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Research and Development

Bibliography of Aquatic Ecosystem Effects, Analytical Methods and Treatment Technologies for Organic Compounds in Advanced Fossil-Fuel Processing Effluents

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BIBLIOGRAPHY OF AQUATIC ECOSYSTEM EFFECTS, ANALYTICAL METHODS AND TREATMENT TECHNOLOGIES FOR ORGANIC COMPOUNDS IN ADVANCED FOSSIL-FUEL PROCESSING EFFLUENTS

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FOREWORD

Our nation is confronting a mandate to develop synthetic fuels from coal and oil shale to reduce dependence on foreign oil supplies and to substitute for decreasing natural gas reserves. Achieving the level of synthetic-fuel production necessary to significantly contribute to U.S. energy supplies requires establishment of many facilities devoted to coal gasification, coal liquifaction, and oil-shale retorting. Each of these technologies produce complex waste waters containing numerous organic contaminants, many present in high concentrations. Few of these organic constituents have been studied adequately to determine potential effects in aquatic environments or possible routes of exposure to man and subsequent effects on human health.

As an aid to research scientists and others concerned with environmental and health effects associated with synfuels development, this indexed bibliography compiles many of the citations for the literature published between 1970 and 1977 pertaining to aquatic ecosystem effects, analytical methods and waste treatment technologies for many organic compounds in effluents from advanced fossil-fuel technologies. This bibliography not only identifies literature pertaining to individual organic constituents but also identifies many constituents for which little or no published information exists. This will aid investigators in selecting those compounds where additional research is required while also avoiding unnecessary duplication of research on those compounds for which adequate data exist.

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ABSTRACT

Advance fossil-fuel processing operations, including oil-shale retorting, coal gasification, coal liquifaction and tar-sands recovery, can result in chemically complex aqueous waste effluents. This bibliography compiles much of the recent literature (ca. 1970-1977) concerning effects of organic compounds in advanced fossil-fuel processing effluents when discharged into aquatic ecosystems, plus information available on analytical methods and treatment technologies for these organics. To compile the bibliography, nearly 500 organic compounds known to be constituents of fossil fuels and fossil-fuel processing effluents were crossed with a list of key words during a computerized search of six bibliographic data bases. The bibliography contains 1314 citations which are indexed by chemicals, key words, taxonomic categories and authors. This bibliography is intended especially for researchers working with advanced fossil-fuel processing effluents in aquatic environments, but may also be useful to those concerned with fossil-fuel processing effluents in terrestrial environments and to those working in pulp mill and pesticide research.

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ACKNOWLEDGMENTS

During the preparation of this bibliography we were fortunate to enlist the assistance of many individuals. To all we extend our deep appreciation. Duane Stoller developed the computer programs through which the bibliography was indexed and had responsibility for the final computer production. Stan Brown produced the text programs through which the citations were edited, sorted and formated for the final printing. Pat Molholt provided a great deal of help in the bibliographic data-base search through which the original collection of citations were obtained and assisted with the bibliography from its conception. Joan Anderson, Roseanne D'Andrea, Mick DeGraeve, Tim Fannin, Dianne Geiger, Rodney Johnson, Joseph Meyer, Ron Overcast, Michael Parker and Linda Zeveloff provided valuable assistance with various tasks. Finally, we were responsible for selection of the citations and indexing terms included in the bibliography. The support provided by the Division of Computer Services, University of Wyoming, Charles Folkner, Director, is greatly appreciated.

Our Project Management Team, comprised of Len Mueller and Kenneth Biesinger of the Environmental Research Laboratory-Duluth, U.S. EPA, and David Farrier, Larry Harrington and the late Robert Kerr of the Laramie Energy Technology Center, U.S. DOE, assisted in compiling the chemical list used in the searches and advised on the final publication.

A special thanks is extended to the personnel of the Bibliographic Retrieval Services, Inc., Schnectady, New York, for extraordinary assistance during our searches and for permission to use copyrighted information from their System Reference Manual in the section entitled "Guide to the Bibliography."

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We would appreciate any suggestions from the users of this bibliography on how we may improve subsequent updates of this document.

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INTRODUCTION

Advanced fossil-fuel processing operations, including oil-shale retorting, coal gasification, coal liquefaction and tar-sands recovery, can generate chemically complex aqueous waste effluents. While these effluents have many common organic and inorganic components, the composition of an effluent depends both on the process technology involved and on characteristics of the fossil fuel. The potential release of such waters to aquatic ecosystems poses questions about the maximum concentrations of effluent constituents which can be safely tolerated by resident aquatic organisms. To obtain answers to these questions one must consider factors related to the compounds, including degradability, toxicity, bioaccumulation and cycling. Effects of both single compounds and mixed solutions of these effluent constituents must be integrated in the answers. When problem compounds are identified, appropriate waste-treatment technologies must be defined which will reduce to an acceptable level the hazards of effluent releases.

Considerable literature exists on the response of aquatic ecosystems to inorganic compounds and the fate of these compounds in such systems. Much of this information has been summarized and reviewed (e.g., Battelle Columbus Laboratories 1971, Committee on Water Quality Criteria 1973, Kemp et al. 1973, McKee and Wolf 1963, and the reviews published annually in the Journal of the Water Pollution Control Federation, e.g., Shuman and Fogleman 1978). However, the literature dealing with fossil-fuel associated organic compounds in aquatic systems is widely dispersed. Bibliographies and reviews are available on advanced fossil-fuel processing technologies (e.g., Braunstein et al. 1977; Rogers 1974; Smithsonian Science Information Exchange, Inc. 1976; U.S. Atomic Energy Commission 1974; U.S. Department of Energy 1977) and on general aspects of organic compounds introduced to aquatic ecosystems (e.g., Becker and Thatcher 1973; Braunstein et al. 1977; Hundemann 1977; A. D. Little, Inc. 1970; McKee and Wolf 1963; Ryckman et al. 1966; Smith 1974; and the annual Journal of the Water Pollution Control Federation reviews, e.g., Chian and DeWalle 1978). Yet the literature has not previously been adequately compiled concerning effects of organic compounds in advanced fossil-fuel processing effluents when discharged into aquatic ecosystems. This bibliography was undertaken to compile much of the recent literature (ca. 1970 through 1977, see Table 1) pertaining to the relationships of these organic compounds to aquatic ecosystems. Also included is information on available treatment technologies and analytical methods for these organic compounds.

This bibliography is compiled from six computerized bibliographic data bases: Biosis Previews (Biological Abstracts and BioResearch Index), Chemical Abstracts Condensates, Comprehensive Dissertation Abstracts, Medlars (Index Medicus), National Technical Information Service Abstracts

(NTIS Government Reports Abstracts) and Pollution Abstracts. Nearly 500 organic compounds were included in the search of these data bases; all have been identified as constituents of fossil fuels and fossil-fuel processing effluents (Barbour et al. 1978; Dark et al. 1977; Denver Research Institute and Environmental Engineering Division 1977; Forney et al. 1974; Gulf South Research Institute 1977a, 1977b, 1978; Hangebrauck 1977; Herbes et al. 1976; Hills et al. 1968; King et al. 1975; Pellizzari 1978; Schmidt et al. 1974; Schmidt-Collerus 1974, 1976; Skeist Laboratories, Inc. 1969; and unpublished data obtained from the Laramie Energy Technology Center). Synonymous chemical names were obtained for each chemical compound identified (Christensen and Luginbyhl 1975, Weast 1977, Windholz et al. 1976, Verschueren 1977). Following a data-base search of the entire chemical list, the results were sequentially crossed with the first list followed by the second list of key words shown in Table 2 to obtain those citations most pertinent to this bibliography. Then results were loaded onto computer tapes for final editing to retain only relevant citations and remove duplicate citations from different data bases. The complete bibliography was indexed by chemicals, key words, taxonomic categories and authors through computer processing.

This bibliography includes a total of 1314 citations. Many of these citations pertain to published work on phenol and cyanide. Other compounds have considerably fewer citations, revealing the scarcity of published information available on these compounds. While all chemicals included in this bibliography have been found in fossil fuels and related effluents, not all have been identified as contained in advanced fossil-fuel processing effluents. However, they are all chemically related to identified compounds and may eventually be identified in such effluents. Information available on these related compounds may help interested researchers to devise appropriate analytical methods and to predict the environmental fates of compounds found in effluent waters.

In addition to containing information pertinent to organic compounds in freshwater environments, selected citations are included which apply to marine and terrestrial environments. This has been particularly emphasized in the case of the degradation literature because many microbial and physical degradative processes are ubiquitous. For example, much research has been completed on the fate of marine and terrestrial petroleum and advanced fossil-fuel processing effluents share many compounds.

Since chlorinated hydrocarbons are not generally associated with effluents from advanced fossil fuel technologies, only general review papers are included here. However, we would like to emphasize that chlorination of complex organic effluents substantially increases the environmental hazard of the effluent (e.g., Adelman et al. 1976; EIFAC 1973; Kobayashi and Akitake 1975a, 1975b; Kopperman et al. 1974; Pickering and Henderson 1966).

We hope this bibliography will be useful not only to researchers working with advanced fossil-fuel processing effluents in aquatic

environments but also to investigators of other environments concerned with all fuel processing effluents, e.g., coking and petroleum industries, as well as those in the areas of pulpmill and pesticide research.

Table 1. Issues and dates of hard copy indexes corresponding to the data-base material searched for the bibliography.

Index	Initial			Final		
	Vol.	No.	Date	Vol.	No.	Date
Biological Abstracts	51	1	January 1, 1970	65	8	April 15, 1978
BioResearch Index	6	1	January, 1970	14	4	April, 1978
Chemical Abstracts	72	1	January 5, 1970	87	26	December 26, 1977
Dissertation Abstracts	20	7	January, 1960	38	10	April, 1978
Medlars	10	-	January, 1969	19	5	May, 1978
NTIS[a]	70	1	January 1, 1970	78	8	April 14, 1978
Pollution Abstracts	1	1	May, 1970	8	6	November, 1977

[a]Equivalent hard copy is "Government Reports Announcements and Index."

Table 2. The two key-word lists crossed with the results of the chemical searches to obtain the initial set of citations included in this bibliography ($ is a truncation device to include in the search all words beginning as indicated to the $. Numbers following the $ limit the number of words searched only to those containing the number of letters indicated beyond the truncation point, e.g., "LAKE$1" includes "LAKES" but not "LAKEWOOD.").

List 1		List 2	
CHROMATOGRAPH$5	AQUATIC INSECTS	TOXIC$11	ACCUMULAT$4
EXTRACT$9	AQUATIC ANIMALS	BIOASSAY$1	MAGNIFICAT$4
IDENTIF$9	AQUATIC LIFE	POLLUT$4	CONCENTRAT$4
ANALY$7	PHYTOPLANKT$4	AVOID$5	METABOL$7
SEPARAT$7	ZOOPLANKT$4	TOLERA$4	NEUROLOG$6
DIGEST$9	PLANKT$4	ACUTE$	EMBRYO$8
STRUCTURE ACTIVITY	ALGA$	CHRONIC$	CYCLE
PARTITION COEFFICIENT	BACTERIA$2	ACCLIMAT$8	CYCLES
	MICROB$3	LETHAL$3	CYCLING
FISH	MICROORGANISM$	MORTAL$3	
FISHES	AQUATIC$1	SURVIV$7	
TROUT$1		GROWTH	
MINNOW$1	LAKE$1	REPRODUC$7	
INVERTEBRAT$1	POND$1		
LARVA$1	POOL$1	ENZYM$8	
DAPHNIA$	STREAM$1	PHYSIOLOG$6	
WATER FLEA$1	BROOK$1	PATHOLOG$6	
CLADOCERA$	CREEK$1	HISTOPATHOLOG$6	
COPEPOD$	RIVER$1	HISTOLOG$6	
ROTIFER$	TRIBUTAR$3	DEGRAD$7	
	FRESHWATER$1	OXIDAT$13	
	WATER$1	BIOACCUMULAT$4	
	ECOSYSTEM$	BIOMAGNIFICAT$4	
	MICROCOSM$	BIOCONCENTRAT$4	
	EFFLUENT$		
	AQUEOUS		

GUIDE TO THE BIBLIOGRAPHY

This bibliography is arranged in five sections: the chemical index, the key-word index, the taxa index, the author index and the citations. Following each term in the indexes are numbers corresponding to the numbers of the citations in which the term appears. The chemical index contains all compounds included in the searches; selected chemical synonyms are cross referenced to the principal entry, generally that spelling which was used by the source reference where the compound was identified. Only blank spaces follow those compounds for which the search failed to produce any information.

The key-word index contains terms used in searching the chemical compounds (cf. Table 2) as well as additional useful terms. As with the chemical index, similar terms are referenced to a principal term (e.g., "decomposition see degradation" and "bioassays see toxicology, bioassays").

Both general and specific taxonomic groups are alphabetically compiled in the taxa index. General taxonomic groups (e.g. bacteria, crustaceans, fishes, etc.) are followed by the list of citation numbers having information on these groups, while specific taxonomic groups (e.g. coliform, Pseudomonas, Daphnia, etc.) present a listing of citations having information on these more limited groups. In many cases the citations for several lower taxonomic classifications are grouped under a higher classificational category; in such cases the interested user is referenced to the appropriate classification to obtain the citations (e.g. "bluegill see Fishes, Centrachidae").

The author index includes all authors listed in the citations. Due to the various formats used by the data bases, authors may have more than one entry in the index (e.g., "Smith JD," "Smith, JD" and "Smith, John D").

The citations are compiled alphabetically by lead authors. However, as with the author index, variations in format between the data bases occasionally cause unavoidable but manageable shifts in the ordering of the citations for an author. Each citation is preceded with a number on which the indexing is based. In general, following the citation number is the author(s), work location, publication year, publication title (translated title if a foreign language title is present), publication source and other availability information, language of the publication, abstract and/or key words, and, finally, a code indicating both the data-base source of the citation and that source's index number for that citation. The final entry permits the user of this bibliography to go to the printed source citation (e.g., Chemical Abstracts

or Pollution Abstracts) to obtain any additional information available. A two-letter paragraph label (e.g., AU) precedes each type of information included in the citation. Since the type of information available and the presentation format varies among the data bases, a brief presentation by data base follows which explains what is included in each paragraph and the meaning of some of the codes used in these paragraphs. Complete guides to the codes can be found in the printed versions of bibliographies from which the citations were obtained. These are available in most science and technology libraries.

BIOSIS PREVIEWS

< > Bibliographic citation number.

AU Author(s).

YR Two-digit year in which the publication containing the citation was published.

TI Title which may be edited from the published title.

SO Abbreviated journal title (see Biosis List of Serials available in most libraries), volume, issue number and pagination.

DE Descriptors added to the references by the indexing staff at BIOSIS to denote subject content not adequately covered by the title.

AN B followed by a unique eight-digit number: the first two numbers indicate volume number (numbers less than 66 indicate Biological Abstracts, numbers greater than 66 indicate BioResearch Index), the last six digits correspond to its citation number in the appropriate printed issue of the source.

CHEMICAL ABSTRACTS CONDENSATES

< > Bibliographic citation number.

AU Author(s).

IN Institution or organization name and address where the reported work was performed.

YR Two-digit year in which the journal containing the citation was published or the year the conference was held where the paper was presented.

TI Title of the original document which may be edited and is always in English.

TR Foreign language title if TI is a translated title.

SO For journal citations this paragraph contains the abbreviated journal title according to the Chemical Abstracts Service Source Index, volume, issue, pagination and publication date; for conference papers, the title of the conference proceedings, pagination of the paper in the proceedings and the date of the conference in day-month-year format.

PB Publisher name for books and conferences and the abbreviation for the country of publication.

PG Number of pages for books, technical reports and dissertations.

LG Two-letter code for language.

DE Descriptors or phrases assigned by Chemical Abstract Service to provide additional subject access to the document.

AN C followed by a unique eleven-digit number: the first three digits are the volume number, the next two digits are the issue number and the last six digits correspond to the citation number in the appropriate printed number of Chemical Abstracts.

COMPREHENSIVE DISSERTATION ABSTRACTS

< > Bibliographic citation number.

AU Author(s).

IN Institution granting the degree, a unique four-digit code representing that institution, the type of degree, date and number of pages, if known.

YR Two-digit year in which the degree was granted.

TI Title of the dissertation in English; if the dissertation is in a foreign language a notation of the language will be made in parentheses at the end of the English-translated title.

SO Source of printed publication within which the thesis citation appears; indicating DAI for Dissertation Abstracts International for which the volume, issue, section and page are noted and ADD for American Doctoral Dissertations for which the volume, issue and page are presented.

DE Descriptor of the subject and its corresponding four-digit code assigned by the author.

AN D followed by ADG to indicate the data base vendor through which the citation was obtained, followed by the University Microfilm order number required to obtain full copies of the dissertation.

MEDLARS

< > Bibliographic citation number.

AU Author(s).

IN Institution from which reprints of the article may be obtained, usually the organization with which the author(s) is(are) affiliated.

YR Two-digit year in which the journal containing the citation was published.

TI Title of the article or monograph, if a foreign title the English translated title is presented.

TR Foreign language title or transliterated title, when the foreign language title does not use the Roman alphabet.

SO Journal title abbreviation in Index Medicus format, volume, issue, pagination and publication date; if the article is a review the number of references may also be included.

LG Two-letter code for language.

MJ Terms from the controlled vocabulary Medical Subject Headings (MeSH) assigned by the National Library of Medicine (NLM) indexer to denote the major subject emphasis of the article, two-letter MeSH subheadings may be attached to the main headings.

NM Additional terms indexed as for MJ which denote subject coverage of the article which is less emphasized than MJ.

AN M followed by an eight-digit sequential accession number assigned by NLM, this is generally followed by a second four-digit number denoting the year and month in which the citation may be found in the printed Index Medicus or one of the other NLM indexes.

NATIONAL TECHNICAL INFORMATION SERVICE ABSTRACTS

< > Bibliographic citation number.

AU Author(s).

IN Institution where the research was performed and the report prepared (typically the organization with which the author is affiliated), followed by the sponsoring organization(s) and any cooperating organization(s), and this may be followed by a six-digit code assigned to the sponsoring organization by the agency contributing the document to NTIS.

YR Two-digit year the report was written; however, sometimes (almost always on translations and journal articles) this date corresponds to some other time such as the date of translation, issue or publication. Also, the total number of pages in the report is included in this paragraph.

TI Original title as written by the author(s) or the translated title.

NT Contains information which describes the report type (e.g., a technical report or a final report), translation source, periodical citation source, related reports, language of the report, etc.

AV Availability of the report whenever there are any special instructions or special sources other than NTIS for ordering the report.

PR NTIS prices or price codes for paper copies (PC) and microfiche copies (MF) of the report.

AB Abstract of citation.

MJ Controlled vocabulary subject terms from a NTIS thesaurus assigned to denote the major subject emphasis of the document.

MN Term from the controlled thesaurus assigned to denote additional but perhaps less important subject coverage.

ID Keywords not necessarily selected from the controlled thesaurus.

AN N followed by the primary NTIS accession number for the report; this number should be used to order the report from NTIS.

POLLUTION ABSTRACTS

< > Bibliographic citation number.

AU Author(s).

IN Institution or organization name and address where the work was performed; varying acronyms and abbreviations may appear, e.g., WHOI for Woods Hole Oceanographic Institution.

YR Two-digit year when the journal containing the citation was published or when the conference containing the citation was held (not the year the conference proceedings were published).

TI Title of the document as it appears in the original work; foreign language titles have not been translated.

SO Title, volume, issue, pagination and date, when available, for journals, conference publications and reports; conference title, location, sponsor and inclusive dates are noted for conference proceedings; foreign journal titles, conference titles and addresses are not translated.

LG Two-letter code for language.

ID Subject terms which are assigned to identify specific entities or concepts within the document.

DE Descriptors from the controlled vocabulary Keyword Master List assigned by indexers to denote subject content of the document.

AN P followed by a unique seven-digit accession number: the first two digits represent the specific printed volume in which the citation was published followed by five digits for the sequentially assigned accession number.

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GAMMA-COLLIDINE
(SEE 2,4,6-TRIMETHYLPYRIDINE)

GAMMA-LACTONE
(SEE DIHYDRO-2(3H)-FURANONE)

GAMMA-PICOLINE
(SEE 4-METHYLPYRIDINE)

GAMMA-VALEROLACTONE
821

GLYCERINE
(SEE GLYCEROL)

GLYCEROL
8, 219, 1115, 1306

GLYCOL
(SEE ETHYLENE GLYCOL)

GUAIENE
(SEE 2,3-DIMETHYLNAPHTHALENE)

HENEICOSANE
314

HEPTADECANE
744, 804, 1043

HEPTADECENE
(NO CITATIONS)

HEPTANOIC ACID
536

HEPTENE
(NO CITATIONS)

HEPTYL BENZENE
(NO CITATIONS)

HEPTYLENE
(SEE HEPTENE)

HEXABENZOBENZENE
(SEE CORONENE)

HEXADECANE
114, 311, 546, 744, 791, 1048, 1055
1064, 1253, 1258

HEXAFLUOROBENZENE
(NO CITATIONS)

HEXALDEHYDE
(NO CITATIONS)

HEXANAL
(SEE HEXALDEHYDE)

HEXENE
(NO CITATIONS)

HEXONE
(SEE 2-METHYL-4-PENTANONE)

HEXYL ALCOHOL
(NO CITATIONS)

HEXYL BENZENE
275

HOPANE
82, 348

HYDRINDONAPHTHENE
(SEE INDANE)

HYDROGEN CYANIDE
(SEE CYANIDE)

HYDROQUINONE
609, 657, 671, 787, 788, 861, 1066
1077, 1160, 1305, 1306

HYDROXY BENZALDEHYDE
386

HYDROXY BENZENE
(SEE PHENOL)

HYDROXY BENZOFURAN
(NO CITATIONS)

HYDROXY BENZOTHIOPHENOL
(NO CITATIONS)

HYDROXY PROPYL BENZENE
(SEE ISOPROPYL PHENOL)

HYPNONE
(SEE ACETOPHENONE)

IDRYL
(SEE FLUORANTHENE)

INDAN
(SEE INDANE)

INDANE
(NO CITATIONS)

INDANOL
(NO CITATIONS)

INDENE
(NO CITATIONS)

INDOL
(SEE INDOLE)

INDOLE
1022, 1058, 1184

INDONAPHTHENE
(SEE INDENE)

IPA
(SEE ISOPROPYL ALCOHOL)

ISOBUTYL BENZENE
927

ISOBUTYL NITRILE
(NO CITATIONS)

ISOBUTYL PHENOL
(NO CITATIONS)

ISOCHINOLINE
(NO CITATIONS)

ISOOCTYL ALCOHOL
(NO CITATIONS)

ISOPENTYL BENZENE
(NO CITATIONS)

ISOPROPANOL
(SEE ISOPROPYL ALCOHOL)

ISOPROPENYL BENZENE
(SEE ALPHA-METHYLSTYRENE)

ISOPROPYL ALCOHOL
178, 264, 399, 467, 470, 503, 667, 755

ISOPROPYL BENZENE
141, 142, 430, 776, 925, 926, 927
1130, 1254

ISOPROPYL NAPHTHALENE
(NO CITATIONS)

ISOPROPYL PHENOL
238, 350, 1238

ISOPROPYL THIOPHENE
(NO CITATIONS)

ISOQUINOLINE
(NO CITATIONS)

KETOLE
(SEE INDOLE)

LEPIDINE
(SEE 4-METHYLQUINOLINE)

LUPANE
(NO CITATIONS)

LUTIDINE
(SEE DIMETHYL PYRIDINE)

M-CRESOL
439, 527

M-ETHYLTOLUENE
(NO CITATIONS)

M-HYDROXYPHENOL
(SEE RESORCINOL)

M-METHOXYBENZALDEHYDE
(NO CITATIONS)

M-METHOXYINDOLE
(NO CITATIONS)

M-METHYLPHENOL
(SEE M-CRESOL)

M-TOLUIDINE
(NO CITATIONS)

M-XYLENE
411, 416, 482

MALEIC ACID
424

MALEIC ANHYDRIDE
261

MBK
(SEE 2-HEXANONE)

MCA
(SEE 3-METHYLCHOLANTHRENE)

MESITYLENE
161, 223, 482

METHANAL
(SEE FORMALDEHYDE)

METHANE
354, 365, 408, 504, 521, 544, 623, 695
699, 706, 718, 755, 781, 832, 968, 1007
1008, 1012, 1141, 1266, 1287

METHANOIC ACID
(SEE FORMIC ACID)

METHOXY BENZALDEHYDE
(NO CITATIONS)

METHOXY METHANE
(SEE DIMETHYL ETHER)

METHYL ACETIC ACID
(SEE PROPIONIC ACID)

METHYL ANILINE
966

METHYL BENZENE
(SEE TOLUENE)

METHYL BIPHENYL
(NO CITATIONS)

METHYL CYANOBENZENE
(NO CITATIONS)

METHYL CYCLOHEXANONE
(NO CITATIONS)

METHYL CYCLOPENTANE
(NO CITATIONS)

METHYL DIHYDRONAPHTHALENE
(NO CITATIONS)

METHYL ETHENE
(SEE PROPENE)

METHYL ETHYL BENZENE
(NO CITATIONS)

METHYL ETHYL NAPHTHALENE
(NO CITATIONS)

METHYL ETHYL PHENOL
(NO CITATIONS)

METHYL ETHYL PYRIDINE
(NO CITATIONS)

METHYL ETHYLENE
(SEE PROPENE)

METHYL HEXYL KETONE
(SEE 2-OCTANONE)

METHYL INDENE
(NO CITATIONS)

METHYL INDOL
(SEE METHYL INDOLE)

METHYL INDOLE
(NO CITATIONS)

METHYL ISOAMYL KETONE
(SEE 2-METHYL-5-HEXANONE)

METHYL ISOBUTYL KETONE
(SEE 2-METHYL-4-PENTANONE)

METHYL ISOPROPYL AMINE
(NO CITATIONS)

METHYL MERCAPTAN
292, 499

METHYL N-AMYL KETONE
(SEE 2-HEPTANONE)

METHYL N-BUTYL KETONE
(SEE 2-HEXANONE)

METHYL NAPHTHOL
(NO CITATIONS)

METHYL OXIRAN
(SEE PROPYLENE OXIDE)

METHYL OXIRANE
(SEE PROPYLENE OXIDE)

METHYL PENTYL KETONE
(SEE 2-HEPTANONE)

METHYL PHENYL KETONE
(SEE ACETOPHENONE)

METHYL PYRIDINE
(NO CITATIONS)

METHYL PYROCATECHOL
(NO CITATIONS)

METHYL QUINOLINE
(NO CITATIONS)

METHYL STYRENE
558, 923, 927, 1105

METHYL T-BUTYL KETONE
(NO CITATIONS)

METHYL THIOPHENE
(NO CITATIONS)

METHYLENE CHLORIDE
213, 1045

MIAK
(SEE 2-METHYL-5-HEXANONE)

MIK
(SEE 2-METHYL-4-PENTANONE)

MONOBUTYL ETHER
(SEE 2-BUTOXYETHANOL)

MONOCHLOROETHYLENE
(SEE VINYL CHLORIDE)

MONOTHIOL TRIETHYLENE GLYCOL
(NO CITATIONS)

MORETANE
(NO CITATIONS)

MULTIFLORANE
(NO CITATIONS)

N-BUTANE
73, 167, 397, 555, 602, 836, 1147
1162

N-BUTANOL
(SEE N-BUTYL ALCOHOL)

N-BUTYL ALCOHOL
178, 470, 484, 530, 869, 954

N-BUTYL ALDEHYDE
(SEE N-BUTYRALDEHYDE)

N-BUTYL ETHYL KETONE
(SEE 3-HEPTANONE)

N-BUTYL VINYL ETHER
(NO CITATIONS)

N-BUTYRALDEHYDE
552

N-CAPRIC ACID
(SEE DECANOIC ACID)

N-CAPROIC ACID

(SEE N-HEXANOIC ACID)

N-CAPRYLIC ACID
(SEE OCTANOIC ACID)

N-DECANOL
(SEE N-DECYL ALCOHOL)

N-DECENE
(NO CITATIONS)

N-DECOIC ACID
(SEE DECANOIC ACID)

N-DECYL ALCOHOL
(NO CITATIONS)

N-DECYLIC ACID
(SEE DECANOIC ACID)

N-ETHYL ANILINE
(NO CITATIONS)

N-HEPTANE
73, 181, 535, 536

N-HEPTOIC ACID
(SEE HEPTANOIC ACID)

N-HEXADECOIC ACID
(SEE PALMITIC ACID)

N-HEXANE
179, 275, 298, 312, 426, 462, 1166

N-HEXANOIC ACID
(NO CITATIONS)

N-HEXANOL
(SEE HEXYL ALCOHOL)

N-HEXOIC ACID
(SEE N-HEXANOIC ACID)

N-METHYLMORPHOLINE
(NO CITATIONS)

N-NITROSO-1,1-DIMETHYL-3-ETHYLUREA
(NO CITATIONS)

N-NONOIC ACID
(SEE NONANOIC ACID)

N-NONYLIC ACID
(SEE NONANOIC ACID)

N-OCTANOL
(SEE OCTYL ALCOHOL)

N-PENTADECANE
(NO CITATIONS)

N-PROPYL ALCOHOL
(NO CITATIONS)

N-PROPYL AMINE
140, 209

N-PROPYL BENZENE
(NO CITATIONS)

N-VALERIC ACID
(SEE PENTANOIC ACID)

N,N-DIMETHYLNAPTHYLAMINE
(NO CITATIONS)

NAPHTHALENE
2, 4, 39, 66, 91, 112, 185, 194, 202
207, 223, 275, 293, 299, 311, 336, 359
409, 413, 414, 415, 467, 477, 500, 509
522, 540, 567, 596, 712, 713, 714, 733
739, 740, 741, 742, 743, 744, 752, 755
762, 800, 866, 871, 895, 958, 994, 1011
1016, 1017, 1034, 1051, 1052, 1053
1054, 1095, 1111, 1116, 1135, 1136
1137, 1138, 1148, 1205, 1230, 1244
1249, 1253, 1254, 1283, 1287

NAPHTHANTHRACENE
(SEE BENZO(A)ANTHRACENE)

NAPTHACENE
(NO CITATIONS)

NEOMOTIONE
(NO CITATIONS)

NONADECANE
(NO CITATIONS)

NONANE
465, 1037, 1287

NONANOIC ACID
(NO CITATIONS)

NONENE
(NO CITATIONS)

O-AMINOTOLUENE
(SEE O-TOLUIDINE)

O-BENZENEDIOL
(SEE CATECHOL)

O-BUTYLDIETHYLENE GLYCOL
(SEE 2-(2-BUTOXYETHOXY)ETHANOL)

O-CRESOL
439, 665, 867, 870

O-DIHYDROXYBENZENE
(SEE CATECHOL)

O-ETHYLANILINE
(NO CITATIONS)

O-ETHYLPHENOL
(NO CITATIONS)

O-ETHYLTOLUENE
(NO CITATIONS)

O-HYDROXYPHENOL
(SEE CATECHOL)

O-HYDROXYTOLUENE
(SEE O-CRESOL)

O-ISOPROPYLPHENOL
(NO CITATIONS)

O-METHYLPHENOL
(SEE O-CRESOL)

O-METHYLSTYRENE
(NO CITATIONS)

O-QUINONE
(SEE 1,2-BENZOQUINONE)

O-TOLUIDINE
966

O-TOLUQUINOLINE
(SEE 8-METHYLQUINOLINE)

O-XYLENE
416, 417, 418, 482, 970

OCTADECANE
283, 744

OCTALDEHYDE
(NO CITATIONS)

OCTANE
465, 473, 563

OCTANOIC ACID
(NO CITATIONS)

OCTENE
(NO CITATIONS)

OCTYL ALCOHOL
385

OCTYL BENZENE
(NO CITATIONS)

OLEANANE
(NO CITATIONS)

OLEIC ACID
(SEE CIS-9-OCTADECENOIC ACID)

OXIRAN
(SEE ETHYLENE OXIDE)

OXIRANE
(SEE ETHYLENE OXIDE)

OXYALLOSETUL-2-ENE
(NO CITATIONS)

P-BENZOQUINONE
(SEE 1,4-BENZOQUINONE)

P-CAROTANE
(NO CITATIONS)

P-CRESOL
78, 244, 350, 664

P-DIHYDROXYBENZENE
(SEE HYDROQUINONE)

P-ETHYLANILINE
(NO CITATIONS)

P-ETHYLPHENOL
666

P-ETHYLTOLUENE
(NO CITATIONS)

P-HYDROXYTOLUENE
(SEE P-CRESOL)

P-ISOPROPYLPHENOL
(NO CITATIONS)

P-METHYLPHENOL
(SEE P-CRESOL)

P-QUINONE
(SEE 1,4-BENZOQUINONE)

P-XYLENE
416, 418

PALMITIC ACID
114

PARAFFIN
99, 100, 110, 131, 147, 198, 208, 242
245, 246, 505, 596, 646, 845, 875, 876
877, 883, 917, 922, 1033, 1132

PARAFORMALDEHYDE
(SEE 1,3,5-TRIOXANE)

PENTADECENE
(NO CITATIONS)

PENTANE
73, 1175

PENTANOIC ACID
470, 954

PENTYL BENZENE
(NO CITATIONS)

PENTYL PHENOL
(NO CITATIONS)

PERCHLOROETHYLENE
(SEE 1,1,2,2-TETRACHLOROETHYLENE)

PERFLUOROTOLUENE
(NO CITATIONS)

PEROPYRENE
(SEE DIBENZO(CD,LM)PERYLENE)

PERYLENE
502, 607, 899, 1251, 1254

PHENANTHRENE
223, 293, 336, 467, 503, 512, 522, 582
755, 928, 981, 1053, 1098, 1254

PHENANTHRIDINE
(NO CITATIONS)

PHENANTHROL
(NO CITATIONS)

PHENOL
5, 24, 25, 26, 27, 28, 34, 35, 38, 40
47, 55, 62, 63, 64, 77, 79, 80, 81, 83
97, 102, 103, 117, 122, 125, 128, 129
133, 138, 149, 157, 169, 172, 173, 174
177, 182, 184, 192, 194, 195, 203, 213
224, 232, 233, 234, 236, 240, 248, 253
257, 259, 263, 267, 268, 271, 279, 295
297, 303, 304, 307, 308, 313, 314, 317
318, 321, 332, 337, 343, 344, 349, 350
351, 364, 366, 369, 370, 373, 374, 375
376, 377, 378, 379, 382, 390, 391, 392
393, 396, 400, 405, 406, 422, 423, 434
435, 436, 437, 439, 446, 447, 453, 461
463, 469, 470, 473, 476, 478, 479, 485
487, 489, 504, 519, 525, 526, 528, 539
551, 556, 559, 561, 574, 575, 576, 579
580, 585, 587, 589, 590, 592, 593, 594
595, 608, 610, 611, 616, 617, 618, 619
620, 621, 625, 629, 630, 631, 632, 633
634, 649, 651, 658, 660, 662, 663, 664
670, 678, 679, 680, 681, 682, 683, 685
687, 688, 689, 691, 693, 694, 695, 696
698, 701, 710, 711, 721, 722, 723, 724
725, 731, 732, 733, 738, 748, 758, 761
772, 773, 774, 776, 777, 778, 779, 782
784, 786, 787, 788, 793, 795, 805, 806
807, 808, 809, 813, 820, 822, 824, 831
833, 835, 838, 841, 842, 843, 844, 847
848, 852, 854, 856, 881, 900, 901, 902
903, 904, 906, 908, 912, 933, 934, 941
942, 943, 944, 945, 946, 952, 953, 960
961, 973, 974, 979, 982, 983, 984, 985
986, 990, 991, 996, 1002, 1004, 1005
1006, 1010, 1014, 1020, 1021, 1023
1026, 1030, 1031, 1035, 1036, 1046
1047, 1050, 1057, 1058, 1059, 1060
1065, 1066, 1068, 1079, 1080, 1081
1082, 1083, 1090, 1091, 1092, 1093
1097, 1106, 1109, 1110, 1125, 1131
1133, 1134, 1139, 1140, 1144, 1145
1146, 1147, 1153, 1154, 1155, 1156
1159, 1160, 1164, 1166, 1167, 1183
1187, 1189, 1190, 1192, 1194, 1196
1198, 1202, 1204, 1213, 1216, 1218
1222, 1225, 1226, 1227, 1231, 1232
1234, 1236, 1237, 1238, 1240, 1242
1244, 1245, 1246, 1276, 1277, 1288
1289, 1294, 1295, 1297, 1304, 1310
1311, 1313

PHENOLIC RESINS
1215

PHENYL AMINE
(SEE ANILINE)

PHENYL BENZENE
(SEE BIPHENYL)

PHENYL CYANIDE
(SEE BENZONITRILE)

PHENYL ETHANE
(SEE ETHYL BENZENE)

PHENYL NAPHTHALENE
(NO CITATIONS)

PHTHALIC ANHYDRIDE
11, 214, 345, 346, 424, 470, 479, 521
565, 639, 640, 641, 802, 818, 837, 862
890, 956, 1000, 1223

PICENE
(NO CITATIONS)

PINACOLIN
(SEE METHYL T-BUTYL KETONE)

PINACOLINE
(SEE METHYL T-BUTYL KETONE)

PINACOLONE
(SEE METHYL T-BUTYL KETONE)

POLYETHYLENE
61, 250, 730, 796, 916, 1270, 1271
1299

POLYPROPYLENE
599, 1267

PROPANAMIDE
(SEE PROPIONAMIDE)

PROPANE
139, 140, 206, 718, 1078, 1116

PROPANOIC ACID
(SEE PROPIONIC ACID)

PROPANOL
(SEE ISOPROPYL ALCOHOL)

PROPENE
1, 48, 206, 266, 718, 794, 1267

PROPENENITRILE
(SEE ACRYLONITRILE)

PROPIONAMIDE
470

PROPIONIC ACID
144, 286, 484, 803

PROPIONIC ACID AMIDE
(SEE PROPIONAMIDE)

PROPYL ACETIC ACID
(SEE PENTANOIC ACID)

PROPYL BENZENE
142, 296

PROPYL HYDROGEN SULFATE
(NO CITATIONS)

PROPYLENE
(SEE PROPENE)

PROPYLENE CHLOROHYDRIN
(NO CITATIONS)

PROPYLENE DICHLORIDE
(SEE 1,2-DICHLOROPROPANE)

PROPYLENE OXIDE
1, 266, 794

PSEUDOCUMENE
(SEE 1,2,4-TRIMETHYLBENZENE)

PSEUDOCUMENOL
(SEE TRIMETHYL PHENOL)

PYRENE
16, 18, 36, 185, 300, 324, 457, 464
467, 494, 501, 502, 503, 522, 549, 562
607, 739, 740, 763, 846, 851, 898, 951
955, 962, 963, 966, 967, 1039, 1040
1051, 1052, 1053, 1054, 1069, 1070
1071, 1072, 1150, 1152, 1172, 1173
1250, 1254, 1273, 1285, 1296

PYRIDINE
46, 68, 87, 124, 157, 168, 183, 188
258, 284, 310, 347, 357, 517, 534, 553
614, 650, 675, 676, 692, 865, 907, 1095
1096, 1112, 1116, 1166, 1217, 1262
1263, 1264

PYROCATECHOL
(SEE CATECHOL)

PYROCATECHUIC ACID
(SEE CATECHOL)

PYRROL
(SEE PYRROLE)

PYRROLE
(NO CITATIONS)

QUINALDINE
32, 33, 537, 799

QUINOL
(SEE HYDROQUINONE)

QUINOLINE
9, 87, 449, 508, 553, 783, 955, 1011
1128

RESORCINOL
34, 101, 215, 216, 281, 308, 403, 508
557, 572, 609, 696, 711, 753, 861, 868
920, 1066, 1076, 1162, 1197, 1199, 1241

S-BUTANOL
(SEE S-BUTYL ALCOHOL)

S-BUTYL ALCOHOL
470

SAPOTALIN
(SEE TRIMETHYL NAPHTHALENE)

SERRATANE
(NO CITATIONS)

SITOSTANE
(NO CITATIONS)

STYRENE

1, 67, 186, 231, 239, 333, 531, 794
836, 852, 923, 935, 936, 972, 1100
1101, 1102, 1105, 1130, 1298

T-BUTANOL
(SEE T-BUTYL ALCOHOL)

T-BUTYL ALCOHOL
(NO CITATIONS)

T-BUTYL AMINE
653, 1314

TAR ACIDS
1207

TARAXASTANE
(NO CITATIONS)

TARAXERANE
(NO CITATIONS)

TETRACENE
(SEE NAPTHACENE)

TETRACHLOROETHYLENE
(SEE 1,1,2,2-TETRACHLOROETHYLENE)

TETRADECANE
31, 855

TETRADECENE
31

TETRADECYLENE
(SEE TETRADECENE)

TETRAHYMANE
(NO CITATIONS)

TETRAHYMANOL
(NO CITATIONS)

TETRAMETHYL BENZENE
(NO CITATIONS)

TETRAMETHYL INDAN
(SEE TETRAMETHYL INDANE)

TETRAMETHYL INDANE
(NO CITATIONS)

TETRAMETHYL UREA
(NO CITATIONS)

TETRAPHENE
(SEE BENZO(A)ANTHRACENE)

THIACYCLOPENTANE
(NO CITATIONS)

