORINATED BIPHENYLS; PESTICIDES; CHLORINE ORGANIC COMPOUNDS
Weisenberg, E.; Arad, I.; Grauer, F.; Sahm, Z. 1985 Archives of Environmental Contamination and Toxicology 14:517-521

4,7-Methano-1H-indene, 1,2,3,4,5,6,7,8,8-nonachloro-2,3,3a,4,7,7a-hexahydro-, (1alpha,2beta,3alpha,3aalpha,4beta,7beta,7aalpha)-
39765-80-5
C10-H5-Cl9
MW 444.23

Tissue	Cases Exposure Route	Range	Mean	General Information
12788 Milk, fat	29	Not given	15.7+/-1.9 ng/g Geometric mean	3 mo after childbirth. Levels significantly correlated with lipid content of milk. Significant positive correlation also found between levels of any two compounds of trans-nonachlor, cis-nonachlor, and oxychlordane. Correlations with residential environments and dietary habits investigated. 19-34 (mean 27.2) yr old residents of Tokushima City area, Japan GC-EC
12789 Milk, whole	29	Not given	0.55+/-2.24 ng/mL Geometric mean	3 mo after childbirth. Levels significantly correlated with lipid content of milk. Significant positive correlation also found between levels of any two compounds of trans-nonachlor, cis-nonachlor, and oxychlordane. Correlations with residential environments and dietary habits investigated. 19-34 (mean 27.2) yr old residents of Tokushima City area, Japan GC-EC

MILK; ENVIRONMENTAL EXPOSURE; JAPAN; CHLORINE ORGANIC COMPOUNDS; HEPTACHLOR EPOXIDE; NONACHLOR; OXYCHLORDANE; PESTICIDES; BIOACCUMULATION; DIETS; HEALTH HAZARDS; PESTICIDE RESIDUES; POPULATION EXPOSURE

Tojo, Y.; Wariishi, M.; Suzuki, Y.; Nishiyama, K. 1986 Archives of Environmental Contamination and Toxicology 15:327-332

4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-1,2-epoxy-3a,4,7,7a-tetrahydro- (8 Cl) 2,5-Methano-2H-indeno(1,2-b)oxirene, 1a,2,3,4,5,6a,7,7-octachloro-1a,1b,5,5a,6,6a-hexahydro- (9 Cl)
26880-48-8
C10-H4-Cl8-O
MW 423.77

Tissue	Cases Exposure Route	Range	Mean	General Information
12790 Adipose	29	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 0.063+/-0.033 ug/g b) 0.060+/-0.026 ug/g c) 0.072+/-0.042 ug/g d) 0.056+/-0.024 ug/g e) 0.055+/-0.026 ug/g f) 0.061+/-0.024 ug/g g) 0.079+/-0.042 ug/g h) 0.071+/-0.024 ug/g i) 0.098+/-0.062 ug/g Wet wt	a) All cases, 29 b) Sudden deaths, 18 c) Others, 11 d) All male cases, 19 e) Male sudden deaths, 12 f) Others, male, 7 g) All female cases, 10 h) Female sudden deaths, 6 i) Others, female, 4 Data compared with previously reported levels in accident victims. Autopsy samples from nonaccidental death victims in Canada. GC; TLC

ADIPOSE TISSUE; CANADA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; CADAVERS; COMPARATIVE EVALUATIONS; POLYCHLORINATED BIPHENYLS; PESTICIDES; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; OXYCHLORDANE; NONACHLOR; HEPTACHLOR EPOXIDE; DIELDRIN; DDE; DDT; BIOLOGICAL MONITORING; POPULATION EXPOSURE; BIOCONCENTRATION

Mes, J.; Davies, D.J.; Turton, D. 1985 Ecotoxicology and Environmental Safety 10:70-74

4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-1,2-epoxy-3a,4,7,7a-tetrahydro- (8 CI) 2,5-Methano-2H-indeno(1,2-b)oxirene, 1a,2,3,4,5,6a,7,7-octachloro-1a,1b,5,5a,6,6a-hexahydro- (9 CI)

26880-48-8
C10-H4-Cl8-O
MW 423.77

Tissue	Cases Exposure Route	Range	Mean	General Information
12791 Blood	a) 22 b) 21	a) 0.09-0.72 ng/mL b) 0.08-0.75 ng/mL	a) 0.20+/-1.9 ng/mL b) 0.23+/-1.8 ng/mL Geometric means	a) Males b) Females Levels significantly higher in 7 subjects whose residence had been treated for termite control within past 5 yr than in remaining subjects, $p<0.001$. High levels also found in 11 subjects who reported high fish consumption. Levels significantly correlated with trans-nonachlor levels. 18-56 yr old University of Tokushima students and staff living in Tokushima City area, Japan GC-EC

BLOOD; ENVIRONMENTAL EXPOSURE; JAPAN; NONACHLOR; OXYCHLORDANE; PESTICIDES; BIOACCUMULATION; DIETS; HEALTH HAZARDS; PESTICIDE RESIDUES
Wariishi, M.; Suzuki, Y.; Nishiyama, K. 1986 Bulletin of Environmental Contamination and Toxicology 36:635-643

Tissue	Cases Exposure Route	Range	Mean	General Information
12792 Blood	a) 19 b) 51	a) Not detected b) Not detected-1.5 ppb	a) Not detected b) 0.29 ppb	a) Unexposed workers b) Pest control operators, exposed to chlordane Formulation, 40% emulsifiable concentrate & 2% oil solution. Levels of chlordane & metabolites in a) correlated with number spraying days, amt sprayed. Detectable in 22% of cases. Pest control company workers, 21-64 (mean 34) yr old, employed 0.5-21 (mean 6.1) yr. Workers with no spraying experience, 18-67 (mean 35) yr old, employed 0.4 to 22.8 (mean 6.5) yr. GC-EC