THIANAPHTHENE
(SEE BENZO(B)THIOPHENE)

THIONAPHTHENE
(SEE BENZO(B)THIOPHENE)

THIOPHENE
211, 416, 417, 418, 714, 833, 914
1027

THIOSULFIDE
(NO CITATIONS)

TMB
(SEE MESITYLENE)

TOLUENE
48, 66, 111, 118, 161, 163, 170, 188
211, 239, 330, 352, 367, 381, 409, 410
413, 414, 415, 420, 465, 482, 532, 548
628, 645, 673, 744, 755, 833, 874, 909
914, 915, 918, 1012, 1105, 1112, 1116
1130, 1181, 1244, 1253, 1300

TRANS-BETA-BUTYLENE
(SEE BUTENE)

TRANS-DECENE
(SEE N-DECENE)

TRANS-MUCONIC ACID
(SEE 2,4-HEXADIENEDIOIC ACID, TRANS TRANS

TRI-O-CRESYL PHOSPHATE
(SEE TRICRESYL PHOSPHATE)

TRI-O-TOLYL PHOSPHATE
(SEE TRICRESYL PHOSPHATE)

TRI-2-TOLYL PHOSPHATE
(SEE TRICRESYL PHOSPHATE)

TRIBROMOMETHANE
(SEE BROMOFORM)

TRICHLOROFLUOROMETHANE
(NO CITATIONS)

TRICHLOROMETHANE
(SEE CHLOROFORM)

TRICRESYL PHOSPHATE
(NO CITATIONS)

TRIDECANE
(NO CITATIONS)

TRIDECENE
(NO CITATIONS)

TRIDECYLENE

(SEE TRIDECENE)

TRIFORMOL
(SEE 1,3,5-TRIOXANE)

TRIMETHYL AMINO METHANE
(SEE T-BUTYL AMINE)

TRIMETHYL ANILINE
(NO CITATIONS)

TRIMETHYL INDAN
(SEE TRIMETHYL INDANE)

TRIMETHYL INDANE
(NO CITATIONS)

TRIMETHYL NAPHTHALENE
(NO CITATIONS)

TRIMETHYL PHENOL
(NO CITATIONS)

TRIMETHYL PYRIDINE
(NO CITATIONS)

TRIMETHYL SILANOL
(NO CITATIONS)

TRIOXYMETHYLENE
(SEE 1,3,5-TRIOXANE)

TRIPHENYLENE
(NO CITATIONS)

TRITOLYL PHOSPHATE
(SEE TRICRESYL PHOSPHATE)

UNDECANE
(SEE UNODECANE)

UNODECANE
(NO CITATIONS)

URSANE
(NO CITATIONS)

VINYL BENZENE
(SEE STYRENE)

VINYL CHLORIDE
145, 262, 766

VINYL CYANIDE
(SEE ACRYLONITRILE)

VINYL ETHYLENE
(SEE 1,3-BUTADIENE)

VINYL THIOPHENE
(NO CITATIONS)

VINYL TOLUENE
(SEE METHYL STYRENE)

XYLENE
67, 76, 111, 118, 161, 214, 275, 280
330, 367, 380, 411, 416, 417, 418, 465
482, 527, 542, 645, 673, 692, 833, 874
909, 924, 925, 926, 970, 1116, 1123
1126, 1256

XYLENOL
76, 314, 439, 660, 884, 1123, 1200
1240, 1267, 1305, 1306

1-AZA-2,4-CYCLOPENTADIENE
(SEE PYRROLE)

1-AZAINDENE
(SEE INDOLE)

1-AZANAPHTHALENE
(SEE QUINOLINE)

1-BENZAZINE
(SEE QUINOLINE)

1-BENZAZOLE
(SEE INDOLE)

1-BENZINE
(SEE QUINOLINE)

1-BENZOTHIOPHENE
(SEE BENZO(B)THIOPHENE)

1-BUTANOL
(SEE N-BUTYL ALCOHOL)

1-CHLORO-2-(BETA-CHLOROETHOXY)ETHANE
(SEE DI(2-CHLOROETHYL)ETHER)

1-CHLORO-2-PROPENE
(NO CITATIONS)

1-CHLORO-2,3-EPOXYPROPANE
(NO CITATIONS)

1-DECANOL
(SEE N-DECYL ALCOHOL)

1-DECENE
(SEE N-DECENE)

1-HEPTANE CARBOXYLIC ACID
(SEE OCTANOIC ACID)

1-HEXANAL
(SEE HEXALDEHYDE)

1-HEXANECARBOXYLIC ACID

(SEE HEPTANOIC ACID)

1-HEXANOL
(SEE HEXYL ALCOHOL)

1-HYDROXY-2,3-DIMETHYLBENZENE
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1-METHYLINDENE
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1-METHYLPYRENE
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(SEE PHTHALIC ANHYDRIDE)

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AB INCINERATION TESTS OF SELECTED CHEMICAL WASTES WERE CONDUCTED AT THE FLUIDIZED BED INCINERATOR FACILITY OPERATED BY BLACK CLAWSON FIBRECLAIM, INC. IN FRANKLIN, OHIO. THESE TESTS WERE PERFORMED UNDER CONTRACT WITH SYSTEMS TECHNOLOGY CORPORATION TO DETERMINE THE EFFECTIVENESS OF THERMAL DESTRUCTION OF TWO DIFFERENT INDUSTRIAL LIQUID WASTES: (1) AN AQUEOUS PHENOL SLUDGE, AND (2) AN AQUEOUS SOLUTION OF METHYL METHACRYLATE MONOMER. EACH WASTE WAS BURNED AT TWO DIFFERENT CONDITIONS TO DETERMINE THE EFFECTS OF NORMAL OPERATING AND EQUIPMENT VARIABLES. ANALYSIS OF COMBUSTION GAS SAMPLES INDICATED DESTRUCTION EFFICIENCIES OF OVER 99.999 PERCENT FOR EACH WASTE CONSTITUENT. STANDARD EPA METHOD 5 TESTS WERE PERFORMED ON STACK EMISSIONS TO DETERMINE PARTICULATE LOADING AND COMPOSITION. NO ORGANICS WERE DETECTED IN THE SCRUBBER WATER OR ASH. TEST RESULTS INDICATED THAT EITHER WASTE CAN BE EFFECTIVELY DESTRUCTED IN A FLUIDIZED BED REACTOR. ESTIMATED COST OF DESTROYING 13.2 MILLION LITERS/YEAR OF AQUEOUS METHYL METHACRYLATE WAS $6 MILLION CAPITAL INVESTMENT AND AN OPERATING COST OF

$255/METRIC TON. COST OF INCINERATING 23.8 MILLION LITERS/YEAR OF AQUEOUS PHENOL WASTE WAS ESTIMATED TO BE $6 MILLION CAPITAL INVESTMENT AND $124/METRIC TON OPERATING COST.
MJ WASTE-TREATMENT, WATER-POLLUTION-CONTROL, FLUIDIZED-BED-PROCESSING, PHENOLS, INCINERATORS, AIR-POLLUTION- CONTROL.
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MJ INCINERATORS, INDUSTRIAL-WASTES, COKING, HERBICIDES, BIOCHEMICAL-OXYGEN-DEMAND, SOLID-WASTE-DISPOSAL.
MN MANUFACTURING, COST-ANALYSIS, CAPITALIZED-COSTS, OPERATING-COSTS, OXIDIZERS, PERFORMANCE-EVALUATION, CRESOLS, DESIGN-CRITERIA, PROCESS-

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ID AUTOMATED METHODS, CARBONYL COMPOUNDS, COLORIMETRY, FLUOROMETRY.
DE ALDEHYDES, INDUSTRIAL EFFLUENTS, MEASURING METHODS, MUNICIPAL WATER SUPPLIES, OPTICAL ANALYSIS, WATER QUALITY MEASUREMENTS.
AN P 7501575.

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AU AFTRING R P. CHALKER B E. SMITH C A. TAYLOR B F.
YR 77.
TI ANAEROBIC DEGRADATION OF PHTHALIC-ACID AND TEREPHTHALIC-ACID BY DENITRIFYING BACTERIAL CULTURES.
SO ABSTR ANNU MEET AM SOC MICROBIOL. 77. 263.
DE ABSTRACT.
AN B 77049724.

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AU AGERTON, BOBBY M. CORNETTE, JIMMY C.
IN AIR FORCE ARMAMENT LAB EGLIN AFB FLA. 400 936.
YR 73. 12P.
TI BIODEGRADATION OF BENZENE.
NT FINAL REPT. MAR-MAY 72.
AV DISTRIBUTION LIMITATION NOW REMOVED. 01.
PR PC$3.50/MF$3.00.
AB TWO SPECIES OF BACTERIA CAPABLE OF DEGRADING THE AROMATIC HYDROCARBON BENZENE IN VIVO HAVE BEEN ISOLATED FROM SOIL SAMPLES THAT WERE OBTAINED FROM AREAS WHICH HAD BEEN DRENCHED WITH KEROSENE (JP-4), GASOLINE, AND DIESEL FUEL FOR SEVERAL YEARS. IT WAS REASONED THAT ANY BACTERIA THAT COULD BE OBTAINED FROM THESE SAMPLES WERE EITHER USING THE FUEL AS A SOURCE OF CARBON OR WERE AT LEAST TOLERATING THE FUEL. ONE OF THE MICROORGANISMS, PSEUDOMONAS AERUGINOSA, IS CAPABLE OF DEGRADING BENZENE IN BOTH THE LIQUID AND THE VAPOR PHASES. THE OTHER, A SPECIES OF BACILLUS, ALSO SHOWED GROWTH POTENTIAL IN THE PRESENCE OF BENZENE BUT PRODUCED ONLY AN APPROXIMATELY 50% BREAKDOWN OF BENZENE AS COMPARED TO THE 96% BREAKDOWN PRODUCED BY P. AERUGINOSA UNDER SIMILAR CONDITIONS. (AUTHOR).
MJ BENZENE, BIODETERIORATION, JET-ENGINE-FUELS, BIODETERIORATION, DIESEL-FUELS, BIODETERIORATION, GASOLINE, BIODETERIORATION.
MN BACILLUS, PSEUDOMONAS- AEROGINOSA, PSEUDOMONAS, DISPOSAL, AIR-POLLUTION, WATER-POLLUTION, ULTRAVIOLET-SPECTRA, KEROSENE, GROWTH-GENERAL, MUTATIONS, BACILLACEAE.
ID JP-4-FUELS, PSEUDOMONAS-PUTIDA, PSEUDOMONAS-AERUGINOSA, NTISDODXD.
AN N AD-916 346/0SL.

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AU AHMED M. FOCHT D D.
YR 72.
TI BIO DEGRADATION OF BI PHENYL AND POLY CHLORINATED BI PHENYLS.
SO ABSTR ANNU MEET AM SOC MICROBIOL. 72. 6.
DE ABSTRACT BACTERIA SEWAGE.
AN B 73030175.

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AU AHNOFF, MARTIN. JOSEFSSON, BJORN.
IN DEP. ANAL. CHEM. UNIV. GOTHENBURG. GOTEBORG. SWED.
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TI SIMPLE APPARATUS FOR ON-SITE CONTINUOUS LIQUID-LIQUID EXTRACTION OF ORGANIC COMPOUNDS FROM NATURAL WATERS.
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DE NATURAL WATER ORG EXTN. CHLORO BIPHENYL DETN WATER. PESTICIDE DETN WATER. LIQ LIQ EXTRACTOR WATER.
AN C 08102006193.

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AU AHOKAS J T.
YR 76.
TI METABOLISM OF 2 5 DI PHENYL OXAZOLE BY TROUT LIVER MICROSOMAL MIXED FUNCTION MONO OXYGENASE.
SO RES COMMUN CHEM PATHOL PHARMACOL. 13 (3). 439-447.
DE MOUSE RAT CARCINOGENESIS NADPH FLUORESCENCE.
AN B 62055907.

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AU AHOKAS J T. PELKONEN O. KARKI N T.
YR 76.
TI CYTOCHROME P-450 AND DRUG INDUCED SPECTRAL INTERACTIONS IN THE HEPATIC MICROSOMES OF TROUT SALMO-TRUTTA-LACUSTRIS.
SO ACTA PHARMACOL TOXICOL. 38 (4). 440-449.
DE HEXO BARBITAL SKF-525-A 2 DI ETHYLAMINOETHYL-2 2-DIPHENYL VALERATE HYDRO CHLORIDE METAB-DRUGS 3 4 BENZ PYRENE CARCINOGEN POLLUTANT DDT ALDRIN BROMO BENZENE PIPERONYL BUTOXIDE NADPH CYTOCHROME C REDUCTASE MONO OXYGENASE SYSTEM ENDOPLASMIC RETICULUM CENTRIFUGATION.
AN B 62005636.

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AU AHOKAS J T. PELKONEN O. KARKI N T.
IN DEPARTMENT OF PHARMACOLOGY, UNIVERSITY OF OULU, FINLAND.
YR 77.
TI CHARACTERIZATION OF BENZO(A)PYRENE HYDROXYLASE OF TROUT LIVER.
SO CANCER RES. 37. 10. P3737-43. OCT 77.
LG EN.
MJ ARYL-HYDROCARBON-HYDROXYLASES: ME. MICROSOMES-LIVER: EN.
MN ANIMAL. CARBON-MONOXIDE: PD. METHYLCHOLANTHRENE: PD. PROADIFEN: PD.
AN M 78001772. 7801.

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AU AHOKAS J. PAAKKONEN R. RONNHOLM K. RAUNIO V. PELKONEN O.
YR 76.
TI OXIDATIVE METABOLISM OF CARCINOGENS BY TROUT LIVER RESULTING IN PROTEIN BINDING AND MUTAGENICITY.
SO HOPPE-SEYLER'S Z PHYSIOL CHEM. 357 (8). 1019.
DE ABSTRACT SALMONELLA-TYPHIMURIUM BENZO A PYRENE HYDROXYLASE.
AN B 77065581.

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IN DEP. PHARMACOL. UNIV. OULU. OULU. FINLAND.
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LG EN.
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AN C 08301001755.

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AU AIZENSHTADT V S.
YR 68.
TI A SANITARY TOXICOLOGICAL CHARACTERIZATION OF THE WASTE WATERS FROM THE PRODUCTION OF ACETALDEHYDE FOLLOWING PROLONGED CIRCULATION IN A SYSTEM.
SO SB NAUCH TR KUIBYSHEV NAUCH- ISSLED INST EPIDEMIOL GIG. (5). 90- 91.
DE MOUSE RAT CHOLIN ESTERASE.
AN B 51043765.

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AN C 08618126598.

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AN B 78019908.

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YR 76.
TI TOXICOLOGICAL CHARACTERISTICS AND SYMPTOM COMPLEX OF ACUTE PHENOL INTOXICATION OF CERTAIN FRESH WATER CRUSTACEANS AND MOLLUSKS.
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DE ASELLUS-AQUATICUS POLYPHEMUS-PEDICULUS DAPHNIA-LONGISPINA DAPHNIA-PULEX LYNCEUS-BRACHYURUS BYTHOTREPHES-LONGIMANUS ACANTHODIAPTOMUS-DENTICORNIS CYCLOPS- VICINUS EUDIAPTOMUS-GRACILIS CYPRIS- PUBERA PHYSA-FONTINALIS LYMNAEA- STAGNALIS RADIX-OVATA VIVIPARUS- VIVIPARUS BITHYNIA-TENTACULATA PLANORBIS-VORTEX PLANORBIS-PLANORBIS DREISSENA-POLYMORPHA ANODONTA-COMPLANATA SPHAERIUM-CORNEUM INVERTEBRATES PHENOL NEURO PARALYSIS.
AN B 62067184.

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AU ALEKSEEV, V. A.
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TI TEMPERATURE DEPENDENCE OF RESISTANCE TO TOXICITY OF SOME AQUATIC INSECTS AND ARACHNIDS.
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AN C 08209052294.

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AN B 72080256.

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YR 71.
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AN B 72016840.

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AN B 76082535.

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AU ALLEN, JAMES EDWARD. MARKOVETZ, ALLEN J.
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IN SOUTHEAST. FISH CONTR. LAB. FISH AND WILDLIFE SERV. WARM SPRINGS. GA.
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LG EN.
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AN C 07215077550.

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AU ALTON, L. V.
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YR 73.
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AN C 08306047750.

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AU ALY, OSMAN M. FAUST, SAMUEL D.
IN DEP. ENVIRON. ENG. CAMPBELL SOUP CO. CAMDEN. N. J.
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AV GROB, ROBERT L.
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AN C 08504025166.

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YR 74.
TI A COMBINED BACTERIAL AND LIVER TEST SYSTEM FOR DETECTION AND CLASSIFICATION OF CARCINOGENS AS

MUTAGENS.
SO GENETICS. 78 (1). (RECD 1975) 91-95.
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AN B 75080260.

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YR 73.
TI ANALYSIS OF SOME AROMATIC HYDRO CARBONS IN A BENZENE SOLUBLE BITUMEN FROM GREEN RIVER SHALE.
SO GEOCHIM COSMOCHIM ACTA. 37 (5). 1213-1228.
DE USA PLANT BIOCHEMICAL RESIDUES MASS SPECTROSCOPY IR SPECTROSCOPY GAS CHROMATOGRAPHY DEHYDROGENATION.
AN B 57015556.

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YR 76. 13P.
TI OZONATION OF HIGH LEVELS OF PHENOL IN WATER.
NT 68. ANNUAL MEETING OF AMERICAN INSTITUTE OF CHEMICAL ENGINEERING, LOS ANGELES, CALIFORNIA, USA, 16 NOV 1975.
PR PC A02/MF A01.
AB HIGH LEVELS OF PHENOLIC MATERIAL ARE OFTEN PRODUCED IN FUEL CONVERSION PROCESSES SUCH AS COAL GASIFICATION, SHALE OIL RECOVERY, AND CATALYTIC CRACKING UNITS. OZONE HAS BEEN DEMONSTRATED TO REACT WITH PHENOL OVER WIDE RANGES OF CONDITIONS. OZONATION WAS STUDIED AT VARIOUS CONCENTRATIONS OF PHENOL, CHEMICAL OXYGEN DEMAND, AND PH IN A CONTINUOUS REACTION. THE RESULTS SHOWED THAT THE FOLLOWING EQUATION COULD DESCRIBE THE RATE OF REACTION BETWEEN OZONE AND PHENOL: (D(PHI OH)/DT) = (A)P/SUB O SUB 3 /(K(PHI - OH) + K'(PHI - O EXP -)). IN ADDITION, IT WAS FOUND THAT, AT A HIGH PH, OZONE OXYGEN ATOM UTILIZATION COULD APPROACH 100%. (ERA CITATION 02: 014308).
MJ OZONE, PHENOLS.
MN ABUNDANCE, AQUEOUS-SOLUTIONS, CATALYTIC-CRACKING, CHEMICAL-REACTION-KINETICS, COAL-GASIFICATION, DIAGRAMS, EQUATIONS, PH-VALUE, SHALE-OIL, TABLES.
ID ERDA-400201, ERDA-040500, ERDA-010600, NTISERDA.
AN N CONF-751107-18.

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AU ANDERSON, J. W. MOORE, L. J. BLAYLOCK, J. W. WOODRUFF, D. L. KIESSER, S. L.
IN BATTELLE PACIFIC NORTHWEST LABS. RICHLAND, WASH. AND DEVELOPMENT ADMINISTRATION. 9500022.
YR 76. 27P.
TI BIOAVAILABILITY OF SEDIMENT- SORBED NAPHTHALENES TO THE SPIUNCLUID WORM, PHASCOLOSOMA AGASSIZII.
NT NOAA SYMPOSIUM ON FATE AND EFFECTS OF PETROLEUM HYDROCARBONS IN MARINE ECOSYSTEMS AND ORGANISMS, SEATTLE, WASHINGTON, UNITED STATES OF AMERICA (USA), 10 NOV 1976.
PR PC A03/MF A01.
AB THE OBJECTIVES OF THIS STUDY WERE TO DETERMINE THE ACCUMULATION AND RELEASE PARAMETERS OF NAPHTHALENES FOR THE BURROWING PEANUT WORM, (SIPUNCULIDA) PHASCOLOSOMA AGASSIZII. SO THAT UPTAKE FROM SEDIMENT COULD BE COMPARED TO THAT FROM CONTAMINATED WATER, THE LATTER WAS ALSO BRIEFLY INVESTIGATED. SEDIMENT-OIL MIXTURES WERE PRODUCED AND USED IN TWO WAYS TO EXAMINE THE VARIABILITY THAT MIGHT BE PRODUCED BY DIFFERENT TYPES OF ACTUAL OIL SPILLS. (ERA CITATION 02: 049801).
MJ ANNELIDS, NAPHTHALENE.
MN AQUATIC-ECOSYSTEMS, AQUATIC-ORGANISMS, ECOLOGICAL-CONCENTRATION, ENVIRONMENTAL-EFFECTS, METABOLISM, OIL-SPILLS, SEAWATER, SEDIMENTS, TISSUE-DISTRIBUTION, WATER-POLLUTION.
ID ERDA-520200, ERDA-560304, ERDA-020900, BIOACCUMULATION, INDICATOR-SPECIES, BIOINDICATORS, PEANUT-WORM, PHASCOLOSOMA-AGASSIZII, NTISERDA.
AN N BNWL-SA-5864.

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AU ANDRES, A. G. KURAZHSKOVSKAYA, T. N.
IN USSR.
YR 69.
TI HISTOPATHOLOGICAL CHANGES IN BREAM (ABRAMIS BRAMA) DURING EXPERIMENTAL

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SO TR. INST. BIOL. VNUTR. VOD, AKAD. NAUK SSSR. NO. 19. P73-86. 1969.
LG RS.
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AN C 07221108423.

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YR 70.
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LG RS.
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AN C 07319098674.

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YR 73.
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LG EN.
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AN C 08105021894.

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LG EN.
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AN P 7704227.

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IN ANONYMOUS.
YR 77.
TI GAS DIALYSIS SPEEDS CYANIDE ANALYSIS.
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LG EN.
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ID GAS DIALYSIS.
DE WATER POLLUTANTS, INDUSTRIAL EFFLUENTS, CHEMICAL ANALYSIS, DIALYSIS, CYANIDES.
AN P 7702230.

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YR 71.
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AN P 7300212.

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DE ODORS, CHEMICAL WASTES, FUMES, INCINERATORS, LIQUID WASTE, DISPOSAL, NEW YORK.
AN P 7300171.

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YR 70.
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LG EN.
AB NONE.
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DE CHEMICAL INDUSTRY, PHENOL, MONITORING SYSTEMS, EFFLUENTS, INSTRUMENTS .
AN P 7004605.

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YR 70.
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DE HYDROCARBONS, OIL-WATER SEPARATORS, GAS-LIQUID CHROMATOGRAPHY.
AN P 7004256.

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AU ANTONOV, V. N. KRYATKOVSKII, A. N. RADAEVA, L. A. KUZNETSOV, V. I. SOKOLOVSKII, V. V. ZAITSEVA, V. N. OZEROV, A. I. ZHABIN, M. S.
IN USSR.
YR 72.
TI COMBINED SYSTEM OF PURIFICATION OF CONCENTRATED CYANIDE-CONTAINING WASTES OF THE LENINGRAD PLANT WITH AUTOMATION OF PROCESSES AND UTILIZATION OF CYANIDES AND OTHER COMPONENTS.
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AN C 07912070008.

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IN N/A.
YR 77.
TI TOXICOLOGY OF POLY ETHYLENE POLY AMINE AND SUBSTANTIATION OF ITS MAXIMUM PERMISSIBLE CONCENTRATION IN BODIES OF WATER.
SO GIG SANIT. (2). 32-35.
LG EN.
DE MICE RATS.
AN B 65024428.

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AU ANTONOVA, K. N. BARKHATOVA, V. I.
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MN TROUT, RESIDUES, CONCENTRATION-COMPOSITION, AQUATIC-WEEDS, TOXICITY, TABLES-DATA, COLUMBIA-BASIN, CARTER-LAKE, WASHINGTON-STATE, COLORADO .
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AB ORIGINAL DATA FROM MORE THAN 500 TECHNICAL PUBLICATIONS CONCERNING THE SPECIFIC EFFECTS OF CHEMICALS ON INDIVIDUALS SPECIES OF AQUATIC BIOTA WERE COLLECTED AND SUMMARIZED IN A UNIFORM FORMAT. ALPHABETICAL ASSEMBLY OF THE DATA BY CHEMICAL ALLOWS RAPID ACCESS TO CONSIDERABLE DETAILED INFORMATION. A SPECIES INDEX FACILITATES SEARCH FOR

INFORMATION ON THE TOXICITY OF CHEMICALS TO INDIVIDUAL AQUATIC SPECIES. THE DETAILS OF MAJOR PROCEDURES IN LABORATORY BIOASSAY AND FIELD ASSESSMENT OF CHEMICAL TOXICITY IN WATER ARE DISCUSSED. FRESHWATER AND MARINE PROCEDURES ARE INCLUDED. A TOTAL OF 961 REFERENCES WERE USED. (AUTHOR).

MJ WATER-POLLUTION, TOXICOLOGY, AQUATIC-BIOLOGY, WATER-POLLUTION.

MN INORGANIC-COMPOUNDS, ORGANIC-COMPOUNDS, TABLES-DATA, BIOASSAY, FISH, BIOCHEMICAL-OXYGEN-DEMAND, INDUSTRIAL-WASTES, INDICATOR-SPECIES, TEMPERATURE, SOURCES, DISSOLVED-GASES, OXYGEN, METALS, ORGANIC-WASTES, PESTICIDES, CHLORINE- ORGANIC-COMPOUNDS, PHENOLS, CYANIDES.

ID WATER-POLLUTION-EFFECTS-ANIMALS, WATER-POLLUTION-EFFECTS-PLANTS.

AN N PB-213 210/8.

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IN BATTELLE COLUMBUS LABS. OHIO.

YR 71. 94P.

TI AN INVESTIGATION OF TECHNIQUES FOR REMOVAL OF CYANIDE FROM ELECTROPLATING WASTES.

NT WATER POLLUTION CONTROL RESEARCH SERIES.

AV 12010EIE-11/71.

PR PC-GPO/MF$0.95-NTIS.

AB INCREASINGLY STRINGENT STREAM DISCHARGE REGULATIONS HAVE PROMPTED AN ASSESSMENT OF THE CURRENT TECHNOLOGY AVAILABLE FOR APPLICATION TO THE METAL FINISHING WASTE TREATMENT PROBLEM, SPECIFICALLY IN REGARD TO SMALLER OPERATIONS. EXPERIMENTAL LABORATORY AND BENCH SCALE STUDIES WERE THEN CONDUCTED ON SEVERAL UNCONVENTIONAL WASTEWATER TREATMENT METHODS, INCLUDING ION FLOTATION, ACTIVATED CARBON ADSORPTION, ACIDIFICATION VOLATILIZATION, AND SOLVENT EXTRACTION. A DEMONSTRATION PILOT PLANT STUDY WAS ALSO CONDUCTED ON THE ACTIVATED CARBON PROCESS EMPLOYING ACTUAL RINSE WATERS FROM A ZINC CYANIDE PLATING OPERATION. THE PILOT SCALE ACTIVATED CARBON SYSTEM WAS OPERATED AT 99% EFFICIENCY OF CYANIDE REMOVAL, WHILE PROVIDING FOR THE COMPLETE RECOVERY AND REGENERATION OF COPPER. COST ESTIMATES FOR CARBON SORPTION PROCESS ARE GIVEN. (AUTHOR).

MJ INDUSTRIAL-WASTE-TREATMENT, ELECTROPLATING, WATER-POLLUTION, INDUSTRIAL-WASTES, CYANIDES, INDUSTRIAL-WASTES-TREATMENT, ACTIVATED-CARBON, INDUSTRIAL-WASTE-TREATMENT.

MN FLOTATION, ZINC-INORGANIC-COMPOUNDS, VAPORIZING, PILOT-PLANTS, PERFORMANCE-EVALUATION, CHEMICAL-ENGINEERING, REGENERATION-ENGINEERING, COST-ESTIMATES, CAPITAL- COSTS, OPERATING-COSTS.

ID WATER-POLLUTION-CONTROL, ZINC-CYANIDES.

AN N PB-208 210.

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PG 18 PP.

LG FR.

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AN C 08214089806.

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AV UNIV. MICROFILMS, ANN ARBOR, MICH. ORDER NO. 74-18,976.
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MN ANIMAL: (ANIMAL). CHROMATOGRAPHY-GAS. DE. WATER-POLLUTANTS-CHEMICAL: AN.
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MN TOXICITY, RESPIRATORY-SYSTEM, NARCOSIS, FISHERIES.
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AN B 60040205.

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AU BUSH, B. DELL'ACQUA, R.
IN N.Y. STATE DEPT. OF HEALTH, DIV. OF LABS. AND RESEARCH, ALBANY, NY 12201.
YR 73.
TI MICRODETERMINATION OF GASOLINE IN POTABLE WATERS BY GAS CHROMATOGRAPHY.
SO INTERNATIONAL JOURNAL OF ENVIRONMENTAL ANALYTICAL CHEMISTRY, 3(2): 141-146, 1973.
LG EN.
AB NONE.
ID HEXANE, PARAFFINS.
DE CONTAMINANT DETECTION, GAS CHROMATOGRAPHY, GASOLINE, GROUND WATER, HYDROCARBONS, PETROLEUM, POTABLE WATERS.
AN P 7500317.

<180>
AU BUTTON D K.
YR 76.
TI THE INFLUENCE OF CLAY AND BACTERIA ON THE CONCENTRATION OF DISSOLVED HYDRO CARBON IN SALINE SOLUTION.
SO GEOCHIM COSMOCHIM ACTA. 40 (4). 435-440.
DE ESTUARINE SEDIMENT DODECANE SOLUBILITY.
AN B 62030529.

<181>
AU CAGLAR M A. THOMPSON A R. HOUSTON C W. ROSE V C.
YR 69.
TI KINETICS OF MICROBIAL OXIDATION OF N HEPTANE PART 1 CHARACTERIZATION OF THE PROCESS.
SO BIOTECHNOL BIOENG. 11 (3). 417- 426.
DE PSEUDOMONAD.
AN B 51010623.

<182>
AU CAHN R P. LI N N.
YR 74.
TI SEPARATION OF PHENOL FROM WASTE WATER BY THE LIQUID MEMBRANE TECHNIQUE.
SO SEP SCI. 9 (6). (RECD 1975) 505-519.
AN B 75051928.

<183>
AU CAIN R B. HOUGHTON C. WRIGHT K A.
YR 74.
TI MICROBIAL METABOLISM OF THE PYRIDINE RING. METABOLISM OF 2- AND 3-HYDROXYPYRIDINES BY THE MALEAMATE PATHWAY IN ACHROMOBACTER SP.
SO BIOCHEM J. 140. 2. P293-300. MAY 74.
LG EN.
MJ ALCALIGENES: ME.
MN AMIDES: ME. CHELATING-AGENTS. DITHIOTHREITOL. (FERRIC-AND-FERROUS-COMPOUNDS).
AN M 75127334.

<184>
AU CAIRNS J JR. MESSENGER D I. CALHOUN W F.
YR 76.
TI INVERTEBRATE RESPONSE TO THERMAL SHOCK FOLLOWING EXPOSURE TO ACUTELY SUBLETHAL CONCENTRATIONS OF CHEMICALS.
SO ARCH HYDROBIOL. 77 (2). 164-175.
DE GONIOBASIS-LIVESCENS PHYSA- INTEGRA LYMNAEA-EMARGINATA CHROMIUM CHLORINE CYANIDE COPPER LEAD PHENOL ZINC ACETIC-ACID MORTALITY HEAT.
AN B 6302:337.

<185>
AU CALDER, JOHN A. LADER, JUNE H.
IN FLORIDA STATE UNIV. TALLAHASSEE. DEPT. OF OCEANOGRAPHY. SCIENCE FOUNDATION, WASHINGTON, D.C. OFFICE FOR THE INTERNATIONAL DECADE OF OCEAN EXPLORATION. 407 468.
YR 76. 8P.
TI EFFECT OF DISSOLVED AROMATIC HYDROCARBONS ON THE GROWTH OF MARINE BACTERIA IN BATCH CULTURE.
AV PUB. IN APPLIED AND ENVIRONMENTAL MICROBIOLOGY, V32 N1 P95-101 JUL 76.
PR NOT AVAILABLE NTIS.
AB DISSOLVED AROMATIC HYDROCARBONS WERE FOUND TO DECREASE GROWTH RATE AND MAXIMUM CELL DENSITY OF MARINE BACTERIA IN BATCH CULTURES. THE MAGNITUDE OF THE DECREMENT WAS OBSERVED TO BE A FUNCTION OF CONCENTRATION OF THE HYDROCARBON AND INHERENT TOXICITY. THE INTERENT TOXICITY WAS OBSERVED TO INCREASE INVERSELY WITH SOLUBILITY SUCH THAT NAPHTHALENE AT 100 MICROMETERS CONCENTRATION DEMONSTRATED A TOXIC EFFECT SIMILAR TO BENZOPYRENE AT 0.02 MICROMETERS. A PARTIAL OXIDATION PRODUCT OF NAPHTHALENE WAS FOUND TO BE MORE EFFECTIVE IN DECREASING GROWTH PARAMETERS THAN NAPHTHALENE AT EQUIVALENT CONCENTRATIONS AND TO CAUSE COMPLETE CESSATION OF GROWTH AT THE HIGHER CONCENTRATIONS PERMITTED BY ITS POLAR STRUCTURE.
MJ OIL-POLLUTION, BACTERIA, TOXICITY, MARINE-MICROORGANISMS.
MN AROMATIC-HYDROCARBONS, CRUDE- OIL, NAPHTHALENE, PYRENES, GROWTH.
ID REPRINTS, INTERNATIONAL-DECADE-OF-OCEAN-EXPLORATION, BENZOPYRENES, WATER-POLLUTION-EFFECTS-ANIMALS, NTISIDOE, NTISNSFG.
AN N PB-261 893/2SL.

<186>
AU CALLELY, A. G. JONES, A. M. HUGHES, D. E.
IN DEP. MICROBIOL. UNIV. COLL. CARDIFF. WALES.
YR 73.
TI MICROBIAL DEGRADATION OF STYRENE COPOLYMERS.
SO DEGRADABILITY POLYM. PLAST. (PREPR.) CONF. P13, 3 PP. 1973.
LG EN.
DE STYRENE COPOLYMER BIODEGRDN.
AN C 08518124567.

<187>
AU CAMPBELL, J. H. WASHINGTON, H.
IN CALIFORNIA UNIV. LIVERMORE. LAWRENCE LIVERMORE LAB. AND DEVELOPMENT ADMINISTRATION. 9500007.

YR 76. 23P.
TI PRELIMINARY LABORATORY AND MODELING STUDIES ON THE ENVIRONMENTAL IMPACT OF IN-SITU COAL GASIFICATION.
NT UNDERGROUND COAL GASIFICATION SYMPOSIUM, MORGANTOWN, WEST VIRGINIA, UNITED STATES OF AMERICA (USA), 10 AUG 1976.
PR PC A02/MF A01.
AB A PRELIMINARY LABORATORY AND MODELING STUDY ON THE ENVIRONMENTAL IMPACT OF ''IN-SITU'' COAL GASIFICATION FIELD TESTING IS REPORTED. EXPERIMENTS WERE CONDUCTED ON THE ASPECTS OF GROUND WATER POLLUTION; WATER LEACHING, TRANSPORT, AND DISPERSION OF POLLUTANTS. THE MAJOR INORGANIC CONTAMINANTS LEACHED FROM THE COAL ASH WERE DETERMINED TO BE AL EXP +3, CA EXP +2, AND OH EXP -, WHILE THE PRINCIPAL ORGANIC POLLUTANTS WERE FOUND TO BE PHENOLS. A SIMPLE CALCULATIONAL MODEL IS USED TO PREDICT THE MOVEMENT OF THE POLLUTED GROUND-WATER. THIS MODEL INPUTS INFORMATION FROM LABORATORY EXPERIMENTS FOR THE RATE AT WHICH THE ABOVE POLLUTANTS ARE REMOVED FROM THE GASIFICATION ZONE AND THE DEGREE WITH WHICH THEY ARE SORBED BY THE SURROUNDING COAL. IT WAS DISCOVERED THAT UNGASIFIED COAL HAS A STRONG BENEFICIAL EFFECT ON RETARDING THE DISPERSION OF THE POLLUTANTS. THE PROBLEM OF AIR POLLUTION RESULTING FROM THE FLARING OF THE PRODUCTION GAS WAS ALSO EXAMINED. THE EXTENT OF THE AIR POLLUTION PLUME THAT DEVELOPS FROM THIS FLARING IS PREDICTED USING A SIMPLE COMPUTER MODEL. THESE PREDICTIONS HAVE BEEN CARRIED OUT FOR A SET OF ATMOSPHERIC AND FLARE OPERATING CONDITIONS THAT MAY BE ENCOUNTERED DURING FIELD TESTS. IT WAS DETERMINED THAT THE LLL FIELD EXPERIMENTS WILL ADEQUATELY MEET AIR QUALITY STANDARDS, EVEN UNDER ADVERSE CONDITIONS. (ERA CITATION 02: 000070).
MJ BITUMINOUS-COAL, IN-SITU-GASIFICATION, AIR-POLLUTION, COAL-GASIFICATION, WATER-POLLUTION.
MN ENVIRONMENTAL-EFFECTS, GROUND-WATER, MATHEMATICAL-MODELS, PHENOLS, SORPTIVE-PROPERTIES.
ID ERDA-010900, ERDA-010404, ERDA-010600, NTISERDA.
AN N UCRL-78303.

<188>
AU CANELLI E. MITCHELL D G. PAUSE R W.
YR 76.
TI AN IMPROVED DETERMINATION OF CHEMICAL OXYGEN DEMAND IN WATER AND WASTES BY A SIMPLIFIED ACID DI CHROMATE DIGESTION.
SO WATER RES. 10 (4). 351-355.
DE POLLUTION BCCAENE TOLUENE PYRIDINE COLORIMETRY SPECTROPHOTOMETRY.
AN B 62028550.

<189>
AU CAPENTER A. SIGGIA S. CARTER S.
YR 76.
TI SEPARATION AND OR CONCENTRATION OF PHENOLIC MATERIALS FROM DILUTE AQUEOUS SOLUTIONS.
SO ANAL CHEM. 48 (1). 225-228.
DE N VINYL-2 PYRROLIDINE POLYMER.
AN B 61058589.

<190>
AU CAPONE, WANDA. COTTIGLIA, MAURO. MASCIA, CARLO. MASALA, MARIA L. T.
IN IST. CHIM. FARM. TOSSICOL. UNIV. CAGLIARI. CAGLIARI. ITALY.
YR 76.
TI THEORY OF THE SOURCE AND ACCUMULATION OF 3,4-BENZOPYRENE IN THE FOOD CHAIN.
SO INQUINAMENTO. 18. P35-40. 1976.
LG IT.
DE BENZOPYRENE WATER POLLUTION. PETROLEUM WASTE FOOD CHAIN.
AN C 08605028546.

<191>
AU CARDWELL, RICK D. FOREMAN, DALLAS G. PAYNE, THOMAS R. WILBUR, DORIS J.
IN CHEMICO PROCESS PLANTS CO. EL MONTE, CALIF. ENVIROGENICS SYSTEMS. ENVIRONMENTAL RESEARCH LAB. DULUTH, MINN.
YR 76. 125P.
TI ACUTE TOXICITY OF SELECTED TOXICANTS TO SIX SPECIES OF FISH.
NT FINAL REPT.
PR PC$5.50/MF$2.25.
AB THE RELATIONSHIP BETWEEN MEDIAN LETHAL CONCENTRATION AND EXPOSURE TIME WAS DETERMINED FOR FIVE CHEMICALS AND UP TO SIX SPECIES OF FRESHWATER FISH IN A FLOW-THROUGH SYSTEM. THE LOWEST MEDIAN LETHAL CONCENTRATIONS FOUND WERE 0.114 MG/L

FOR SODIUM CYANIDE, 0.118 MG/L FOR SODIUM PENTACHLOROPHENATE, 2.9 MG/L FOR SELENIUM DIOXIDE, 18.0 MG/L FOR SODIUM ARSENITE, 25.4 MG/L FOR BERYLLIUM SULFATE, AND GREATER THAN 100 MG/L FOR LEAD CHLORIDE. TOXICITY CURVES RELATING MEDIAN LETHAL CONCENTRATION TO EXPOSURE TIME WERE OF THREE TYPES. ONE CURVE, RESEMBLING A RECTANGULAR HYPERBOLA, CHARACTERIZED THE TOXICITY OF SODIUM CYANIDE, WHILE ANOTHER CURVE, SIGMOID IN SHAPE, CHARACTERIZED THE TOXICITY OF SELENIUM DIOXIDE. BOTH TYPES OF CURVES WERE OBSERVED IN TOXICITY TESTS WITH SODIUM PENTACHLOROPHENATE, SODIUM ARSENITE AND BERYLLIUM SULFATE. LINEAR TOXICITY CURVES WERE RECORDED FOR SOME FISH SPECIES EXPOSED TO SELENIUM DIOXIDE, SODIUM ARSENITE AND BERYLLIUM SULFATE, BUT THESE WERE USUALLY ENCOUNTERED WHEN EXPOSURE TIMES WERE LESS THAN 96 HR.
MJ TOXICITY, FISHES.
MN ARSENIC-INORGANIC-COMPOUNDS, SODIUM-INORGANIC-COMPOUNDS, SODIUM-ORGANIC-COMPOUNDS, BIOASSAY, FRESH-WATER-FISHES, TOXICOLOGY, SODIUM-CYANIDE, SELENIUM-OXIDES, EXPOSURE, HALOHYDROCARBONS, LETHAL-DOSAGE, CATFISHES, LEAD-INORGANIC-COMPOUNDS, TROUT, TABLES-DATA, RECOMMENDATIONS, MORTALITY, SENSITIVITY, PHENOLS, WATER-POLLUTION, LEAD-HALIDES, CHLORIDES.
ID BERYLLIUM-SULFATES, BLUEGILLS, ICTALURUS-PUNCTATUS, GOLDFISH, CARASSUIS-AURATUS, FISH-MUCUS, SODIUM-PENTACHLOROPHENOL, ARSENITES, LEAD-CHLORIDES, WATER-POLLUTION-EFFECTS-ANIMALS, NTISEPAORD.
AN N PB-252 488/2SL.