OCCUPATIONAL EXPOSURE; BLOOD; CHLORDANE; HEPTACHLOR EPOXIDE; OXYCHLORDANE; NONACHLOR; PESTICIDES; BIOLOGICAL MONITORING; OCCUPATIONAL HAZARDS
Saito, I.; Kawamura, N.; Uno, K.; Hisanaga, N.; Takeuchi, Y.; Ono, Y.; Iwata, M.; Gotoh, M; Okutani, H.; Matsumoto, T.; Fukaya, Y.; Yoshitomi, S.; Ohno, Y. 1986 International Archives of Occupational and Environmental Health 58:91-97

Tissue	Cases Exposure Route	Range	Mean	General Information
12793 Blood, serum	a) 24 b) 7	a) Not given b) Not given	a) 2.2+/-0.50 ppb b) 1.4+/-0.15 ppb S.E.	a) During spraying season b) During harvest season Reported cases are those with >trace levels, total of 567 individuals examined. Citrus fieldworkers in Florida, 1981

BLOOD SERUM; OCCUPATIONAL EXPOSURE; LINDANE; HEXACHLOROBENZENE; OXYCHLORDANE; HEPTACHLOR EPOXIDE; DDE; DDT; DIELDRIN; PESTICIDES; INSECTICIDES; BIOACCUMULATION; HEALTH HAZARDS; AGRICULTURE; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES
Griffith, J.; Duncan, R.C. 1985 Bulletin of Environmental Contamination and Toxicology 35:411-417

4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-1,2-epoxy-3a,4,7,7a-tetrahydro- (8 CI) 2,5-Methano-2H-indeno(1,2-b)oxirene, 1a,2,3,4,5,6a,7,7-octachloro-1a,1b,5,5a,6,6a-hexahydro- (9 CI)
26880-48-8
C10-H4-Cl8-O
MW 423.77

Tissue	Cases Exposure Route	Range	Mean	General Information
12794 Blood, serum	3208	a) Not given b) Not given c) Not given d) 1-23 ppb	a) 1.5 ppb b) 1.3 ppb c) 1.4 ppb d) 1.4 ppb	a) 12-24 yr, 1.2%, 993 cases b) 25-44 yr, 1.0%, 899 cases c) 45-74 yr, 5.6%, 1316 cases d) 12-74 yr, 2.5%, 3208 cases Age group and % population exposed. Limit of detection 1 ppb. Subjects participating in the Second National Health and Nutrition Examination Survey, 1976-80. GC-EC

BLOOD SERUM; ENVIRONMENTAL EXPOSURE; UNITED STATES; ADOLESCENTS; ADULTS; AGE; DDT; DDE; DIELDRIN; HEXACHLOROBENZENE; NONACHLOR; HEPTACHLOR EPOXIDE; OXYCHLORDANE; BIOACCUMULATION; POPULATION EXPOSURE; PESTICIDE RESIDUES; PESTICIDES
Murphy, R.; Harvey, C. 1985 Environmental Health Perspectives 60:115-120

Tissue	Cases Exposure Route	Range	Mean	General Information
12795 Milk, fat		Not given	0.02 mg/kg	From 10 kg sample collected in 1978 and 1979 as part of WHO Collaborative Study on the Quantity and Quality of Breast Milk. New methodology. Lactating mothers, Uppsala, Sweden GC/MS

MILK; ENVIRONMENTAL EXPOSURE; ADULTS; SWEDEN; HEXACHLOROCYCLOHEXANE; DDE; DDD; DDT; OXYCHLORDANE; NONACHLOR; POLYCHLORINATED BIPHENYLS; INSECTICIDES; BIOACCUMULATION; LACTATION; PESTICIDE RESIDUES
Vaz, R.; Blomkvist, G. 1985 Chemosphere 14(2):223-231

Tissue	Cases Exposure Route	Range	Mean	General Information
12796 Milk, fat	20	0.01-0.09 mg/kg	0.01 mg/kg	Median was 0.02 mg/kg and mean, on whole milk basis, 0.57 ug/kg. General trend of decreasing levels shows effectiveness of restrictions or bans on use of these substances. 19-36 yr olds (mean 26), 2-12 wk post-parturition. Jerusalem, Israel GC-EC

MILK; ENVIRONMENTAL EXPOSURE; ISRAEL; POLYCHLORINATED BIPHENYLS; PESTICIDES; CHLORINE ORGANIC COMPOUNDS
Weisenberg, E.; Arad, I.; Grauer, F.; Sahm, Z. 1985 Archives of Environmental Contamination and Toxicology 14:517-521

4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-1,2-epoxy-3a,4,7,7a-tetrahydro- (8 CI) 2,5-Methano-2H-indeno(1,2-b)oxirene, 1a,2,3,4,5,6a,7,7-octachloro-1a,1b,5,5a,6,6a-hexahydro- (9 CI)
26880-48-8
C10-H4-Cl8-O
MW 423.77

Tissue	Cases Exposure Route	Range	Mean	General Information
12797 Milk, fat	29	Not given	11.5+/-1.7 ng/g Geometric mean	3 mo after childbirth. Levels significantly correlated with lipid content of milk. Significant positive correlation also found between levels of any two compounds of trans-nonachlor, cis-nonachlor, and oxychlordane. Correlations with residential environments and dietary habits investigated. 19-34 (mean 27.2) yr old residents of Tokushima City area, Japan GC-EC
12798 Milk, whole	29	Not given	0.39+/-1.86 ng/mL Geometric mean	3 mo after childbirth. Levels significantly correlated with lipid content of milk. Significant positive correlation also found between levels of any two compounds of trans-nonachlor, cis-nonachlor, and oxychlordane. Correlations with residential environments and dietary habits investigated. 19-34 (mean 27.2) yr old residents of Tokushima City area, Japan GC-EC