<192>
AU CARLSON, ROBERT M. CARLSON, ROBERT E. KOPPERMAN, HERBERT L.
IN DEP. CHEM. UNIV. MINNESOTA. DULUTH. MINN.
YR 75.
TI DETERMINATION OF PARTITION COEFFICIENTS BY LIQUID CHROMATOGRAPHY.
SO J. CHROMATOGR. 107. P219-23. 1975.
LG EN.
DE HANSCH CORRELATION PARTITION COEFF. CHROMATOG DETN PARTITION COEFF. PHENOL DERIV PARTITION COEFF. ANILINE DERIV PARTITION COEFF. TOXICITY PHENOL AQUATIC SPECIES.
AN C 08301004076.

<193>
AU CARTWRIGHT N J. BROADBENT D A.
YR 74.
TI BACTERIAL ATTACK ON PHENOLIC ETHERS PRELIMINARY STUDIES ON SYSTEMS TRANSPORTING ELECTRONS TO THE SUBSTRATE BINDING COMPONENTS IN BACTERIAL O DEALKYLASES.
SO MICROBIOS. 10 (38-39). 87-96.
DE NOCARDIA-SP PSEUDOMONAS- FLUORESCENS REDUCTASE OXIDASE CYTOCHROME ENZYMES SPECIFICITY 4 METHOXY BENZOATE.
AN B 59004565.

<194>
AU CARUSO, S. C. KOSLOW, J. R.
IN CARNEGIE-MELLON UNIV. PITTSBURGH. PA.
YR 70.
TI CHROMATOGRAPHIC DETECTION OF WATER CONTAMINANTS.
SO IND. WATER ENG. 7. P22-6. 1970.
LG EN.
DE CHROMATOG ORG POLLUTANT WATER. OIL CHROMATOG DETECTION WATER. PHENOL CHROMATOG DETECTION WATER. NAPHTHALENE CHROMATOG DETECTION WATER.
AN C 07224124854.

<195>
AU CASALINI, A. LEONI, A. SALVI, G.
IN STN. SPER. COMBUST. SAN DONATO MILANESE. ITALY.
YR 77.
TI OZONE PURIFICATION OF WASTE WATER CONTAINING PHENOLS: STUDIES ON THE MECHANISM OF OXIDATION.
SO RIV. COMBUST. 31. P92-101. 1977.
LG IT.
DE OZONE WASTEWATER PHENOL. OXIDN PHENOL WASTEWATER.
AN C 08726205972.

<196>
AU CASAPIERI, PETER. SCOTT, ROGER. SIMPSON, EDWARD A.
IN SCI. BR. GREATER LONDON COUNC. LONDON. ENGL.
YR 70.
TI DETERMINATION OF CYANIDE IONS IN WATERS AND EFFLUENTS BY AN AUTO-ANALYZER PROCEDURE.
SO ANAL. CHIM. ACTA. 49. P188-92. 1970.
LG EN.

DE CYANIDES DETN EFFLUENTS. EFFLUENTS CYANIDES DETN. SPECTROPHOTOMETRY CYANIDES DETN. AUTOANALYZER CYANIDES DETN.
AN C 07212058851.

<197>
AU CASTELL C H. SMITH B.
YR 73.
TI MEASUREMENT OF FORMALDEHYDE IN FISH MUSCLE USING TRI CHLORO ACETIC- ACID EXTRACTION AND THE NASH REAGENT.
SO J FISH RES BOARD CAN. 30 (1). 91-98.
DE COD.
AN B 56034733.

<198>
AU CASTELLANOS, E.
IN CAMPSA'S CENTRAL LAB. MADRID, SPAIN.
YR 68.
TI PARAFFIN FOR OIL POLLUTION OF THE SEA.
SO OIL POLLUTION OF THE SEA. INTERNATIONAL CONFERENCE. PROCEEDINGS. BARCLAY-SMITH, P. (ED.). (HELD IN ROME, IT. OCT. 7-9, 1968). SPONSORED BY BRITISH ADVISORY COMMITTEE ON OIL POLLUTION OF THE SEA; ITALIAN NATIONAL COMMITTEE ON OIL POLLUTION OF THE SEA AND NORDIC UNION FOR THE PREVENTION OF OIL POLLUTION OF THE SEA, SWEDEN. 239-247, 1968.
LG EN.
AB NONE.
ID MARINE POLLUTION, PARAFFIN, SOLIDIFICATION OF OIL.
DE OIL REMOVERS, WATER POLLUTION CONTROL.
AN P 7000436.

<199>
AU CATCHPOLE, J. R. COOPER, R. L.
IN BR. COKE RES. ASSOC. CHESTERFIELD/DERBYSHIRE. ENGL.
YR 72.
TI BIOLOGICAL TREATMENT OF CARBONIZATION EFFLUENTS. III. NEW ADVANCES IN THE BIOCHEMICAL OXIDATION OF LIQUID WASTES.
SO WATER RES. 6. P1459-74. 1972.
LG EN.
DE BIOCHEM OXIDN WASTE. COKE OVEN WASTE BIOCHEM OXIDN. PYRUVIC ACID BIOCHEM OXIDN WASTE. THIOCYANATE BIOCHEM OXIDN. CYANIDE BIOCHEM OXIDN .
AN C 07804019942.

<200>
AU CATELANI, DANILO. COLOMBI, ANTONIO.
IN INST. AGRAR. TECH. MICROBIOL. UNIV. MILAN. MILAN. ITALY.
YR 74.
TI METABOLISM OF BIPHENYL. STRUCTURE AND PHYSICOCHEMICAL PROPERTIES OF 2-HYDROXY-6-OXO-6-PHENYLHEXA-2,4-DIENOIC ACID, THE META-CLEAVAGE PRODUCT FROM 2,3-DIHYDROXYBIPHENYL BY PSEUDOMOMAS PUTIDA.
SO BIOCHEM. J. 143. P431-4. 1974.
LG EN.
DE BIPHENYL METAB PSEUDOMONAS.
AN C 08221133453.

<201>
AU CATELANI, DANILO. COLOMBI, ANTONIO. SORLINI, CLAUDIA. TRECANI, VITTORIO.
IN INST. AGRAR. TECH. MICROBIOL. UNIV. MILAN. MILAN. ITALY.
YR 73.
TI METABOLISM OF BIPHENYL. 2-HYDROXY-6-OXO-6-PHENYL-2,4-HEXADIENOATE. META-CLEAVAGE PRODUCT FROM 2,3-DIHYDROXYBIPHENYL BY PSEUDOMONAS PUTIDA.
SO BIOCHEM. J. 134. P1063-6. 1973.
LG EN.
DE BIPHENYL METAB PSEUDOMONAS. BENZOATE DIPHENYL DEGRDN.
AN C 08015078704.

<202>
AU CATTERALL F A. MURRAY K. WILLIAMS P A.
YR 71.
TI THE CONFIGURATION OF THE 1,2-DIHYDROXY-1,2-DIHYDRONAPHTHALENE FORMED IN THE BACTERIAL METABOLISM OF NAPHTHALENE.
SO BIOCHIM BIOPHYS ACTA. 237. 2. P361-4. 18 MAY 71.
LG EN.
MJ NAPHTHALENES: ME.
MN AEROBIOSIS. CELL-FREE-SYSTEM. OXYGEN-CONSUMPTION. STEREOISOMERS.
AN M 71291417.

<203>
AU CAZACEANU, ECATERNIA.
IN INST. IG. BUCHAREST. ROM.
YR 71.
TI METHOD OF DETERMINATION OF LOW PHENOL CONCENTRATIONS IN WATER.
SO LUCR. CONF. NAT. CHIM. ANAL. 3RD. 3.

P299-303. 1971.
LG RO.
DE PHENOL DETN WATER. CATIONIC RESIN PHENOL DETN.
AN C 07622131187.

<204>
AU CENCI G. MOROZZI G.
YR 77.
TI EVALUATION OF THE TOXIC EFFECT OF CADMIUM II ION AND CADMIUM II TETRA CYANIDE ION ON THE GROWTH OF MIXED MICROBIAL POPULATION OF ACTIVATED SLUDGES.
SO SCI TOTAL ENVIRON. 7 (2). 131-143.
DE GLUCOSE UPTAKE ENZYMATIC ACTIVITY.
AN B 64005339.

<205>
AU CERNAKOVA M. HALAMA D.
YR 73.
TI EFFECT OF AROMATIC HYDRO CARBONS ON MICROORGANISMS.
SO FOLIA MICROBIOL. 18 (2). 162.
DE ABSTRACT CANDIDA-LIPOLYTICA RHODOTORULA-MUCILAGINOSA PSEUDOMONAS-SP ZOOGLOEA-SP ACHROMOBACTER-SP BACILLUS-CEREUS NOCARDIA-OPACA TOXICITY BENZENE N ALKANES.
AN B 73098870.

<206>
AU CERNIGLIA C E. BLEVINS W T. PERRY J J.
IN DEPARTMENT OF MICROBIOLOGY, NORTH CAROLINA STATE UNIVERSITY, RALEIGH, NORTH CAROLINA.
YR 76.
TI MICROBIAL OXIDATION AND ASSIMILATION OF PROPYLENE.
SO APPL ENVIRON MICROBIOL. 32. 6. P764-8. DEC 76.
LG EN.
MJ ETHYLENES: ME.
MN ACETATES: ME. MYCOBACTERIUM: EN. PROPANE: ME. UNITED-STATES-GOVERNMENT-SUPPORTED-NON-NIH: (NON-NIH-SUP).
AN M 77086203. 7704.

<207>
AU CERNIGLIA C E. GIBSON D T.
IN DEP. MICROBIOL. UNIV. TEX. AUSTIN, TEX. 78712, USA.
YR 77.
TI METABOLISM OF NAPHTHALENE BY CUNNINGHAMELLA-ELEGANS.
SO APPL ENVIRON MICROBIOL. 34 (4). 363-379.
LG EN.
DE MAMMALIAN METABOLISM DEXTROSE 1 NAPHTHOL 4 HYDROXY-1 TETRALONE 1 4 NAPHTHO QUINONE 1 2 NAPHTHO QUINONE 2 NAPHTHOL TRANS-1 2 DI HYDROXY-1 2 DI HYDRO NAPHTHALENE.
AN B 65023520.

<208>
AU CERNIGLIA C E. PERRY J J.
YR 72.
TI CRUDE OIL DEGRADATION BY MICROBES ISOLATED FROM MARINE ENVIRONMENTS.
SO ABSTR ANNU MEET AM SOC MICROBIOL. 72. 3.
DE ABSTRACT FUNGI BACTERIA PENICILLIUM-SP CUNNINGHAMELLA-ELEGANS PARAFFIN ASPHALT.
AN B 73030153.

<209>
AU CERNIGLIA, C. E. PERRY, J. J.
IN DEP. MICROBIOL. NORTH CAROLINA STATE UNIV. RALEIGH. N. C.
YR 75.
TI METABOLISM OF N-PROPYLAMINE, ISOPROPYLAMINE, AND 1,3-PROPANE DIAMINE BY MYCOBACTERIUM CONVOLUTUM.
SO J. BACTERIOL. 124. P285-9. 1975.
LG EN.
DE PROPYLAMINE AMINE DEHYDROGENASE MYCOBACTERIUM.
AN C 08325203633.

<210>
AU CHAIGNEAU, MARCEL. CHASTAGNIER, MADELEINE.
IN SERV. ANAL. GAZ. PARIS. FR.
YR 76.
TI EXTRACTION AND IDENTIFICATION OF HYDROCARBONS DISSOLVED IN WATER.
SO BULL. SOC. CHIM. FR. P40-4. 1976.
LG FR.
DE HYDROCARBON EXTN WATER SOLVENT. CARBON TETRACHLORIDE EXTN WATER. ETHER EXTN WATER. FREON 113 EXTN WATER. CHLOROFORM EXTN WATER.
AN C 08518130270.

<211>
AU CHALAYA, Z. I. MIKHAILOVA, L. S. MASHKEVICH, A. I. EGOREICHENKO, O. A. POLISHCHUK, O. M.
IN USSR.

YR 75.
TI EXTRACTION-CHROMATOGRAPHIC DETERMINATION OF THIOPHENE, ITS CHLORODERIVATIVES, TOLUENE, AND BENZENE IN WASTE WATERS.
SO ZH. ANAL. KHIM. 30. P798-802. 1975.
LG RS.
DE CHLORO THIOPHENE DETN WASTEWATER. THIOPHENE DETN WASTEWATER. BENZENE DETN WASTEWATER. TOLUENE DETN WASTEWATER.
AN C 08404021736.

<212>

AU CHAMBON, P. CHAMBON-MOUGENOT, R. BRINGUIER, J.
IN LAB. REG. HYG. APPL. INST. PASTEUR LYON. LYONS. FR.
YR 70.
TI WATER POLLUTION BY PHENOLS. IDENTIFICATION OF PHENOLS IN WATER BY TLC (THIN LAYER CHROMATOGRAPHY) AFTER COLORED REACTION WITH 4-AMINOANTIPYRINE.
SO REV. INST. PASTEUR LYON. 3. P395-400. 1970.
LG FR.
DE COLORIMETRY CHROMATOG PHENOLS WATER.
AN C 07610049603.

<213>

AU CHANG, R. C. Y.
IN AMES LAB. IOWA. 0305000.
YR 76. 92P.
TI CONCENTRATION AND DETERMINATION OF TRACE ORGANIC POLLUTANTS IN WATER.
NT THESIS.
PR PC A05/MF A01.
AB A METHOD WAS DEVELOPED FOR DETERMINING PHENOLS IN NATURAL WATER, TREATED DRINKING WATER, AND WASTEWATER. THEY ARE DETERMINED BY SELECTIVE SORPTION ON A MACRORETICULAR ANION-EXCHANGE RESIN, ELUTION WITH ACETONE-WATER, CONCENTRATION BY EVAPORATION AFTER EXTRACTION WITH METHYLENE CHLORIDE, AND MEASUREMENT BY GAS CHROMATOGRAPHY. TECHNIQUES ARE GIVEN FOR PREVENTING PHENOL LOSS. COMMON INORGANIC IONS AND MANY ORGANIC SUBSTANCES CAUSE NO INTERFERENCE; NEUTRAL ORGANICS THAT ARE RETAINED BY THE RESIN CAN BE REMOVED BY A METHANOL WASH. THE METHOD GIVES ACCURATE RESULTS FOR PHENOL, ALKYL- AND CHLORO-SUBSTITUTED PHENOLS IN THE PPB TO PPM RANGE. VOLATILE COMPOUNDS, AS WELL AS LESS VOLATILE GAS CHROMATOGRAPHABLE COMPOUNDS CAN ALSO BE DETERMINED. RESIN PURIFICATION, SORPTION COLUMNS PREPARATION, THERMAL DESORPTIONS, THE MINI-SAMPLER, METHOD FOR ANALYSIS OF REAL WATER FOR ORGANICS AND DEVELOPMENT OF ANALYTICAL METHOD ARE PRESENTED. FINALLY, A RAPID METHOD WAS DEVELOPED FOR CONCENTRATING AND DETERMINING HALOMETHANES IN DRINKING WATER. THE HALOMETHANES ARE DETERMINED BY SORPTION ON MINI-SAMPLERS OF MACRORETICULAR RESIN. THE HALOMETHANES SORBED ON RESIN ARE ELUTED WITH TWO MILLILITERS OF METHANOL. HALOMETHANES ARE SEPARATED ON A TENAX-GC COLUMN AND DETERMINED BY ELECTRON CAPTURE GAS CHROMATOGRAPHY. STORAGE OF HALOMETHANES ON THE MINI-SAMPLER WAS STUDIED. REAL WATER SAMPLES WERE ANALYZED. (ERA CITATION 02: 007682).
MJ HALOGENATED-ALICYCLIC- HYDROCARBONS, ORGANIC-COMPOUNDS, PHENOLS.
MN WASTE-WATER, WATER, ADSORPTION, ANIONS, CHEMICAL-ANALYSIS, ERRORS, EVAPORATION, GAS-CHROMATOGRAPHY, ION- EXCHANGE, RESINS.
ID ERDA-400102, ERDA-520200, WATER-POLLUTION-DETECTION, SURFACE-WATERS, POTABLE-WATER, WATER-TREATMENT, WATER-ANALYSIS, TRACE-ELEMENTS, NTISERDA.
AN N IS-T-730.

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AU CHAPMAN P J. HOPPER D J.
YR 68.
TI THE BACTERIAL METABOLISM OF 2,4-XYLENOL.
SO BIOCHEM J. 110. 3. P491-8. DEC 68.
LG EN.
MJ PSEUDOMONAS: ME.
MN ADIPIC-ACIDS: ME. PHTHALIC- ACIDS: ME.
AN M 69078989.

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AN M 75202920.

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NT FINAL REPT. SEP 73-DEC 74.
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AB THE REPORT CONCERNS THE TREATMENT OF INDUSTRIAL WASTES CONTAINING CYANIDES, ESPECIALLY WASTES FROM ELECTROPLATING PROCESSES. THE PROTOTYPE SYSTEM TREATMENT CONCEPT IS ESSENTIALLY CHLORINATION VIA ELECTROLYTIC GENERATION OF CHLORINE IN THE WASTE WATER. DESIGN AND OPERATING ASPECTS ARE DISCUSSED. OTHER CYANIDE TREATMENT PROCESSES ARE REVIEWED AND ANALYTICAL TECHNIQUES ARE DISCUSSED.
MJ CYANIDES, CHLORINATION.
MN ELECTROPLATING, WATER-POLLUTION, PROTOTYPES, CHEMICAL-ANALYSIS, TEST-METHODS, WASTE-TREATMENT, ELECTROLYSIS, ELECTROCHEMISTRY, PILOT-PLANTS, PERFORMANCE-ENGINEERING.
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AN C 08013067102.

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YR 73. 13P.
TI TECHNIQUES FOR ANALYSIS OF PARAFFIN HYDROCARBONS AND FOR INTERPRETATION OF DATA TO ASSESS OIL SPILL EFFECTS IN AQUATIC ORGANISMS.
AV PUB. IN PROCEEDINGS OF THE JOINT CONFERENCE ON PREVENTION AND CONTROL OF OIL SPILLS, API/EPA/USCG, WASHINGTON, D.C. 13-15 MAR 73, P161-172.
PR REPRINT.
AB NORMAL PARAFFIN HYDROCARBONS ARE ONE OF THE MAJOR GROUPS OF COMPOUNDS IN CRUDE OIL AND PETROLEUM PRODUCTS. SINCE THESE COMPOUNDS CAN BE READILY SEPARATED FROM AQUATIC ORGANISMS USING SOLVENT EXTRACTION AND LIQUID-SOLID CHROMATOGRAPHY AND IDENTIFIED BY GAS-LIQUID CHROMATOGRAPHY, THE NORMAL PARAFFINS CAN SERVE AS INDICATORS OF PETROLEUM POLLUTION IN THE AQUATIC ENVIRONMENT. IT IS NECESSARY, HOWEVER, TO DIFFERENTIATE BETWEEN NATURAL (OR BIOGENIC) HYDROCARBONS AND THOSE ASSIMILATED BY THE ORGANISMS FROM POLLUTION SOURCES BY COMPARING THE NATURAL HYDROCARBON CONTENT AND PATTERN OF ORGANISMS FROM AREAS OF POLLUTION WITH THOSE OF ORGANISMS FROM RELATIVELY 'UNPOLLUTED' ARAS. THE PAPER SUGGESTS TECHNIQUES FOR OBTAINING AND ANALYZING PETROLEUM HYDROCARBON DATA WHICH CAN LEAD TO A STANDARD METHOD FOR DETECTING AND FOLLOWING THE BIOLOGICAL UPTAKE OF OIL BY LIVING ORGANISMS FROM THE AQUATIC ENVIRONMENT. (AUTHOR).
MJ WATER-POLLUTION, OILS, OILS, ABSORPTION-BIOLOGY, HYDROCARBONS, CHEMICAL-ANALYSIS.
MN ALKANES, IDENTIFYING, SOLVENT-EXTRACTION, BIOASSAY, INDICATOR-SPECIES, CHROMATOGRAPHIC-ANALYSIS, GAS-CHROMATOGRAPHY.
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NT ANNUAL PROGRESS REPT. 1 JUN 72- 31 MAY 73.
AV 1.
PR PC$3.00/MF$1.45.
AB AN ATTEMPT WAS MADE TO ISOLATE AND IDENTIFY THOSE ORGANISMS ASSOCIATED WITH CRESOL METABOLISM IN THE INDUSTRIAL WASTE WATERS OF KELLY AIR FORCE BASE. RESULTS OF THIS WORK ARE PRESENTED IN ADDITION TO PRELIMINARY STUDIES ON THE METABOLISM OF CRESOL OXIDATION BY THESE ORGANISMS. (AUTHOR).
MJ INDUSTRIES, WASTES, PHENOLS, BIODETERIORATION.
MN METABOLISM, SAMPLING, PSEUDOMONAS, ESCHERICHIA, ENTEROBACTERIACEAE, WATER-POLLUTION.
ID CRESOLS, KELLY-AIR-FORCE-BASE, COMAMONAS, SERRATIA, AF.
AN N AD-770 750/8.

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YR 74.
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MJ PHENOLS: RE.
MN COBALT-RADIOISOTOPES. (DOSERESPONSE-RELAT-RADIATION). INDUSTRIAL-WASTE.
AN M 75055443.

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AN B 75062376.

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YR 76. 13P.
TI IDENTIFICATION OF STABLE ORGANIC COMPOUNDS IN WASTE EFFLUENTS.
NT COMPLETION REPT. APR 73-JUN 76.
PR PC$3.50/MF$3.00.
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WERE READILY CHLORINATED AND COULD BE DETECTED IN BOTH THE EFFLUENT AND SLUDGE OBTAINED FROM THE TREATMENT PLANT.
MJ ORGANIC-COMPOUNDS, WATER-ANALYSIS.
MN WATER-POLLUTION, CHLORINATION, EFFLUENTS, INDUSTRIAL-WASTES, TEXTILE-INDUSTRY, GAS-CHROMATOGRAPHY, SLUDGE, INFRARED-SPECTROSCOPY, MASS-SPECTROSCOPY, PHENOLS.
ID REPRINTS, WATER-POLLUTION-DETECTION, SALICYLIC-ACID-METHYL-ESTER, BIPHENYLOLS, NTISDIOWRT.
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AN D ADG72-00344.

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IN COMMISSION OF THE EUROPEAN COMMUNITIES, LUXEMBOURG. DIRECTORATE FOR HEALTH PROTECTION. 1910896.
YR 75. 78P.
TI EUROPEAN COMMUNITY STUDY ON THE DETERMINATION OF CYANIDES, PHENOLS, AND HYDROCARBONS IN SURFACE WATER. REPORT OF A WORKING GROUP OF EXPERTS.
AV U.S. SALES ONLY. 1.
PR PC$5.00/MF$3.00.
AB WITH THE PARTICIPATION OF 34 LABORATORIES FROM 8 MEMBER STATES OF THE EUROPEAN COMMUNITY A PRELIMINARY COLLABORATIVE STUDY ON THE DETECTION OF CYANIDES, PHENOLS AND HYDROCARBONS IN SURFACE WATER WAS CONDUCTED. THE SAMPLES WERE RECEIVED BY NEARLY ALL PARTICIPANTS WITHIN 6 DAYS OF SHIPMENT, ONLY THE TRANSPORT TO 7 PARTICIPANTS TAKING A LONGER TIME. WITH A FEW EXCEPTIONS THE VARIATION IN TEMPERATURE DURING TRANSPORT WAS RELATIVELY SMALL. EACH PARTICIPATING LABORATORY CHOSE THE METHOD OF ANALYZING THE SAMPLES. AN APPRAISAL OF THE PARTICULAR METHODS COULD NOT BE DONE. IN DETAIL THE EVALUATION SHOWED THAT THE DETERMINATION OF HYDROCARBONS AND CYANIDES IN SURFACE WATER MAY LEAD TO CONSIDERABLY DIFFERENT RESULTS. IN HIGHER CONCENTRATION RANGES (>L MG CN EXP - /L) THE RESULTS OF THE MEASUREMENTS OF CYANIDE CONTENT WERE IN BETTER AGREEMENT. IN THE CONCENTRATION RANGE GIVEN IN THIS STUDY THE DETERMINATIONS OF PHENOL SHOWED THE SMALLEST VARIATION OF ALL PARAMETERS STUDIED. IN GENERAL THE RESULTS OF THE MULTIPLE DETERMINATIONS OF ALL PARAMETERS BY THE INDIVIDUAL LABORATORIES AGREED FAIRLY WELL. (ERA CITATION 01: 011476).
MJ CYANIDES, HYDROCARBONS, PHENOL, WATER-POLLUTION.
MN CHEMICAL-ANALYSIS, POLLUTION, SURFACE-WATERS.
ID ERDA-520200, WATER-ANALYSIS, NTISERDAE.
AN N EUR-5377E.

<254>
AU CONDREN, ARTHUR J.
IN PURDUE UNIV. LAFAYETTE. INDIANA.
YR 69.
TI RADIATION INDUCED OXIDATION OF SELECTED ORGANICS IN WASTE WATER.
PG 70 PP.
LG EN.
AV 70-3874.
DE IRRADN OXIDN ORG WASTE WATERS. OXIDN IRRADN ORG WASTE WATERS. PHENOLS IRRADN OXIDN WASTE WATER.
AN C 07322112699.

<255>
AU CONETTA, A. JANSEN, J. SALPETER, J.
IN TECHNICON INDUSTRIAL SYSTEMS, 511 BENEDICT AVE. TARRYTOWN, NY 10591.
YR 75.
TI AUTOMATED ANALYSIS FOR CYANIDE.
SO POLLUTION ENGINEERING, 7(1): 36- 37, JAN. 1975.
LG EN.
AB NONE.
ID UV DIGESTION.
DE AQUATIC ENVIRONMENTS, CYANIDES, DIGESTION, POLLUTANT ANALYSIS, WATER POLLUTION MEASUREMENTS.
AN P 7502266.

<256>
AU CONNORS K A. LIPARI J M.
IN SCHOOL OF PHARMACY, UNIVERSITY OF

WISCONSIN, MADISON, WI 53706.
YR 76.
TI EFFECT OF CYCLOAMYLOSES ON APPARENT DISSOCIATION CONSTANTS OF CARBOXYLIC ACIDS AND PHENOLS: EQUILIBRIUM ANALYTICAL SELECTIVITY INDUCED BY COMPLEX FORMATION.
SO J PHARM SCI. 65. 3. P379-83. MAR 76.
LG EN.
MJ AMYLOSE: AA.
MN CHEMISTRY-PHARMACEUTICAL. UNITED-STATES-GOVERNMENT-SUPPORTED-NON-NIH: (NON-NIH-SUP).
AN M 76171367. 7608.

<257>
AU COOK, L E. SPANGELO, R C.
IN UNIV. OF NORTH DAKOTA, DEPT. OF CHEMISTRY, GRAND FORKS, 58201.
YR 74.
TI SEPARATION OF MONOSUBSTITUTED PHENOL ISOMERS USING LIQUID CRYSTALS.
SO ANALYTICAL CHEMISTRY, 46(1): 122-128, JAN. 1974.
LG EN.
AB NONE.
ID PHENOL ISOMER SEPARATION.
DE AROMATIC COMPOUNDS, CHEMICAL ANALYSIS, GAS CHROMATOGRAPHY, INDUSTRIAL WASTES, PESTICIDE DECOMPOSITION, SEPARATION PROCESSES.
AN P 7500994.

<258>
AU COOPER R L. CATCHPOLE J R.
YR 73.
TI THE BIOLOGICAL TREATMENT OF CARBONIZATION EFFLUENTS PART 4 THE NITRIFICATION OF COKE OVEN LIQUORS AND OTHER TRADE WASTES AND THE ENHANCEMENT OF BIOLOGICAL OXIDATION OF RESISTANT ORGANIC COMPOUNDS BY THE ADDITION OF GROWTH FACTORS TO ACTIVATED SLUDGE.
SO WATER RES. 7 (8). 1137-1153.
DE BACTERIAL SLUDGE P AMINO BENZOIC-ACID GLUCOSE PYRIDINE OXIDATION THIO CYANATE CYANIDE AMMONIA OXIDATION LIMED LIQUOR ACIDIFICATION.
AN B 59034312.

<259>
AU COOPER, R. L. WHEATSTONE, K. C.
IN BR. COKE RES. ASSOC. CHESTERFIELD. ENGL.
YR 73.
TI DETERMINATION OF PHENOLS IN AQUEOUS EFFLUENTS.
SO WATER RES. 7. P1375-84. 1973.
LG EN.
DE PHENOL DETN WASTE WATER. WASTE WATER ANALYSIS PHENOL.
AN C 08004019160.

<260>
AU COSTA LOPEZ, J. RIVERA RECIO, P.
IN FAC. CIENC. UNIV. BARCELONA. BARCELONA. SPAIN.
YR 77.
TI CATALYTIC OXIDATION OF CYCLOHEXANE IN A FIXED BED. COMPARISON WITH THE RESULTS IN A FLUIDIZED BED.
SO AN. QUIM. 73. P445-53. 1977.
LG SP.
DE KINETICS OXIDN CYCLOHEXANE. CATALYST OXIDN CYCLOHEXANE. AROMATIZATION CYCLOHEXANE.
AN C 08717133525.

<261>
AU COSTA LOPEZ, J. RIVERA RECIO, P.
IN FAC. CIENC. UNIV. BARCELONA. BARCELONA. SPAIN.
YR 74.
TI OBTAINMENT OF KINETIC DATA IN FLUIDIZED BEDS. OXIDATION OF CYCLOHEXANE TO MALEIC ANHYDRIDE.
SO AN. QUIM. 70. P836-43. 1974.
LG SP.
DE MASS TRANSFER OXIDN CYCLOHEXANE. FLUIDIZED BED OXIDN CYCLOHEXANE. REACTOR KINETICS OXIDN CYCLOHEXANE. VANADIUM PENTOXIDE OXIDN CYCLOHEXANE. MALEIC ANHYDRIDE CYCLOHEXANE OXIDN.
AN C 08221139226.

<262>
AU COTTET J.
YR 75.
TI THE PHYSICOCHEMICAL CHARACTERISTICS OF THE POTABILITY OF WATER.
SO BULL ACAD NATL MED (PARIS). 159 (5). (RECD 1976) 383-389.
DE FRANCE WHO POLLUTION STANDARDS CHLORIDES PESTICIDES CARCINOGENS ARSENIC VINYL CHLORIDE MONOMER.
AN B 76053887.

<263>
AU COUGHLIN, ROBERT W.
IN DEP. CHEM. ENG. LEHIGH UNIV. BETHLEHEM. PA.
YR 70.
TI EFFECT OF SURFACE GROUPS ON

ADSORPTION OF POLLUTANTS.
PG 29 PP.
LG EN.
DE CARBON SORPTION WATER POLLUTANT. SODIUM BENZENESULFONATE SORPTION CARBON. NITROBENZENE SORPTION CARBON. DEXTROSE SORPTION CARBON. PHENOL SORPTION CARBON. UREA SORPTION CARBON.
AN C 07614076952.

<264>
AU COWEN, WILLIAM F. COOPER, W. J. HIGHFILL, J. W.
IN U. S. ARMY MED. BIOENG. RES. DEV. LAB. FORT DETRICK. FREDERICK. MD.
YR 75.
TI EVACUATED GAS SAMPLING VALVE FOR QUANTITATIVE HEAD SPACE ANALYSIS OF VOLATILE ORGANIC COMPOUNDS IN WATER BY GAS CHROMATOGRAPHY.
SO ANAL. CHEM. 47. P2483-4. 1975.
LG EN.
DE GAS SAMPLING VALVE CHROMATOG. SAMPLING VALVE CHROMATOG ORG COMPD. HEAD SPACE ANALYSIS SAMPLING VALVE. ACETONE AQ GAS CHROMATOG. CHLOROFORM AQ GAS CHROMATOG. ETHANOL AQ GAS CHROMATOG. PROPANOL AQ GAS CHROMATOG. VOLATILE ORG GAS CHROMATOG.
AN C 08324201621.

<265>
AU COYNE, ROBERT V. CAMPBELL, JAMES M. ROBLES, EDWARD G. JR.
IN ENVIRONMENTAL HEALTH LAB MCCLELLAN AFB CALIF. 407609.
YR 72. 57P.
TI WATER SAMPLING GUIDELINES AND INTERPRETATION OF DATA.
NT FINAL REPT.
PR PC$3.00/MF$0.95.
AB THE REPORT DISCUSSES A VARIETY OF FACETS PERTAINING TO WATER SAMPLING PROGRAMS, PRESERVATION, MANIPULATION AND TRANSMISSION OF SAMPLES, AND THE INTERPRETATION OF THE ANALYTICAL DATA. A BRIEF REVIEW OF EACH OF THE MAJOR POLLUTANTS IS INCLUDED.
MJ WATER-POLLUTION, CHEMICAL- ANALYSIS.
MN SAMPLING, PH, ARSENIC, METALS, PESTICIDES, HALOGENATED-HYDROCARBONS, COLORS, CYANIDES, PARTICLES, HALIDES, SURFACE-ACTIVE-SUBSTANCES, SULFONATES, NITROGEN, OILS, PHENOLS, PHOSPHORUS, STANDARDS.
ID WATER-ANALYSIS, WATER-POLLUTION-DETECTION, CHEMICAL-OXYGEN-DEMAND.
AN N AD-752 537.

<266>
AU CREWS, RICHARD C.
IN AIR FORCE ARMAMENT LAB EGLIN AFB FLA. 400936.
YR 74. 13P.
TI EFFECTS OF PROPYLENE OXIDE ON SELECTED SPECIES OF FISHES.
NT FINAL REPT. MAY-SEP 74.
PR PC$3.25/MF$2.25.
AB IN CONJUNCTION WITH THE FUEL AIR EXPLOSIVES TESTING AND EVALUATION PROGRAM, LABORATORY INVESTIGATIONS INTO THE EFFECTS OF PROPYLENE OXIDE WERE ACCOMPLISHED USING TWO SELECTED SPECIES OF FRESHWATER FISHES AND ONE MARINE SPECIES. FOR A 96-HOUR EXPOSURE PERIOD, THE MEDIAN TOLERANCE LIMITS (TLM) FOR PROPYLENE OXIDE WERE DETERMINED TO BE 141 PPM FOR MOSQUITOFISH (GAMBUSIA AFFINIS BAIRD AND GERARD), 215 PPM FOR BLUEGILL (LEPOMIS MACROCHIRUS RAFINESQUE), AND 89 PPM FOR COMMON MULLET (MUGIL CEPHALUS LINNAEUS). THE RESULTS OF THESE TESTS DEMONSTRATE THAT THE TOXICITY OF PROPYLENE OXIDE IS SUFFICIENTLY HIGH TO WARRANT CAUTION WITH ITS HANDLING NEAR FRESH-WATER OR MARINE AQUATIC SYSTEMS.
MJ FUEL-AIR-EXPLOSIVES, AQUATIC-ORGANISMS, FISHES.
MN TOXICOLOGY, TOLERANCES-PHYSIOLOGY.
ID PROPYLENE-OXIDE, MARINE-FISHES, FRESH-WATER-FISHES, WATER-POLLUTION-EFFECTS-ANIMALS, NTISDODAF.
AN N AD/A-003 637/6SL.

<267>
AU CROIX, J. M. LABROCHE, C. LACKME, C. MERLE, A.
IN ENGL.
YR 74.
TI DENSE BED IN A SPRAY COLUMN. APPLICATION TO THE EXTRACTION OF PHENOL FROM WASTE WATER.
SO PROC. INT. SOLVENT EXTR. CONF. 1. P913-26. 1974.
LG EN.
AV JEFFREYS, G. V.
DE PHENOL WASTEWATER. COUNTERCURRENT EXTN PHENOL. SPRAY COLUMN EXTN PHENOL. WASTEWATER PHENOL EXTN.
AN C 08416111198.

<268>
AU CROIX, J. M. LABROCHE, C. LACKME, C. MERLEE, A.
IN DEP. TRANSFERT CONVERS. ENERG. C.E.N. GRENOBLE. GRENOBLE. FR.
YR 73.
TI APPLICATION OF DENSE-BED COLUMNS. TREATMENT OF SEWAGES CONTAINING PHENOLS BY LIQUID-LIQUID EXTRACTION.
SO BULL. INFORM. SCI. TECH. COMMIS. ENERG. AT. (FR.). NO. 177. P11-24. 1973.
LG FR.
DE PHENOL REMOVAL WASTE WATER.
AN C 07910057365.

<269>
AU CROW S A. BOWMAN P I. AHEARN D G.
YR 77.
TI EFFECT OF CHLORINATED AND AROMATIC HYDRO CARBONS ON HEXA DECANE METABOLISM BY SURFACE SLICK MICROORGANISMS.
SO ABSTR ANNU MEET AM SOC MICROBIOL. 77. 244.
DE ABSTRACT CANDIDA-LIPOLYTICA ESTUARY.
AN B 77049608.

<270>
AU CSANADY, MIHALY.
IN ORSZ. KOZEGESZSEGUGYI INT. BUDAPEST. HUNG.
YR 74.
TI GROUNDWATER POLLUTION CAUSED BY EFFLUENT FROM PLATING WORKS.
SO HIDROL. KOZL. 54. P62-4. 1974.
LG HU.
DE CHROMIUM WASTEWATER PLATING HAZARD. GROUNDWATER POLLUTION PLATING WASTEWATER. CYANIDE POLLUTION PLATING WASTEWATER.
AN C 08506036857.

<271>
AU CUKOR, PETER. MADLIN, HOWARD.
IN BAYSIDE RES. CENT. GTE LAB. INC. BAYSIDE. N. Y.
YR 73.
TI GAS CHROMATOGRAPHIC ANALYSIS OF WATER AND WASTE WATERS.
SO WATER WATER POLLUT. HANDB. 4. P1557-615. 1973.
LG EN.
AV CIACCIO, LEONARD L.
DE REVIEW GAS CHROMATOG WATER ANALYSIS. ACID ORG DETN WATER. PHENOL DETN WATER.
AN C 07824151112.

<272>
AU CUMMINS, J. J. DOOLITTLE, F. G. ROBINSON, W. E.
IN BUREAU OF MINES, WASHINGTON, D.C. LARAMIE ENERGY RESEARCH CENTER, WYO. 068 450.
YR 74. 23P.
TI THERMAL DEGRADATION OF GREEN RIVER KEROGEN AT 150 TO 350C. COMPOSITION OF PRODUCTS.
NT REPT. OF INVESTIGATIONS. PREPARED BY LARAMIE ENERGY RESEARCH CENTER, WYO. SEE ALSO PB-209 011.
PR PC$3.00/MF$2.25.
AB GREEN RIVER OIL SHALE PREVIOUSLY EXTRACTED BY BENZENE WAS HEATED AT 150C FOR 0.5 TO 360 DAYS TO PROVIDE INFORMATION ON IN SITU PROCESSING CONDITIONS, TO DETERMINE THE EFFECT OF LOW-TEMPERATURE HEATING ON THE UNCONVERTED KEROGEN, AND TO DETERMINE THE COMPOSITION OF BENZENE- SOLUBLE THERMAL PRODUCTS. THE METHODS USED IN DETERMINING THE COMPOSITION OF THE SOLUBLE THERMAL PRODUCTS CONSISTED OF FRACTIONATION OF THE SOLUBLE MATERIAL, ELEMENTAL ANALYSIS OF THE SOLUBLE PRODUCTS, FRACTIONATION OF THE POLAR RESINS BY ION-EXCHANGE CHROMATOGRAPHY, GAS CHROMATOGRAPHIC ANALYSIS OF N-ALKANES, AND MASS SPECTRAL ANALYSIS OF THE BRANCHED PLUS CYCLIC ALKANES AND AROMATIC OILS. THE METHODS USED TO DETERMINE THE EFFECT OF LOW-TEMPERATURE HEATING ON THE UNCONVERTED KEROGEN REMAINING IN THE OIL-SHALE HEATED RESIDUES CONSISTED OF CARBON-HYDROGEN ANALYSIS, VOLATILE MATERIAL DETERMINATION, CARBON RESIDUE DETERMINATION AND OXIDATION RATE DETERMINATION. (MODIFIED AUTHOR ABSTRACT).
MJ OIL-SHALE, PYROLYSIS.
MN CHROMATOGRAPHIC-ANALYSIS, CHEMICAL-COMPOSITION, IN-SITU-COMBUSTION, MATERIALS-SEPARATION, ALKANES, AROMATIC-COMPOUNDS, SHALE-OIL, ION-EXCHANGING, MASS-SPECTRA, GAS-CHROMATOGRAPHY, SOLVENT-EXTRACTION, TEMPERATURE.
ID KEROGEN, NTISDIBM.
AN N PB-234 684/9.