MILK; ENVIRONMENTAL EXPOSURE; JAPAN; CHLORINE ORGANIC COMPOUNDS; HEPTACHLOR EPOXIDE; NONACHLOR; OXYCHLORDANE; PESTICIDES; BIOACCUMULATION; DIETS; HEALTH HAZARDS; PESTICIDE RESIDUES; POPULATION EXPOSURE
Tojo, Y.; Wariishi, M.; Suzuki, Y.; Nishiyama, K. 1986 Archives of Environmental Contamination and Toxicology 15:327-332

4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 CI)
57-74-9
C10-H6-Cl8
MW 409.8

Tissue	Cases Exposure Route	Range	Mean	General Information
12799 Blood	a) 19 b) 51	a) Not detected b) Not detected-5.6 ppb	a) Not detected b) 0.89 ppb	a) Unexposed workers b) *Pest control operators, exposed to chlordane* Formulation, 40% emulsifiable concentrate & 2% oil solution. Levels of chlordane & metabolites in a) correlated with number spraying days, amt sprayed. Detectable in 37% of cases. Pest control company workers, 21-64 (mean 34) yr old, employed 0.5-21 (mean 6.1) yr. Workers with no spraying experience, 18-67 (mean 35) yr old, employed 0.4 to 22.8 (mean 6.5) yr. GC-EC

OCCUPATIONAL EXPOSURE; BLOOD; CHLORDANE; HEPTACHLOR EPOXIDE; OXYCHLORDANE; NONACHLOR; PESTICIDES; BIOLOGICAL MONITORING; OCCUPATIONAL HAZARDS
Saito, I.; Kawamura, N.; Uno, K.; Hisanaga, N.; Takeuchi, Y.; Ono, Y.; Iwata, M.; Gotoh, M; Okutani, H.; Matsumoto, T.; Fukaya, Y.; Yoshitomi, S.; Ohno, Y. 1986 International Archives of Occupational and Environmental Health 58:91-97

4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro- (8 Cl); 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro- (9 Cl)
57-74-9
C10-H6-Cl8
MW 409.8

Tissue	Cases Exposure Route	Range	Mean	General Information
12800 Blood, serum	1	a) Not applicable b) Not applicable c) Not applicable	a) 30 ng/ml b) 9 ng/ml c) 4 ng/ml	a) 4 mo after exposure b) 7 mo c) After 1 wk detoxication with cholestyramine Sprayed approximately 16 gal diluted chlordane in living room and kitchen over 3 day period. No gloves used while diluting. Normal level 4 ng/ml. 30 yr old Caucasian. Circumoral numbness, anorexia, nausea, and fatigue were early symptoms. Neck muscle twitching began after 1 mo. EC

ADIPOSE TISSUE; BLOOD SERUM; CONSUMER EXPOSURE; CASE HISTORIES; HEPTACHLOR EPOXIDE; OXYCHLORDANE; NONACHLOR; ACCIDENTAL POISONING; PESTICIDE RESIDUES; BILE; DELIBERATE EXPOSURE
Garrettson, L.K.; Guzelian, P.S.; Blanke, R.V. 1985 Clinical Toxicology 22(6):565-571

Tissue	Cases Exposure Route	Range	Mean	General Information
12801 Milk, whole	14	a) 0-66 ng/g b) Trace-2 ng/g	a) 6+/-13 ng/g b) Not applicable	a) 74 samples taken during 1980-81, 14 cases b) 3 d prior-19 wk after house sprayed with chlordane, peak (66 ng/g) 3 wk after spraying, 1 case Rsidences sprayed with heptachlor, aldrin, chlordane, or non-organochlorine pesticide to control termites. Nursing mothers living in Perth GC

MILK; ENVIRONMENTAL EXPOSURE; ADULTS; AUSTRALIA; HEXACHLOROBENZENE; HEPTACHLOR EPOXIDE; DIELDRIN; DDE; DDT; PESTICIDES; BIOACCUMULATION; PESTICIDE RESIDUES
Stacey, C.I.; Tatum, T. 1985 Bulletin of Environmental Contamination and Toxicology 35:202-208

Tissue	Cases Exposure Route	Range	Mean	General Information
12802 Milk, whole	a) 1 b) 1 c) 1 d) 1	a) Not detected-0.132 mg/kg b) Not detected-0.282 mg/kg c) Not detected-0.400 mg/kg d) 0.006-1.354 mg/kg	a) 0.025+/-0.029 mg/kg b) 0.051+/-0.069 mg/kg c) 0.125+/-0.225 mg/kg d) 0.118+/-0.310 mg/kg	0.5 g collected weekly for 20 wk. Sum of cis- and trans-isomers. Chlordane currently used in Iraq as soil insecticide. Detection limit 3 pptm. Healthy 30-45 yr olds, Baghdad, Iraq GC-EC
12803 Placenta	4	0.005-0.137 mg/kg	Not given	Immediately after delivery. Sum of cis- and trans-isomers. Subject with highest level exposed earlier to chlordane used for household termite control. Healthy 30-45 yr olds, Baghdad, Iraq GC-EC

MILK; PLACENTA; ENVIRONMENTAL EXPOSURE; IRAQ; DDT; DIELDRIN; CHLORDANE; HEXACHLOROCYCLOHEXANE; INSECTICIDES; BIOACCUMULATION; HEALTH HAZARDS
Al-Omar, M.; Abdul-Jalil, F.H.; Al-Ogaily, N.; Tawfiq, S.J.; Al-Bassomy, M. 1986 Environmental Pollution (Series A) 42:79-91