<273>
AU CUMMINS, J. J. ROBINSON, W. E.
IN BUREAU OF MINES, WASHINGTON, D.C. 068 450.
YR 72. 20P.
TI THERMAL DEGRADATION OF GREEN RIVER

KEROGEN AT 150 TO 350 C.
NT REPT. OF INVESTIGATIONS.
PR PC$3.00/MF$0.95.
AB GREEN RIVER OIL SHALE PREVIOUSLY EXTRACTED BY BENZENE WAS HEATED AT 150, 200, 250, 300, AND 350C FOR 0.5 TO 360 DAYS TO DETERMINE THE RATE AT WHICH KEROGEN DEGRADES TO THERMAL PRODUCTS, THE TYPES OF THERMAL PRODUCTS FORMED, AND THE EFFECT PROLONGED LOW-TEMPERATURE HEATING (PREHEATING) HAS UPON SUBSEQUENT ASSAY YIELDS. THERMAL DECOMPOSITION OF KEROGEN AT 150 TO 350C IS TREATED AS A FIRST-ORDER REACTION. VARIATIONS IN THE RATE OF FORMATION OF INDIVIDUAL TYPE COMPONENTS OF THE PYROLYTIC PRODUCTS WERE FOUND. CARBON BALANCES SHOW AN INCREASE IN THE AMOUNT OF KEROGEN CONVERTED TO BITUMEN AND OIL (FROM ASSAY OF PREHEATED OIL SHALE) AS THE TEMPERATURE OF PREHEATING INCREASED FROM 150 TO 350C. (AUTHOR).
MJ OIL-SHALE, PYROLYSIS.
MN SHALE-OIL, SOLVENT-EXTRACTION, REACTION-KINETICS, DECOMPOSITION-REACTIONS, RETORTS-REACTORS.
ID KEROGEN.
AN N PB-209 011.

<274>
AU CUMMINS, J. J. ROBINSON, WILBUR EUGENE.
IN LARAMIE PET. RES. CENT. BUR. MINES. LARAMIE. WYO.
YR 68.
TI CONTROLLED LOW-TEMPERATURE PYROLYSIS OF BENZENE-EXTRACTED GREEN RIVER OIL SHALE.
SO AMER. CHEM. SOC. DIV. FUEL CHEM. PREPR. 12. P41-50. 1968.
LG EN.
DE OIL SHALES PYROLYSIS. SHALES OIL PYROLYSIS. PYROLYSIS OIL SHALES. KEROGENS SHALES PYROLYSIS. KINETICS SHALES PYROLYSIS.
AN C 07324122104.

<275>
AU CUNDELL A M. TRAXLER R W.
YR 76.
TI PSYCHROPHILIC HYDRO CARBON DEGRADING BACTERIA FROM NARRAGANSETT BAY RHODE-ISLAND USA.
SO MATER ORG (BERL). 11 (1). 1-17.
DE ENRICHMENT CULTURE FUEL OILS KEROSINE N HEXA DECANE METHYL CYCLO HEXANE P XYLENE N HEXYL BENZENE NAPHTHALENE TEMPERATURE GENERATION TIME.
AN B 63000169.

<276>
AU CZAPLICKI, EDWARD J. BOLLAG, JEAN-MARC.
IN LAB. IZOT. INST. OCHR. ROSLIN. POZNAN. POL.
YR 75.
TI MICROBIAL DEGRADATION OF 1-NAPHTHOL.
SO BIUL. INST. OCHR. ROSL. 59. P241- 8. 1975.
LG PO.
DE NAPHTHOL DEGRDN BACTERIA FUNGI.
AN C 08519138221.

<277>
AU DAGLEY S.
IN DEPARTMENT OF BIOCHEMISTRY, UNIVERSITY OF MINNESOTA, ST. PAUL, MN.
YR 76.
TI MICROBIAL CATABOLISM AND THE CARBON CYCLE.
SO BIOCHEM SOC TRANS. 4. 3. P455-8. 1976.
LG EN.
MJ BACTERIA: ME.
MN OXYGENASES: ME. UNITED-STATES-GOVERNMENT-SUPPORTED-NIH: (NIH-SUP).
AN M 77069367. 7704.

<278>
AU DAGLEY S.
YR 71.
TI CATABOLISM OF AROMATIC COMPOUNDS BY MICRO-ORGANISMS.
SO ADV MICROB PHYSIOL. 6. 0. P1-46. 1971.
LG EN.
MJ HYDROCARBONS: ME.
MN REVIEW. TRYPTOPHAN-OXYGENASE: ME. BENZENE-DERIVATIVES: ME. CATECHOLS: ME. ME. MORAXELLA: ME, EN.
AN M 74261912.

<279>
AU DANCH, ALOJZY. CHMIELOWSKI, JERZY.
IN UNIV. SLASKI. KATOWICE. POL.
YR 74.
TI USE OF THIN-LAYER CHROMATOGRAPHY FOR THE IDENTIFICATION OF PHENOLS IN WATERS FROM THERMAL PROCESSING OF COAL.
SO CHEM. ANAL. (WARSAW). 19. P367- 73.

1974.
LG PO.
DE PHENOL DETN COAL WASTEWATER CHROMATOG. COAL WASTEWATER ANALYSIS PHENOL CHROMATOG. WASTEWATER COAL ANALYSIS PHENOL CHROMATOG.
AN C 08112068141.

<280>
AU DAVEY J F. GIBSON D T.
YR 74.
TI BACTERIAL METABOLISM OF P XYLENE AND M XYLENE OXIDATION OF A METHYL SUBSTITUENT.
SO J BACTERIOL. 119 (3). 923-929.
DE PSEUDOMONAS-SP ISOMERS N METHYL-N-NITRO-N-NITROSO GUANIDINE MUTAGEN PATHWAY GROWTH.
AN B 58068575.

<281>
AU DAVEY J F. RIBBONS D W.
IN DEPARTMENT OF BIOCHEMISTRY, UNIVERSITY OF MIAMI SCHOOL OF MEDICINE, MIAMI, FLORIDA 33152.
YR 75.
TI METABOLISM OF RESORCINYLIC COMPOUNDS BY BACTERIA. PURIFICATION AND PROPERTIES OF ACETYLPYRUVATE HYDROLASE FROM PSEUDOMONAS PUTIDA 01.
SO J BIOL CHEM. 250. 10. P3826-30. 25 MAY 75.
LG EN.
MJ HYDROLASES: ME.
MN ACETIC-ACIDS. ENZYME-ACTIVATION: DE. HYDROGEN-ION-CONCENTRATION. PD. SPECTROPHOTOMETRY-ULTRAVIOLET. UNITED-STATES-GOVERNMENT-SUPPORTED-NIH: (NIH-SUP).
AN M 75151538.

<282>
AU DAVID K A V. FAY P.
IN DEP. BOT. BIOCHEM. WESTFIELD COLL. UNIV. LOND. LONDON NW3 7ST, ENGL. UK.
YR 77.
TI EFFECTS OF LONG-TERM TREATMENT WITH ACETYLENE ON NITROGEN FIXING MICROORGANISMS.
SO APPL ENVIRON MICROBIOL. 34 (6). (RECD 1978) 640-646.
LG EN.
DE ANABAENA-CYLINDRICA ANABAENOPSIS-CIRCULARIS RHODOSPIRILLUM-RUBRUM AZOTOBACTER-VINELANDII ENZYME ACTIVITY PHOTOSYNTHESIS.
AN B 65042769.

<283>
AU DAVIDOVA, E. G. KRETOVA, L. G. RACHINSKII, V. V.
IN MOSK. S-KH. AKAD. MOSCOW. USSR.
YR 77.
TI METABOLIC POOLS OF CARBON FROM YEASTS DURING THEIR GROWTH ON N-OCTADECANE.
SO IZV. TIMIRYAZEVSK. S-KH. AKAD. P14-17. 1977.
LG RS.
DE CANDIDA CARBON METAB OCTADECANE.
AN C 08713098612.

<284>
AU DAVIS A R. HARDIN A H.
YR 76.
TI RAMAN SPECTRAL STUDIES OF ORGANIC MOLECULES ADSORBED AT MODEL SEDIMENT SURFACES.
SO CAN J SPECTROSC. 21 (5). 139-143.
DE POLLUTION PYRIDINE GLYCINE LYSINE BETA ALANINE METAL OXIDES CLAY SCATTERING AIR WATER SOLID SPECTROSCOPY.
AN B 77021438.

<285>
AU DAWSON, G. W. SHUCKROW, A. J. SWIFT, W. H.
IN BATTELLE MEMORIAL INST. RICHLAND, WASH. PACIFIC NORTHWEST LABS. 387 060.
YR 70. 409P*.
TI CONTROL OF SPILLAGE OF HAZARDOUS POLLUTING SUBSTANCES.
NT WATER POLLUTION CONTROL RESEARCH SERIES. PAPER COPY AVAILABLE FROM SUPERINTENDENT OF DOCUMENTS, GPO, WASHINGTON, D.C. 20402. $3.00 AS I67.13/4-15090FQZ10/70.
PR SOD MF$0.95.
AB AN EVALUATION OF THE WATER QUALITY ASPECTS GERMANE TO THE SPILLAGE OF HAZARDOUS POLLUTING SUBSTANCES IS DEVELOPED. EMPHASIS IS PLACED ON DEFINITION AND CLASSIFICATION OF CHEMICAL MATERIALS; THE NATURE OF THE SOURCES OF SPILLAGE AND PAST EXPERIENCE; AND ANALYSIS OF THE RELATIVE THREAT TO WATER QUALITY OFFERED BY SUCH SUBSTANCES; A REVIEW OF PRESENTLY AVAILABLE DETECTION, CONTROL, AND REMOVAL TECHNOLOGY; RELATIONSHIP TO WATER QUALITY STANDARDS; AND THE RELEVANT

ADMINISTRATIVE, ENFORCEMENT, AND COST RECOVERY ASPECTS. OVER 800 CHEMICAL SUBSTANCES WERE EVALUATED AS TO THEIR ANNUAL PRODUCTION AND TRANSPORT QUANTITIES, THEIR CRITICAL CONCENTRATION IN THE AQUATIC ENVIRONMENT RESULTING IN WATER QUALITY IMPAIRMENT FOR THE SEVERAL BENEFICIAL WATER USES, DETECTION LIMITS (BOTH FIELD AND LABORATORY), AND THE CONTROL AND REMOVAL METHODS PRESENTLY AVAILABLE OR POTENTIALLY PRACTICABLE. OVER 250 CHEMICALS AND COMPOUNDS, GENERALLY THOSE IN LARGE SCALE PRODUCTION AND UTILIZATION, ARE PRIORITY RANKED IN ORDER OF RELATIVE THREAT TO WATER QUALITY IN TERMS OF ANNUAL PRODUCTION/SALES, INTRINSIC HAZARD TO WATER QUALITY, TRANSPORT MODE, AND PAST STATISTICAL ACCIDENT FREQUENCY. RECOMMENDATIONS ARE PRESENTED REGARDING FUTURE RESEARCH AND DEVELOPMENT EFFORTS AIMED AT MITIGATING DAMAGE AND A CONSENSUS OF INFORMED PARTIES IS PRESENTED RELATING TO THE NEED FOR ADDITIONAL LEGISLATION. (AUTHOR).

MJ HAZARDOUS-MATERIALS, WATER-POLLUTION, REVIEWS, HAZARDOUS-MATERIALS, HIGHWAY-TRANSPORTATION, WATER-POLLUTION, WATER-TRANSPORTATION, WATER-POLLUTION, RAIL-TRANSPORTATION, WATER-POLLUTION.

MN CLASSIFICATIONS, TOXICITY, WATER-QUALITY, GOVERNMENT-POLICIES, DETECTION, NATIONAL-GOVERNMENT, ACCIDENTS, FISH, RECOMMENDATIONS, MONITORS, TABELS-DATA.

ID WATER-POLLUTION-DETECTION, WATER-POLLUTION-EFFECTS-PLANTS, WATER-POLLUTION-EFFECTS-ANIMALS, LAW-JURISPRUDENCE, PESTICIDES, FERTILIZERS, CHEMICAL-INDUSTRY, PHENOLS.

AN N PB-197 596.

<286>

AU DAY, DAVID CHARLES.
IN UNIVERSITY OF WATERLOO (CANADA) (1141) PH.D. 1972, 001PP.
YR 72.
TI AQUEOUS PHASE OXIDATION OF PROPIONIC ACID.
SO DAI V34(01), SEC B, P0195.
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AN D ADG02-77499.

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SO CAN J MICROBIOL. 22 (7). 1060- 1062.
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AU DE BONT J A.
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AU DE BONT J A. ALBERS R A.
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MJ BACTERIA: ME.
MN ACETYL-COENZYME-A-SYNTHETASE: ME, (ACETYL-COA-SYNTHETASE). ALDEHYDE-OXIDOREDUCTASES: ME. ME.
AN M 76251506. 7611.

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AU DE BONT, J. A. M.
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YR 74.
TI BACTERIAL DEGRADATION OF CYCLOHEXANE. PARTICIPATION OF COOXIDATION REACTION.
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AN C 08101002386.

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AU DE=GODOY, M. P.
IN E.E.B.P. PIRASSUNUNGA. BRAZIL.
YR 69.
TI RIVER WATERS, POLLUTION, AND POTABLE WATERS.
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AU DEAN-RAYMOND, D. BARTHA, R.
IN RUTGERS - THE STATE UNIV NEW BRUNSWICK N J RESEARCH, ARLINGTON, VA. 312250.
YR 75. 21P.
TI BIODEGRADATION OF SOME POLYNUCLEAR AROMATIC PETROLEUM COMPONENTS BY MARINE BACTERIA.
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PR PC$3.25/MF$2.25.
AB THE METABOLISM OF POLYNUCLEAR AROMATIC HYDROCARBONS WAS STUDIED USING GAS CHROMATOGRAPHIC, THIN-LAYER CHROMATOGRAPHIC, INFRARED AND MASS SPECTROMETRIC TECHNIQUES. OF SIX BACTERIAL STRAINS ISOLATED FROM OIL POLLUTED ESTUARINE WATER, ALL GREW ON NAPHTHALENE, 2-METHYLNAPHTHALENE AND 2-ETHYLNAPHTHALENE AS SOLE SOURCES OF CARBON AND ENERGY. SEVERAL OTHER ALKYL NAPHTHALENES WERE METABOLIZED BY VARIOUS STRAINS. PHENANTHRENE AND ANTHRACENE WERE METABOLIZED BY THREE OUT OF SIX ORGANISMS. ONLY ONE NAPHTHALENE-GROWN STRAIN WAS ABLE TO METABOLIZE OTHER POLYAROMATIC COMPOUNDS, INCLUDING ACENAPHTHYLENE, BIPHENYL, FLUORENE AND TETRALIN. THE SPECIFICITY OF SALICYLATE HYDROXYLASE GOVERNS THE UTILIZATION OF SEVERAL NAPHTHALENE DERIVATIVES WHILE INABILITY TO OXIDIZE NAPHTHOIC ACIDS PREVENTS GROWTH ON DIMETHYLNAPHTHALENES.
MJ AROMATIC-POLYCYCLIC- HYDROCARBONS, BIODETERIORATION, METABOLISM, BACTERIA.
MN NAPHTHALENES, SALICYLIC-ACIDS, OILS.
ID OIL-POLLUTION-REMOVAL, WATER-POLLUTION-EFFECTS-ANIMALS, NTISDODN.
AN N AD/A-006 346/1SL.

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AU DEDONDER, A. VAN SUMERE, C. F.
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AU DEESON, A. F. L.
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DE STDS WATER QUALITY. WATER QUALITY STDS. ACIDITY WATER QUALITY. TEMP WATER QUALITY. BOD WATER QUALITY. CYANIDES WATER QUALITY. GREASES WATER QUALITY. OILS WATER QUALITY. PHENOL WATER QUALITY. METALS WATER QUALITY.
AN C 07404015592.

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AU DEINZER M. MELTON R. MITCHELL D.
YR 75.
TI TRACE ORGANIC CONTAMINANTS IN DRINKING WATER THEIR CONCENTRATION BY REVERSE OSMOSIS.
SO WATER RES. 9 (9). 799-805.
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AU DELFINO J J. DUBE D J.
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AN B 77003367.

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YR 73.
TI MICRO DETERMINATION OF GASOLINE IN POTABLE WATERS BY GAS CHROMATOGRAPHY.
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AN B 59039772.

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YR 74.
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AN C 08121131535.

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AU DIAMOND L. CLARK H F.
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AU DIETZ A S. TUOMINEN T. ALBRIGHT L J.
YR 76.
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AN B 78019942.

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AU DIETZ, F. KOPPE, P.
IN RUHRVERBAND/ESSEN. GER.
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SO HAUS TECH. ESSEN, VORTRAGSVEROEFF. NO. 283. P17-28. 1972.
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YR 76.
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LG EN.
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AN P 7604259.

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AU DMITRIEV, M. T. KITROSSKII, N. A.
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YR 69.
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AN C 08306047708.

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DE POA-PRATENSIS PSEUDOBACTERIUM-LACTICUM PSEUDOMONAS-LIQUEFACIENS MICROORGANISMS PHENOL RESORCINOL PYRO CATECHOL DEHYDROGENASE ACTIVITY RHIZOSPHERE.
AN B 61051373.

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AU DONAHUE, AUDREY E.
IN ENVIRONMENTAL PROTECTION AGENCY, CINCINNATI, OHIO.
YR 73. 394P*.
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PR PC$8.00/MF$1.45.
AB THIS TRAINING MANUAL CONTAINS OUTLINED INFORMATION USED BY LECTURERS WHEN PRESENTING TOPICS IN EPA-NTC COURSE 100, 'CHEMICAL ANALYSES FOR WATER QUALITY. ' THE CONTENTS CONCERN INDIVIDUAL CONSTITUENTS FOUND IN WATER (E. G. DISSOLVED OXYGEN), INSTRUMENTAL METHODOLOGY (E. G. ATOMIC ABSORPTION) AND INFORMATION USEFUL TO ANALYSTS (E. G. STATISTICS). A SECTION OF LABORATORY PROCEDURES USED BY CLASS GROUPS IS ALSO INCLUDED.
MJ WATER-ANALYSIS, MANUALS, WATER-POLLUTION, WATER-ANALYSIS.
MN CRITERIA, ACIDITY, ALKALINITY, DISSOLVED-GASES, OXYGEN, AMMONIA, NITRATES, NITROGEN, CHLORINE, CARBON, CALCIUM, MAGNESIUM, ELECTRICAL-RESISTIVITY, PHOSPHORUS, CYANIDES, IRON, MANGANESE, PHENOLS, CHLORINE-AROMATIC-COMPOUNDS, DETERGENTS, SURFACTANTS, PESTICIDES, SPECTROSCOPIC-ANALYSIS, FLAME-PHOTOMETRY, ATOMIC-SPECTROSCOPY, ORGANIC-COMPOUNDS, GAS-CHROMATOGRAPHY, CHROMATOGRAPHY, INFRARED-SPECTROSCOPY, AUTOMATION, AERIAL-RECONNAISSANCE, LEGAL-PROCESSES, METALS.
ID WATER-POLLUTION-DETECTION, FWQA.
AN N PB-224 212/1.

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TI A RESEARCH PROGRAM FOR IDENTIFYING AND MEASURING WATER POLLUTANTS.
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MN ACTIVATION-ANALYSIS. COMPUTERS-DIGITAL. FURANS: AN. PYRIDINES: AN.
AN M 74125997.

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YR 74.
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AN C 08126175789.

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AU DONOGHUE N A. GRIFFIN M. NORRIS D B. TRUDGILL P W.
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TI THE MICROBIAL METABOLISM OF CYCLO HEXANE AND RELATED COMPOUNDS.
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AU DORE, M. LEGUBE, B. MERLET, N.
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YR 75.
TI OXIDATION OF PHENOLS IN AQUEOUS MEDIA.
SO J. FR. HYDROL. 18. P53-62. 1975.
LG EN.
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AN C 08625189407.

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IN OKLAHOMA WATER RESOURCES RESEARCH CENTER, STILLWATER.
YR 72. 116P.
TI IDENTIFICATION OF TOXIC COMPONENTS IN OIL REFINERY EFFLUENTS AND DETERMINATION OF THEIR EFFECT UPON THE AQUATIC BIOTA.
NT TECHNICAL COMPLETION REPT.
PR PC$3.00/MF$0.95.
AB CARBON ADSORPTION, SOLVENT EXTRACTION, STEAM DISTILLATION AND FLASH EVAPORATION TECHNIQUES WERE USED TO REMOVE ORGANIC FRACTIONS FROM OIL REFINERY EFFLUENTS. TOXICITY OF ORGANIC FRACTIONS WAS EVALUATED BY BIOASSAY WITH FATHEAD MINNOWS (PIMEPHALES PROMELAS) AND DAPHNIA (DAPHNIA MAGNA). DEMONSTRABLY TOXIC FRACTIONS WERE SUBJECTED TO GAS CHROMATOGRAPHY AND COMBINATION GAS CHROMATOGRAPHY - MASS SPECTROMETRY ANALYSES. CONCENTRATIONS OF TOXIC HEAVY METALS IN THE REFINERY EFFLUENTS WERE ANALYZED BY ATOMIC ABSORPTION SPECTROPHOTOMETRY. THE FLASH EVAPORATION TECHNIQUE REMOVED MOST OF THE ACUTE TOXINS FROM THE EFFLUENT SAMPLES. COMPOUNDS TENTATIVELY IDENTIFIED WERE CRESOL, DIMETHYL PHENOL OR ETHYL PHENOL, HENEICOSANE, DOCOSANE, TRICOSANE, AND PENTACOSANE. IT WAS FOUND THAT THE COMBINED CONCENTRATION OF SEVERAL OF THE HEAVY METALS COULD BE DELETERIOUS TO AQUATIC ORGANISMS. (AUTHOR).
MJ REFINERIES, WATER-POLLUTION, WATER-POLLUTION, INDUSTRIAL-WASTES, TOXICOLOGY, INDUSTRIAL-WASTES, WATER- ANALYSIS, INDUSTRIAL-WASTES.
MN FISHES, BIOASSAY, DAPHNIA, MINNOWS, GAS-CHROMATOGRAPHY, MASS-SPECTROSCOPY, METALS, ATOMIC-SPECTROSCOPY, PHENOLS, HYDROCARBONS, PETROLEUM-REFINING.
ID PETROCHEMICAL-INDUSTRY, WATER-

POLLUTION-EFFECTS-ANIMALS, PIMEPHALES-PROMELAS.
AN N PB-213 493/0.

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AU DOUDOROFF, PETER.
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YR 76. 161P*.
TI TOXICITY TO FISH OF CYANIDES AND RELATED COMPOUNDS. A REVIEW.
NT FINAL REPT.
PR PC$6.75/MF$2.25.
AB THE WORLD LITERATURE ON THE TOXICITY TO FISH OF SIMPLE AND COMPLEX CYANIDES, NITRILES, CYANOGEN CHLORIDE, THIOCYANATES, AND CYANATES IS REVIEWED. DIFFERENTLY DETERMINED LIMITS OF TOXICANT CONCENTRATIONS TOLERATED BY VARIOUS FISHES ARE COMPARED, AND THEIR VARIATION WITH EXPOSURE TIME, THE PH, TEMPERATURE, AND DISSOLVED OXYGEN AND MINERAL CONTENT OF THE WATER, BODY SIZE, AGE, ACCLIMATION, ETC. IS EXAMINED. INTERACTIONS OF FREE CYANIDE WITH OTHER TOXIC WATER POLLUTANTS ALSO ARE CONSIDERED. AVAILABLE DATA ON EFFECTS OF SUBLETHAL LEVELS OF FREE CYANIDE ON GROWTH, FOOD CONSUMPTION AND UTILIZATION, SWIMMING ABILITY, BEHAVIOR, ETC. AND OBSERVATIONS ON AVOIDANCE REACTIONS OF FISH TO THE TOXICANT ARE SUMMARIZED AND THEIR ECOLOGICAL SIGNIFICANCE IS DISCUSSED. SOME CONCLUSIONS REGARDING ACCEPTABLE CONCENTRATIONS OF FREE CYANIDE IN RECEIVING WATERS ARE PRESENTED.
MJ TOXICITY, CYANIDES, FISHES.
MN WATER-POLLUTION, TOXIC- TOLERANCES, GROWTH, AQUATIC- ANIMALS, TOXICOLOGY, REVIEWS, NITRILES, CYANATES, MINERALS, THIOCYANATES, CYANOGEN, EXPOSURE, PH, TEMPERATURE, DISSOLVED-GASES, OXYGEN, ECOLOGY, PHYSIOLOGICAL- EFFECTS.
ID WATER-POLLUTION-EFFECTS-ANIMALS, TOXIC-HAZARDS, NTISEPAORD.
AN N PB-253 528/4SL.

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AU DRAHORAD, JOSEF. NOVOTNY, JAROSLAV. CERNY, KAREL.
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YR 71.
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AU DUBE, D J. DELFINO, J J.
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YR 76.
TI PERSISTENT CONTAMINATION OF GROUND WATER BY PHENOL.
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LG EN.
AB NONE.
ID PHENOL, CHEMICAL SPILLS.
DE ACCIDENTS, PUBLIC HEALTH, CHEMICAL POLLUTANTS, GROUNDWATER CONTAMINATION, HYDROCARBONS.
AN P 7605385.

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AU DUFFEY S S. BLUM M S.
YR 77.
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AN B 64027232.

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AU DUFFIELD, G A.
IN BRITISH COLUMBIA DEPT. OF HEALTH, ENVIRONMENTAL ENGINEERING DIV. CAN.
YR 75.
TI INTERPRETATION OF CHEMICAL ANALYSIS.
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YR 71.
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AU DUNCAN, R. M.
IN ALUM. CO. CANADA, LTD. ARVIDA. QUE.
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LG EN.
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AN C 07214070341.

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YR 76.
TI ISOLATION AND IDENTIFICATION OF ORGANIC CONTAMINANTS IN GROUND WATER.
SO KEITH, LAWRENCE H. IDENTIFICATION AND ANALYSIS OF ORGANIC POLLUTANTS IN WATER. CONGRESS. MEXICO CITY, MEXICO, DEC. 1975. X+718P. ILLUS. ANN ARBOR SCIENCE PUBLISHERS INC. ANN ARBOR, MICH. U.S.A. ISBN 0-250-40131-2. 453- 477.
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AN B 77007305.

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TI MONITORING PROCEDURES FOR CHEMICAL CARCINOGENS IN COASTAL WATERS.
SO J FISH RES BOARD CAN. 33 (9). 2040-2046.
DE MYTILUS-EDULIS POLLUTION BENZO A PYRENE EXTRACTION PURIFICATION THIN LAYER CHROMATOGRAPHY FLUOROMETRY GAS CHROMATOGRAPHY.
AN B 77027488.

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AU DUNN, B P.
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YR 76.
TI TECHNIQUES FOR DETERMINATION OF BENZO(A)PYRENE IN MARINE ORGANISMS AND SEDIMENTS.
SO ENVIRONMENTAL SCIENCE & TECHNOLOGY, 10(10): 1018-1021, OCT. 1976.
LG EN.
AB NONE.
ID BENZO(A)PYRENE.
DE CARCINOGENS, MARINE ORGANISMS, MARINE ENVIRONMENTS, SEDIMENTS, WATER POLLUTANTS, HYDROCARBONS, AROMATIC COMPOUNDS.
AN P 7700430.

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AU DUNN, BRUCE P. STICH, HANS F.
IN CANCER RES. CENT. UNIV. BRITISH COLUMBIA. VANCOUVER. B. C.
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SO BULL. ENVIRON. CONTAM. TOXICOL. 15. P398-401. 1976.
LG EN.

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AN C 08505029326.

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AU DUNSTAN P M. ANTHONY C. DRABBLE W T.
YR 72.
TI MICROBIAL METABOLISM OF 1 CARBON COMPOUNDS AND 2 CARBON COMPOUNDS THE INVOLVEMENT OF GLYCOLLATE IN THE METABOLISM OF ETHANOL AND OF ACETATE BY PSEUDOMONAS AM-1.
SO BIOCHEM J. 128 (1). 99-106.
DE ALCOHOL DEHYDROGENASE MALATE SYNTHASE ISO CITRATE LYASE.
AN B 54057088.

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AU DUNSTAN P M. DUNSTAN M. ANTHONY C. DRABBLE W T.
YR 72.
TI MICROBIAL METABOLISM OF THE 1 CARBON COMPOUNDS AND 2 CARBON COMPOUNDS THE ROLE OF GLYOXYLATE GLYCOLLATE AND ACETATE IN THE GROWTH OF PSEUDOMONAS AM-1 ON ETHANOL AND ON 1 CARBON COMPOUNDS.
SO BIOCHEM J. 128 (1). 107-115.
DE HYDROXY PYRUVATE REDUCTASE SERINE GLYOXYLATE AMINO TRANSFERASE GLYCERATE KINASE METHANOL DEHYDROGENASE METHYLAMINE DEHYDROGENASE GLYCERATE KINASE.
AN B 54057089.

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AU DUNSTAN, PATRICIA M. ANTHONY, C.
IN DEP. PHYSIOL. BIOCHEM. UNIV. SOUTHAMPTON. SOUTHAMPTON. ENGL.
YR 73.
TI MICROBIAL METABOLISM OF C1 AND C2 COMPOUNDS. ROLE OF ACETATE DURING GROWTH OF PSEUDOMONAS AM1 ON C1 COMPOUNDS, ETHANOL, AND BETA. - HYDROXYBUTYRATE.
SO BIOCHEM. J. 132. P797-801. 1973.
LG EN.
DE PSEUDOMONAS ACETATE METAB. METHANOL METAB PSEUDOMONAS. HYDROXYBUTYRATE PSEUDOMONAS. ETHANOL PSEUDOMONAS.
AN C 07909050653.

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AU DUNSTAN, W. M. ATKINSON, L. P. NATOLI, J.
IN SKIDAWAY INST. OF OCEANOGRAPHY, SAVANNAH, GA. FOUNDATION, WASHINGTON, D.C. OFFICE FOR THE INTERNATIONAL DECADE OF OCEAN EXPLORATION. 934.
YR 75. 7P.
TI STIMULATION AND INHIBITION OF PHYTOPLANKTON GROWTH BY LOW MOLECULAR WEIGHT HYDROCARBONS.
NT SPONSORED IN PART BY OFFICE OF NAVAL RESEARCH, ARLINGTON, VA.
AV PUB. IN MARINE BIOLOGY, V31 P305-310 1975.
PR NOT AVAILABLE NTIS.
AB EXPERIMENTS ON 4 PHYLOGENETICALLY DIFFERENT PHYTOPLANKTON EXPOSED IN CULTURE TO A RANGE OF CONCENTRATIONS OF BENZENE, TOLUENE AND XYLENE SHOWED A VARIETY OF GROWTH RESPONSES FOR MARINE MICROALGAE. THE DEGREE OF INFLUENCE OF THESE AROMATIC HYDROCARBONS, ALL COMPONENTS OF FUEL OILS AND CRUDE OILS, VARIED WITH CONCENTRATION, COMPOUND AND SPECIES. THE SPECIES- SPECIFIC STIMULATION OF LOW CONCENTRATIONS WAS FURTHER SHOWN IN EXPERIMENTS WITH MIXTURES OF NO. 2 FUEL OIL. THE VOLATILE FRACTION WAS MOST BIOLOGICALLY REACTIVE, BEING THE SOURCE OF GROWTH ENHANCEMENT AT LOW LEVELS AND A MAJOR GROWTH INHIBITOR AT HIGH CONCENTRATIONS. THUS, A SIGNIFICANT ENVIRONMENTAL EFFECT OF OIL ON MARINE PRIMARY PRODUCTION COULD BE THE GROWTH STIMULATION OF PARTICULAR SPECIES BY LOW MOLECULAR WEIGHT AROMATIC COMPOUNDS RESULTING IN AN ALTERATION OF THE NATURAL PHYTOPLANKTON COMMUNITY STRUCTURE AND ITS TROPHIC RELATIONSHIPS.
MJ PLANKTON, PHYTOPLANKTON, HYDROCARBONS.
MN XYLENES, BENZENE, TOLUENE, AQUATIC-MICROBIOLOGY, PRIMARY-BIOLOGICAL-PRODUCTIVITY, CULTURES-BIOLOGY, ALGAE, AROMATIC-HYDROCARBONS, FUEL-OIL, WATER-POLLUTION, CRUDE-OIL, VOLATILITY, GROWTH-REGULATORS, INHIBITORS, MARINE-BIOLOGY.
ID AMPHIDINIUM-CARTERAE, WATER-POLLUTION-EFFECTS-PLANTS, OIL-POLLUTION, SKELETONEMA-COSTATUM, DUNALIELLA-TERTIOLECTA, CRICOSPHAERA- CARTERAE, REPRINTS, NTISIDOE, NTISNSFG, NTISDODN.
AN N PB-248 697/5SL.

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AU DURHAM, NORMAN D.

IN DEP. OF MICROBIOL. OKLAHOMA STATE UNIV. STILLWATER. OKLA.
YR 70.
TI MODE OF FISSION OF BENZENE NUCLEUS IN THE MICROORGANISMS AND REGULATION OF CELL GROWTH AND DIVISION BY BENZENE DERIVATIVES.
PG 10 PP.
LG EN.
DE BENZENE METAB FLAVOBACTERIUM. FLAVOBACTERIUM BENZENE METAB. TRYPTOPHAN METAB FLAVOBACTERIUM.
AN C 07323117583.

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AU DUST J V. THOMPSON W S.
YR 72.
TI POLLUTION CONTROL IN THE WOOD PRESERVING INDUSTRY PART 3 CHEMICAL AND PHYSICAL METHODS OF TREATING WASTE WATER.
SO FOR PROD J. 22 (12). 25-30.
DE OXYGEN DEMAND PHENOL.
AN B 73033346.

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AU EARHART, JONATHAN P. WON, KWANG W. KING, C. JUDSON. PRAUSNITZ, JOHN M.
IN CALIFORNIA UNIV. BERKELEY. DEPT. OF CHEMICAL ENGINEERING. KERR ENVIRONMENTAL RESEARCH LAB. ADA, OKLA. 404 601.
YR 76. 531P.
TI EXTRACTION OF CHEMICAL POLLUTANTS FROM INDUSTRIAL WASTEWATERS WITH VOLATILE SOLVENTS.
NT FINAL REPT. 1971-75.
PR PC A23/MF A01.
AB SOLVENT EXTRACTION WITH VOLATILE SOLVENTS WAS STUDIED AS A METHOD FOR TREATING WASTEWATERS FROM PETROLEUM REFINERIES AND PETROCHEMICAL PLANTS. EXTRACTION IS MOST ATTRACTIVE WHEN THE LOADING OF ORGANICS IS HIGH, WHEN SUBSTANCES ARE PRESENT WHICH POSE DIFFICULTIES FOR BIOLOGICAL OXIDATION, AND/OR WHEN THE CHEMICAL VALUE OF RECOVERED ORGANICS IS HIGH. VOLATILE SOLVENTS (ISOBUTYLENE AND ISOBUTANE) WERE GIVEN PARTICULAR ATTENTION, SINCE THEY ARE EASILY REGENERATED AND SINCE THEY HAVE A LOW SOLUBILITY IN THE EFFLUENT WATER. EQUILIBRIUM DISTRIBUTION COEFFICIENTS WERE DETERMINED FOR NUMEROUS SYSTEMS OF WATER, VARIOUS SOLVENTS AND VARIOUS SOLUTES, AND CORRELATIONS OF THESE COEFFICIENTS WERE DEVELOPED. A MINIPLANT EXTRACTION FACILITY WAS USED TO DEMONSTRATE THE CAPABILITIES OF EXTRACTION FOR TREATMENT OF SEVEN DIFFERENT INDUSTRIAL WASTEWATERS, AND FOR THE PURPOSE OF ANALYZING THE UNDERLYING MASS TRANSFER AND AXIAL MIXING BEHAVIOR. THE SCALE-UP OF THE EXTRACTION SYSTEM AND THE LOGIC OF SELECTING EXTRACTION PROCESSES FOR WASTEWATER TREATMENT ARE EXPLORED AT LENGTH.
MJ WATER-POLLUTION-CONTROL, REFINERIES, SOLVENT-EXTRACTION, PETROCHEMISTRY, PETROLEUM-INDUSTRY.
MN INDUSTRIAL-WASTE-TREATMENT, SOLVENTS, ORGANIC-COMPOUNDS, SEPARATION, MATERIALS-RECOVERY, PHENOLS, PROCESS-CHARTING, STRIPPING- DISTILLATION, VOLATILITY, EXPERIMENTAL-DESIGN, OILS, ETHYLENE, CHLORINATION, FORMALDEHYDE, STYRENE, MASS-TRANSFER, CONTINUOUS.
ID LIQUID-WASTES, OIL-WATER-SEPARATORS, ROTATING-DISC-SEPARATORS, PROCEDURES, SPRAY-COLUMN- EXTRACTORS, NTISEPAORD, NTISUCLA.
AN N PB-266 241/9SL.

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AU EBERLE S H. HOESLE C. HOYER O. KRUECKEBERG C.
YR 75.
TI THE ANALYSIS OF ORGANIC WATER POLLUTANTS ESPECIALLY LIGNIN SULFONIC-ACID BY MEANS OF DIFFERENTIAL PULSE POLAROGRAPHY.
SO HUSMANN, W. (ED.). VOM WASSER, BAND 43. (ON WATER, VOL. 43.). (IN GER.). VIII+584P. ILLUS. VERLAG CHEMIE: WEINHEIM, WEST GERMANY. ISBN 3-527-25594-X. 359-380.
DE RHINE RIVER EUROPE NEW METHOD NITROUS-ACID TOTAL ORGANIC CARBON PHENOLS AROMATIC AMINES NITRO COMPOUNDS QUINONES ALDEHYDES KETONES AZO COMPOUNDS.
AN B 75094654.

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AU EDELINE, F. ZOLEDZIOWSKA, J.
IN INSTITUT DE L'INDUSTRIE ORGANIQUE, VARSOVIE.
YR 73.
TI ETUDE DE LA BIODEGRADABILITE DES PETITES CONCENTRATIONS DE PHENOLS DANS L'EAU DE RIVIERE.
SO CENTRE BELGE D'ETUDE ET DE

DOCUMENTATION DES EAUX ET DE L'AIR. TRIBUNE DU CEBEDEAU, 26(354): 231-234, MAY 1973.
LG FR.
AB NONE.
ID PHENOLS.
DE AROMATIC COMPOUNDS, BELGIUM, BIODEGRADATION, CHEMICAL OXIDATION, INDUSTRIAL EFFLUENTS, MICROBIAL DEGRADATION, RIVERS.
AN P 7501684.

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AU EGANHOUSE, ROBERT P. CALDER, JOHN A.
IN FLORIDA STATE UNIV. TALLAHASSEE. DEPT. OF OCEANOGRAPHY. SCIENCE FOUNDATION, WASHINGTON, D.C. OFFICE FOR THE INTERNATIONAL DECADE OF OCEAN EXPLORATION. 407 468.
YR 75. 8P.
TI THE SOLUBILITY OF MEDIUM MOLECULAR WEIGHT AROMATIC HYDROCARBONS AND THE EFFECTS OF HYDROCARBON CO-SOLUTES AND SALINITY.
AV PUB. IN GEOCHIMICA ET COSMOCHIMICA ACTA, V40 P555-561 1976.
PR NOT AVAILABLE NTIS.
AB THE SOLUBILITIES OF SEVERAL MEDIUM MOLECULAR WEIGHT AROMATIC HYDROCARBONS WERE DETERMINED AT 25C IN AQUEOUS BINARY, TERNARY, AND QUATERNARY SYSTEMS. IN BINARY SYSTEMS AT S 0/00 = 0, SOLUBILITIES RANGED FROM 31.3 PPM FOR NAPHTHALENE TO 1.07 PPM FOR PHENANTHRENE. THE ALKYL NAPHTHALENES EXHIBITED SOLUBILITIES WHICH WERE A FUNCTION OF MOLAR VOLUME AND SUBSTITUENT SIZE AND POSITION. IN TERNARY AND QUATERNARY SYSTEMS, SOLUBILITIES OFTEN DEVIATED FROM VALUES OBTAINED IN BINARY SYSTEMS PRESUMABLY DUE TO SOLUTE-SOLUTE INTERACTIONS AND/OR FORMATION OF SOLID SOLUTIONS. AROMATIC HYDROCARBONS ARE 'SALTED OUT' BY INCREASING CONCENTRATIONS OF INORGANIC SALTS. AT S 0/00 = 35, THE SOLUBILITY OF NAPHTHALENE IS 22.0 PPM AND OF PHENANTHRENE, 0.71 PPM. THE EMPIRICAL SALTING PARAMETERS ARE IDENTICAL IN BOTH BINARY AND QUATERNARY SYSTEMS.
MJ SOLUBILITY, AROMATIC-HYDROCARBONS.
MN SALINITY, SALT-WATER, REPRINTS, NAPHTHALENE, PHENANTHRENE, BIPHENYL.
ID NTISIDOE, NTISNSFG.
AN N PB-258 181/7SL.

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AU EICHELBERGER, JAMES W. DRESSMAN, RONALD C. LONGBOTTOM, JAMES E.
IN FWPCA, ANALYTIC QUALITY CONTROL LAB. ORGANIC ANALYSES GROUP, CINCINNATI, OH.
YR 70.
TI SEPARATION OF PHENOLIC COMPOUNDS FROM CARBON CHLOROFORM EXTRACT FOR INDIVIDUAL CHROMATOGRAPHIC IDENTIFICATION AND MEASUREMENT.
SO ENVIRONMENTAL SCIENCE AND TECHNOLOGY, WASH. D. C.4(7):576-578, JULY 1970.
LG EN.
AB NONE.
ID IDENTIFICATION AND MEASUREMENT, POLLUTANT ANALYSIS, WATER ANALYSIS.
DE PHENOL, GAS-LIQUID CHROMATOGRAPHY.
AN P 7002772.

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AU EIRING, L. V.
IN USSR.
YR 69.
TI KINETICS AND MECHANISM OF OZONE OXIDATION OF CYANIDE-CONTAINING WASTE WATERS.
SO TSVET. METAL. 42. P73-6. 1969.
LG RS.
DE ZINC CYANIDE COMPLEXES OZONE. IRON CYANIDE COMPLEXES OZONE. ARSENIC CYANIDE COMPLEXES OZONE. OZONE CYANIDES WASTE WATERS. CYANIDES WASTE WATERS OZONE. LEAD REMOVAL WASTE WATERS.
AN C 07302006964.

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AU EL-DIB, M. A.
IN WATER POLLUT. CONTROL. NATL. RES. CENT. CAIRO. UAR.
YR 71.
TI COLORIMETRIC DETERMINATION OF ANILINE DERIVATIVES IN NATURAL WATERS.
SO J. ASS. OFFIC. ANAL. CHEM. 54. P1383-7. 1971.
LG EN.
DE ANILINE HERBICIDE WATER DETN.
AN C 07613069024.

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AU ELDRIDGE M B. ECHEVERRIA T. WHIPPLE J A.
IN NATL. MAR. FISH. SERV. SOUTHWEST FISH. CENT. TIBURON LAB. 3150 PARADISE DR. TIBURON, CALIF. 94920,

USA.
YR 77.
TI ENERGETICS OF PACIFIC HERRING CLUPEA-HARENGUS-PALLASI EMBRYOS AND LARVAE EXPOSED TO LOW CONCENTRATIONS OF BENZENE A MONO AROMATIC COMPONENT OF CRUDE OIL.
SO TRANS AM FISH SOC. 106 (5). 452-461.
LG EN.
DE ROTIFER INGESTION.
AN B 65037032.

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AU ELLIS B E.
YR 77.
TI DEGRADATION OF PHENOLIC COMPOUNDS BY FRESH WATER ALGAE.
SO PLANT SCI LETT. 8 (3). 213-216.
DE ANABAENA-CYLINDRICA CHLAMYDOMONAS-ULVAENSIS CHLORELLA-PYRENOIDOSA EUGLENA-GRACILIS PHORMIDIUM-FOVEOLARUM SCENEDESMUS-BASILIENSIS CATECHOL.
AN B 64014192.

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AU EMEL YANOVA, E. A. RYABCHENKO, N. S. LUTSENKO, P. G.
IN POLYARN. NAUCHNO-ISSLED. INST. RYBN. KHOZ. OKEANOGR. MURMANSK. USSR.
YR 77.
TI EFFECT OF SOME ELECTROLYTES ON THE COAGULATION OF ORGANIC POLLUTANTS IN WASTE WATERS.
SO RYBN. KHOZ. (MOSCOW). P76-9. 1977.
LG RS.
DE ACETIC ACID FISH PROCESSING WASTEWATER. HYDROCHLORIC ACID FISH PROCESSING WASTEWATER. FAT COLLOID FISH PROCESSING WASTEWATER. PROTEIN COLLOID FISH PROCESSING WASTEWATER. FISH PROCESSING WASTEWATER TREATMENT.
AN C 08706043693.

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AU EMERY, RICHARD M.
IN UNIV. OF WASHINGTON, DEPT. OF CIVIL ENGINEERING, WATER AND AIR RESOURCES DIV. SEATTLE.
YR 70.
TI THE COMPARATIVE ACUTE TOXICITY OF CRESOL TO TWO BENTHIC CRUSTACEANS.
SO WATER RESEARCH. NEW YORK, 4(7): 485-491, JULY 1970.
LG EN.
AB NONE.
ID TOXICITY, *GAMMARUS FASCIATUS, *ASELLUS MILITARIS, CRESOL.
DE BENTHIC COMMUNITIES, PHENOL, INDUSTRIAL WASTES.
AN P 7006934.

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AU ENGELHARDT G. RAST H G. WALLNOEFER P R.
IN BAYERISCHE LANDESANSTALT BODENKULT. PFLANZENB. ABT. PFLANZENSCHUTZ, MENZINGER STR. 54, D 8000 MUENCHEN 19, W. GER.
YR 77.
TI BACTERIAL METABOLISM OF SUBSTITUTED PHENOLS OXIDATION OF 4 METHYL MERCAPTO PHENOL AND 4 METHYLSULFINYL PHENOL BY NOCARDIA-SP DSM-43251 .
SO ARCH MICROBIOL. 114 (1). 25-34.
LG EN.
DE NOCARDIA-CALCAREA PESTICIDE DEGRADATION GLUCOSE CATECHOL.
AN B 65001578.

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AU ENGELHARDT, GABRIELE. WALLNOEFER, P. R. RAST, H. G. FIEDLER, F.
IN ABT. PFLANZENSCHUTZ. BAYER LANDESANST. BODENKULT. PLANZENBAU. MUNICH . GER.
YR 76.
TI METABOLISM OF O-PHTHALIC ACID BY DIFFERENT GRAM-NEGATIVE AND GRAM-POSITIVE SOIL BACTERIA.
SO ARCH. MICROBIOL. 109. P109-14. 1976.
LG EN.
DE PHTHALIC ACID METAB BACTERIA. BENZOIC ACID METAB BACTERIA. PROTOCATECHUATE METAB BACTERIA. SALICYLIC ACID METAB BACTERIA. TEREPHTHALIC ACID METAB BACTERIA.
AN C 08517119418.

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AU ENGLEHARDT G. WALLNOFER P R. HUTZINGER O.
IN BAYER LANDESANSTALDT FUR BODENKULTUR UND PFLANZENBAU, MUNCHEN, GERMANY.
YR 75.
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SO BULL ENVIRON CONTAM TOXICOL. 13. 3. P342-7. MAR 75.
LG EN.
MJ ARTHROBACTER: ME. PHTHALIC- ACIDS: ME, (PHTHALIC-ACID).
MN CULTURE-MEDIA.

AN M 75147234.

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AU ENSIGN, JERALD COLEMAN.
IN UNIVERSITY OF SOUTHERN CALIFORNIA (0208) PH.D. 1963 215PP.
YR 63.
TI THE BACTERIAL METABOLISM OF PYRIDINE, 2-HYDROXYPYRIDINE AND NICOTINIC ACID.
SO DAI V24(01) P0031.
DE BACTERIOLOGY (0301).
AN D ADG63-04220.

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AU ENSMINGER A. ALBRECHT P. OURISSON G. KIMBLE B J. MAXWELL J R. EGLINTON G.
YR 72.
TI HOMO HOPANE IN MESSEL OIL SHALE 1ST IDENTIFICATION OF 31 CARBON PENTA CYCLIC TRI TERPANE IN NATURE BACTERIAL ORIGIN OF SOME TRI TERPANES IN ANCIENT SEDIMENTS.
SO TETRAHEDRON LETT. 36. 3861-3864.
DE EOCENE.
AN B 73014647.

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AU EPLER, PIOTR.
IN INST. ZOOL. STOSOW. WYZSZA SZK. ROLN. CRACOW. POL.
YR 71.
TI EFFECT OF POLLUTION OF WATERS ON THEIR ICHTHYOFAUNA. II. TOXICITY OF AMMONIA, PHENOLS, AND CYANIDES.
SO POSTEPY NAUK ROLN. P67-90. 1971.
LG PO.
DE REVIEW FISH TOXICITY POLLUTANT. AMMONIA FISH TOXICITY REVIEW. PHENOL FISH TOXICITY REVIEW. CYANIDE FISH TOXICITY REVIEW.
AN C 07701001398.

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AU ERICKSON, R. E. BARDWELL, C. SOSEBEE, J.
IN MONTANA STATE UNIV. BOZEMAN. WATER RESOURCES RESEARCH CENTER. OFFICE OF WATER RESEARCH AND TECHNOLOGY, WASHINGTON, D.C.
YR 75. 16P.
TI PHENOLS IN THE CLARK FORK RIVER.
NT COMPLETION REPT.
PR PC$3.50/MF$2.25.
AB THE OBJECTIVE WAS TO DETERMINE THE NATURE AND AMOUNTS OF PHENOLS IN THE CLARK FORK RIVER. THESE COMPOUNDS, WHICH ARE A NATURAL PART OF THE EFFLUENT OF KRAFT PULP MILLS AND ARE DISCHARGED EVERY SPRING INTO THE CLARK FORK, ARE KNOWN TO BE TOXIC AT HIGH CONCENTRATIONS TO SOME SPECIES AND TO IMPAIR THE FLAVOR OF FISH AT VERY LOW CONCENTRATIONS. THE STANDARD METHOD FOR DETERMINING PHENOLS WAS LIKELY TO BE UNSUITABLE FOR DETERMINING THE TYPE OF PHENOLS FOUND IN PULP MILL EFFLUENT. AN ADDED OBJECTIVE WAS, THEREFORE, TO COMPARE THE STANDARD METHOD WITH A MORE SOPHISTICATED GAS CHROMATOGRAPHIC TECHNIQUE FOR THE ANALYSIS OF PHENOLS. THE EFFLUENT FROM THE HOERNOR WALDORF MILL CONTAINS A NUMBER OF PHENOLIC COMPOUNDS. GAS CHROMATOGRAPHIC SEPARATION OF A CONCENTRATED SOLUTION FOLLOWED BY MASS SPECTROSCOPY REVEALED SEVENTEEN DIFFERENT COMPOUNDS IN THE PHENOLIC FRACTION, ONLY TWO OF WHICH, P-CRESOL AND PROPYL PHENOL WERE POSITIVELY IDENTIFIED. P-CRESOL WAS FOUND TO BE IN THE LARGEST SINGLE CONCENTRATION. THE MILL IS NOW USING SECONDARY TREATMENT ON THEIR EFFLUENT, WHICH SHOULD LOWER THEIR PHENOLIC CONTENT. HOWEVER, SOME CAUTION MUST BE EXERCISED BECAUSE TWO OTHER FACTORS--FREQUENT SHUTDOWNS OF THE PLANT DURING 1975 AND RELATIVELY HIGH FLOW OF THE CLARK FORK THROUGHOUT THE YEAR--WOULD TEND TO LOWER THE CONCENTRATION OF PHENOLIC COMPOUNDS IN THE RIVER.
MJ STREAM-POLLUTION, PHENOLS, CLARK-FORK-RIVER, INDUSTRIAL-WASTES.
MN CONCENTRATION-COMPOSITION, SULFATE-PULPING, WOOD-PULP, SOURCES, WATER-ANALYSIS, GAS- CHROMATOGRAPHY, SETTLING-BASINS, FISHES, WATER-QUALITY, CORRELATION-TECHNIQUES, TOXICITY, MONTANA.
ID PATH-OF-POLLUTANTS, NTISDIOWRT.
AN N PB-248 673/6SL.

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AU ERMOLAEV K K. MIRONOV O G.
TI THE ROLE OF PHENOL DEGRADING MICROORGANISMS IN THE DESTRUCTION OF PHENOL IN THE BLACK SEA.
SO MICROBIOLOGY (ENGL TRANSL MIKROBIOLOGIYA). 44 (5). 1975 (1976) 839-842.
DE PSEUDOMONAS-DESMOLYTICUM

PSEUDOMONAS-DESMOLYTICUM-SSP-
RATHONIS POLLUTED RIVER WATER.
AN B 76086008.

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AU ETA, INC.
IN 600 ENTERPRISE DR. SUITE 214, OAK BROOK, IL 60521.
YR 76.
TI ECONOMIC IMPACT STUDY ON THE PROPOSED ILLINOIS REGULATION (R74-7) OF TOXIC SUBSTANCES.
SO ILLINOIS INSTITUTE FOR ENVIRONMENTAL QUALITY. IIEQ DOCUMENT 76/29, NOV. 1976. 66PP.
LG EN.
AB NONE.
ID ECONOMIC IMPACT, TOLUENE, SULFURIC ACID, HYDROCHLORIC ACID, TRICHLOMETHYLENE, METHYL ETHYL KETONE, METHANOL.
DE PUBLIC HEALTH, PUBLIC CONCERN, ACCIDENTS, COST-BENEFIT ANALYSIS, AMMONIA, CHLORINE, TOXIC MATERIALS, STATE REGULATIONS, ILLINOIS, ECONOMICS.
AN P 7702968.

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YR 73.
TI REPORT ON CHLORINE AND FRESH WATER FISH.
SO EIFAC (EUR INLAND FISH ADVIS COMM) TECH PAP. 20. (RECD 1974) 1- 11.
DE PLANTS FISH RAINBOW TROUT BROWN TROUT DAPHNIA AVOIDANCE BEHAVIOR PHENOLS.
AN B 74061298.

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AU EVANS W C.
IN DEPARTMENT OF BIOCHEMISTRY AND SOIL SCIENCE, UNIVERSITY COLLEGE OF NORTH WALES, BANGOR, GWYNEDD, UK.
YR 77.
TI BIOCHEMISTRY OF THE BACTERIAL CATABOLISM OF AROMATIC COMPOUNDS IN ANAEROBIC ENVIRONMENTS.
SO NATURE. 270. 5632. P17-22. 3 NOV 77.
LG EN.
MJ BACTERIA: ME.
MN ANAEROBIOSIS. FERMENTATION. RHODOSPIRILLACEAE: ME.
AN M 78051119. 7803.

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AU EVSTIFEEV, M. M. AMINOVA, G. KH.
IN ROSTOV.-NA-DONU GOS. UNIV. ROSTOV-ON-DON. USSR.
YR 72.
TI OSCILLOPOLAROGRAPHIC DETERMINATION OF ALDEHYDES.
SO FIZ.-KHIM. METODY ANAL. KONTR. PROIZVOD. MATER. KONF. RAB. VUZOV (VYSSH. UCH. ZAVED.) ZAVOD. LAB. YUGO-VOSTOKA SSSR, 4TH. 1. P43-5. 1972.
LG RS.
AV BEZHAEV, M. S.
DE FORMALDEHYDE OSCILLOPOLAROG DETN. POLAROG OSCILLOG FORMALDEHYDE DETN . ALDEHYDE OSCILLOPOLAROG DETN. ACROLEIN OSCILLOPOLAROG DETN. WASTE WATER ANALYSIS ALDEHYDE.
AN C 08112072330.

<356>
AU EVSTIFEEV, M. M. AMINOVA, G. KH. KHIR'YANOVA, T. M.
IN USSR.
YR 71.
TI OSCILLOPOLAROGRAPHIC DETERMINATION OF SOME ALDEHYDES IN INDUSTRIAL WASTE WATERS.
SO METODY KHIM. ANAL. STOKOV VOD PREDPR. KHIM. PROM. P76-96. 1971.
LG RS.
AV DOROFEENKO, G. N.
DE FORMALDEHYDE DETN WASTE WATER. ACROLEIN DETN WASTE WATER. ALDEHYDE DETN WASTE WATER. WASTE WATER ANALYSIS ALDEHYDE.
AN C 07822140057.

<357>
AU EVSTIFEEV, M. M. AMINOVA, G. KH. PYSHCHEVA, L. L. SAVUSKAN, T. N. ORLOVA, O. M. TYAGUNOVA, T. A.
IN ROSTOV. GOS. UNIV. ROSTOV. USSR.
YR 75.
TI MONITORING OF THE CONTAMINATION OF RESERVOIRS AND INDUSTRIAL EFFLUENTS BY SOME TOXIC ORGANIC SUBSTANCES WITH THE USE OF OSCILLOGRAPHIC POLAROGRAPHY.
SO IZV. SEV.-KAVK. NAUCHN. TSENTRA VYSSH. SHK. SER. TEKH. NAUK. 3. P23-5. 1975.
LG RS.
DE ORG COMPD POLLUTION POLAROG. OSCILLOG POLAROG POLLUTION MONITORING. PYRIDINE WASTEWATER POLAROG. BENZOPYRENE WASTEWATER POLAROG. MERCAPTOBENZOTHIAZOLE

WASTEWATER POLAROG.
AN C 08508051300.

<358>
AU EVSTIFEEV, M. M. GAVRILKO, YU. M. VASIL'EVA, G. S. STEBLETSOVA, V. D. CHIGARENKO, L. S.
IN USSR.
YR 72.
TI PHOTOMETRIC DETERMINATION OF ORGANIC COMPOUNDS IN INDUSTRIAL WASTE WATERS.
SO GIDROKHIM. ISSLED. P53-5. 1972.
LG RS.
DE BENZOTHIAZOLE DERIV DETN WATER. THIOBISBENZOTHIAZOLE DETN WATER. MERCAPTOBENZOTHIAZOLE DETN WATER. WATER ANALYSIS BENZOTHIAZOLE DERIV .
AN C 07824151188.

<359>
AU EVSYUKHIN, G. G. KULAKOV, V. N. MANZUROV, V. D. MANEVICH, L. E. FLID, R. M.
IN USSR.
YR 76.
TI EFFECT OF THE WATER CONCENTRATION AND A COBALT-BROMIDE COMPLEX ON THE INITIAL OXIDATION RATE OF DIMETHYLNAPHTHALENES.
SO ZH. FIZ. KHIM. 50. P223-5. 1976.
LG RS.
DE METHYLNAPHTHALENE OXIDN KINETICS CATALYST. NAPHTHALENE DIMETHYL OXIDN KINETICS CATALYST.
AN C 08423163876.

<360>
AU FAUST, S D. ALY, O M.
IN CAMPBELL SOUP CO. DEPT. OF ENVIRONMENTAL ENGINEERING, CAMPBELL PL. CAMDEN, NJ 08101.
YR 75.
TI THIN-LAYER CHROMATOGRAPHIC ANALYSIS IN WATER POLLUTION.
SO CHROMATOGRAPHIC ANALYSIS OF THE ENVIRONMENT. EDITED BY R. L. GRAB. NEW YORK: MARCEL DEKKER, 1975. PP. 515-564.
LG EN.
AB NONE.
ID PHENOLS, TLC, STEROLS.
DE WATER POLLUTION MEASUREMENTS, HYDROCARBONS, POLLUTANT DETECTION, PESTICIDE RESIDUES, ORGANIC COMPOUNDS, LIQUID CHROMATOGRAPHY, DETERGENTS, AMINO ACIDS.
AN P 7601250.

<361>
AU FAUST, S D. ALY, O M.
IN CAMPBELL SOUP CO. DEPT. OF ENVIRONMENTAL ENGINEERING, CAMPBELL PL. CAMDEN, NJ 08101.
YR 75.
TI PAPER CHROMATOGRAPHIC ANALYSIS IN WATER POLLUTION.
SO CHROMATOGRAPHIC ANALYSIS OF THE ENVIRONMENT. EDITED BY R. L. GRAB. NEW YORK: MARCEL DEKKER, 1975. PP. 489-513.
LG EN.
AB NONE.
ID PHENOLS, PAPER CHROMATOGRAPHY.
DE ACIDS, HYDROCARBONS, WATER POLLUTION MEASUREMENTS, PESTICIDE RESIDUES ORGANIC COMPOUNDS, LIQUID CHROMATOGRAPHY.
AN P 7601249.

<362>
AU FAUST, S D. ZOGORSKI, J S.
IN RUTGERS, THE STATE UNIV. COOK COLLEGE, DEPT. OF ENVIRONMENTAL SCIENCES, NEW BRUNSWICK, NJ 08903.
YR 74.
TI REMOVAL OF PHENOLS FROM POLLUTED WATERS.
SO RUTGERS UNIVERSITY, NEW BRUNSWICK, N.J. WATER RESOURCES RESEARCH INSTITUTE. RESEARCH PROJECT TECHNICAL COMPLETION REPORT A-033-N.J. JUNE 1974. 95 PP.
LG EN.
AB NONE.
ID PHENOLS.
DE ACTIVATED CARBON, ADSORPTION, AROMATIC COMPOUNDS, POLLUTANT REMOVAL, WATER POLLUTANTS.
AN P 7501600.

<363>
AU FAUST, SAMUEL D. STUTZ, HANSJAKOB. ALY, OSMAN M. ANDERSON, PETER W.
IN RUTGERS - THE STATE UNIV. NEW BRUNSWICK, N.J. WATER RESOURCES RESEARCH INST.
YR 71. 62P*.
TI RECOVERY, SEPARATION, AND IDENTIFICATION OF PHENOLIC COMPOUNDS FROM POLLUTED WATERS.
NT FINAL REPT.
PR PC$3.00 MF$0.95.
AB A FOUR-YEAR RESEARCH PROGRAM WAS COMPLETED WHEREIN THE RIVERS AND GROUND WATERS OF NEW JERSEY WERE SAMPLED AND TESTED FOR PHENOLIC COMPOUNDS. THESE CHEMICALS

ORIGINATE IN INDUSTRIAL MANUFACTURING PROCESSES AND ARE DISCHARGED INTO RIVERS AND GROUND WATERS THROUGH THE WASTE WATERS. SEVERAL SAMPLES WERE DRAWN FROM THE DEEP WELLS IN THE CAMDEN, NEW JERSEY, AREA. APPROXIMATELY 71% OF THE SAMPLES CONTAINED THESE PHENOLS IN QUANTITIES THAT EXCEEDED THE NEW JERSEY POTABLE WATER QUALITY STANDARD OF 1 PART PER BILLION. A CHEMICAL TEST WAS DISCOVERED FOR THE DETECTION AND IDENTIFICATION OF PHENOLS THAT ORIGINATE IN INDUSTRIAL WASTE WATERS. PHENOLS ARE A WATER POLLUTANT IN THAT THEY HAVE THE CHEMICAL PROPERTY OF IMPARTING TASTES AND ODOR TO DRINKING WATER. (AUTHOR).
MJ WATER-POLLUTION, PHENOLS, NEW-JERSEY, WATER-POLLUTION, COLORIMETRIC-ANALYSIS, PHENOLS.
MN WATER-QUALITY, GROUND-WATER, INDUSTRIAL-WASTES, RIVERS, SAMPLING.
ID ANTIPYRINE-AMINO.
AN N PB-198 030.

<364>
IN FEDERAL WATER QUALITY ADMINISTRATION, CHICAGO, ILL. GREAT LAKES REGION.
YR 69. 106P.
TI CHEMISTRY LABORATORY MANUAL BOTTOM SEDIMENTS.
PR PC$7.50/MF$0.95.
AB THE REPORT PRESENTS THE TECHNIQUES USED TO ANALYSE SEDIMENTS IN THE GREAT LAKES. STEP BY STEP PROCEDURES ARE GIVEN FOR THE ANALYSIS OF CHEMICAL OXYGEN DEMAND, CYANIDE, IRON, METALS, NITROGEN, OIL AND GREASE, OXYGEN DEMAND AND CHLORINE DEMAND, PESTICIDES, PHENOL, PHOSPHORUS, SOLIDS, SULFIDE, SILICA, MANGANESE, AND OXIDATION REDUCTION POTENTIALS.
MJ SEDIMENTS, CHEMICAL-ANALYSIS.
MN CYANIDES, IRON, TRACE-ELEMENTS, METALS, NITROGEN, OILS, PESTICIDES, PHENOLS, PHOSPHOUS, SOLIDS, INORGANIC-SULFIDES, MANGANESE.
ID CHEMICAL-OXYGEN-DEMAND, EPAL.
AN N PB-215 192.

<365>
AU FERRY J G. WOLFE R S.
IN DEPARTMENT OF MICROBIOLOGY, UNIVERSITY OF ILLINOIS, URBANA, ILLINOIS.
YR 76.
TI ANAEROBIC DEGRADATION OF BENZOATE TO METHANE BY A MICROBIAL CONSORTIUM.
SO ARCH MICROBIOL. 107. 1. P33-40. FEB 76.
LG EN.
MJ BACTERIA: ME.
MN ACETATES: ME. PD. HYDROXYBENZOIC-ACIDS: ME. SEWAGE.
AN M 76134915.

<366>
AU FICKE, HUNTER H.
IN DELAWARE UNIV. NEWARK. 107 800.
YR 73. 78P.
TI A DESIGN AND ECONOMIC EVALUATION OF CATALYTIC OXIDATION OF PHENOLS IN WASTEWATER.
NT RESEARCH REPT.
PR PC$7.25/MF$1.45.
AB CATALYTIC OXIDATION IS A POSSIBLE PROCESS FOR TREATING WASTEWATER EFFLUENTS CONTAINING PHENOL FROM CATALYTIC CRACKING UNITS AND COAL TAR PLANTS. EXPERIMENTAL DATA WERE COLLECTED TO DETERMINE INTRINSIC RATE CONSTANTS FOR PHENOL OXIDATION TO CO2 AND WATER. THESE CONSTANTS WERE USED IN THE DESIGN AND OPTIMIZATION OF A PROPOSED PROCESS. TOTAL COST FOR 99% REDUCTION OF PHENOL FROM 1000 GALLONS OF WASTEWATER (700 PPM) FROM THE CATALYTIC CRACKER WAS $0.35. TOTAL COST PER 1000 GALLONS (4000 PPM) FROM COAL TAR WAS $0.60.
MJ PHENOLS, INDUSTRIAL-WASTE-TREATMENT, WATER-POLLUTION-CONTROL.
MN OXIDATION, CHEMICAL-REACTIONS, DESIGN, CATALYTIC-CRACKING, COST-ANALYSIS, COAL-TAR, CHEMICAL-INDUSTRY.
ID CATALYTIC-OXIDATION, OWRR.
AN N PB-231 220/5.

<367>
AU FIGUEROA, LUIS O.
IN PHILLIPS PUERTO RICO CORE, INC. GUAYAMA. P. R.
YR 71.
TI WATER POLLUTION CONTROL AT PHILLIPS PUERTO RICO PETROCHEMICAL COMPLEX .
SO CHEM. ENG. PROGR. SYMP. SER. 67. P377-9. 1971.
LG EN.
DE PETROCHEM COMPLEX WASTE WATER. NYLON PRODN EFFLUENT. XYLENE PRODN WASTE WATER. CYCLOHEXANE PRODN WASTE WATER. BENZENE PRODN WASTE WATER .

TOLUENE PRODN WASTE WATER. MOTOR FUEL WASTE WATER.
AN C 07420102831.

<368>
AU FISHMAN M J. ERDMANN D E.
YR 75.
TI WATER ANALYSIS.
SO ANAL CHEM. 47 (5). 334R-361R.
DE POLLUTION ALKALI METALS HARDNESS ALKALINE EARTH METALS NITRATE NITRITE AMMONIA ORGANIC NITROGEN CYANIDE OXYGEN DETERGENTS PESTICIDES ORGANICS RADIOACTIVITY PH TURBIDITY ALUMINUM IRON SULFATE SULFIDE MANGANESE CHROMIUM COPPER LEAD ZINC CADMIUM NICKEL COBALT TIN MERCURY SILVER GOLD MOLYBDENUM VANADIUM BISMUTH URANIUM THORIUM RARE EARTHS BORON SELENIUM ARSENIC ANTIMONY PHOSPHORUS SILICA HALIDES.
AN B 76001787.

<369>
AU FISHMAN, G. I. PEVZNER, I. D. LYUTIKOVA, N. N.
IN USSR.
YR 72.
TI POTENTIOMETRIC ANALYSIS OF WASTE WATERS FROM POLYMER MANUFACTURING.
SO GIDROKHIM. ISSLED. P63-4. 1972.
LG RS.
DE WASTE WATER ANALYSIS POLYMER MANUF. UROTROPIN DETN WASTE WATER. FORMALDEHYDE DETN WASTE WATER. PHENOL DETN WASTE WATER. HYDROCHLORIC ACID DETN WASTE WATER. SODIUM CARBONATE DETN WASTE WATER.
AN C 07824151279.

<370>
AU FITI, MARIA.
IN INST. AT. PHYS. BUCHAREST. ROM.
YR 74.
TI RADIOLYTIC OXIDATION OF PHENOL IN AQUEOUS SOLUTION.
SO REV. ROUM. CHIM. 19. P1083-91. 1974.
LG EN.
DE OXIDN RADIOLYTIC AQ PHENOL.
AN C 08118113579.

<371>
AU FLECKINGER, R. STEVENIN, G. RIEUCAU, C.
IN SERV. VET. SEINE-MARIT. SOTTEVILLE-LES-ROUEN. FR.
YR 77.
TI MARINE HYDROCARBON POLLUTION. STUDY OF ITS CONSEQUENCES ON WILD MUSSELS (MYTILUS EDULIS) WITH RESPECT TO TIME ELAPSED SINCE THE POLLUTION.
SO BULL. ACAD. VET. FR. 50. P79-84. 1977.
LG FR.
DE WATER POLLUTION FUEL MUSSEL. BENZOPYRENE MUSSEL FUEL POLLUTION. HYDROCARBON MUSSEL FUEL POLLUTION.
AN C 08713096964.

<372>
AU FLEET, BERNARD. VON STORP, HENNING.
IN DEP. CHEM. IMP. COLL. LONDON. ENGL.
YR 71.
TI ANALYTICAL EVALUATION OF A CYANIDE-ION SELECTIVE MEMBRANE ELECTRODE UNDER FLOW-STREAM CONDITIONS.
SO ANAL. CHEM. 43. P1575-81. 1971.
LG EN.
DE CYANIDE SELECTIVE MEMBRANE ELECTRODE. ION SELECTIVE MEMBRANE ELECTRODE. SILVER SULFIDE IODIDE ELECTRODE. SULFIDE IODIDE SILVER ELECTRODE. IODIDE SULFIDE SILVER ELECTRODE.
AN C 07524147474.

<373>
AU FLEROV, B A. LUKYANENKO, V I.
YR 71.
TI THE ROLE OF ENVIRONMENTAL FACTORS IN RESISTANCE OF FISHES TO PHENOL.
SO NEWFOUNDLAND. MEMORIAL UNIVERSITY, ST. JOHNS. LIBRARY BULLETIN, 5(2): 17-18, MARCH 1971.
LG EN.
AB NONE.
ID SUMMARY ONLY, CARP.
DE PHENOL, FISHES, TOXICITY.
AN P 7006934.

<374>
AU FLEROV, B. A.
IN USSR.
YR 76.
TI HOW DO ANIMALS BEHAVE IN POLLUTED WATER.
SO KHIM. ZHIZN. P98-101. 1976.
LG RS.
DE WATER POLLUTION PESTICIDE LEECH. PHENOL TOXICITY LEECH. CHLOROPHOS TOXICITY LEECH. POLYCHLOROPINENE TOXICITY LEECH.
AN C 08619134358.

<375>
AU FLEROV, B. A.
IN USSR.
YR 73.
TI PHENOL INTOXICATION IN FISH.
SO TR. INST. BIOL. VNUTR. VOD, AKAD. NAUK SSSR. NO. 24. P5-38. 1973.
LG RS.
DE REVIEW PHENOL TOXICITY FISH.
AN C 08015078848.

<376>
AU FLEROV, B. A.
IN INST. BIOL. INLAND WATERS. BOROK. USSR.
YR 71.
TI PROBLEMS OF HYDROBIONTS' ADAPTATION TO A TOXIC FACTOR.
SO GIDROBIOL. ZH. 7. P61-6. 1971.
LG RS.
DE ADAPTATION FISH TOXIN. PHENOL ADAPTATION FISH. POLYCHLOROPINENE ADAPTATION FISH. NATURAL SELECTION FISH TOXIN.
AN C 07623136525.

<377>
AU FLEROV, B. A.
IN INST. BIOL. VNUTR. VOD. BOROK. USSR.
YR 70.
TI CHRONIC PHENOL POISONING OF LEBISTES RETICULATUS.
SO VOP. VOD. TOKSIKOL. P163-8. 1970.
LG RS.
AV TOPACHEVSKII, A. V.
DE LEBISTES POISONING PHENOL. POISONING LEBISTES PHENOL. PHENOL POISONING LEBISTES. FISH POISONING PHENOL.
AN C 07417084577.

<378>
AU FLEROV, B. A.
IN USSR.
YR 69.
TI EFFECT OF SUBTOXIC CONCENTRATIONS OF PHENOL ON THE SEXUAL BEHAVIOR OF LEBISTES RETICULATUS.
SO TR. INST. BIOL. VNUTR. VOD, AKAD. NAUK SSSR. NO. 19. P66-9. 1969.
LG RS.
DE PHENOL SEX ACTIVITY FISH. SEX ACTIVITY PHENOL FISH. FISH SEX ACTIVITY PHENOL.
AN C 07221109684.

<379>
AU FOGELS A. SPRAGUE J B.
IN DEP. ZOOL. COLL. BIOL. SCI. UNIV. GUELPH, GUELPH, ONT. N1G 2W1, CAN.
YR 77.
TI COMPARATIVE SHORT-TERM TOLERANCE OF ZEBRAFISH FLAGFISH AND RAINBOW TROUT TO 5 POISONS INCLUDING POTENTIAL REFERENCE TOXICANTS.
SO WATER RES. 11 (9). 881-818.
LG EN.
DE BRACHYDANIO-RERIO JORDANELLA-FLORIDAE SALMO-GAIRDNERI CANADA COPPER SULFATE SODIUM PENTA CHLORO PHENATE PHENOL PICLORAM DODECYL SODIUM SULFATE.
AN B 65043077.

<380>
AU FOLMAR L C.
YR 76.
TI OVERT AVOIDANCE REACTION OF RAINBOW TROUT FRY TO 9 HERBICIDES.
SO BULL ENVIRON CONTAM TOXICOL. 15 (5). 509-514.
DE SALMO-GAIRDNERI COPPER SULFATE DALAPON 2 4-D GLYPHOSATE AQUATHOL K DIQUAT ACROLEIN TRI CHLORO ACETIC-ACID EMULSIFIED XYLENE.
AN B 77055700.

<381>
AU FORRO, JOHN RICHARD.
IN THE PENNSYLVANIA STATE UNIVERSITY (0176) PH.D. 1965 068PP.
YR 65.
TI THE MICROBIAL OXIDATION OF TOLUENE.
SO DAI V26(11) P6305.
DE BACTERIOLOGY (0301).
AN D ADG66-04802.

<382>
AU FOUNTAINE, J. E. JOSHIPURA, P. B. KELIHER, P. N. JOHNSON, J. D.
IN CHEM. DEP. VILLANOVA UNIV. VILLANOVA. PA.
YR 74.
TI NEW ULTRAVIOLET RATIO SPECTROPHOTOMETRIC SYSTEM FOR THE DETERMINATION OF TRACE AMOUNTS OF PHENOLIC COMPOUNDS.
SO ANAL. CHEM. 46. P62-6. 1974.
LG EN.
DE UV PHENOL DETN APP. BATHOCHROMIC SHIFT PHENOL DETN APP. SPECTROPHOTOMETER PHENOL DETN APP. WATER ANALYSIS PHENOL.
AN C 08008043741.

<383>
AU FOX M E.
YR 76.
TI FATE OF SELECTED ORGANIC COMPOUNDS IN THE DISCHARGE OF KRAFT PAPER MILLS INTO LAKE SUPERIOR.
SO KEITH, LAWRENCE H. IDENTIFICATION AND ANALYSIS OF ORGANIC POLLUTANTS IN WATER. CONGRESS. MEXICO CITY, MEXICO, DEC. 1975. X+718P. ILLUS. ANN ARBOR SCIENCE PUBLISHERS INC. ANN ARBOR, MICH. U.S.A. ISBN 0-250-40131-2. 641- 659.
DE CANADA USA FISH WATER POLLUTION GUAIACOL ALPHA TERPINEOL ACETOVANILLONE DEHYDRO ABIETIC-ACID SITO STEROL GAS CHROMATOGRAPHY MASS SPECTROMETRY.
AN B 77007312.

<384>
AU FRANT, M. S. ROSS, J. W. JR. RISEMAN, J. H.
IN ORION RES. INC. CAMBRIDGE. MASS.
YR 72.
TI ELECTRODE INDICATOR TECHNIQUE FOR MEASURING LOW LEVELS OF CYANIDE.
SO ANAL. CHEM. 44. P2227-30. 1972.
LG EN.
DE CYANIDE DETN. WASTE WATER ANALYSIS CYANIDE. SILVER ELECTRODE CYANIDE DETN.
AN C 07916096565.

<385>
AU FREED V H. HAQUE R.
YR 76.
TI CHEMICAL STRUCTURE AND PROPERTIES OF SELECTED BENZENE COMPOUNDS IN RELATION TO BIOLOGICAL ACTIVITY.
SO ENVIRON HEALTH PERSPECT. 13. 23- 26.
DE TOXICITY OCTANOL WATER COEFFICIENT VAPOR PRESSURE IR ABSORPTION PI VALUES PHYSICOCHEMICAL CONSTANTS SPATIAL ORIENTATION MOLECULAR ORBITALS VIBRATIONAL ROTATIONAL FREQUENCIES.
AN B 77008144.

<386>
AU FRIES L.
YR 74.
TI GROWTH STIMULATION OF AXENIC RED ALGAE BY SIMPLE PHENOLIC COMPOUNDS.
SO J EXP MAR BIOL ECOL. 15 (1). 1-9.
DE GONIOTRICHUM-ALSIDII POLYSIPHONIA-URCEOLATA P HYDROXY BENZALDEHYDE VANILLIN SYRINGALDEHYDE VERATRALDEHYDE BROMO PHENOLS CAFFEIC- ACID FERULIC-ACID ALPHA TOCOPHEROL UBI QUINONE VITAMIN K PLASTO QUINONE P HYDROXYPHENYL PYRUVIC-ACID CATECHOLS.
AN B 58068907.

<387>
AU FROLOV, L. F. OZEROV, A. I. VOINOV, S. A. LUTSENKO, T. A. SHEVCHENKO, V. N.
IN USSR.
YR 73.
TI AUTOMATIC ANALYZER FOR CYANIDES IN WASTE WATER.
SO TR. N.-I. I PROEKT. IN-T PO OBOGASHCH. RUD TSVET. MET. KAZMEKHANOBR. P112-16. 1973.
LG RS.
DE FLOTATION WASTE WATER CYANIDE.
AN C 08324196548.

<388>
AU FROMM, P. O. OLSON, K. R.
IN MICHIGAN STATE UNIV. EAST LANSING. DEPT. OF PHYSIOLOGY. WATER RESEARCH AND TECHNOLOGY, WASHINGTON, D.C.
YR 73. 24P.
TI INDUSTRIAL AND MUNICIPAL WASTES: ACTION OF SOME WATER SOLUBLE POLLUTANTS ON FISH.
NT RESEARCH TECHNICAL PROJECT COMPLETION REPT. 1 SEP 72-30 SEP 73.
PR PC$3.25/MF$2.25.
AB THE PURPOSE WAS TO OBSERVE SOME OF THE MORE SUBTLE EFFECTS OF POLLUTANTS ON THE GILL BLOOD-WATER BARRIER USING GILL EPITHELIA AS THE TARGET ORGAN. ELECTRON MICROSCOPIC TECHNIQUES, INCLUDING SCANNING ELECTRON MICROSCOPY (SEM), TRANSMISSION ELECTRON MICROSCOPY (TEM) AND ELECTRON MICROPROBE ANALYSIS WERE USED TO STUDY CHANGES IN GILL ULTRASTRUCTURE AND ION DISTRIBUTION IN GILLS FOLLOWING EXPOSURE OF RAINBOW TROUT TO DIFFERENT WATER SOLUBLE POLLUTANTS. TWO OF THESE TECHNIQUES, SCANNING ELECTRON MICROSCOPY AND ELECTRON MICROPROBE ANALYSIS HAVE NEVER BEFORE BEEN APPLIED TO GILL ULTRASTRUCTURE ANALYSIS. THE REPORT CONSISTS OF THREE SEPARATE ARTICLES: A SCANNING ELECTRON MICROSCOPIC STUDY OF SECONDARY LAMELLAE AND CHLORIDE CELLS OF RAINBOW TROUT (SALMO GAIRDNERI); MERCURY UPTAKE AND ION DISTRIBUTION IN GILLS OF

RAINBOW TROUT; TISSUE SCANS WITH AN ELECTRON MICROPROBE; EFFECTS OF MERCURY EXPOSURE ON RAINBOW TROUT GILL ULTRASTRUCTURE.
MJ FISHES, WATER-POLLUTION.
MN ELECTRON-MICROSCOPY, EXPOSURES, MERCURY-INORGANIC-COMPOUNDS, INDUSTRIAL-WASTES, IONS, TISSUES-BIOLOGY, DETERGENTS, ABSORPTION, FORMALDEHYDE, DDT, MORPHOLOGY, TOXICOLOGY.
ID WATER-POLLUTION-EFFECTS-ANIMALS, SALMO-GAIRDNERI, RAINBOW-TROUT, GILLS-FISHES, NTISDIOWRT.
AN N PB-237 428/8SL.