4,7-Methanoindan, 1,4,5,6,7,8,8-heptachloro-2,3-epoxy-3a,4,7,7a-tetrahydro- (8 CI); 2,5-Methano-2H-indeno(1,2-b)oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a-hexahydro-, (1aalpha,1bbeta,2alpha,5alpha,5abeta,6beta,6aalpha)- (9 CI)
1024-57-3
C10-H5-Cl7-O
MW 389.40, MP 160-161.5 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12804 Adipose	29	a) Not given b) Not given c) Not given d) Not given e) Not given f) Not given g) Not given h) Not given i) Not given	a) 0.030+/-0.015 ug/g b) 0.035+/-0.016 ug/g c) 0.027+/-0.011 ug/g d) 0.030+/-0.017 ug/g e) 0.036+/-0.019 ug/g f) 0.024+/-0.009 ug/g g) 0.032+/-0.009 ug/g h) 0.035+/-0.015 ug/g i) 0.032+/-0.015 ug/g Wet wt	a) All cases, 29 b) Sudden deaths, 18 c) Others, 11 d) All male cases, 19 e) Male sudden deaths, 12 f) Others, male, 7 g) All female cases, 10 h) Female sudden deaths, 6 i) Others, female, 4 Data compared with previously reported levels in accident victims. Autopsy samples from nonaccidental death victims in Canada. GC; TLC

ADIPOSE TISSUE; CANADA; ENVIRONMENTAL EXPOSURE; AUTOPSIES; CADAVERS; COMPARATIVE EVALUATIONS; POLYCHLORINATED BIPHENYLS; PESTICIDES; CHLORINE ORGANIC COMPOUNDS; CHLORINATED HYDROCARBONS; OXYCHLORDANE; NONACHLOR; HEPTACHLOR EPOXIDE; DIELDRIN; DDE; DDT; BIOLOGICAL MONITORING; POPULATION EXPOSURE; BIOCONCENTRATION

Mes, J.; Davies, D.J.; Turton, D. 1985 Ecotoxicology and Environmental Safety 10:70-74

Tissue	Cases Exposure Route	Range	Mean	General Information
12805 Adipose	a) 8 b) 10	a) 0.02-0.79 ppm b) 0.06-0.22 ppm	a) Not given b) Not given	a) 1980 b) 1984 Biopsies. 31-78 yr old patients, St. Francis Hospital, Monroe, Louisiana GC-EC

ADIPOSE TISSUE; ENVIRONMENTAL EXPOSURE; LOUISIANA; BIOPSIES; DDD; DDE; DDT; DIELDRIN; HEPTACHLOR EPOXIDE; HEXACHLOROCYCLOHEXANE; POLYCHLORINATED BIPHENYLS; PESTICIDES; INDUSTRIAL CHEMICALS; BIOACCUMULATION; PESTICIDE RESIDUES; POPULATION EXPOSURE

Holt, R.L.; Cruse, S.; Greer, S. 1986 Bulletin of Environmental Contamination and Toxicology 36:651-655

Tissue	Cases Exposure Route	Range	Mean	General Information
12806 Blood	a) 19 b) 51	a) Not detected b) Not detected-1.6 ppb	a) Not detected b) 0.29 ppb	a) Unexposed workers b) Pest control operators, exposed to chlordane Formulation, 40% emulsifiable concentrate & 2% oil solution. Levels of chlordane & metabolites in a) correlated with number spraying days, amt sprayed. Detectable in 20% of cases. Pest control company workers, 21-64 (mean 34) yr old, employed 0.5-21 (mean 6.1) yr. Workers with no spraying experience, 18-67 (mean 35) yr old, employed 0.4 to 22.8 (mean 6.5) yr. GC-EC

OCCUPATIONAL EXPOSURE; BLOOD; CHLORDANE; HEPTACHLOR EPOXIDE; OXYCHLORDANE; NONACHLOR; PESTICIDES; BIOLOGICAL MONITORING; OCCUPATIONAL HAZARDS

Saito, I., Kawamura, N.; Uno, K.; Hisanaga, N.; Takeuchi, Y.; Ono, Y.; Iwata, M.; Gotoh, M; Okutani, H.; Matsumoto, T.; Fukaya, Y.; Yoshitomi, S.; Ohno, Y. 1986 International Archives of Occupational and Environmental Health 58 91-97

4,7-Methanoindan, 1,4,5,6,7,8,8-heptachloro-2,3-epoxy-3a,4,7,7a-tetrahydro- (8 CI); 2,5-Methano-2H-indeno(1,2-b)oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a-hexahydro-, (1aalpha,1bbeta,2alpha,5alpha,5abeta,6beta,6aalpha)- (9 CI)
1024-57-3
C10-H5-Cl7-O
MW 389.40, MP 160-161.5 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12807 Blood, serum	a) 5 b) 1	a) Not given b) Not given	a) 2.4+/-0.92 ppb b) 1.2 ppb S.E.	a) During spraying season b) During harvest season Reported cases are those with >trace levels, total of 567 individuals examined. Citrus fieldworkers in Florida, 1981

BLOOD SERUM; OCCUPATIONAL EXPOSURE; LINDANE; HEXACHLOROBENZENE; OXYCHLORDANE; HEPTACHLOR EPOXIDE; DDE; DDT; DIELDRIN; PESTICIDES; INSECTICIDES; BIOACCUMULATION; HEALTH HAZARDS; AGRICULTURE; OCCUPATIONAL HAZARDS; PESTICIDE RESIDUES
Griffith, J.; Duncan, R.C. 1985 Bulletin of Environmental Contamination and Toxicology 35:411-417

Tissue	Cases Exposure Route	Range	Mean	General Information
12808 Blood, serum	3235	a) Not given b) Not given c) Not given d) 1-23 ppb	a) 1.5 ppb b) 1.5 ppb c) 1.6 ppb d) 1.5 ppb	a) 12-24 yr, 0.7%, 991 cases b) 25-44 yr, 2.0%, 907 cases c) 45-74 yr, 4.8%, 1337 cases d) 12-74 yr, 2.5%, 3235 cases Age group and % population exposed. Limit of detection 1 ppb. Subjects participating in the Second National Health and Nutrition Examination Survey, 1976-80. GC-EC

BLOOD SERUM; ENVIRONMENTAL EXPOSURE; UNITED STATES; ADOLESCENTS; ADULTS; AGE; DDT; DDE; DIELDRIN; HEXACHLOROBENZENE; NONACHLOR; HEPTACHLOR EPOXIDE; OXYCHLORDANE; BIOACCUMULATION; POPULATION EXPOSURE; PESTICIDE RESIDUES; PESTICIDES
Murphy, R.; Harvey, C. 1985 Environmental Health Perspectives 60:115-120

Tissue	Cases Exposure Route	Range	Mean	General Information
12809 Milk, fat	29	Not given	20.0+/-1.4 ng/g Geometric mean	3 mo after childbirth. Levels significantly correlated with lipid content of milk. Correlations with levels of other chlordane residues, residential environments and dietary habits also investigated. 19-34 (mean 27.2) yr old residents of Tokushima City area, Japan GC-EC

MILK; ENVIRONMENTAL EXPOSURE; JAPAN; CHLORINE ORGANIC COMPOUNDS; HEPTACHLOR EPOXIDE; NONACHLOR; OXYCHLORDANE; PESTICIDES; BIOACCUMULATION; DIETS; HEALTH HAZARDS; PESTICIDE RESIDUES; POPULATION EXPOSURE
Tojo, Y.; Wariishi, M.; Suzuki, Y.; Nishiyama, K. 1986 Archives of Environmental Contamination and Toxicology 15:327-332

4,7-Methanoindan, 1,4,5,6,7,8,8-heptachloro-2,3-epoxy-3a,4,7,7a-tetrahydro- (8 CI); 2,5-Methano-2H-indeno(1,2-b)oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a-hexahydro-, (1aalpha,1bbeta,2alpha,5alpha,5abeta,6beta,6aalpha)- (9 CI)
1024-57-3
C10-H5-Cl7-O
MW 389.40, MP 160-161.5 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12810 Milk, whole	14	a) 0-29 ng/g b) 1-3 ng/g	a) 4+/-5 ng/g b) Not applicable	a) 74 samples collected in 1980-81, 14 cases b) 3 mo prior-15 wk after residence sprayed with heptachlor, peak (29 ng/g) 4-5 wk after spraying, 1 case Residences sprayed with heptachlor, chlordane, aldrin, or non-organochlorine pesticide to control termites. Nursing mothers living in Perth GC

MILK; ENVIRONMENTAL EXPOSURE; ADULTS; AUSTRALIA; HEXACHLOROBENZENE; HEPTACHLOR EPOXIDE; DIELDRIN; DDE; DDT; PESTICIDES; BIOACCUMULATION; PESTICIDE RESIDUES
Stacey, C.I.; Tatum, T. 1985 Bulletin of Environmental Contamination and Toxicology 35:202-208

Tissue	Cases Exposure Route	Range	Mean	General Information
12811 Milk, whole	29	Not given	0.66+/-1.62 ng/mL Geometric mean	3 mo after childbirth. Levels significantly correlated with lipid content of milk. Correlations with levels of other chlordane residues, residential environments and dietary habits also investigated. 19-34 (mean 27.2) yr old residents of Tokushima City area, Japan GC-EC

MILK; ENVIRONMENTAL EXPOSURE; JAPAN; CHLORINE ORGANIC COMPOUNDS; HEPTACHLOR EPOXIDE; NONACHLOR; OXYCHLORDANE; PESTICIDES; BIOACCUMULATION; DIETS; HEALTH HAZARDS; PESTICIDE RESIDUES; POPULATION EXPOSURE
Tojo, Y.; Wariishi, M.; Suzuki, Y.; Nishiyama, K. 1986 Archives of Environmental Contamination and Toxicology 15:327-332

4,7-Methanoindan, 1alpha,2alpha,3alpha,4beta,5,6,7beta,8,8-nonachloro-3aalpha,4,7,7-aalpha-tetrahy dro- (8 CI) 4,7-Methano-1H-indene, 1,2,3,4,5,6,7,8,8-nonachloro-2,3,3a,4,7,7a-hexahydro-(1alpha,2alpha,3alpha,3aalp ha,4beta,7aalpha- (9 CI)
5103-73-1
C10-H5-Cl9
MW 444.2

Tissue	Cases Exposure Route	Range	Mean	General Information
12812 Blood	a) 22 b) 21	a) 0.01-0.08 ng/mL b) 0.01-0.07 ng/mL	a) 0.03+/-1.7 ng/mL b) 0.03+/-2.0 ng/mL Geometric means	a) Males b) Females Levels significantly correlated with trans-chlordane and cis-chlordane levels. 18-56 yr old University of Tokushima students and staff living in Tokushima City area, Japan GC-EC