<389>
AU FRUCHTER, J. S. PETERSEN, M. R. LAUL, J. C. RYAN, P. W.
IN BATTELLE PACIFIC NORTHWEST LABS. RICHLAND, WASH. AND DEVELOPMENT ADMINISTRATION. 9500022.
YR 76. 31P.
TI HIGH PRECISION TRACE ELEMENT AND ORGANIC CONSTITUENT ANALYSIS OF OIL SHALE AND SOLVENT-REFINED COAL MATERIALS.
NT 173. NATIONAL MEETING OF THE AMERICAN CHEMICAL SOCIETY, NEW ORLEANS, LOUISIANA, UNITED STATES OF AMERICA (USA), 20 MAR 1977.
PR PC A03/MF A01.
AB THE APPLICATION OF A NUMBER OF SENSITIVE AND PRECISE METHODS FOR THE DETERMINATION OF TRACE ELEMENTS, HEAVY ELEMENT SPECIES AND ORGANIC COMPOUNDS IN MATERIALS FROM AN OIL SHALE RESEARCH RETORT PROCESS AND FROM A SOLVENT-REFINED COAL PILOT PLANT OPERATION ARE DISCUSSED. THE METHODS WERE CHOSEN BOTH FOR THEIR SENSITIVITY, AND ALSO FOR THEIR RELATIVE FREEDOM FROM INTERFERENCE EFFECTS. COAL LIQUIDS CONTAIN MUCH HIGHER CONCENTRATIONS OF AROMATIC COMPOUNDS, INCLUDING POLYNUCLEAR AROMATIC HYDROCARBONS (PNA'S). A LARGER RELATIVE FRACTION OF THE PNA'S IN SHALE OIL ARE ALKYL SUBSTITUTED. COAL LIQUIDS ARE ALSO CONSIDERABLY HIGHER IN PHENOLS (28 PERCENT) THAN IS SHALE OIL (2 PERCENT). N-HETEROCYCLICS ARE PRESENT IN HIGHER CONCENTRATION (GREATER THAN 8 PERCENT) IN SHALE OIL DUE TO THE HIGH NITROGEN CONTENT OF THE RAW SHALE. HYDROAROMATICS ARE COMMON IN COAL LIQUIDS BUT NEGLIGIBLE IN SHALE OIL. INORGANIC ELEMENTS AND SPECIATION MEASUREMENTS INDICATE SIGNIFICANT AMOUNTS OF THE TOXIC HEAVY ELEMENTS HG, AS, ZN, AND SE IN EFFLUENT OIL WATER AND GAS STREAMS. IN ADDITION, THE PROCESS WATER CONTAINS SIGNIFICANT CO, BR, SB, AND U. RAW OIL SHALE IS HIGHLY ENRICHED IN SE, AS AND SB AND SOMEWHAT ENRICHED IN U, PB, CS, HG AND ZN. SOLVENT-REFINED COAL LIQUIDS WERE FOUND TO BE RELATIVELY LOW IN MOST TRACE ELEMENTS. THE MAJORITY OF TRACE ELEMENTS ARE CONCENTRATED BY THE PROCESS INTO THE MINERAL RESIDUE. ONLY BR AND HG ARE NOT DEPLETED IN SOLVENT-REFINED COAL. OTHER TRACE ELEMENTS STILL REMAINING IN SIGNIFICANT AMOUNTS ARE U, TA, CR, AND ZN. (ERA CITATION 02: 033795).
MJ SHALE-OIL, SOLVENT-REFINED-COAL, TRACE-AMOUNTS.
MN ABSORPTION-SPECTROSCOPY, ACTIVATION-ANALYSIS, ANTIMONY, AROMATICS, ARSENIC, BROMINE, CHEMICAL-COMPOSITION, CHROMIUM, COBALT, ELEMENTS, EMISSION-SPECTROSCOPY, GAS-CHROMATOGRAPHY, GASEOUS-WASTES, MERCURY, OIL-SHALES, SAMPLING, SELENIUM, SEPARATION-PROCESSES, URANIUM, WASTE-WATER, X-RAY-FLUORESCENCE-ANALYSIS, ZINC.
ID ERDA-040500, ERDA-010600, CHEMICAL-ANALYSIS, COAL-LIQUIDS, CONCENTRATION-COMPOSITION, COAL-LIQUIDS, NTISERDA.
AN N BNWL-SA-6001.

<390>
AU FULLER, FREDERIC D.
IN FEDERAL WATER QUALITY ADMINISTRATION, CHICAGO, ILL. GREAT LAKES REGION.
YR 69. 106P.
TI CHEMISTRY LABORATORY MANUAL, BOTTOM SEDIMENTS COMPILED BY GREAT LAKES REGION COMMITTEE ON ANALYTICAL METHODS.
PR PC$7.25/MF$0.95.
AB CONTENTS: INTRODUCTION; CHEMICAL OXYGEN DEMAND; CYANIDE; IRON; METALS; NITROGEN; OIL AND GREASE; OXYGEN DEMAND AND CHLORINE DEMAND; PESTICIDES; PHENOL; PHOSPHORUS; SOLIDS; SULFIDE; SILICA; MANGANESE; OXIDATION-REDUCTION POTENTIAL MEASUREMENTS.
MJ SEDIMENTS, CHEMICAL-ANALYSIS.
MN MANUALS.
ID WATER-POLLUTION-DETECTION, EPAL.
AN N PB-217 451.

<391>
AU FUNASAKA, RYOZO. OSE, YOUKI. SATO, TAKAHIKO.
IN GIFU COLL. PHARM. GIFU. JAPAN.
YR 76.
TI STUDIES ON THE OFFENSIVE-ODOR FISH OF THE NAGARA RIVER. VII. MEDIAN TOLERANCE LIMIT TEST OF THE OFFENSIVE-ODOR SUBSTANCES.
SO EISEI KAGAKU. 22. P20-3. 1976.
LG JA.
DE FATTY ACID TOXICITY CARP. PHENOL TOXOCITY CARP.
AN C 08501001009.

<392>
AU FUNASAKA, RYOZO. OSE, YOUKI. SATO, TAKAHIKO.
IN GIFU COLL. PHARM. GIFU. JAPAN.
YR 75.
TI OFFENSIVE ODOR OF FISH FROM THE NAGARA RIVER. IV. PHENOL AS ONE OF THE OFFENSIVE-ODOR SUBSTANCES.
SO EISEI KAGAKU. 21. P101-5. 1975.
LG JA.
DE PHENOL FISH TISSUE ODOR. WATER POLLUTION PHENOL FISH.
AN C 08321173357.

<393>
AU FUNASAKA, RYOZO. TANAKA, KAZUO. ITAGAKI, YASUHIRO. OSE, YOUKI. SATO, TAKAHIKO.
IN GIFU COLL. PHARM. GIFU. JAPAN.
YR 75.
TI STUDIES ON THE OFFENSIVE-ODOR FISH OF THE NAGARA RIVER. V. IDENTIFICATION OF OFFENSIVE-ODOR SUBSTANCES BY HIGH-RESOLUTION GAS CHROMATOGRAPHY-MASS SPECTROMETRY.
SO EISEI KAGAKU. 21. P341-7. 1975.
LG JA.
DE FATTY ACID ODOR FISH. AROM HYDROCARBON ODOR FISH. PHENOL ODOR FISH.
AN C 08501002757.

<394>
AU FURUKI, MASAKAZU. MORIGUCHI, YUZO. KITAMURA, HIROYUKI.
IN ENVIRON. SCI. INST. HYOGO PREFECT. KOBE. JAPAN.
YR 76.
TI STUDIES ON THE BIOLOGICAL TREATMENT OF WASTE WATER CONTAINING CYANIDES. V. ADAPTATION PROCESS IN THE ACTIVATED SLUDGE TREATMENT OF WASTE WATER CONTAINING CYANIDES.
SO HAKKO KOGAKU ZASSHI. 54. P649- 58. 1976.
LG JA.
DE CYANIDE WASTEWATER ACTIVATED SLUDGE ADAPTATION. RICE BRAN CYANIDE ACTIVATED SLUDGE. ENZYME CYANIDE DEGRADING.
AN C 08606033857.

<395>
AU GABOVICH R D. VROCHINSKII K K. KURINNYI I L.
YR 69.
TI THE CLARIFICATION, DEODORIZATION AND DECONTAMINATION OF DRINKING WATER WITH OZONE.
TR OBESTSVECHIVANIE, DEZODORATSIIA I OBEZVREZHIVANIE PIT'EVOI BODY OZONOM.
SO GIG SANIT. 34. 6. P18-22. JUN 69.
LG RS.
MJ OZONE.
MN CARCINOGENS. OXIDATION-REDUCTION.
AN M 69290324.

<396>
AU GABOVICH, R. D. KURENNOY, I. L.
IN ARMY MEDICAL INTELLIGENCE AND INFORMATION AGENCY WASHINGTON D C. 409112.
YR 74. 9P.
TI OZONIZATION OF WATER CONTAINING HUMIC COMPOUNDS, PHENOLS, AND PESTICIDES (OZONIROVANIYE VODY, SODERZHASHCHEY GUMINOVYYE SOYEDINENIYA, FENOLY I PESTITSIDY).
NT TRANS. OF VOPROSY KOMMUNALNOY GIGIYENY (USSR) N6 P11-19 1966.
PR PC A02/MF A01.
AB THE PURPOSE OF THIS WORK WAS TO: (1) STUDY THE QUANTITATIVE CONDITIONS AFFECTING THE USE OF OZONE TO BREAK DOWN ADMIXTURES OF HUMIC SUBSTANCES AND DECOLORIZE WATER; (2) STUDY QUANTITATIVELY THE USE OF OZONE TO BREAK DOWN PHENOLS AND SOME PESTICIDES IN SOLUTIONS PREPARED FROM DISTILLED WATER AND WATER CONTAINING HUMIC COMPOUNDS. IN SOME CASES THE EFFECT OF OZONE AND CHLORINE WERE COMPARED. A LABORATORY OZONIZING APPARATUS IN WHICH THE EXPERIMENTAL CONDITIONS WERE SIMILAR TO THOSE OCCURRING NATURALLY WAS USED. CONCLUSIONS: (1) OZONIZATION OF WATER BREAKS DOWN HUMIC SUBSTANCES OF NATURAL ORIGIN THAT IMPART COLOR TO IT. THE AMOUNT OF OZONE CONSUMED IN DECOLORIZING

WATER UNDER THE WORST CONDITIONS IS 0.15 TO 0.2 MILLIGRAM PER LITER-DEGREE OF CHROMATICITY. (2) TO DEPHONOLIZE WATER REQUIRES 0.75 TO 2.5 MILLIGRAMS OF OZONE PER MILLIGRAM OF PHENOL, DEPENDING ON THE THOROUGHNESS OF PURIFICATION. OZONIZATION AND CHLORINATION OF WATER ARE EFFECTIVE MEANS OF DEODORIZING WATER CONTAINING THE PESTICIDES UNDER STUDY. TO DEODORIZE WATER CONTAINING ONLY TOXIC CHEMICALS, IT IS BEST TO USE OZONE IN SOME CASES AND CHLORINE IN OTHERS. THE HUMIC COMPOUNDS PRESENT IN NATURAL WATERS DO NOT PREVENT DEODORIZATION, BUT THEY REQUIRE SOMEWHAT LARGER AMOUNTS OF OZONE BECAUSE THE WATER IS DECOLORIZED AT THE SAME TIME THAT THE PESTICIDES ARE BEING BROKEN DOWN. THUS, OZONIZATION AND CHLORINATION CAN BE USED TO DISINFECT SEWAGE CONTAINING A SUBSTANTIAL QUANTITY OF PESTICIDES. THE SAME METHODS OF TREATMENT CAN FREE WATER REACHING THE WATER SUPPLY SYSTEM FROM RESIDUAL AMOUNTS OF PESTICIDES.

MJ OZONE, OZONATION, WATER- TREATMENT, PESTICIDES.

MN CHLORINATION, COLORING, PHENOLS, ODORS, PURIFICATION, WATER-POLLUTION, USSR, TRANSLATIONS.

ID ODOR-CONTROL, WATER-POLLUTION-CONTROL, SEWAGE-TREATMENT, POTABLE-WATER, NTISDODXA.

AN N AD-A038 406/5SL.

<397>

AU GABOVICH, R. D. KURINNOY, I. L.

IN ARMY MEDICAL INTELLIGENCE AND INFORMATION AGENCY WASHINGTON D C. 409112.

YR 74. 6P.

TI OZONIZATION OF WATER CONTAINING PETROLEUM PRODUCTS, AROMATIC HYDROCARBONS, NITRO COMPOUNDS, AND ORGANOCHLORINE PESTICIDES (OZONIROVANIYE VODY, SODERZHASHCHEY NEFTEPRODUKTY, AROMATICHESKIYE UGLEVODORODY, NITROSOYSEDINENIYA I KHLORORGANICHESKIYE PESTITSIDY).

NT TRANS. OF VOPROSY GIGIYENY NASELENNYKH MEST (USSR) P31-35 1967.

PR PC A02/MF A01.

AB OZONIZATION OF WATER BREAKS DOWN ADMIXTURES OF PETROLEUM PRODUCTS (PETROLEUM, GASOLINE). THE AMOUNT OF OZONE REQUIRED DEPENDS ON THE THOROUGHNESS OF PURIFICATION. ABOUT 0.5 MILLIGRAM OF OZONE PER MILLIGRAM OF PETROLEUM IS REQUIRED TO PURIFY THE WATER (TO REDUCE THE PETROLEUM TO 0.2 TO 0.3 MILLIGRAM/LITER). FROM 0.025 TO 1 MILLIGRAM OF OZONE PER MILLIGRAM OF GASOLINE IS REQUIRED TO RID THE WATER OF GASOLINE (WITH 1 AND 0.03 MILLIGRAM/LITER OF RESIDUAL GASOLINE, RESPECTIVELY). AROMATIC HYDROCARBONS (BENZENE, DIETHYL BENZENE) AND NITRO COMPOUNDS ARE ALSO BROKEN DOWN BY OZONE. CHLORINATION EVEN WITH LARGE QUANTITIES OF CHLORINE (40 MILLIGRAMS/LITER) IS NOT AN EFFECTIVE MEANS OF ELIMINATING AROMATIC HYDROCARBONS AND NITRO COMPOUNDS. DDT IS HIGHLY RESISTANT TO OZONE AND ONLY LARGE QUANTITIES OF THE LATTER (ABOUT 50 MILLIGRAMS PER MILLIGRAM OF DDT) CAN REDUCE THE DDT CONCENTRATION IN WATER TO THE MAXIMUM PERMISSIBLE LEVEL (0.1 TO 0.2 MILLIGRAM/LITER). CHLORINATION OF WATER DOES NOT BREAK DOWN DDT. THE STUDIES PUBLISHED IN THE FIRST AND SECOND ARTICLES SHOW THAT OZONIZATION OF DRINKING WATER AND SEWAGE MAY RESULT IN THE BREAKDOWN OF A NUMBER OF ORGANIC ADMIXTURES POSSESSING TOXIC ACTION OR IMPAIRING THE ORGANOLEPTIC PROPERTIES OF WATER. CHLORINATION EVEN WITH LARGE QUANTITIES OF CHLORINE (HYPERCHLORINATION) IS NOT AS EFFECTIVE IN THIS RESPECT AS OZONIZATION.

MJ OZONE, OZONATION, WATER- TREATMENT, DRINKING-WATER, PETROLEUM-PRODUCTS, SEWAGE-TREATMENT.

MN CHLORINATION, CHLORINE, GASOLINE, BENZENE-COMPOUNDS, AROMATIC-HYDROCARBONS, PHENOLS, NITRATES, DDT, CONCENTRATION-CHEMISTRY, WATER-POLLUTION, USSR, TRANSLATIONS.

ID POTABLE-WATER, WATER-POLLUTION-CONTROL, PESTICIDES, NTISDODXA.

AN N AD-A038 404/0SL.

<398>

AU GABOVICH, R. D. KURINNYY, I. L. FEDORENKO, Z. P.

IN ARMY MEDICAL INTELLIGENCE AND INFORMATION AGENCY WASHINGTON D C. 409112.

YR 74. 5P.

TI EFFECT OF OZONE AND CHLORINE ON 3,4-BENZOPYRENE DURING THE

DISINFECTION OF WATER (DEYSTVIYE OZONA I KHLORA NA 3,4-BENZPIREN PRI OBEZZARAZHIVANII VODY).
NT TRANS. OF GIG. NASELENNYKH MEST (USSR) N8 P88-91 1969.
PR PC A02/MF A01.
AB Z.P. FEDORENKO'S EXPERIMENTS SHOWED THAT THE TARRY SUBSTANCES ISOLATED FROM SEWAGE POSSESS CARCINOGENIC ACTIVITY WHEN APPLIED TO THE SKIN AND THAT PERORAL ADMINISTRATION TO WHITE RATS OF WATER CONTAINING VARIOUS CONCENTRATIONS OF 3-4-BENZOPYRENE INDUCES MALIGNANT AND BENIGN TUMORS OF THE FORESTOMACH. THE FREQUENCY OF TUMOR DEVELOPMENT WAS FOUND TO BE DIRECTLY RELATED TO THE AMOUNT OF THE SUBSTANCE ADMINISTERED. IN THE LIGHT OF THE FOREGOING, IT SEEMED WORTHWHILE TO TRACE THE FATE OF 3-4-BENZOPYRENE DISSOLVED IN WATER AND SUBJECTED TO DIFFERENT KINDS OF TREATMENT IN DRINKING WATER SUPPLY SYSTEMS. THE SUBJECT IS INADEQUATELY DISCUSSED IN THE LITERATURE. THERE ARE ONLY A FEW REPORTS ON THE EFFECT OF CHLORINATION OF WATER ON 3-4-BENZOPYRENE DISSOLVED IN IT. BECAUSE OF THE LIMITED INFORMATION ON THE SUBJECT, WE DECIDED TO COMPARE THE EFFECT OF CHLORINE TO THAT OF THE MOST INTENSIVE OXIDIZING AGENT, OZONE, ON 3-4-BENZOPYRENE DISSOLVED IN WATER.
MJ CARCINOGENS, WATER-TREATMENT, CANCER.
MN WATER-POLLUTION, OZONE, CHLORINE, EFFLUENTS, COAL, SHALE, OIL-PRODUCTS, PETROLEUM-PRODUCTS, REFINERIES, OPEN-WATER, RATS, TRANSLATIONS, USSR.
ID BENZOPYRENE, WATER-POLLUTION-CONTROL, INDUSTRIAL-WASTES, SEWAGE-TREATMENT, LABORATORY-ANIMALS, MALIGNANT-NEOPLASMS, NEOPLASMS, STOMACH, POTABLE-WATER, WATER-POLLUTION-EFFECTS-ANIMALS, NTISDODXA.
AN N AD-A038 408/1SL.

<399>
AU GALLO M A. OSER B L. COX G E. BAILEY D E.
YR 77.
TI STUDIES ON THE LONG-TERM TOXICITY OF 2 BUTANOL.
SO TOXICOL APPL PHARMACOL. 41 (1). 135.
DE ABSTRACT RAT REPRODUCTION STUDY ISO PROPANOL WEANLING GROWTH DEPRESSION RETARDED SKELETAL MATURATION STRESS LESION FAT EXTRACTANT FISH PROTEIN CONCENTRATE.
AN B 78034721.

<400>
AU GARRETT, BENJAMIN CAYWOOD.
IN EMORY UNIVERSITY (0665) PH.D. 1975, 075PP.
YR 75.
TI REINVESTIGATION OF PHENOL OXIDASE ACTIVITY BY IMPROVED ANALYTICAL TECHNIQUES.
SO DAI V36(07), SEC B, P3340.
DE CHEMISTRY, ANALYTICAL (0486).
AN D ADG76-01617.

<401>
AU GARRISON, ARTHUR W. HILL, DAVID W.
IN SOUTHEAST WATER LAB. ENVIRON. PROT. AGENCY. ATHENS. GA.
YR 72.
TI ORGANIC POLLUTANTS FROM MILL PERSIST IN DOWNSTREAM WATERS.
SO AMER. DYEST. REP. 61. P21, 24-5. 1972.
LG EN.
DE TEXTILE WASTE WATER LAGOONING. ORG POLLUTANT TEXTILE WASTE WATER. DIELDRIN TEXTILE WASTE WATER. ACETOPHENONE TEXTILE WASTE WATER. DYE TEXTILE WASTE WATER. NONYLPHENOL TEXTILE WASTE WATER.
AN C 07622131212.

<402>
AU GARRISON, RICHARD L. MAUK, CHARLES E. PRENGLE, H. WILLIAM JR.
IN HOUSTON RESEARCH INC TEX. 407091.
YR 74. 112P*.
TI CYANIDE DISPOSAL BY OZONE OXIDATION.
NT FINAL REPT. APR 72-NOV 73.
AV 1.
PR PC$4.50/MF$1.45.
AB AQUEOUS CYANIDE AND COMPLEXED METAL CYANIDE WASTES FROM THE AIR FORCE'S ROUTINE ELECTROPLATING OPERATIONS AND COLOR PHOTOGRAPHIC FILM PROCESSING REQUIRE EXTENSIVE TREATMENT TO SATISFY STRINGENT WATER QUALITY STANDARDS. A PROCESS WAS DEVELOPED BY LABORATORY EXPERIMENTATION USING OZONE FOR THE TOTAL DESTRUCTION OF CYANIDE AND METAL CYANIDE COMPLEXES. MASS TRANSFER AND KINETIC RATE CONSTANTS WERE DETERMINED BY EXPERIMENTATION.

A PILOT SCALE PROTOTYPE WAS DESIGNED, FABRICATED, AND OPERATED TO DESTROY ACTUAL AIR FORCE CYANIDE WASTES. IN ALL CASES, CYANIDE CONCENTRATION IN THE EFFLUENT WAS REDUCED TO BELOW THE DETECTABLE LIMIT. A CONCEPTUAL DESIGN OF A FULL SCALE SYSTEM TO TREAT ELECTROPLATING WASTE IS INCLUDED. (MODIFIED AUTHOR ABSTRACT).
MJ CYANIDES.
MN METAL-COMPLEXES, OXIDATION, OZONE, WATER-POLLUTION, ELECTROPLATING, COLOR-FILM, PHOTOGRAPHIC-PROCESSING-EQUIPMENT, WASTE-TREATMENT, MASS-TRANSFER, REACTION-KINETICS, PROTOTYPES, FABRICATION.
ID WATER-POLLUTION-CONTROL, INDUSTRIAL-WASTE-TREATMENT, CHEMICAL-REMOVAL-WATER-TREATMENT, WATER-POLLUTION-CONTROL-EQUIPMENT, AF.
AN N AD-775 152/2.

<403>
AU GAVRILOVA, L. I.
IN USSR.
YR 75.
TI EFFECT OF RESORCINOL ON THE CHEMICAL PROPERTIES OF WATER AND BIOCHEMICAL PROCESSES OCCURRING IN A RESERVOIR.
SO TR. SARATOV. OTD. NII OZ. I RECH. RYB. KH-VA. P111-15. 1975.
LG RS.
DE RESORCINOL WATER POLLUTION.
AN C 08520148783.

<404>
AU GAVRILOVA, L. I.
IN USSR.
YR 75.
TI EFFECT OF ANILINE AND ANILINE HYDROCHLORIDE ON THE CHEMICAL PROPERTIES OF WATER AND BIOCHEMICAL PROCESSES OCCURRING IN A RESERVOIR.
SO TR. SARATOV. OTD. NII OZ. I RECH. RYB. KH-VA. P97-102. 1975.
LG RS.
DE ANILINE WATER POLLUTION.
AN C 08520148782.

<405>
AU GELEVTSEV, A. N. MAKSIMENKO, YU. L.
IN USSR.
YR 76.
TI STUDY OF OXIDATION OF CYANIDES AND PHENOLS IN NATURAL AND WASTE WATERS WITH CHLORINE DIOXIDE.
SO SOV.-AMER. SIMPOZ. PO FIZ.-KHIM. OCHISTKE STOCHN. VOD, MINNESOTA, SSHA, 1975. P76-92. 1976.
LG RS.
DE CHLORINE DIOXIDE CYANIDE OXIDN. PHENOL OXIDN CHLORINE DIOXIDE. EFFLUENT OXIDN CHLORINE DIOXIDE.
AN C 08618126731.

<406>
AU GERDES, WILLIAM HERMAN.
IN RUTGERS UNIVERSITY THE STATE U. OF NEW JERSEY (NEW BRUNSWICK) (0190) PH.D. 1962 109PP.
YR 62.
TI PART ONE: ANALYSIS OF BRASS BY ANION-EXCHANGE CHROMATOGRAPHY. PART TWO: SORPTION OF PHENOL BY LOW-CAPACITY ION-EXCHANGE RESINS.
SO DAI V23(01) P0048.
DE CHEMISTRY, ANALYTICAL (0486).
AN D ADG62-02598.

<407>
AU GERMAIN J E. PATTERSON K E.
YR 74.
TI PLATING AND CYANIDE WASTES.
SO J WATER POLLUT CONTROL FED. 46 (6). 1301-1315.
DE REVIEW INDUSTRY WATER POLLUTION TREATMENT RE CYCLING RECOVERY MEMBRANE EXCHANGE NEUTRALIZATION PRECIPITATION ADSORPTION EFFLUENT SAMPLING ANALYSIS PATENTS.
AN B 75068800.

<408>
AU GHOSH S. CONRAD J R. KLASS D L.
YR 75.
TI ANAEROBIC ACIDOGENESIS OF WASTE WATER SLUDGE.
SO J WATER POLLUT CONTROL FED. 47 (1). 30-45.
DE MICROORGANISMS ACTIVATED SLUDGE 2 PHASE DIGESTION SYSTEM SOLIDS STABILIZATION METHANE PRODUCTION ACID FORMATION.
AN B 59052116.

<409>
AU GIBSON D T.
IN DEPARTMENT OF MICROBIOLOGY, THE UNIVERSITY OF TEXAS AT AUSTIN, AUSTIN, TEXAS.
YR 76.
TI INITIAL REACTIONS IN THE BACTERIAL

DEGRADATION OF AROMATIC HYDROCARBONS.
SO ZENTRALBL BAKTERIOL ORIG B. 162. 1-2. P157-68. JUL 76.
LG EN.
MJ BACTERIA: ME.
MN ALCOHOL-OXIDOREDUCTASES: ME. ME. BIODEGRADATION. ME. EN, ME. (NIH-SUP).
AN M 77061959. 7703.

<410>
AU GIBSON D T. KOCH J R. SCHULD C L. KALLIO R E.
YR 68.
TI OXIDATIVE DEGRADATION OF AROMATIC HYDROCARBONS BY MICROORGANISMS. II. METABOLISM OF HALOGENATED AROMATIC HYDROCARBONS.
SO BIOCHEMISTRY. 7. 11. P3795-802. NOV 68.
LG EN.
MJ BENZENE-DERIVATIVES: ME. ME.
MN BROMINE. MODELS-BIOLOGICAL. SPECTROPHOTOMETRY.
AN M 69051114.

<411>
AU GIBSON D T. MAHADEVAN V. DAVEY J F.
YR 74.
TI BACTERIAL METABOLISM OF PARA- AND META-XYLENE: OXIDATION OF THE AROMATIC RING.
SO J BACTERIOL. 119. 3. P930-6. SEP 74.
LG EN.
MJ PSEUDOMONAS: ME.
MN SUCCINATES: ME. SPECTROPHOTOMETRY. CHROMATOGRAPHY- THIN-LAYER. METHYLATION.
AN M 74298648.

<412>
AU GIBSON, D. T. GSCHWENDT, BRIGITTE. YEH, W. K. KOBAL, V. M.
IN DEP. MICROBIOL. UNIV. TEXAS. AUSTIN. TEX.
YR 73.
TI INITIAL REACTIONS IN THE OXIDATION OF ETHYLBENZENE BY PSEUDOMONAS PUTIDA.
SO BIOCHEMISTRY. 12. P1520-8. 1973.
LG EN.
DE ETHYLBENZENE OXIDN PSEUDOMONAS.
AN C 07905027793.

<413>
AU GIBSON, D. T. YEH, W. K.
IN TEXAS UNIV. AUSTIN. DEPT. OF MICROBIOLOGY.
YR 73. 7P.
TI MICROBIAL DEGRADATION OF AROMATIC HYDROCARBONS.
AV INCLUDED IN THE MICROBIAL DEGRADATION OF OIL POLLUTANTS, P33-38 1973, COM-74-11013.
PR (ORDER AS COM-74-11013).
AB BACTERIA CAPABLE OF GROWTH ON BENZENE, TOLUENE, ETHYLBENZENE, NAPHTHALENE AND BIPHENYL WERE ISOLATED FROM SOIL. MUTAGENESIS LED TO THE ISOLATION OF DIFFERENT BACTERIAL STRAINS THAT WILL ACCUMULATE THE INITIAL PRODUCTS OF HYDROCARBON OXIDATION. THE RESULTS OBTAINED SUGGEST THAT CIS-HYDROXYLATION IS A COMMON REACTION IN THE MICROBIAL OXIDATION OF AROMATIC HYDROCARBONS. DIFFERENCES IN MECHANISMS UTILIZED BY BACTERIA AND MAMMALS TO OXIDIZE AROMATIC HYDROCARBONS ARE ILLUSTRATED. MAMMALS INCORPORATE ONE ATOM OF MOLECULAR OXYGEN INTO AROMATIC HYDROCARBONS WITH THE FORMATION OF ARENE OXIDES. SUBSEQUENT ENZYMATIC ADDITION OF WATER LEADS TO THE FORMATION OF TRANSDIHYDRODIOLS. THE LATTER COMPOUNDS CAN UNDERGO NADP+-DEPENDENT OXIDATION TO CATECHOLS. BACTERIA UTILIZE BOTH ATOMS OF MOLECULAR OXYGEN TO FORM CIS-DIHYDRODOILS. THE CYCLIC PEROXIDE (DIOXETANE) INTERMEDIATE IS HYPOTHETICAL. (MODIFIED AUTHOR ABSTRACT).
MJ OILS, BIODETERIORATION.
ID OIL-POLLUTION-CONTROL, SEA-GRANT-PROGRAM, NTISNOAA.
AN N COM-74-11013-05.

<414>
AU GIBSON, DAVID T.
IN DEP. MICROBIOL. UNIV. TEXAS. AUSTIN. TEX.
YR 71.
TI MICROBIAL OXIDATION OF AROMATIC HYDROCARBONS.
SO CRIT. REV. MICROBIOL. 1. P199- 223. 1971.
LG EN.
DE REVIEW AROM HYDROCARBON OXIDN MICROBE. BENZENE OXIDN MICROBE REVIEW. TOLUENE OXIDN MICROBE REVIEW. ETHYLBENZENE OXIDN MICROBE REVIEW. NAPHTHALENE OXIDN MICROBE

REVIEW. MAMMAL AROM OXIDN MICROBE REVIEW.
AN C 08119115999.

<415>
AU GIBSON, DAVID T.
IN DEP. MICROBIOL. UNIV. TEXAS. AUSTIN. TEX.
YR 72.
TI INITIAL REACTIONS IN THE DEGRADATION OF AROMATIC HYDROCARBONS.
SO DEGRADATION SYN. ORG. MOL. BIOSPHERE, PROC. CONF. P116-36. 1972.
LG EN.
DE REVIEW AROMATIC HYDROCARBON METAB. CARCINOGEN HYDROCARBON METAB REVIEW. BENZENE METAB REVIEW. TOLUENE METAB REVIEW. NAPHTHALENE METAB REVIEW.
AN C 07815093194.

<416>
AU GIBSON, DAVID T.
IN TEXAS UNIV AT AUSTIN DEPT OF MICROBIOLOGY. 408737.
YR 77. 13P.
TI THE MICROBIAL DEGRADATION OF AROMATIC PETROLEUM PRODUCTS.
NT FINAL REPT. 1 JUL 73-30 JUN 77. PRESENTED AT THE INTERNATIONAL SYMPOSIUM ON AQUATIC POLLUTANTS (2ND) SEP 76, AMSTERDAM.
PR PC A02/MF A01.
AB PSEUDOMONAS PXY WAS SHOWN TO OXIDIZE PARA- AND META-XYLENE TO THE CORRESPONDING TOLUIC ACIDS. THE LATTER COMPOUNDS WERE OXIDIZED TO 4- AND 3-METHYLCATECHOLS PRIOR TO THE ENZYMATIC FISSION OF THE AROMATIC NUCLEUS. PATHWAYS ARE PROPOSED FOR THE DEGRADATION OF BOTH XYLENE ISOMERS. THE GENES SPECIFYING THE ENZYMES RESPONSIBLE FOR XYLENE DEGRADATION ARE CARRIED OUT ON A TRANSMISSIBLE PLASMID. A NOCARDIA SPECIES OXIDIZED ORTHO-XYLENE TO 3,4- DIMETHYL CATECHOL. THE LATTER COMPOUND WAS FURTHER METABOLIZED TO PROPIONALDEHYDE AND PYRUVIC ACID. A PATHWAY IS PROPOSED FOR THE BIODEGRADATION OF ORTHO-XYLENE BY THIS ORGANISM. DIBENZOTHIOPHENE IS OXIDIZED BY A MUTANT STRAIN OF BEIJERINCKIA TO CIS-1, 2-DIHYDROXY-1,2-DIHYDRODIBENZOTHIOPHENE. ENZYMES PRESENT IN THE PARENT ORGANISM OXIDIZED THIS METABOLITE TO 3-HYDROXY-2-FORMYLBENZOTHIOPHENE WHICH WAS RESISTANT TO FURTHER DEGRADATION. A PATHWAY FOR THE MICROBIAL DEGRADATION OF DIBENZOTHIOPHENE IS PROPOSED. THE SAME MUTANT STRAIN OF BEIJERINCKIA OXIDIZED 2,-3-, AND 4-CHLOROBIPHENYL TO ANALOGOUS CIS-DIHYDRODIOLS. EACH METABOLITE WAS ISOLATED AND CHARACTERIZED. THE COMPONENTS OF A COMMERCIAL POLYCHLORINATED BIPHENYL, AROCLOR 1221, WERE IDENTIFIED AND QUANTIFIED BY GAS CHROMATOGRAPHY - MASS SPECTROMETRY. THE ONLY COMPONENTS IN THIS MIXTURE THAT WERE SIGNIFICANTLY OXIDIZED BY BEIJERINCKIA WERE BIPHENYL AND ITS MONOCHLORINATED DERIVATIVES. (AUTHOR).
MJ PETROLEUM-PRODUCTS, XYLENES, THIOPHENES, BIPHENYL.
MN BACTERIA, OXIDATION, METABOLISM, CHLORINE-COMPOUNDS, PSEUDOMONAS, NOCARDIA.
ID PLASMIDS, BEIJERINCKIA, META-XYLENE, PARA-XYLENE, ORTHO-XYLENE, BIODEGRADATION, MICROORGANISMS, MICROBIAL-DEGRADATION, NTISDODXA.
AN N AD-A047 092/2SL.

<417>
AU GIBSON, DAVID T.
IN TEXAS UNIV AT AUSTIN DEPT OF MICROBIOLOGY ARLINGTON, VA. 408737.
YR 76. 54P.
TI THE MICROBIAL DEGRADATION OF AROMATIC PETROLEUM PRODUCTS.
NT ANNUAL REPT. NO. 3, 1 JUL 75-30 JUN 76. SEE ALSO REPORT DATED 30 JUN 75, AD-A012 486.
PR PC$4.50/MF$2.25.
AB THE BIODEGRADATION OF ORTHO- XYLENE BY A SPECIES OF NOCARDIA IS INITIATED BY NUCLEAR OXIDATION TO FORM 3,4-DIMETHYLCATECHOL. THE LATTER COMPOUND IS APPARENTLY FORMED FROM CIS-3,4-DIMETHYL-3,5-CYCLOHEXADIEN-1,2-DIOL (CIS-O-XYLENE DIHYDRODIOL). ENZYMATIC FISSION OF 3,4-DIMETHYLCATECHOL PRODUCES AN ACID, 2-HYDROXY-5-METHYL-6-OXOHEPTA-2,4-DIENOIC ACID, THAT UNDERGOES SPECTRAL CHANGES AT ACID AND ALKALINE PH. FURTHER METABOLISM OF THE RING-FISSION PRODUCT OCCURS BY A HYDROLYTIC REACTION THAT FORMS ACETIC AND 2-OXOHEX-4-ENOIC ACIDS. ENZYMATIC HYDRATION OF THE LATTER COMPOUND TO GIVE 4-HYDROXY-2-OXOHEXANOATE IS FOLLOWED BY AN ALDOLASE REACTION THAT PRODUCE PYRUVATE AND PROPIONALDEHYDE. THE

PATHWAY PROPOSED FOR THE BIODEGRADATION OF O-XYLENE IS ANALOGOUS TO THOSE REPORTED FOR THE DEGRADATION OF A NUMBER OF AROMATIC COMPOUNDS. COMMERCIAL SAMPLES OF 2-, 3- AND 4-CHLOROBIPHENYL CONTAIN IMPURITIES THAT CAUSE LAG PERIODS IN THE GROWTH OF BEIJERINCKIA ON SUCCINATE. PURIFIED PREPARATIONS OF THESE COMPOUNDS ALSO INHIBITED THE INITIATION OF GROWTH OF THIS ORGANISM BUT NOT TO THE SAME EXTENT. PRELIMINARY OBSERVATIONS SUGGEST THAT INHIBITION MAY BE ASSOCIATED WITH THE EASE OF OXIDATION OF THE MONOCHLORINATED BIPHENYL ISOMERS.
MJ PETROLEUM-PRODUCTS, BIODETERIORATION, XYLENES, BACTERIA.
MN OXIDATION, BIPHENYL, MICROORGANISMS, THIOPHENES, DEGRADATION, CHEMICAL-ANALYSIS.
ID BIPHENYL-CHLORO, DIBENZOTHIOPHENES, SOIL-BACTERIA, NOCARDIA, SOIL-ANALYSIS, NTISDODN.
AN N AD-A026 128/9SL.

<418>
AU GIBSON, DAVID T.
IN TEXAS UNIV AT AUSTIN DEPT OF MICROBIOLOGY ARLINGTON, VA. 408737.
YR 75. 55P.
TI THE MICROBIAL DEGRADATION OF AROMATIC PETROLEUM PRODUCTS.
NT REPT. NO. 2 (ANNUAL), 1 JUL 74- 30 JUN 75. SEE ALSO ANNUAL REPT. NO. 2, AD-781 709.
PR PC$4.25/MF$2.25.
AB IT IS THE PURPOSE OF THIS CONTRACT TO INVESTIGATE THE MECHANISMS USED BY SOIL BACTERIA TO OXIDIZE ORTHO-, META- AND PARA- XYLENE AND RELATED AROMATIC COMPOUNDS. THE PATHWAY OF ORTHO- XYLENE BIODEGRADATION BY A NOCARDIA SPECIES IS STUDIED IN DETAIL. THE REGULATION AND GENETICS OF THE P- XYLENE PATHWAY ARE DISCUSSED. THE MICROBIAL DEGRADATION OF THE SULFUR-CONTAINING CONSTITUTENTS OF CRUDE PETROLEUM, INCLUDING THE INVESTIGATION OF THE METABOLISM OF DIBENZOTHIOPHENE BY BACTERIA AND THE METABOLIC PRODUCTS FORMED DURING THE DEGRADATION OF DIBENZOTHIOPHENE BY A BEIJERINCKIA SPECIES.
MJ BIODETERIORATION, BACTERIA, XYLENES.
MN METABOLISM, OXIDATION, THIOPHENES, PSEUDOMONAS, SOILS, DEGRADATION.
ID DIBENZOTHIOPHENES, SOIL- BACTERIA, NOCARDIA, CHEMICAL-REACTION-MECHANISMS, NTISDODN.
AN N AD-A012 486/7SL.

<419>
AU GIBSON, DAVID T. CARDINI, G. E. MASELES, F. C. KALLIO, REINO E.
IN DEP. OF MICROBIOL. UNIV. OF TEXAS. AUSTIN. TEX.
YR 70.
TI OXIDATIVE DEGRADATION OF AROMATIC HYDROCARBONS BY MICROORGANISMS. IV. INCORPORATION OF OXYGEN-18 INTO BENZENE BY PSEUDOMONAS PUTIDA.
SO BIOCHEMISTRY. 9. P1631-5. 1970.
LG EN.
DE BENZENE METAB PSEUDOMONAS. PSEUDOMONAS METAB BENZENE. AROM HYDROCARBONS BACTERIA. HYDROCARBONS AROM BACTERIA. BACTERIA AROM HYDROCARBONS.
AN C 07301001092.

<420>
AU GIBSON, DAVID T. HENSLEY, M. YOSHIOKA, H. MABRY, T. J.
IN DEP. OF MICROBIOL. UNIV. OF TEXAS. AUSTIN. TEX.
YR 70.
TI OXIDATIVE DEGRADATION OF AROMATIC HYDROCARBONS BY MICROORGANISMS. III. FORMATION OF (+)-CIS-2,3-DIHYDROXY-1-METHYL-4,6-CYCLOHEXADIENE FROM TOLUENE BY PSEUDOMONAS PUTIDA.
SO BIOCHEMISTRY. 9. P1626-30. 1970.
LG EN.
DE TOLUENE METAB PSEUDOMONAS. PSEUDOMONAS METAB TOLUENE. AROM HYDROCARBONS BACTERIA. HYDROCARBONS AROM BACTERIA. BACTERIA AROM HYDROCARBONS.
AN C 07301001091.

<421>
AU GIBSON, DAVID T. MAHADEVAN, VENKATANAYARANA. JERINA, DONALD M. YAGI, HARUHIKO. YEH, HERMAN J. C.
IN DEP. MICROBIOL. UNIV. TEXAS. AUSTIN. TEX.
YR 75.
TI OXIDATION OF THE CARCINOGENS BENZO(A)PYRENE AND BENZO(A)ANTHRACENE TO DIHYDRODIOLS BY A BACTERIUM.
SO SCIENCE. 189. P295-7. 1975.
LG EN.
DE BEIJERINCKIA BENZOANTHRACENE BENZOPYRENE METAB.

AN C 08311093629.

<422>

AU GILBERT E. GUESTEN H.
TI THE RADIOCHEMICAL DEGRADATION OF BIOLOGICALLY RESISTANT ORGANIC POLLUTANTS IN AQUEOUS SOLUTIONS.
SO HUSMANN, W. (ED.). VOM WASSER, BAND 41. (ON WATER, VOL. 41). (IN GER.). VIII+487P. ILLUS. VERLAG CHEMIE: WEINHEIM, WEST GERMANY. ISBN 3-527-25546-X. 1973 (1974) (RECD 1975) 359-368.
DE POLLUTION WATER TREATMENT PENTA CHLORO PHENOL TETRA CHLORO PHENOL TRI CHLORO PHENOL 2 4 DI CHLORO PHENOL 4 CHLORO PHENOL DECHLORINATION OXIDATION OXALIC-ACID.
AN B 76003383.

<423>

AU GILBERT, E.
IN INST. RADIOCHEM. KERNFORSCHUNGSZENT. KARLSRUHE. KARLSRUHE. GER.
YR 74.
TI DEGRADATION OF NOXIOUS ORGANIC SUBSTANCES IN WATER USING OZONE.
SO VOM WASSER. 43. P275-90. 1974.
LG GE.
DE OZONATION CHLOROPHENOL WATER. PHENOL CHLORO OZONATION WATER.
AN C 08226175088.

<424>

AU GLAZYRINA, O. I.
IN USSR.
YR 72.
TI POLAROGRAPHIC DETERMINATION OF PHTHALIC AND MALEIC ACIDS IN WASTE WATERS.
SO TR. VSES. NAUCHNO-ISSLED. INST. VODOSNABZH. KANALIZ. GIDROTEKH. SOORUZH. INZH. GIDROGEOL. 40, PT. 2. P111-19. 1972.
LG RS.
DE PHTHALIC ACID DETN WASTEWATER POLAROG. MALEIC ACID DETN WASTEWATER POLAROG. WASTEWATER ANALYSIS PHTHALIC MALEIC ACID.
AN C 08120126519.

<425>

AU GLOYNA, ERNEST F. FORD, DAVIS L.
IN ENGINEERING-SCIENCE, INC./TEXAS, AUSTIN.
YR 70. 292P*.
TI PETROCHEMICAL EFFLUENTS TREATMENT PRACTICES.
NT DETAILED REPT. SEE ALSO SUMMARY REPT. DATED FEB 70, PB-192-310.
PR PC$3.00/MF$0.95.
AB THE REPORT REVIEWS VARIOUS ASPECTS OF THE PETROCHEMICAL INDUSTRY AS RELATED TO POLLUTION CONTROL. THE AREAS REVIEWED COVER THE FOLLOWING TOPICS: HISTORY; DESCRIPTION (PRINCIPAL PETROCHEMICAL PRODUCTS, PROJECTED GROWTH); PETROLEUM RAW MATERIALS; PETROCHEMICAL PROCESSES; CHEMICAL AND PROCESS RELATED CLASSIFICATION OF WASTES; WASTE POLLUTIONAL EFFECTS ON RECEIVING WATER (EFFECTS ON WATER USE AND REUSE, PHYSIOLOGICAL EFFECTS, IDENTIFICATION AND MONITORING); TREATMENT AND CONTROL; ECONOMIC ASPECTS OF WASTE TREATMENT.
MJ INDUSTRIAL-WASTES, WATER- POLLUTION, CHEMICAL-INDUSTRY, WATER- POLLUTION, INDUSTRIAL-WASTE- TREATMENT, CHEMICAL-INDUSTRY, PETROCHEMISTRY, WATER-POLLUTION.
MN REVIEWS, PETROLEUM-PRODUCTS, HISTORY, FORECASTING, CLASSIFICATIONS, BIOCHEMICAL-OXYGEN-DEMAND, WATER-RECLAMATION, TOXICOLOGY, AQUATIC-BIOLOGY, MONITORS, ECONOMIC-ANALYSIS, SEWAGE-TREATMENT, ALKENES, AROMATIC-COMPOUNDS, PHENOLS, SULFUR-ORGANIC-COMPOUNDS.
ID WATER-POLLUTION-CONTROL.
AN N PB-205 824.

<426>

AU GOLBER M B. THROOP W M.
YR 75.
TI PROCESS MANAGEMENT APPROACH OF WASTE WATER TREATMENT TO MEET LOW HEXANE SOLUBLE REQUIREMENTS.
SO LANGWORTHY, VIRGIL W. (ED.). PROCEEDINGS OF THE THIRD ANNUAL POLLUTION CONTROL CONFERENCE OF THE WATER AND WASTEWATER EQUIPMENT MANUFACTURERS ASSOCIATION. INDUSTRY SOLUTIONS '75: AIR-WATER-NOISE-SOLID WASTE. APRIL 1-4, 1975. XI+915P. ILLUS. ANN ARBOR SCIENCE PUBLISHERS, INC. ANN ARBOR, MICH. U.S.A. ISBN 0-250-40114-2. 449-465.
DE POLLUTION CONTROL.
AN B 76029374.

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AU GOLDSTEIN, D. J. YUNG, DAVID.

IN WATER PURIFICATION ASSOCIATES, CAMBRIDGE, MASS. ENVIRONMENTAL RESEARCH LAB. RESEARCH TRIANGLE PARK, N.C.
YR 77. 486P.
TI WATER CONSERVATION AND POLLUTION CONTROL IN COAL CONVERSION PROCESSES.
NT FINAL REPT. JUN 75-DEC 76.
PR PC A21/MF A01.
AB THE REPORT GIVES RESULTS OF A STUDY TO DETERMINE WATER CONSUMPTION AND ENVIRONMENTAL IMPACTS OF COAL CONVERSION PROCESSES IN WESTERN STATES. PART 1 GIVES BRIEF DESCRIPTIONS AND PROCESS WATER REQUIREMENTS FOR NINE CONVERSION PROCESSES. DETAILED DESIGNS AND ANALYSES ARE GIVEN FOR THE HYGAS, SYNTHANE, AND SOLVENT REFINED COAL (SRC) PROCESSES, AND FOR LURGI COMBINED-CYCLE POWER GENERATION. AT THREE PROPOSED SITES (IN NORTH DAKOTA), NEW MEXICO, AND WYOMING), COMPLETE WATER REQUIREMENTS AND EFFLUENTS, INCLUDING ALL MINING AND RELATED OFF-SITE USES, ARE GIVEN FOR THE POWER, HYGAS, AND SRC PLANTS. THE SYNTHANE PROCESS IS ANALYZED ONLY AT THE WYOMING SITE. PART 2 GIVES ANALYSES OF INFLUENT AND EFFLUENT WATERS, WITH EXAMPLES FOR STUDY. FOR THE THREE SELECTED PLANTS AT THE NORTH DAKOTA SITE, SOURCE WATER OF GOOD QUALITY IS ASSUMED TO BE CHEAP AND AVAILABLE. FOR THREE PLANTS IN NEW MEXICO, SOURCE WATER WILL BE AVAILABLE BUT IS BRACKISH. ALL THE PLANTS AT THE WYOMING SITE RECEIVE SEWAGE FROM A SATELLITE TOWN; ADDITIONAL FRESH WATER IS AVAILABLE BUT IS ASSUMED TO BE EXPENSIVE. FOR EACH PROCESS AT EACH SITE (10 CASES) AN INTEGRATED WATER TREATMENT PLANT BLOCK FLOW DIAGRAM IS GIVEN WITH APPROXIMATE COSTS AND ENERGY REQUIREMENTS.
MJ WATER-CONSUMPTION, WATER-POLLUTION-CONTROL, COAL, INDUSTRIAL-WASTE-TREATMENT.
MN ACTIVATED-SLUDGE-PROCESS, DESIGN-CRITERIA, WATER-QUALITY, MINING, ELECTRIC-POWER-GENERATION, COAL-GASIFICATION, BOILERS, BURNERS, PLANT-LOCATION, HYDROGEN-SULFIDE, CARBON-DIOXIDE, COAL-PREPARATION, PROCESS-CHARTING, WATER-ANALYSIS, SEPARATION, AMMONIA, COOLING-SYSTEMS, PHENOLS, EXTRACTION, CHEMICAL-ANALYSIS, ACTIVATED-CARBON, REVERSE-OSMOSIS, ION-EXCHANGING, EVAPORATION, FREEZING, OXIDATION.
ID LURGI-PROCESS, HYGAS-PROCESS, SRC-PROCESS, COMBINED-CYCLE-ELECTRIC-POWER-GENERATION, SYNTHANE-PROCESS, BIOLOGICAL-INDUSTRIAL-WASTE-TREATMENT, BIGAS-PROCESS, WINKLER-PROCESS, SYNTHOIL-PROCESS, KOPPERS-TOTZEK-PROCESS, WESTERN-REGION-UNITED-STATES, NTISEPAORD.
AN N PB-269 568/2SL.

<428>
AU GOLLNICK, KLAUS. STRACKE, H. U.
IN ABT. STRAHLENCHEM. MAX-PLANCK- INST. KOHLENFORSCH. MUELHEIM/RUHR. GER.
YR 71.
TI PHOTOLYSIS OF DIMETHYL SULFOXIDE IN WATER AND ACETONITRILE. PRODUCT ANALYSIS.
SO TETRAHEDRON LETT. P203-6. 1971.
LG EN.
DE DIMETHYL SULFOXIDE PHOTOLYSIS PRODUCTS.
AN C 07426149123.

<429>
AU GOLOVINA, Z. M. AGAL'TSOV, A. M.
IN USSR.
YR 69.
TI CHROMATOGRAPHIC ANALYSIS OF WASTE WATERS.
SO SOSTOYANIE PUTI ULUCHSHENIYA OCHISTKI STOCHNYKH VOD, GAZOV. VYBROSOV ATMOS. P125-6. 1969.
LG RS.
DE WASTE WATER CHROMATOG ANAL. TRICHLOROETHYLENE DETN WASTE WATER. BENZENE DETN WASTE WATER. CHLOROBENZENE DETN WASTE WATER. METHOXYLOL DETN WASTE WATER.
AN C 07504024990.

<430>
AU GOLOVLEVA L A. CHERVIN I I. GANBAROV KH G. ISMAILOV N M. SKRYABIN G K.
YR 75.
TI PECULIARITIES OF THE PRIMARY OXIDATION OF PSEUDO CUMENE BY THE MICROORGANISM PSEUDOMONAS-AERUGINOSA.
SO DOKL BIOL SCI (ENGL TRANSL DOKL AKAD NAUK SSSR SER BIOL). 222 (1- 6). 241-242.
FILE;ST2
DE METABOLISM REGULATION MICROBIAL TRANSFORMATION.

AN B 76074986.

<431>
AU GOLOVLEVA, L. A. CHERVIN, I. I. GANBAROV, KH. G. ISMAILOV, N. M. SKRYABIN, G. K.
IN OTD. MIKROBIOL. BAKU. USSR.
YR 75.
TI PRIMARY OXIDATION OF PSEUDOCUMENE BY PSEUDOMONAS AERUGINOSA MICROORGANISMS.
SO DOKL. AKAD. NAUK SSSR. 222. P1448-9 (MICROBIOL). 1975.
LG RS.
DE PSEUDOCUMENE OXIDN PSEUDOMONAS.
AN C 08313110964.

<432>
AU GOLUB, A. I. PETROVA, L. M.
IN USSR.
YR 73.
TI SORBENTS FOR THE GAS CHROMATOGRAPHIC ANALYSIS OF AQUEOUS FORMIC ACID SOLUTIONS.
SO SB. NAUCHN. TR. GAZOV. KHROMATOGR. NAUCHNO-ISSLED. FIZ.- KHIM. INST. NO. 18. P27-8. 1973.
LG RS.
DE FORMIC ACID SOLN GAS CHROMATOG. SORBENT GAS CHROMATOG FORMIC ACID.
AN C 08122145421.

<433>
AU GOLUB, A. I. PETROVA, L. M.
IN USSR.
YR 72.
TI NEW SORBENT FOR GAS- CHROMATOGRAPHIC ANALYSIS OF AQUEOUS FORMIC ACID SOLUTIONS.
SO NOV. SORBENTY KHROMATOGR. NO. 18. P27-8. 1972.
LG RS.
DE FORMIC ACID GAS CHROMATOG.
AN C 08016090941.

<434>
AU GOMEZ CRESPO, DANIEL EDUARDO. IBERTIS ACUNA, MARIA SOFIA.
IN ARGENT.
YR 70.
TI CONTAMINATION OF WATERS IN THE METROPOLITAN AREA.
SO SANEAMIENTO. 34. P473-96. 1970.
LG SP.
DE RIVER POLLUTION ARGENTINA. PHENOL RIVER ARGENTINA. DETERGENT RIVER ARGENTINA. SEWAGE RIVER ARGENTINA.
AN C 07816101739.

<435>
AU GONCHARENKO, G. K. KOVALENKO, V. I. CHERNYSHEV, I. S.
IN USSR.
YR 68.
TI EXTRACTION OF PHENOLS ON A CENTRIFUGAL MIXER-SETTLER DURING THE PURIFICATION OF WASTE WATERS FROM KHARKOV BY-PRODUCT COKE PLANT.
SO VESTN. KHAR'KOV. POLITEKH. INST. NO. 34. P82-6. 1968.
LG RS.
DE PHENOL EXTN WASTE WATERS. COKE PLANT WASTES PHENOL EXTN.
AN C 07404015603.

<436>
AU GONCHAROV, G. D. MIKRYAKOV, V. R.
IN BUREAU OF COMMERCIAL FISHERIES, WASHINGTON, D.C. OFFICE OF FOREIGN FISHERIES (TRANSLATIONS).
YR 71. 8P.
TI THE EFFECT OF LOW CONCENTRATIONS OF PHENOL ON ANTIBODY FORMATION IN CARP, 'CYPRINUS CARPIO' L (VLIYANIE MALYKH KONTSENTRATSII FENOLA NA ANTITELOOBRAZOVANIE U KARPOV 'CYPRINUS CARPIO' L).
NT TRANS. OF MONO. VOPROSY VODNOI TOKSIKOLOGII (PROBLEMS OF AQUATIC TOXICOLOGY), MOSCOW, 1970 P171-175, BY ROBERT M. HOWLAND.
PR PC$3.00 MF$0.95.
AB THE RESULTS OF INVESTIGATIONS OF THE EFFECT OF LOW CONCENTRATIONS OF PHENOL ON ANTIBODY FORMATION IN CARP IN A CHRONIC EXPERIMENT SHOW THAT IN HOLDING CARP IN A 12.5 MG/L PHENOL SOLUTION THE FORMATION OF IMMUNOGLOBULINS DECREASES AND THE AMOUNT OF TOTAL PROTEIN IN THE BLOOD SERA OF THE FISH DROPS. APPARENTLY, AS A RESULT OF DISTURBANCE OF THE MOTOR-FOOD ACTIVITY OF THE FISH UNDER PROLONGED INFLUENCE OF PHENOL, ENDOGENOUS FEEDING IS INTENSIFIED IN THE CARP ORGANISM, WHICH LEADS TO DECREASE IN THE SYNTHESIS OF ANTIBODIES. AT THE SAME TIME THE POSSIBILITY OF DISTURBANCE TO PERCEPTION OF INFORMATION BY IMMUNOGLOBULIN PRODUCER-CELLS IS NOT EXCLUDED, AND CONSEQUENTLY THE RESISTANCE OF THE FISH TO INFECTION IS DEPRESSED. (AUTHOR).
MJ FISHES, TOXICOLOGY, PHENOL, FISHES, CARP, PHENOL, USSR, FISHERIES,

ANTIBODY-FORMATION, PHENOL.
MN POISONS, ECOLOGY, TOXIC- TOLERANCES, METABOLISM, PHYSIOLOGY, TRANSLATIONS.
ID CYPRINUS-CARPIO.
AN N PB-203 804-T.

<437>
AU GONCHAROVA A V.
YR 75.
TI EFFECT OF PHENOL ON BLUE-GREEN ALGAE OSCILLATORIA-SPLENDIDA.
SO BIOL VNUTR VOD INF BYULL. 28. 19-21.
DE ABSTRACT BACTERIA PHENOL REPRODUCTION PHOTOSYNTHESIS GROWTH RESPIRATION.
AN B 77009945.

<438>
AU GONCHAROVA, I. A. KHOMENKO, A. N. SEMENOV, A. D.
IN KANNER (LEO) ASSOCIATES, REDWOOD CITY, CALIF.
YR 74. 11P.
TI DETERMINATION OF NONVOLATILE CARBOXYLIC ACIDS IN NATURAL WATERS.
NT TRAN-TRANSL. INTO ENGLISH FROM GIDROKHIM MATER. (USSR), V. 41, 1966 P 116-120.
PR PC$3.25/MF$2.25.
AB THE SAMPLE, 0.51 H2O, MADE ALKALINE TO PH 8-9, WAS EVAPORATED TO DRYNESS AND DRIED AT 60 DEG; THE RESIDUE WAS DISSOLVED IN 1: 1 HCL AND EXTRACTED TWO TIMES WITH 50 ML ETHER. THE ETHER EXTRACT WAS NEUTRALIZED WITH 0.01 N NAOH, THE ETHER WAS REMOVED, AND THE AQUEOUS PHASE WAS EVAPORATED TO A L ML VOLUME, ACIDIFIED WITH H2S04, AND PASSED THROUGH A COLUMN FILLED WITH SIO2. THE ACIDS WERE SEPARATED INTO FOUR FACTIONS (A,B,C,D) BY SUBSEQUENT ELUTION WITH 5, 10, 20, AND 30 PERCENT BUOH IN CHCL3 AND EACH FRACTION WAS SEPARATED BY PAPER CHROMATOGRAPHY; THE SOLVENT WAS 7: 3 PHOH-1 PERCENT HCO2H (FRACTIONS A AND B) AND 18: 2: 9 BUOH-1 PERCENT HCO2H-H2O (FRACTIONS C AND D). THE SPOTS WERE LOCATED BY SPRAYING WITH 0.04 PERCENT ALCOHOLIC BROMOCRESOL GREEN. THE FRACTIONS CONSIST OF: (A) PYRUVIC, FUNARIC, GLUTARIC, AND ADIPIC; (B) SUCCINIC AND LACTIC; (C) OXALIC AND GALLIC; AND (D) CITRIC ACIDS. (AUTHOR).
MJ CARBOXYLIC-ACIDS, WATER.
MN ALCOHOLS, CHEMICAL-REACTIONS, ETHERS, HYDROCHLORIC-ACID, NEUTRALIZERS, SOLVENT-EXTRACTION, SULFURIC-ACID.
ID NTISNASA.
AN N N74-32581/2ST.

<439>
AU GONCHAROVA, I. A. KHOMENKO, A. N. ZHUK, I. P.
IN GIDROKHIM. INST. NOVOCHERKASSK. USSR.
YR 74.
TI SEPARATE DETERMINATION OF PHENOL, O-CRESOL, M-CRESOL, 2,5- XYLENOL, AND GUAIACOL IN NATURAL WATERS.
SO GIDROKHIM. MATER. 61. P100-9. 1974.
LG RS.
DE PHENOL DETN NATURAL WATER. CRESOL DETN NATURAL WATER. XYLENOL DETN NATURAL WATER. GUAIACOL DETN NATURAL WATER.
AN C 08314120535.

<440>
AU GOODE J W. RAUSINA G. KEPLINGER M L. CALANDRA J C.
YR 76.
TI ACUTE STATIC AND SUBACUTE DYNAMIC TOXICITY STUDIES CONDUCTED WITH FREE AND COMBINED CYANIDE IN RAINBOW TROUT AND FATHEAD MINNOWS.
SO TOXICOL APPL PHARMACOL. 37 (1). 118.
DE ABSTRACT METABOLISM.
AN B 77026788.

<441>
AU GOODLEY P C. GORDON.M.
YR 76.
TI CHARACTERIZATION OF INDUSTRIAL ORGANIC COMPOUNDS IN WATER.
SO TRANS KY ACAD SCI. 37 (1-2). 11- 15.
DE KENTUCKY USA POLLUTION SEDIMENT HYDRO CARBONS PHENOLS AROMATIC ACIDS ESTERS GAS CHROMATOGRAPHY MASS SPECTROMETRY MICRO IR SPECTROSCOPY MICRO IR SPECTROSCOPY.
AN B 63005052.

<442>
AU GORETTI G. PETRONIO B M. MASSI M. DINU D.
YR 75.
TI DETERMINATION OF PHENOLS BY CHANNEL THIN LAYER CHROMATOGRAPHY.
SO ANN CHIM. 65 (11-12). (RECD 1976) 741-746.

DE ORGANISMS TOXICITY WATER POLLUTANTS.
AN B 64030023.

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AN C 07309044970.

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AU GOSWAMI, S. R. GAUDY, A. F. JR.
IN BIOENG. LAB. OKLAHOMA STATE UNIV. STILLWATER. OKLA.
YR 71.
TI REMOVAL OF ALDEHYDES AND KETONES BY STRIPPING AND BY COMBINED STRIPPING AND MICROBIAL METABOLISM.
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AN C 08106029281.

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AU GOTTSCHALDT, NORBERT.
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DE CHEMISTRY, WATER (0826).
AN D ADG72-14879.

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TI DETERMINATION OF SUBMICROGRAM LEVELS OF PHENOL IN WATER.
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DE CONTINUOUS DISTILLATION LARGE SAMPLES AUTOMATED SYSTEM COLORIMETRY WATER POLLUTION.
AN B 59028314.

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ID CYANIDE.
DE TOXIC MATERIALS, NITROGEN COMPOUNDS, POLLUTANT DETECTION, WATER QUALITY MEASUREMENTS.
AN P 7300685.

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AU GOVOROVA, L. M. PROSKURYAKOV, V. A. CHISTYAKOV, A. N.
IN LENINGR. TEKHNOL. INST. IM. LENSOVETA. LENINGRAD. USSR.
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AN C 07415076277.

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AU GRABINSKA-LONIEWSKA A.
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TI STUDIES ON THE ACTIVATED SLUDGE BACTERIA PARTICIPATING IN THE BIO DEGRADATION OF METHANOL FORMALDEHYDE AND ETHYLENE GLYCOL PART 1 ISOLATION AND IDENTIFICATION.
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AN B 59028392.

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AU GRABINSKA-LONIEWSKA A.
YR 74.
TI STUDIES ON THE ACTIVATED SLUDGE BACTERIA PARTICIPATING IN THE BIO DEGRADATION OF METHANOL FORMALDEHYDE AND ETHYLENE GLYCOL PART 2 UTILIZATION OF VARIOUS CARBON AND NITROGEN COMPOUNDS.
SO ACTA MICROBIOL POL SER B MICROBIOL APPL. 6 (2). 83-88.
DE INDUSTRIAL WASTE TREATMENT POLY ESTER FIBERS.
AN B 59028391.

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AU GRABINSKA-LONIEWSKA A.
YR 73.
TI FORMALDEHYDE BIO DEGRADATION IN THE PROCESS OF SEWAGE TREATMENT BY THE ACTIVE SEDIMENT METHOD.
SO GAZ WODA TECH SANIT. 47 (8). 264-268.
DE MICROORGANISMS INDUSTRIAL WASTE WATER TOXIC POLLUTANT.
AN B 57040210.

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AU GRACHEVA M P. SHKODICH P E. TREGUBOV B A. TIKHOMIROV YU P. FILYUKOVA T V.
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TI USE OF OZONE FOR TERTIARY TREATMENT OF INDUSTRIAL WASTE WATERS AFTER BIOLOGICAL TREATMENT.
SO GIG SANIT. (12). (RECD 1975) 90- 91.
DE POLLUTION METHANOL ACETONE PHENOL CARCINOGENS.
AN B 60045969.

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AU GRACHEVA, M. P.
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TI SOLID INDUSTRIAL WASTES AS A SOURCE OF BENZO(A)PYRENE CONTAMINATION OF SUBTERRANEAN WATERS.
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AN C 07902009554.

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YR 66. 16P.
TI PROMOTION OF GROWTH IN LOWER AND HIGHER PLANTS BY CARCINOGENIC POLYCYCLIC AROMATICS.
AV TRANSLATED BY H. TOBIAS FROM ARCH. HYG. BAKTERIOL. 150 P513-528 1966.
PR PC A02/MF A01.
AB THE EFFECT OF FLUORANTHENE, 1.12-BENZOPERYLENE, 3.4-BENZOFLUORANTHENE, INDENO(1.2.3. -CD-)PYRENE, 1.2-BENZOANTHRACENE, 3.4- BENZOPYRENE AND 1.2.5.6-DIBENZO- ANTHRACENE ON THE GROWING OF ALGA CULTURES (CHLORELLA VULGARIS, SCENEDESMUS OBLIQUUS, ANKISTRODESMUS ORAUNII) AND ON SOIL AND HYDROCULTURES OF HIGHER PLANTS (TOBACCO, RYE, RADISH) ARE TESTED IN A SERIES OF EXAMINATIONS. THE MENTIONED SUBSTANCES WERE APPLIED IN THE NUTRIENT SOLUTIONS OR IN THE WATER, IN CONCENTRATIONS OF 10 TO 20 LITRE, USING 1 GAMMA /LITRE OF POLYETHYLENEGLYCOL (MOLECULAR WEIGHT OF 200) AS A SOLUTION CARRIER. ALL SUBSTANCES HAD GROWTH-PROMOTING EFFECTS ON PLANTS, 3.4-BENZOPYRINE HAVING BEEN THE MOST EFFECTIVE ONE. THE DEGREE OF EFFICIENCY OF THE OTHER SUBSTANCES CORRESPONDED ESSENTIALLY TO THEIR CARCINOGENIC ACTIVITY. (ERA CITATION 02: 004006).
MJ COAL-INDUSTRY, PETROLEUM- INDUSTRY, PLANTS, POLYCYCLIC-AROMATIC-HYDROCARBONS.
MN AIR-POLLUTION, ALGAE, CARCINOGENS, ENVIRONMENTAL-EFFECTS, FOOD-CHAINS, GROWTH, HEALTH-HAZARDS, LAND-POLLUTION, MAN, RADISHES, RYE,

SOILS, TOBACCO.
ID ERDA-560303, ERDA-020600, ERDA-016000, TRANSLATIONS, WEST-GERMANY, AIR-POLLUTION-EFFECTS-PLANTS, NTISERDAT.
AN N ORNL-TR-4111.

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AU GRAF, OTTO. BALOGH, FRANTISEK.
YR 69.
TI ANALYTICAL METHODS FOR DETERMINING CYANIDE IN WASTE WATERS.
TR ANALYTICKE METODY PRO STANOVENI KYANIDU V ODPADNICH VODACH.
PB INGSERVIS. KCS 28.
PG 54 PP.
DE CYANIDE ANALYSIS WASTE WATER.
AN C 07604017599.

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AU GREEN M H L. BRIDGES B A. ROGERS A M. HORSPOOL G. MURIEL W J. BRIDGES J W. FRY J R.
YR 77.
TI MUTAGEN SCREENING BY A SIMPLIFIED BACTERIAL FLUCTUATION TEST USE OF MICROSOMAL PREPARATIONS AND WHOLE LIVER CELLS FOR METABOLIC ACTIVATION.
SO MUTAT RES. 48 (3-4). 287-294.
DE SALMONELLA-TYPHIMURIUM ESCHERICHIA-COLI RAT LIVER SPECIES SPECIFICITY 9 10 DI METHYL-1 2 BENZ ANTHRACENE BENZ A PYRENE 2 ACETAMIDO FLUORENE MUTAGENS.
AN B 64044924.

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AU GREENHOUSE G.
YR 76.
TI THE EVALUATION OF TOXIC EFFECTS OF CHEMICALS IN FRESH WATER BY USING FROG EMBRYOS AND LARVAE.
SO ENVIRON POLLUT. 11 (4). 303-315.
DE RANA-PIPIENS XENOPUS-LAEVIS POLLUTANT TEST SYSTEM N PHENYL-ALPHA NAPHTHYLAMINE OCTYL PHENYL-ALPHA NAPHTHYLAMINE P P DI OCTYL DI PHENYLAMINE HYDRAZINE METHYL HYDRAZINE DI METHYL HYDRAZINE LETHAL TERATOGENIC LEVELS.
AN B 63048092.

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AU GREGOROWICZ, ZBIGNIEW. GORKA, PIOTR.
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YR 73.
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LG PO.
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AN C 07910057367.

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LG PO.
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AN C 07610053955.

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IN DEP. CHEM. ENG. UNIV. KENTUCKY. LEXINGTON. KY.
YR 74.
TI SEPARATION OF PHENOL FROM DILUTE ALKALINE AQUEOUS SOLUTION BY SOLVENT EXTRACTION, SOLVENT SUBLATION, AND FOAM FRACTIONATION.
SO ANAL. CHIM. ACTA. 73. P293-300. 1974.
LG EN.
DE PHENOL SEPN. EXTN PHENOL SEPN. SUBLATION PHENOL SEPN. FOAM FRACTIONATION PHENOL SEPN. FRACTIONATION FOAM PHENOL SEPN. SURFACTANT PHENOL SEPN.
AN C 08208051111.

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AU GRIFFIN W M. COONEY J J.
YR 77.
TI DEGRADATION OF MODEL RECALCITRANT HYDRO CARBONS BY MICROORGAND2MS FROM FRESH WATER ECOSYSTEMS.
SO ABSTR ANNU MEET AM SOC MICROBIOL. 77. 360.
DE ABSTRACT BACTERIA FUNGI PRISTANE TETRA DECADIENE BENZENE CYCLO HEXANE CO METABOLISM.
AN B 77050304.

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AU GRIFFITH W L. COMPERE A L.
YR 76.
TI METHOD FOR THE ISOLATION OF ORGANISMS WHICH DEGRADE POLY PHENOLIC COMPOUNDS INCLUDING LIGNINS AND TANNINS.
SO ABSTR ANNU MEET AM SOC MICROBIOL. 76. 033.
DE ABSTRACT BACTERIA FUNGI COLORED METAL PHENOL COMPLEXES.
AN B 76043498.

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AU GRIMMER G. BOEHNKE H.
YR 75.
TI POLY CYCLIC AROMATIC HYDRO CARBON PROFILE ANALYSIS OF HIGH PROTEIN FOODS OILS AND FATS BY GAS CHROMATOGRAPHY.
SO J ASSOC OFF ANAL CHEM. 58 (4). 725-733.
DE SUNFLOWER OIL YEAST MEAT POULTRY FISH GAS LIQUID CHROMATOGRAPHY SEPHADEX LH-20 COLUMN CHROMATOGRAPHY METHANOLIC POTASSIUM HYDROXIDE SAPONIFICATION FLAME IONIZATION DETECTOR UV SPECTROSCOPY BENZO A ANTHRACENE CHRYSENE BENZO B FLUORANTHENE BENZO J FLUORANTHENE BENZO K FLUORANTHENE BENZO E PYRENE BENZO A PYRENE DI BENZ A J ANTHRACENE BENZO-GHI-PERYLENE DI BENZ A H ANTHRACENE CARCINOGENS.
AN B 60062162.

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AU GROB, K. ZUERCHER, F.
IN INST. WATER RESOUR. WATER POLLUT. CONTROL. SWISS FED. INST. TECHNOL. DUEBENDORF. SWITZ.
YR 76.
TI STRIPPING OF TRACE ORGANIC SUBSTANCES FROM WATER. EQUIPMENT AND PROCEDURE.
SO J. CHROMATOGR. 117. P285-94. 1976.
LG EN.
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AN C 08510068042.

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IN VILLANOVA UNIV. CHEMISTRY DEPT. VILLANOVA, PA 19085.
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TI GAS CHROMATOGRAPHIC DETERMINATION OF SOME POLAR WATER POLLUTANTS USING POROUS POLYMERS.
SO JOURNAL OF ENVIRONMENTAL SCIENCE AND HEALTH--PART A, A11(10-11): 623-634, 1976.
LG EN.
AB NONE.
ID CHROMOSORB, HEADSPACE ANALYSIS, ACETALDEHYDE, ACETIC ACID, HEXAFLUOROACETONE, METHANOL.
DE POLYMERS, CHEMICAL POLLUTANTS, POLLUTANT ANALYSIS, GAS CHROMATOGRAPHY WATER POLLUTANTS.
AN P 7702425.

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AU GROENEWEGEN D. STOLP H.
IN INSTITUT FUR ALLGEMEINE BOTANIK DER UNIVERSITAT HAMBURG, ABT. F. MIKROBIOLOGIE.
YR 76.
TI MICROBIAL BREAKDOWN OF POLYCYCLIC AROMATIC HYDROCARBONS (AUTHOR'S TRANSL).
TR MIKROBIELLER ABBAU VON POLYZYKLISCHEN AROMATISCHEN KOHLENWASSERSTOFFEN.
SO ZENTRALBL BAKTERIOL ORIG B. 162. 1-2. P225-32. JUL 76.
LG GE.
MJ BACTERIA: ME.
MN ANTHRACENES: ME. BIODEGRADATION. CHRYSENES: ME. OXYGEN-CONSUMPTION. ME.
AN M 77061971. 7703.

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AU GROF, O.
IN USTAV VYZK. RUD PRAHA. OSTRAVA. CZECH.
YR 72.
TI DETERMINATION OF CYANIDE CONCENTRATION BY CRYSTAL ELECTRODE.
SO VOD. HOSPOD. B. 22. P41-5. 1972.
LG CZ.
DE CYANIDE DETN WATER. SILVER IODIDE ELECTRODE CYANIDE DETN.
AN C 07908045572.

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AU GRUIA, E. MARIN, V.
IN RES. DES. INST. WATER RESOUR. ENG. BUCHAREST. ROM.
YR 74.
TI EFFECT OF SOME TOXIC AND INHIBITORY SUBSTANCES ON BOD KINETICS.

SO STUD. PROT. CALITATII APELOR. 16. P36-56. 1974.
LG RO.
DE CYANIDE TOXICITY BOD EVALUATION. DICHROMATE TOXICITY BOD. PHENOL TOXICITY BOD. GAS OIL TOXICITY BOD.
AN C 08502009935.

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AU GRULA, M. M. GRULA, E. A.
IN ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION, BARTLESVILLE, OKLA. BARTLESVILLE ENERGY RESEARCH CENTER. 9501078.
YR 76. 61P.
TI FEASIBILITY OF MICROBIAL DECOMPOSITION OF ORGANIC WASTES UNDER CONDITIONS EXISTING IN DEEP WELLS.
PR PC$4.50/MF$3.00.
AB WE ATTEMPTED TO DETERMINE IF BIODEGRADATION OF ORGANIC COMPOUNDS WOULD TAKE PLACE AT TEMPERATURES (50 EXP 0 -70 EXP 0 C) AND PRESSURES (100 ATM) OCCURRING IN DEEP DISPOSAL WELLS. UNDER AEROBIC CONDITIONS, TEMPERATURE IS NOT A CONSTRAINT; THERMOPHILIC BACTERIA DECOMPOSING A WIDE VARIETY OF COMPOUNDS ARE READILY OBTAINED FROM ORDINARY SOIL. THERMOPHILIC CULTURES DEGRADING PROPIONIC, BUTYRIC, CROTONIC, TIGLIC, SUCCINIC, AND ADIPIC ACIDS; ETHANOL, 2-PROPANOL, 1-BUTANOL, AND 2-BUTANOL; N-BUTYL AMINE, BENZOIC ACID, P-NITROBENZOIC ACID, PHENOL, MANDELIC ACID, ACETAMIDE, PROPIONAMIDE, AND ISO-OCTANE WERE OBTAINED. POSSIBLE, BUT UNCONFIRMED, THERMOPHILIC GROWTH WAS OBTAINED WITH VINYL ACETIC ACID, VALERIC ACID, HEXAMETHYLENE DIAMINE, AND P-AMINO BENZOIC ACID. NEGATIVE RESULTS: ACRYLIC ACID, 2-NITROETHANOL, 2-NITRO-1-PROPANOL, 3-NITRO-2-BUTANOL, ACETONITRILE, PROPIONITRILE, BUTYRONITRILE, P-NITROPHENOL, AND PHTHALIC ACID. AT 37 EXP 0 CULTURES UTILIZING VINYL ACETIC ACID, PROPIONITRILE, BUTYRONITRILE, ND P-AMINO BENZOIC ACID WERE OBTAINED. ACRYLIC ACID, THE NITRO ALCOHOLS, P-NITROPHENOL, ACETONITRILE, AND PHTHALIC ACID WERE NEGATIVE. MIXED CULTURES WERE MORE EFFICIENT BIODEGRADERS THAN PURE CULTURES. ALL THERMOPHILIC PURE CULTURES REQUIRED, FOR HEAVY RAPID GROWTH, ONE OR MORE FACTORS AT THE LEVELS FOUND IN 0.8 PERCENT ENZYME-HYDROLYZED CASEIN (NUTRITIONAL BIOCHEMICALS). CASEIN COULD NOT BE REPLACED BY 18 AMINO ACIDS, 8 B VITAMINS, CA EXP ++ ION, OR MN EXP ++ ION. (ERA CITATION 01: 014543).
MJ BACTERIA, ORGANIC-COMPOUNDS, WASTES.
MN BIOCHEMICAL-REACTION-KINETICS, BIODEGRADATION, OXYGEN, PRESSURE-DEPENDENCE, TEMPERATURE-DEPENDENCE, WASTE-DISPOSAL, WELLS.
ID ERDA-550200, MICROBIAL- DEGRADATION, NTISERDA.
AN N BERC/RI-76/6.

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AU GRUND, ALAN. SHAPIRO, JAMES. FENNEWALD, MICHAEL. BACHA, PATRICIA. LEAHY, JOHN. MARKBREITER, KEITH. NIEDER, MATTHEW. TOEPFER, MELANY .
IN DEP. MICROBIOL. UNIV. CHICAGO. CHICAGO. ILL.
YR 75.
TI REGULATION OF ALKANE OXIDATION IN PSEUDOMONAS PUTIDA.
SO J. BACTERIOL. 123. P546-56. 1975.
LG EN.
DE ALKANE OXIDN PSEUDOMONAS PLASMID. ALC DEHYDROGENASE PSEUDOMONAS ALKANE. ALDEHYDE DEHYDROGENASE PSEUDOMONAS ALKANE.
AN C 08317144297.

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AU GRUSHKO YA M. KOZHOVA O M. STOM D I.
YR 75.
TI KRAFT MILL WASTES AND THEIR TOXICITY FOR AQUATIC ORGANISMS.
SO GIDROBIOL ZH. 11 (5). (RECD 1976) 118-125.
DE DAPHNIA FISH MINNOW GUPPY CARP PERCH ROACH TROUT SALMON RAINBOW TROUT PHENOLIC COMPOUNDS.
AN B 62034722.

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AU GUARINO A M. RIECK G. ARNOLD S. FENSTERMACHER P. BEND J. KNUTSON M J. ANDERSON J B.
TI DISTRIBUTION AND TOXICITY OF SELECTED WATER POLLUTANTS IN THE SPINY DOGFISH SQUALUS-ACANTHIAS.
SO BULL MT DESERT ISL BIOL LAB. 16. 1976 (1977) 50-53.
DE CENTRAL NERVOUS SYSTEM GILLS BLOOD URINE LIVER PHENOL OCTANE.
AN B 78028196.