BLOOD; ENVIRONMENTAL EXPOSURE; JAPAN; NONACHLOR; OXYCHLORDANE; PESTICIDES; BIOACCUMULATION; DIETS; HEALTH HAZARDS; PESTICIDE RESIDUES
Wariishi, M.; Suzuki, Y.; Nishiyama, K. 1986 Bulletin of Environmental Contamination and Toxicology 36:635-643

4,7-Methanoindan, 1alpha,2alpha,3alpha,4beta,5,6,7beta,8,8-nonachloro-3aalpha,4,7,7-aalpha-tetrahy dro- (8 Cl) 4,7-Methano-1H-indene, 1,2,3,4,5,6,7,8,8-nonac hloro-2,3,3a,4,7,7a-hexahydro-(1alpha,2alpha,3alpha,3aalp ha,4beta,7aalpha- (9 Cl)
5103-73-1
C10-H5-Cl9
MW 444.2

Tissue	Cases Exposure Route	Range	Mean	General Information
12813 Milk, fat	29	Not given	4.00+/-4.6 ng/g Geometric mean	3 mo after childbirth. Levels significantly correlated with lipid content of milk. Significant positive correlation also found between levels of any two compounds of cis-nonachlor, trans-nonachlor and oxychlordane. Correlations with residential environments and dietary habits investigated. 19-34 (mean 27.2) yr old residents of Tokushima City area, Japan GC-EC
12814 Milk, whole	29	Not given	0.14+/-1.97 ng/mL Geometric mean	3 mo after childbirth. Levels significantly correlated with lipid content of milk. Significant positive correlation also found between levels of any two compounds of cis-nonachlor, trans-nonachlor and oxychlordane. Correlations with residential environments and dietary habits investigated. 19-34 (mean 27.2) yr old residents of Tokushima City area, Japan GC-EC

MILK; ENVIRONMENTAL EXPOSURE; JAPAN; CHLORINE ORGANIC COMPOUNDS; HEPTACHLOR EPOXIDE; NONACHLOR; OXYCHLORDANE; PESTICIDES; BIOACCUMULATION; DIETS; HEALTH HAZARDS; PESTICIDE RESIDUES; POPULATION EXPOSURE
Tojo, Y.; Wariishi, M.; Suzuki, Y.; Nishiyama, K. 1986 Archives of Environmental Contamination and Toxicology 15:327-332

4,7-Methanoindan, 1alpha,2alpha,4beta,5,6,7beta,8,8-octachloro-3aalpha,4,7,7aalpha-tetrahydro (8 Cl) 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-, (1alpha,2alpha,3aalpha,4beta,7beta,7aalpha)- (9 Cl)
5103-71-9
C10-H6-Cl8
MW 409.76

Tissue	Cases Exposure Route	Range	Mean	General Information
12815 Blood	a) 22 b) 21	a) 0.01-0.10 ng/mL b) 0.03-0.14 ng/mL	a) 0.05+/-1.8 ng/mL b) 0.06+/-1.6 ng/mL Geometric means	a) Males b) Females Levels significantly correlated with trans-chlordane and cis-nonachlor levels. 18-56 yr old University of Tokushima students and staff living in Tokushima City area, Japan GC-EC

BLOOD; ENVIRONMENTAL EXPOSURE; JAPAN; NONACHLOR; OXYCHLORDANE; PESTICIDES; BIOACCUMULATION; DIETS; HEALTH HAZARDS; PESTICIDE RESIDUES
Wariishi, M.; Suzuki, Y.; Nishiyama, K. 1986 Bulletin of Environmental Contamination and Toxicology 36:635-643

Tissue	Cases Exposure Route	Range	Mean	General Information
12816 Milk, fat	29	Not given	3.08+/-2.5 ng/g Geometric mean	3 mo after childbirth. Correlations with levels of other chlordane residues, residential environments and dietary habits investigated. 19-34 (mean 27.2) yr old residents of Tokushima City area, Japan GC-EC

MILK; ENVIRONMENTAL EXPOSURE; JAPAN; CHLORINE ORGANIC COMPOUNDS; HEPTACHLOR EPOXIDE; NONACHLOR; OXYCHLORDANE; PESTICIDES; BIOACCUMULATION; DIETS; HEALTH HAZARDS; PESTICIDE RESIDUES; POPULATION EXPOSURE
Tojo, Y.; Wariishi, M.; Suzuki, Y.; Nishiyama, K. 1986 Archives of Environmental Contamination and Toxicology 15:327-332

4,7-Methanoindan, 1alpha,2alpha,4beta,5,6,7beta,8,8-octachloro-3aalpha,4,7,7aalpha-tetrahydro (8 CI) 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-, (1alpha,2alpha,3aalpha,4beta,7beta,7aalpha)- (9 CI)
5103-71-9
C10-H6-Cl8
MW 409.76

Tissue	Cases Exposure Route	Range	Mean	General Information
12817 Milk, whole	50	Not given	0.078 ppm	Samples collected between June 1983 and June 1984. Maximum, 0.536 ppm, 80% occurrence. No occupational exposures. Lactating mothers at 2 Baghdad maternity hospitals, 28 considered younger (</=30 yr old) and 22 older (31-45 yr old). GC
MILK; ENVIRONMENTAL EXPOSURE; ADULTS; IRAQ; ALDRIN; DIELDRIN; DDE; DDD; DDT; BIOACCUMULATION; LACTATION; CHLORINE ORGANIC COMPOUNDS Al-Omar, M.A.; Tawfiq, S.J.; Al-Ogaily, N. 1985 Bulletin of Environmental Contamination and Toxicology 35:65-67				

Tissue	Cases Exposure Route	Range	Mean	General Information
12818 Milk, whole	29	Not given	0.09+/-2.27 ng/mL Geometric mean	3 mo after childbirth. Correlations with levels of other chlordane residues, residential environments and dietary habits investigated. 19-34 (mean 27.2) yr old residents of Tokushima City area, Japan GC-EC
MILK; ENVIRONMENTAL EXPOSURE; JAPAN; CHLORINE ORGANIC COMPOUNDS; HEPTACHLOR EPOXIDE; NONACHLOR; OXYCHLORDANE; PESTICIDES; BIOACCUMULATION; DIETS; HEALTH HAZARDS; PESTICIDE RESIDUES; POPULATION EXPOSURE Tojo, Y.; Wariishi, M.; Suzuki, Y.; Nishiyama, K. 1986 Archives of Environmental Contamination and Toxicology 15:327-332				

4,7-Methanoindan, 1beta,2alpha,4alpha,5,6,7alpha,8,8-octachloro-3abeta,4,7,7abeta-tetrahydro- (8 CI) 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-, (1alpha,2beta,3aalpha,4beta,7beta,7aalpha)- (9 CI)
5103-74-2
C10-H6-Cl8
MW 409.76

Tissue	Cases Exposure Route	Range	Mean	General Information
12819 Blood	a) 22 b) 21	a) 0.01-0.26 ng/mL b) 0.04-0.22 ng/mL	a) 0.09+/-2.2 ng/mL b) 0.11+/-1.6 ng/mL Geometric means	a) Males b) Females Levels significantly correlated with cis-chlordane and cis-nonachlor levels. 18-56 yr old University of Tokushima students and staff living in Tokushima City area, Japan GC-EC
BLOOD; ENVIRONMENTAL EXPOSURE; JAPAN; NONACHLOR; OXYCHLORDANE; PESTICIDES; BIOACCUMULATION; DIETS; HEALTH HAZARDS; PESTICIDE RESIDUES Wariishi, M.; Suzuki, Y.; Nishiyama, K. 1986 Bulletin of Environmental Contamination and Toxicology 36:635-643				

4,7-Methanoindan, 1beta,2alpha,4alpha,5,6,7alpha,8,8-octachloro-3abeta,4,7,7abeta-tetrahydro- (8 CI) 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-, (1alpha,2beta,3aalpha,4beta,7beta,7aalpha)- (9 CI)
5103-74-2
C10-H6-Cl8
MW 409.76

Tissue	Cases Exposure Route	Range	Mean	General Information
12820 Milk, fat	29	Not given	1.20+/-2.1 ng/g Geometric mean	3 mo after childbirth. Correlations with levels of other chlordane residues, residential environments and dietary habits investigated. 19-34 (mean 27.2) yr old residents of Tokushima City area, Japan GC-EC

MILK; ENVIRONMENTAL EXPOSURE; JAPAN; CHLORINE ORGANIC COMPOUNDS; HEPTACHLOR EPOXIDE; NONACHLOR; OXYCHLORDANE; PESTICIDES; BIOACCUMULATION; DIETS; HEALTH HAZARDS; PESTICIDE RESIDUES; POPULATION EXPOSURE
Tojo, Y.; Wariishi, M.; Suzuki, Y.; Nishiyama, K. 1986 Archives of Environmental Contamination and Toxicology 15:327-332

Tissue	Cases Exposure Route	Range	Mean	General Information
12821 Milk, whole	50	Not given	0.034 ppm	Samples collected between June 1983 and June 1984. Maximum, 0.482 ppm, 68% occurrence. No occupational exposures. Lactating mothers at 2 Baghdad maternity hospitals, 28 considered younger (</=30 yr old) and 22 older (31-45 yr old). GC

MILK; ENVIRONMENTAL EXPOSURE; ADULTS; IRAQ; ALDRIN; DIELDRIN; DDE; DDD; DDT; BIOACCUMULATION; LACTATION; CHLORINE ORGANIC COMPOUNDS
Al-Omar, M.A.; Tawfiq, S.J.; Al-Ogaily, N. 1985 Bulletin of Environmental Contamination and Toxicology 35:65-67

Tissue	Cases Exposure Route	Range	Mean	General Information
12822 Milk, whole	29	Not given	0.04+/-1.59 ng/mL Geometric mean	3 mo after childbirth. Correlations with levels of other chlordane residues, residential environments and dietary habits investigated. 19-34 (mean 27.2) yr old residents of Tokushima City area, Japan GC-EC

MILK; ENVIRONMENTAL EXPOSURE; JAPAN; CHLORINE ORGANIC COMPOUNDS; HEPTACHLOR EPOXIDE; NONACHLOR; OXYCHLORDANE; PESTICIDES; BIOACCUMULATION; DIETS; HEALTH HAZARDS; PESTICIDE RESIDUES; POPULATION EXPOSURE
Tojo, Y.; Wariishi, M.; Suzuki, Y.; Nishiyama, K. 1986 Archives of Environmental Contamination and Toxicology 15:327-332

4,7-Methanoindene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- (8 Cl); 4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- (9 Cl)
76-44-8
C10-H5-Cl7
MW 373.35, MP 95-96 C, VP 3X10(E-4) mm Hg at 25 C

Tissue	Cases Exposure Route	Range	Mean	General Information
12823 Adipose	1	Not given	20 ug/gm	4 mo after chlordane poisoning. Sprayed approximately 16 gal diluted insecticide in living room and kitchen over 3 d period. No gloves used while diluting. 30 yr old Caucasian. Circumoral numbness, anorexia, nausea, and fatigue were early symptoms. Neck muscle twitching began after 1 mo. EC
12824 Bile	1	a) Not applicable b) Not applicable	a) 16 ng/ml b) 42 ng/ml	a) Before IV injection of 1 ampule choleciptokinin b) After treatment 4 mo after chlordane poisoning. Sprayed approximately 16 gal diluted insecticide in living room and kitchen over 3 d period. No gloves used while diluting. 30 yr old Caucasian. Circumoral numbness, anorexia, nausea, and fatigue were early symptoms. Neck muscle twitching began after 1 mo. EC

ADIPOSE TISSUE; BLOOD SERUM; CONSUMER EXPOSURE; CASE HISTORIES; HEPTACHLOR EPOXIDE; OXYCHLORDANE; NONACHLOR; ACCIDENTAL POISONING; PESTICIDE RESIDUES; BILE; DELIBERATE EXPOSURE
Garrettson, L.K.; Guzelian, P.S.; Blanke, R.V. 1985 Clinical Toxicology 22(6):565-571

Tissue	Cases Exposure Route	Range	Mean	General Information
12825 Milk, whole	14	a) 0-13 ng/g b) Trace-trace	a) 1+/-2 ng/g b) Not applicable	a) 74 samples collected in 1980-81, 14 cases b) 3 mo prior-15 wk after residence sprayed with heptachlor, peak (4 ng/g) 5 wk after spraying, 1 case Residences sprayed with heptachlor, chlordane, aldrin, or non-organochlorine pesticide to control termites. Trace=/<1 ng/g. Nursing mothers living in Perth GC

MILK; ENVIRONMENTAL EXPOSURE; ADULTS; AUSTRALIA; HEXACHLOROBENZENE; HEPTACHLOR EPOXIDE; DIELDRIN; DDE; DDT; PESTICIDES; BIOACCUMULATION; PESTICIDE RESIDUES
Stacey, C.I.; Tatum, T. 1985 Bulletin of Environmental Contamination and Toxicology 35:202-208

Tissue	Cases Exposure Route	Range	Mean	General Information
12826 Milk, whole	a) 1 b) 1 c) 1 d) 1	a) Not detected-0.052 mg/kg b) 0.004-0.071 mg/kg c) 0.004-0.142 mg/kg d) Not detected-0.544 mg/kg	a) 0.015+/-0.013 mg/kg b) 0.025+/-0.018 c) 0.036+/-0.037 mg/kg d) 0.068+/-0.150 mg/kg	0.5 g collected weekly for 20 wk. Detection limit 1 pptm. Sum of heptachlor and heptachlor expoxide. Healthy 30-45 yr olds, Baghdad, Iraq GC-EC

(next page)

4,7-Methanoindene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- (8 CI); 4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro- (9 CI)
76-44-8
C10-H5-Cl7
MW 373.35, MP 95-96 C, VP 3X10(E-4) mm Hg at 25 C

(continued)

Tissue	Cases Exposure Route	Range	Mean	General Information
12827 Placenta	4	Not detected-0.028 mg/kg	Not given	Immediately after delivery. Sum of heptachlor and heptachlor epoxide. Detection limit 1 pptm. Healthy 30-45 yr olds, Baghdad, Iraq GC-EC
MILK; PLACENTA; ENVIRONMENTAL EXPOSURE; IRAQ; DDT; DIELDRIN; CHLORDANE; HEXACHLOROCYCLOHEXANE; INSECTICIDES; BIOACCUMULATION; HEALTH HAZARDS Al-Omar, M.; Abdul-Jalil, F.H.; Al-Ogaily, N.; Tawfiq, S.J.; Al-Bassomy, M. 1986 Environmental Pollution (Series A) 42:79-91				

6H-Dibenzo(b,d)pyran-1-ol, 6a,7,8,10a-tetrahydro-6,6-9-trimethyl-3-pentyl-, (6aR-trans)-
1972-08-3
C21-H30-O2
MW 314.45

Tissue	Cases Exposure Route	Range	Mean	General Information
12828 Blood	a) 5 b) 5 Inhalation	a) 1.5-6.2 ng/ml b) 1.3-6.3 ng/ml	a) Not given b) Not given	a) Passive smokers b) Smokers Measurements after 30-min passive or active exposure to smoke from cigarettes containing either hashish or marijuana. Theoretical amount delta 9-tetrahydrocannabinol smoked was 90 mg. Values for a) estimated from graph. 35-50 yr old healthy volunteers, no previous Cannabis smoking GC/MS
BLOOD; URINE; INHALATION; SMOKING; PASSIVE SMOKING; DRUGS; DELIBERATE EXPOSURE Morland, J.; Bugge, A.; Skuterud, B.; Steen, A.; Wethe, G.H.; Kjeldsen, T. 1985 Journal of Forensic Sciences 30(4):997-1002				

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15. Supplementary Notes

16. Abstract (Limit: 200 words)

The database provides a central source of systematically collected and organized body-burden data that facilitates the early identification of actual or potential human exposure to environmental contaminants and the assessment of the significance of such exposure. Data included are obtained through routine manual searches of selected scientific journals, augmented by computer searches.

The database, which includes the separately published files, Chemicals Identified in Humans and Chemicals Identified in Animals, contains information on more than 2000 chemicals. The database is used in exposure, hazard and risk assessment; identifying potential human and environmental health problems including sources of contamination; planning research and comparing results; and in teaching at medical and public health schools.

The database is under the aegis of the Interagency Collaborative Group on Environmental Carcinogenesis, National Cancer Institute (NCI) and is maintained by the Health and Environmental Information Section, Science Applications International Corporation under the direction of the Exposure Evaluation Division, U.S. Environmental Protection Agency (EPA). Funding is provided through interagency agreements involving NCI, EPA, Analysas Corporation, and the U.S. Department of Energy.

17. Document Analysis a. Descriptors

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Human tissues/body fluids
Residues

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c. COSATI Field/Group

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