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AU GUBERGRITS, M.
YR 75. 4P.
TI MECHANISMS OF NATURAL AND FORCED DEGRADATION OF CARCINOGENIC AND TOXIC POLLUTANTS DISCHARGED INTO WATER BODIES.
AV TRANSLATED BY M. GERRARD FROM VODN. RESUR. 3 P185-188 1975.
PR PC A02/MF A01.
AB GENERALIZATIONS IN THE FIELD OF DEGRADATION OF CARCINOGENIC POLYCYCLIC AROMATIC HYDROCARBONS (PAU), IN PARTICULAR THEIR TYPICAL EXAMPLE 3,4-BENZOPYRENE (BP) ARE PRESENTED. THESE PROCESSES WHICH OCCUR UNDER CONDITIONS OF WATER RESERVOIRS AS A RESULT OF THE ACTION OF A NUMBER OF PHYSICOCHEMICAL AND/OR BIOLOGICAL AGENTS ARE EXAMINED WITHIN THE FRAMEWORK OF SOLUTION OF TWO PROBLEMS--INTERNAL AND EXTERNAL. AMONG THE FIRST OF THESE ARE THE PROCESS OF DEGRADATION OF BP DISSOLVED IN ORGANIC LIQUIDS OR POLLUTION CARRIERS (PETROLEUM PRODUCTS FROM PROCESSING OF LIQUID AND SOLID FUELS, ETC.), WHICH FORM A SOLID FILM ON THE SURFACE OF THE WATER OR SOMEWHAT HOMOGENEOUS INCLUSIONS IN ITS DEPTHS. AMONG THE EXTERNAL PROBLEMS WE EXAMINE THE CONVERSION OF BP DISSOLVED DIRECTLY IN THE WATER. (ERA CITATION 02: 003865).
MJ BENZOPYRENE, BIODEGRADATION, WATER-POLLUTION.
MN BIOCHEMICAL-REACTION-KINETICS, BIOLOGICAL-RECOVERY, CHEMICAL-EFFLUENTS, FRESH-WATER, ORGANIC-COMPOUNDS, SEAWATER.
ID ERDA-520200, ERDA-020900, TRANSLATIONS, USSR, DECOMPOSITION, AROMATIC-POLYCYCLIC-HYDROCARBONS, NTISERDAT.
AN N ORNL-TR-4191(DRAFT).

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AU GUBERGRITS, M. HANNUS, M. BRODSKAYA, B. KH. KIRSO, U. PAALME, L.
IN INST. KHIM. TALLINN. USSR.
YR 75.
TI USE OF PROCESSES FOR ACTIVATED OXIDATIVE DEGRADATION OF BENZO(A)PYRENE IN WATER.
SO MATER. VSES. NAUCHN. SIMP. SOVREM. PROBL. SAMOOCHISHCHENIYA REGUL. KACH. VODY, 5TH. 6. P109. 1975.
LG RS.
AV VEL'NER, KH. A.
DE BENZOPYRENE DEGRDN WATER SILT. BIOCHEM DEGRDN BENZOPYRENE WATER.
AN C 08526197646.

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AU GUBERGRITS, M. PAALME, L. KIRSO, U.
IN USSR.
YR 72.
TI DEGRADATION OF BENZO(A)PYRENE AND PHENOL UNDER THE EFFECT OF PHYSICOCHEMICAL AGENTS DURING SELF-PURIFICATION OF RESERVOIRS.
SO VOP. PROFIL. ZAGRYAZNENIYA VNESH. SREDY, CHASTNOSTI VODOEMOV, KANTSEROGEN. VESHCHESTVAMI. P49-53. 1972.
LG RS.
DE PHENOL RESERVOIR WATER SELF PURIFN. BENZOPYRENE RESERVOIR WATER SELF PURIFN.
AN C 07904023344.

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AU GUDZENKO, V. I. PODREZOVA, T. N.
IN USSR.
YR 72.
TI PREPARATION OF 1,4- NAPHTHOQUINONE BY THE HETEROGENEOUS OXIDATION OF NAPHTHALENE IN AN AQUEOUS MEDIUM.
SO KHIM. PROM. (MOSCOW). 48. P153- 4. 1972.
LG RS.
DE NAPHTHOQUINONE. OXIDN NAPHTHALENE.
AN C 07623140290.

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AU GUERRA M. COMODO N.
TI EVALUATION OF TOLERANCE LIMITS OF SOME TOXIC SUBSTANCES IN INDUSTRIAL WASTE WATERS BY THE ICHTHYO TOXICITY TEST.
SO BOLL SOC ITAL BIOL SPER. 48 (22). 1972 (1973) (RECD 1974) 898- 901.
DE ALBURNUS-ALBIDUS SALMO-IRIDEUS CARASSIUS-AURATUS PERMISSIBLE LIMITS MERCURY CHLORIDE POTASSIUM BI CHROMATE AMMONIA PHENOL DDT ALKYL BENZENESULFONATE.
AN B 58023037.

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AU GUESTEN, H. SCHWEER, K. H. STIEGLITZ, L.
IN INST. RADIOCHEM. KERNFORSCHUNGSZENT. KARLSRUHE. KARLSRUHE. GER.

YR 74.
TI IDENTIFICATION OF NONBIODEGRADABLE ORGANIC POLLUTANTS IN RIVER WATER .
SO ARH. HIG. RADA TOKSIKOL. 25. P207-12. 1974.
LG EN.
DE ORG POLLUTANT RHINE RIVER. CHLORINATED HYDROCARBON RHINE RIVER. NITROAROM COMPD RHINE RIVER. AROM ETHER RHINE RIVER. PHTHALIC ACID ESTER RHINE RIVER. PHENOL RHINE RIVER.
AN C 08210064016.

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AU GUESTEN, H. STIEGLITZ, L. SCHWEER, K -H. KOELLE, W.
IN KERNFORSCHUNGSZENTRUM KARLSRUHE, INSTITUT FUER RADIOCHEMIE, POSTFACH 3640, 75 KARLSRUHE 1, FRG.
YR 73.
TI ANTIOXIDANTS, A NEW CLASS OF ENVIRONMENTAL CONTAMINANTS.
SO ENVIRONMENTAL LETTERS, 5(4): 209-213, 1973.
LG EN.
AB NONE.
ID PHENOLIC ANTIOXIDANTS.
DE WATER POLLUTANTS, RHINE RIVER, WATER SAMPLING, AROMATIC COMPOUNDS.
AN P 7403290.

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AU GUIGUES, FREDERIC.
YR 69.
TI TREATMENT AND CONTROL OF WATERS POLLUTED BY HYDROCARBONS. TESTING OF A T.P.S. SEPARATOR WITH INCLINED CORRUGATED PLATES-C.P.I.-T.P.S.
SO TECH. EAU ASSAINISSEMENT. NO. 273. P35-44; NO. 274, 49-57. 1969.
LG FR.
DE HYDROCARBONS DETN INDUSTRIAL WATERS. INDUSTRIAL WATERS HYDROCARBONS DETN. DUSTS SAMPLING. CARBON MONOXIDE DETN FACTORIES. OZONE DETN FACTORIES.
AN C 07226136126.

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AU GUSEVA, A. N. PARNOV, YE. I.
IN ARMY MEDICAL INTELLIGENCE AND INFORMATION AGENCY WASHINGTON D C. 409112.
YR 76. 5P.
TI THE SOLUBILITY OF SEVERAL AROMATIC HYDROCARBONS IN WATER.
NT TRANS. OF REPORT FROM VESTNUK MOSK. UNIV. SER. II KHIM (USSR) V18 N1 P76-78 1963.
PR PC$3.50/MF$3.00.
AB IN ORDER TO SOLVE A NUMBER OF THEORETICAL PROBLEMS IN PETROLEUM GEOLOGY, FOR EXAMPLE, THE FORMATION AND DISINTEGRATION OF AGGLOMERATES, AS WELL AS CERTAIN PRACTICAL PROBLEMS IN THE AREA OF PETROLEUM REFINING, WATER POLLUTION, ETC. INFORMATION IS NEEDED REGARDING THE SOLUBILITY OF HYDROCARBONS IN VARIOUS TYPES OF NATURAL SOLUTIONS UNDER VARIOUS CONDITIONS. EXISTING LITERATURE DATA ON THE SOLUBILITY OF HYDROCARBONS, EVEN IN PURE WATER, ARE QUITE MEAGER. THERE IS ESPECIALLY LITTLE MATERIAL ON THE SOLUBILITY OF HYDROCARBONS IN WATER AT THE HIGH TEMPERATURES WHICH CAN OCCUR AT GREAT DEPTHS. IN THE STUDY REPORTED HERE BENZENE, TOLUENE, O-XYLENE, M-XYLENE, N-XYLENE AND MESITYLENE WERE USED; THE CRITERION OF PURITY WAS THE INDEX OF REFRACTION. ESPECIALLY PURE WATER WAS OBTAINED BY PASSING A DOUBLE DISTILLATE THROUGH A FILTER WITH A 'MIXED' LAYER CONSISTING OF ION-EXCHANGE RESINS EDE-10P AND KU-2. THE SOLUBILITIES OF THE AROMATIC HYDROCARBONS IN WATER WAS DETERMINED IN SEALED AMPULES BY THE POLYTHERMIC METHOD. AS IS EVIDENT FROM GRAPHS, THE SOLUBILITY CURVES HAVE AN EXTREMELY SIMILAR CHARACTER, WITH THE EXCEPTION OF BENZENE WHOSE CURVE SHAPE IS SLIGHTLY DIFFERENT FROM THE OTHER HYDROCARBONS. THE SOLUBILITY OF HYDROCARBONS INCREASES INTENSELY WITH TEMPERATURE AND DECREASES AS THE NUMBER OF METHYL GROUPS IN THE MOLECULE IS INCREASED. AS THE CRITICAL POINT IS APPROACHED THE CURVES OF DIFFERENT HYDROCARBONS SHOW A TENDENCY TO CONVERGE, AS WITH INCREASE OF TEMPERATURE THE SOLUBILITY DEPENDS ALL THE MORE ON THE STRUCTURAL PROPERTIES OF THE WATER. ALSO THE ROLE OF THE STRUCTURE OF HYDROCARBON MOLECULES, INCLUDING THE NUMBER AND LOCATION OF METHYL GROUPS, IS INCREASINGLY WEAKER.
MJ HYDROCARBONS, SOLUBILITY, WATER, AROMATIC-COMPOUNDS, BENZENE, BENZENE-COMPOUNDS.
MN XYLENES, TOLUENES, METHYL- RADICALS, HIGH-TEMPERATURE, USSR, TRANSLATIONS, REVIEWS, MOLECULAR-STRUCTURE, TEMPERATURE, GRAPHS.
ID NTISDODXA.

AN N AD-A029 649/1SL.

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AU GUTKNECHT, W. F. GUILBAULT, G. G.
IN DEP. CHEM. LOUISIANA STATE UNIV. NEW ORLEANS. LA.
YR 71.
TI ELECTROCHEMICAL SYSTEM FOR MONITORING THE REMOVAL OF CYANIDE FROM AQUEOUS SYSTEMS WITH IMMOBILIZED INJECTASE.
SO ENVIRON. LETT. 2. P51-7. 1971.
LG EN.
DE INJECTASE CYANIDE REMOVAL. MONITORING CYANIDE POLLUTED WATER.
AN C 07618103512.

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AU HACKEMACK, DIETRICH.
IN ICI-SPALTANLAGEN SPEYER. SPEYER. GER.
YR 71.
TI ANALYSIS AND TREATMENT OF AQUEOUS CONDENSATES FROM ICI (IMPERIAL CHEMICAL INDUSTRIES)- PROCESS REFORMING PLANTS PRODUCING CITY GAS.
SO GAS- WASSERFACH, GAS - ERDGAS. 112. P192-7. 1971.
LG GE.
DE ACETIC ACID GASOLINE CONDENSATE. PROPIONIC ACID GASOLINE CONDENSATE. BUTYRIC ACID GASOLINE CONDENSATE. ISOBUTYRIC ACID GASOLINE CONDENSATE . GASOLINE REFORMING FUEL GAS. CORROSION CONDENSATE GASOLINE REFORMING. ACIDS GASOLINE CONDENSATE. ALCS GASOLINE CONDENSATE. METHANOL GASOLINE CONDENSATE. ETHANOL GASOLINE CONDENSATE.
AN C 07426144051.

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AU HAGIHARA, KOHICHI.
IN INST. PUBLIC HEALTH. TOKYO. JAPAN.
YR 72.
TI WATER ANALYSIS. DETERMINATION OF PHENOL AND ITS DERIVATIVES.
SO KOGAI BUNSEKI SHISHIN. 5. P59- 67. 1972.
LG JA.
DE REVIEW PHENOL DETN WATER.
AN C 08204021480.

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AU HAINES J R. ALEXANDER M.
YR 75.
TI MICROBIAL DEGRADATION OF POLY ETHYLENE GLYCOLS.
SO APPL MICROBIOL. 29 (5). 621-625.
DE PSEUDOMONAS-AERUGINOSA ENZYME.
AN B 60031137.

<487>

AU HAKUTA, TOSHIKATSU.
IN NATL. CHEM. LAB. IND. TOKYO. JAPAN.
YR 75.
TI VAPOR-LIQUID EQUILIBRIUMS OF POLLUTANTS IN SEA WATER. II. VAPOR-LIQUID EQUILIBRIUMS OF PHENOLIC SUBSTANCE-WATER SYSTEMS.
SO NIPPON KAISUI GAKKAI-SHI. 28. P379-85. 1975.
LG JA.
DE PHENOL SEA WATER POLLUTION. VAPOR LIQ EQUIL PHENOL.
AN C 08418126558.

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AU HAKUTA, TOSHIKATSU. NEGISHI, AKIRA. GOTO, TOTARO.
IN NATL. CHEM. INST. IND. TOKYO. JAPAN.
YR 76.
TI VAPOR-LIQUID EQUILIBRIUM OF SOME POLLUTING MATERIALS IN SEA WATER.
SO NIPPON KAISUI GAKKAI-SHI. 29. P247-54. 1976.
LG JA.
DE SEAWATER POLLUTANT VOLATILE EQUIL. ACETONE SEAWATER EQUIL. ALC SEAWATER EQUIL. NITROUS ACID SEAWATER EQUIL. ALKYLBENZENESULFONATE SEAWATER EQUIL. HYDROGEN CYANIDE SEAWATER EQUIL.
AN C 08618126896.

<489>

AU HALL, R. W. JR. PLUMB, R. H. JR. THORNTON, K. W. ELEY, R. L. LESSEM, A. S.
IN ARMY ENG. WATERW. EXP. STN. VICKSBURG. MISS.
YR 77.
TI ARCADIA LAKE WATER-QUALITY EVALUATION.
PG 324 PP.
LG EN.
DE LAKE QUALITY POLLUTION MODEL STD. PHENOL POLLUTION LAKE QUALITY. PESTICIDE POLLUTION LAKE QUALITY. METAL POLLUTION LAKE QUALITY. NUTRIENT POLLUTION LAKE QUALITY.
AN C 08724189033.

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AU HAMMER K D. LIEMANN F.
IN INSTITUT FUR ORGANISCHE CHEMIE UND BIOCHEMIE, UNIVERSITAT HAMBURG.
YR 76.
TI PRIMARY OXIDATION MECHANISMS IN DEGRADATION OF ALIPHATIC HYDROCARBONS BY BACTERIAL ENZYME SYSTEMS (AUTHOR'S TRANSL).
TR PRIMARE OXYDATIONSMECHANISMEN BEIM ABBAU ALIPHATISCHER KOHLENWASSERSTOFFE DURCH BAKTERIELLE ENZYMSYSTEME.
SO ZENTRALBL BAKTERIOL ORIG B. 162. 1-2. P169-79. JUL 76.
LG GE.
MJ ALKANES: ME.
MN ALCOHOL-OXIDOREDUCTASES: ME. CYANIDES: PD. ME. MULTIENZYME-COMPLEXES: ME. WATER-MICROBIOLOGY.
AN M 77061960. 7703.

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AU HANSEN H P.
YR 75.
TI PHOTOCHEMICAL DEGRADATION OF PETROLEUM HYDRO CARBON SURFACE FILMS ON SEA WATER.
SO MAR CHEM. 3 (3). 183-196.
DE LIGHT ALIPHATIC ACIDS AROMATIC ACIDS ALCOHOLS PHENOLS.
AN B 61001518.

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AU HANSEN, DAVID J.
IN ENVIRON. RES. LAB. EPA. GULF BREEZE. FLA.
YR 76.
TI TECHNIQUES TO ASSESS THE EFFECTS OF TOXIC ORGANICS ON MARINE ORGANISMS.
PG 63-76.
LG EN.
DE MARINE ORGANISM BIOASSAY TOXICITY. WATER POLLUTION MARINE ORGANISM. BIPHENYL POLYCHLORO MARINE TOXICITY. INSECTICIDE WATER POLLUTION TOXICITY.
AN C 08523172392.

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AU HANSON, RAY L. VANDERBORGH, N. E. BROOKINS, DOUGLAS G.
IN DEP. CHEM. UNIV. NEW MEXICO. ALBUQUERQUE. N. MEX.
YR 75.
TI CHARACTERIZATION OF OIL SHALES BY LASER PYROLYSIS-GAS CHROMATOGRAPHY .
SO ANAL. CHEM. 47. P335-8. 1975.
LG EN.
DE OIL SHALE CHARACTERIZATION. LASER RADIATION SHALE CHARACTERIZATION. HYDROCARBON DETN OIL SHALE. WATER DETN OIL SHALE. ACETYLENE OIL SHALE CHARACTERIZATION. PYROLYSIS OIL SHALE CHARACTERIZATION.
AN C 08214088333.

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AU HANUSKA L.
YR 72.
TI AEROGENIC POLLUTION OF INTERNAL WATERS.
SO SLADECEK, V. (ED.). INTERNATIONALE VEREINIGUNG FUR THEORETISCHE UND ANGEWANDTE LIMNOLOGIE. INTERNATIONAL ASSOCIATION OF THEORETICAL AND APPLIED LIMNOLOGY. ASSOCIATION INTERNATIONALE DE LIMNOLOGIE THEOREQUE ET APPLIQUEE. VOL. 18, PARTS 1 & 2. VERHANDLUNGEN, PROCEEDINGS. TRAVAUX. LENINGRAD, USSR, 1971. 562P. (PART 1). ILLUS. MAPS. 694P. (PART 2). ILLUS MAPS. E. SCHWEIZERBART'SCHE VERLAGSBUCHHANDLUNG: STUTTGART, WEST GERMANY; (DIST. IN U.S.A. BY JOHN WILEY & SONS, INC. NEW YORK, N.Y.). (RECD 1973) 968-980.
DE FISH FROG DEATH ALDRIN INSECTICIDE BENZO PYRENE SULFUR DI OXIDE ASH HAMR RESERVOIR ORE MOUNTAINS CZECHOSLOVAKIA.
AN B 73066273.

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AU HARADA, KATSUHIKO.
IN SHIMONOSEKI UNIV. FISH. SHIMONOSEKI. JAPAN.
YR 75.
TI ENZYME SYSTEM CATALYZING THE FORMATION OF FORMALDEHYDE AND DIMETHYLAMINE IN TISSUES OF FISH AND SHELLFISH.
SO SUISAN DAIGAKKO KENKYU HOKOKU. 23. P163-241. 1975.
LG JA.
DE REVIEW FORMALDEHYDE FORMATION FISH. METHYLAMINE FORMATION SHELLFISH REVIEW.
AN C 08309075670.

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AU HARADA, KATSUHIKO. MIURA, SHIGETSUGU. SHINODA, YOSHIO. YAMADA, KINJIRO.
IN SHIMONOSEKI UNIV. FISH. SHIMONOSEKI.

JAPAN.
YR 70.
TI THIN-LAYER CHROMATOGRAPHIC IDENTIFICATION OF FORMALDEHYDE IN AQUATIC ANIMALS.
SO NIPPON SUISAN GAKKAISHI. 36. P188-91. 1970.
LG JA.
DE THIN LAYER CHROMATOG FORMALDEHYDE. FORMALDEHYDE THIN LAYER CHROMATOG . CHROMATOG THIN LAYER FORMALDEHYDE.
AN C 07223118313.

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AU HARBOUR J R. TOLLIN G.
YR 74.
TI ESR EVIDENCE FOR CHLOROPHYLL PHOTO SENSITIZED 1 ELECTRON OXIDATION OF WATER BY BENZO QUINONE.
SO PHOTOCHEM PHOTOBIOL. 20 (3). 271-277.
DE QUINONE RADICAL FORMATION OXYGEN FORMATION ALCOHOLS PHEOPHYTIN BACTERIO CHLOROPHYLL COLD RED LIGHT DEUTERIUM LABELING.
AN B 59010603.

<498>
AU HARDER W. ATTWOOD M M.
IN DEPARTMENT OF MICROBIOLOGY, UNIVERSITY OF GRONINGEN, HAREN (GR.), THE NETHERLANDS.
YR 75.
TI OXIDATION OF ORGANIC C1 COMPOUNDS BY HYPHOMICROBIUM SPP.
SO ANTONIE VAN LEEUWENHOEK. 41. 4. P421-9. 1975.
LG EN.
MJ BACTERIA: ME.
MN ALCOHOL-OXIDOREDUCTASES: ME. OXYGEN-CONSUMPTION.
AN M 76159455. 7607.

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AU HARKNESS A C. MURRAY F E.
YR 70.
TI OXIDATION OF METHYL MERCAPTAN WITH MOLECULAR OXYGEN IN AQUEOUS SOLUTION.
SO ATMOS ENVIRON. 4 (4). 417-424.
AN B 52039953.

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AU HARRIS R P. BERDUGO V. O'HARA S C M. CORNER E D S.
IN MAR. BIOL. ASSOC. UK, LAB. CITADEL HILL, PLYMOUTH PL1 2PB, DEVONS. ENGL. UK.
YR 77.
TI ACCUMULATION OF CARBON-14 1 NAPHTHALENE BY AN OCEANIC AND AN ESTUARINE COPEPOD DURING LONG-TERM EXPOSURE TO LOW LEVEL CONCENTRATIONS.
SO MAR BIOL (BERL). 42 (3). 187-196.
LG EN.
DE CALANUS-HELGOLANDICUS EURYTEMORA-AFFINIS FOOD CHAIN.
AN B 65018086.

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AU HARRISON R M. PERRY R. WELLINGS R A.
YR 76.
TI CHEMICAL KINETICS OF CHLORINATION OF SOME POLY NUCLEAR AROMATIC HYDRO CARBONS UNDER CONDITIONS OF WATER TREATMENT PROCESSES.
SO ENVIRON SCI TECHNOL. 10 (12). 1156-1160.
DE PYRENE BENZO-GHI-PERYLENE POLLUTION.
AN B 63029520.

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AU HARRISON R M. PERRY R. WELLINGS R A.
YR 76.
TI EFFECT OF WATER CHLORINATION UPON LEVELS OF SOME POLY NUCLEAR AROMATIC HYDRO CARBONS IN WATER.
SO ENVIRON SCI TECHNOL. 10 (12). 1151-1156.
DE FLUORANTHENE PYRENE BENZ A ANTHRACENE BENZO K FLUORANTHENE BENZO A PYRENE PERYLENE INDENO-1 2 3- CD-PYRENE BENZO-GHI-PERYLENE POLLUTION WATER TREATMENT.
AN B 63029518.

<503>
AU HASS B S. APPLEGATE H G.
IN DEPARTMENT OF BIOCHEMISTRY AND BIOPHYSICS, TEXAS A AND M UNIVERSITY, COLLEGE STATION, TEX. 77843.
YR 75.
TI THE EFFECTS OF UNSUBSTITUTED POLYCYCLIC AROMATIC HYDROCARBONS ON THE GROWTH OF ESCHERICHIA COLI.
SO CHEM BIOL INTERACT. 10. 4. P265- 8. APR 75.
LG EN.
MJ ESCHERICHIA-COLI: ME, (E-COLI).
MN BENZANTHRACENES: PD. ESCHERICHIA-COLI: DE, E-COLI. STRUCTURE-

ACTIVITY-RELATIONSHIP.
UNITED-STATES-GOVERNMENT-SUPPORTED-NON-NIH: (NON-NIH-SUP).
AN M 75129502.

<504>
AU HEALY J. B. JR. YOUNG L Y.
IN DEPARTMENT OF CIVIL ENGINEERING, STANFORD UNIVERSITY, STANFORD, CALIFORNIA.
YR 78.
TI CATECHOL AND PHENOL DEGRADATION BY A METHANOGENIC POPULATION OF BACTERIA.
SO APPL ENVIRON MICROBIOL. 35. 1. P216-8. JAN 78.
LG EN.
MJ BACTERIA: ME.
MN ADAPTATION-PHYSIOLOGICAL. CARBON-DIOXIDE: BI. (NON-NIH-SUP).
AN M 78101794. 7805.

<505>
AU HELLMANN, HUBERT.
IN BUNDESANST. GEWAESSERKD. KOBLENZ. GER.
YR 71.
TI DETERMINATION OF PARAFFINS IN WATERS. RESULTS OF IR SPECTROSCOPY AND GAS CHROMATOGRAPHY.
SO DEUT. GEWAESSERK. MITT. 15. P139-43. 1971.
LG GE.
DE PARAFFIN SPECTROSCOPY RHINE. CHROMATOG PARAFFIN RHINE. HYDROCARBON DETN RHINE.
AN C 07608037267.

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AU HENDRICKSON, THOMAS N. DAIGNAULT, LOUIS G.
IN BERKEY FILM PROCESSING OF N.E. FITCHBURG, MASS.
YR 73. 160P.
TI TREATMENT OF COMPLEX CYANIDE COMPOUNDS FOR REUSE OR DISPOSAL.
AV 73-269.
PR PC-GPO/MF$1.45-NTIS.
AB COMPLEX CYANIDES (FERRO-AND FERRICYANIDE) IN INDUSTRIAL WASTE WATER EFFLUENTS IMPOSE A DIRECT THREAT UPON THE ENVIRONMENT. METHODS TO RECOVER OR DESTROY THESE COMPOUNDS WERE EVALUATED IN LABORATORY STUDIES. THE TECHNIQUES TESTED INCLUDE ELECTROLYSIS, OZONATION, CHLORINATION AND HEAVY METAL ION PRECIPITATION. THE STUDY WAS CONDUCTED TO DETERMINE THE FEASIBILITY OF USING ONE OR MORE OF THESE METHODS TO REDUCE THE CONCENTRATION OF FERRICYANIDE IN BOTH CONCENTRATED (10,000 TO 100,000 MG/L) AND DILUTE (10 TO 100 MG/L) WASTE EFFLUENTS. A PROCESS FOR TREATING OVERFLOW PHOTOGRAPHIC COLOR PROCESS BLEACHES IS DESCRIBED. (MODIFIED AUTHOR ABSTRACT).
MJ CYANIDES, INDUSTRIAL-WASTE-TREATMENT, IRON-CYANIDES, INDUSTRIAL-WASTE-TREATMENT, WATER-POLLUTION, CYANIDES, PHOTOGRAPHIC-PROCESSING-CHEMICALS, INDUSTRIAL-WASTE-TREATMENT.
MN ELECTROLYSIS, OZONIZATION, CHLORINATION, OXIDATION, PRECIPITATION-CHEMISTRY.
ID WATER-POLLUTION-CONTROL, ORM.
AN N PB-222 794/0.

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AU HENNEQUIN, CLAUDE.
IN INST. NAT. RECH. CHIM. APPL. CENTRE RECH. VERT-LE-PETIT. FR.
YR 70.
TI ANALYTICAL CRITERIA OF WATER POLLUTION.
SO BULL. SOC. CHIM. FR. 1. P357-64. 1970.
LG FR.
DE REVIEW ANAL WATER POLLUTION. ANAL WATER POLLUTION REVIEW. PESTICIDES POLLUTION WATER ANAL. DETERGENTS POLLUTION WATER ANAL. PHENOLICS POLLUTION WATER ANAL.
AN C 07304018315.

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AU HERBES S E. BEAUCHAMP J J.
IN ENVIRONMENTAL SCIENCES DIVISION, OAK RIDGE NATIONAL LABORATORY, OAK RIDGE, TENN.
YR 77.
TI TOXIC INTERACTION OF MIXTURES OF TWO COAL CONVERSION EFFLUENT COMPONENTS (RESORCINOL AND 6- METHYLQUINOLINE) TO DAPHNIA MAGNA.
SO BULL ENVIRON CONTAM TOXICOL. 17. 1. P25-32. JAN 77.
LG EN.
MJ COAL. TO.
MN ANIMAL. UNITED-STATES-GOVERNMENT-SUPPORTED-NON-NIH: (NON-NIH-SUP).
AN M 77112966. 7706.

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AU HERBES S E. SCHWALL L R. WILLIAMS G A.
IN ENVIRONMENTAL SCIENCES DIVISION, OAK RIDGE NATIONAL LABORATORY, OAK RIDGE, TENNESSEE.
YR 77.
TI RATE OF MICROBIAL TRANSFORMATION OF POLYCYCLIC AROMATIC HYDROCARBONS: A CHROMATOGRAPHIC QUANTIFICATION PROCEDURE.
SO APPL ENVIRON MICROBIOL. 34. 2. P244-6. AUG 77.
LG EN.
MJ BACTERIA: ME. SOIL-MICROBIOLOGY.
MN ANTHRACENES: ME. NAPHTHALENES: ME.
AN M 78018714. 7801.

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AU HERBES, S. E.
IN ENVIRON. SCI. DIV. OAK RIDGE NATL. LAB. OAK RIDGE. TENN.
YR 77.
TI PARTITIONING OF POLYCYCLIC AROMATIC HYDROCARBONS BETWEEN DISSOLVED AND PARTICULATE PHASES IN NATURAL WATERS.
SO WATER RES. 11. P493-6. 1977.
LG EN.
DE POLYCYCLIC AROM HYDROCARBON WATER. POLLUTION WATER POLYCYCLIC HYDROCARBON. ANTHRACENE ADSORPTION YEAST.
AN C 08722172526.

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AU HERBES, S. E. SOUTHWORTH, G. R. GEHRS, C. W.
IN OAK RIDGE NATIONAL LAB. TENN. ADMINISTRATION. 4832000.
YR 76. 20P.
TI ORGANIC CONTAMINANTS IN AQUEOUS COAL CONVERSION EFFLUENTS: ENVIRONMENTAL CONSEQUENCES AND RESEARCH PRIORITIES.
NT 10TH. ANNUAL CONFERENCE ON TRACE SUBSTANCES IN ENVIRONMENTAL HEALTH, COLUMBIA, MISSOURI, UNITED STATES OF AMERICA (USA), 8 JUN 1976.
PR PC A02/MF A01.
AB THE ANTICIPATED IMPLEMENTATION OF AN EXTENSIVE COAL CONVERSION INDUSTRY IN THE UNITED STATES WITHIN SEVERAL DECADES WILL RESULT IN PRODUCTION OF SUBSTANTIAL QUANTITIES OF HIGHLY CONTAMINATED WASTEWATER. MANY OF THE CONTAMINANTS PRODUCED, IF RELEASED INTO NATURAL WATERS, COULD HAVE DELETERIOUS EFFECTS ON AQUATIC ECOSYSTEMS, AND ULTIMATELY, ON HUMAN LIFE. RESEARCH IS REQUIRED TO DETERMINE POTENTIAL ACUTE AND SUB-ACUTE EFFECTS OF POTENTIALLY HAZARDOUS EFFLUENTS CONSTITUENTS, AND TO EVALUATE THEIR TRANSPORT AND PERSISTENCE IN AQUATIC SYSTEMS. TO FACILITATE A RATIONAL ASSIGNMENT OF FUTURE AQUATIC RESEARCH PRIORITIES TO ANSWER THESE ISSUES, WE HAVE INITIATED A SYSTEMATIC ASSESSMENT OF THE ENVIRONMENTAL HAZARDS OF ANTICIPATED ORGANIC COMPONENTS OF AQUEOUS COAL LIQUEFACTION EFFLUENTS BY THE COMPILATION OF A CRITICAL LITERATURE REVIEW. FIVE MAJOR CLASSES OF ORGANIC COMPOUNDS HAVE BEEN OPERATIONALLY DEFINED: (1) PHENOLS; (2) ARYLAMINES (ORGANIC BASES); (3) ALIPHATIC HYDROCARBONS; (4) MONO- AND POLYCYCLIC AROMATIC HYDROCARBONS (PAH); AND (5) SULFUR-CONTAINING COMPOUNDS. A SUMMARY ASSESSMENT OF EACH CLASS IS PRESENTED ON THE BASIS OF (1) CONCENTRATIONS ANTICIPATED IN COAL LIQUEFACTION EFFLUENTS; (2) REMOVAL BY WASTEWATER TREATMENT SYSTEMS; (3) ACUTE TOXICITY; (4) CHRONIC TOXIC EFFECTS ON AQUATIC ORGANISMS; AND (5) ENVIRONMENTAL TRANSPORT AND PERSISTENCE. GAPS IN UNDERSTANDING AND FUTURE RESEARCH NEEDS ARE IDENTIFIED. (ERA CITATION 01: 022560).
MJ COAL-INDUSTRY, COAL- LIQUEFACTION, WATER-POLLUTION.
MN ALKANES, AMINES, AQUATIC-ECOSYSTEMS, AROMATICS, CONDENSED-AROMATICS, ENVIRONMENTAL-EFFECTS, FORECASTING, PHENOLS, RESEARCH-PROGRAMS, TOXICITY, TRANSPORT, USA, WASTE-PROCESSING, WASTE-WATER, WASTES.
ID ERDA-010900, ERDA-010800, ERDA-520200, ERDA-010405, NTISERDA.
AN N CONF-760632-.

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AU HEREDY, LASZLO ALADAR.
IN CARNEGIE-MELLON UNIVERSITY (0041) PH.D. 1963, 001PP.
YR 63.
TI I. STUDIES ON THE CHEMISTRY AND MECHANISM OF TRANSBENZLATION. II. EXTRACTION OF BITUMINOUS COAL WITH PHENANTHRENE.
SO ADD VX1(96) P0022.
DE CHEMISTRY, GENERAL (0485).
AN D ADG02-02202.

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AU HERSHBERGER, W K. JUCHAU, M R. PEDERSEN, M G.
IN UNIV. OF WASHINGTON, COLLEGE OF FISHERIES, SEATTLE, WA 98195.
YR 74.
TI METABOLISM OF 3,4-BENZPYRENE IN RAINBOW TROUT (SALMO GAIRDNERI).
SO BULLETIN OF ENVIRONMENTAL CONTAMINATION AND TOXICOLOGY, 12(4): 481-486, OCT. 1974.
LG EN.
AB NONE.
ID ARYL HYDROCARBON HYDROXYLASE.
DE AROMATIC COMPOUNDS, BIOCHEMICAL ANALYSIS, CARCINOGENESIS, ENZYMES, FISH, HISTOLOGY, METABOLISM, TOXICOLOGY.
AN P 7503529.

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AU HEYER J.
IN AKADEMIE DER WISSENSCHAFTEN DER DDR, FORSCHUNGSZENTRUM FUR MOLEKULARBIOLOGIE UND MEDIZIN, ZENTRALINSTITUT FUR MIKROBIOLOGIE UND EXPERIMENTELLE THERAPIE, JENA.
YR 76.
TI MICROBIAL UTILIZATION OF ETHYLENE.
TR MIKROBIELLE VERWERTUNG VON ATHYLEN.
SO Z ALLG MIKROBIOL. 16. 8. P633-7. 1976.
LG GE.
MJ ETHYLENES: ME.
MN CARBON-DIOXIDE: BI.
AN M 77083390. 7704.

<515>
AU HIGASHIURA, MUYO.
IN OSAKA-CITY INST. IND. OSAKA. JAPAN.
YR 71.
TI ACTUAL CONDITIONS AND ANALYSES OF WASTE WATER CONTAINING CYANIDE COMPOUNDS.
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INDUSTRY WASTEWATER. DIETHYLENE GLYCOL DETN PETROLEUM WASTEWATER. SURFACTANT PETROLEUM INDUSTRY WASTEWATER ANALYSIS.
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AU HITES, RONALD A. BIEMANN, K.
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AN C 07726168369.

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AU HO C H. CLARK B R. GUERIN M R.
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NT 69. ANNUAL MEETING OF THE AICHE, CHICAGO, ILLINOIS, UNITED STATES OF AMERICA (USA), 28 NOV 1976.
PR PC A03/MF A01.
AB THE BIOLOGICAL DEGRADATION OF SCRUB LIQUORS SIMILAR TO THOSE THAT ARISE IN COAL CONVERSION PROCESSES WAS STUDIED FOR SYMBIOTIC BACTERIAL POPULATIONS CONTAINED IN A CONTINUOUS STIRRED-TANK BIOREACTOR (CSTBR), A THREE-PHASE (AIR, LIQUOR, AND PACKING COATING WITH BACTERIA) PACKED-BED BIOREACTOR (PBBR), AND A THREE-PHASE FLUIDIZED BED BIOREACTOR (FBBR). THE CSTBR YIELDED CONVERSION OF THE MOST C COMPOUNDS AT THE HIGHEST CONCENTRATION DUE LARGELY TO ITS LONG RETENTION TIMES.

THE MAXIMUM CSTBR DEGRADATION RATE, Q/SUB L/(C/SUB I/ - C)/V/SUB R/, FOR 0.99 CONVERSION OF PHENOL CONCENTRATIONS UP TO 1400 MG/L WAS 2.67 G PHENOL/DAY/L REACTOR VOLUME. THE THREE-PHASE PBBR YIELDED CONVERSION OF PHENOL COMPOUNDS COMPARABLE TO THE CSTBR, BUT WITH THE ADVANTAGE OF RETENTION TIMES REDUCED TO AS LITTLE AS 1.25 HR FOR A 500 MG/L FEED, AND WITH DEGRADATION RATES OF ABOUT TWICE THOSE OF THE CSTBR. THE THREE-PHASE FBBR ACHIEVED THE HIGHEST DEGRADATION RATES AND LOWEST RETENTION TIMES. FOR A THREE-LITER TOTAL GEOMETRIC REACTOR VOLUME, A DEGRADATION RATE OF 8.3 G/DAY/L REACTOR FOR 0.99 CONVERSION OF 750 MG/L PHENOL FEED WAS OBSERVED, WHILE IN LATER EXPERIMENTS WITH THE SAME TAPERED COLUMN EXPANDED TO A 10-L VOLUME, A DEGRADATION RATE OF 11.0 G/DAY/L WAS OBSERVED FOR 0.99 CONVERSION OF A 100 MG/L PHENOL FEED. REMOVAL OF TOTAL ORGANIC C BY ALL BIOREACTORS WAS CONSISTENTLY 80-99 PERCENT FOR OPERATING CONDITIONS IN WHICH PROCESSING OF FEEDS PRODUCED 0.99 CONVERSION OF PHENOL AND PHENOL EFFLUENT CONCENTRATIONS OF 0.5-1.0 MG/L. THE EFFICIENCY OF THE FBBR WAS SUCH THAT TYPICAL PHENOL CONCENTRATIONS IN ITS EFFLUENT WERE 0.01-0.05 MG/L. PART OF THE RESIDUAL CARBON FOR EFFLUENTS FROM THE FLUIDIZED AND PACKED COLUMNAR BIOREACTORS WAS TRACED TO INEFFECTIVE THIOCYANATE CONVERSION. THE CSTBR CAPABILITY FOR THIOCYANATE CONVERSION WAS DEPENDENT ON SUFFICIENTLY LONG RETENTION TIMES. (ERA CITATION 02: 021561).
MJ PHENOLS.
MN BACTERIA, BIODEGRADATION, CHEMICAL-REACTORS, COMPARATIVE-EVALUATIONS, EFFICIENCY.
ID ERDA-010800, FLUIDIZED-BED-PROCESSORS, FOULING, LIQUID-WASTE-DISPOSAL, COLUMN-PACKINGS, COLUMNS-PROCESS-ENGINEERING, WATER-POLLUTION- CONTROL, NTISERDA.
AN N CONF-761109-4.

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AN B 62045475.

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AU HOPPER D J. CHAPMAN P J.
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TI GENTISIC ACID AND ITS 3- AND 4-METHYL-SUBSTITUTED HOMOLOGOUES AS INTERMEDIATES IN THE BACTERIAL DEGRADATION OF M-CRESOL, 3,5-XYLENOL AND 2,5-XYLENOL.
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LG EN.
MJ CRESOLS: ME.
MN BENZOATES: ME. ME.
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MN ALKALIES.
AN M 77228054. 7711.

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AN B 77093834.

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YR 72.
TI MICROBIAL METABOLISM OF THE PYRIDINE RING. FORMATION OF PYRIDINEDIOLS (DIHYDROXYPYRIDINES) AS INTERMEDIATES IN THE DEGRADATION OF PYRIDINE COMPOUNDS BY MICRO-ORGANISMS.
SO BIOCHEM J. 130. 3. P879-93. DEC 72.
LG EN.
MJ ALCALIGENES: ME.
MN AGROBACTERIUM: GD. ISOMERISM. SEWAGE.
AN M 73224968.

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IN RHODE ISLAND UNIV. KINGSTON. DEPT. OF MICROBIOLOGY.
YR 74. 33P.
TI BIOLOGICAL DEGRADATION OF HYDROCARBONS IN WATER.
NT TECHNICAL COMPLETION REPT. 1 JUL 71-30 JUN 30.
PR PC$3.25/MF$1.45.
AB THE GROWTH OF PSEUDOMONAS AERUGINOSS ON N-HEPTANE WAS FOUND TO BE EXPONENTIAL ONLY AT LOW CELL CONCENTRATIONS (1 GM/1). THE CHANGE FROM EXPONENTIAL TO LINEAR GROWTH RATE OCCURS WHEN DISSOLVED OXYGEN IS WELL ABOVE THE CRITICAL VALUE. THE DATA FIT THE MATHEMATICAL MODEL FOR HOMOGENEOUS KINETICS DEVELOPED BY DUNN IN 1958. THEY SUGGEST THAT HEPTANE IS USED IN DISSOLVED FORM RATHER THAN BY DIRECT CONTACT BETWEEN MICROORGANISM AND HYDROCARBON DROPLET. A DECREASE IN INTERFACIAL TENSION DURING GROWTH IS ATTRIBUTED TO THE PRODUCTION OF A SURFACE TENSION DEPRESSANT BY THE ORGANISM. INCREASED SOLUBILITY OF THE HYDROCARBON AS A RESULT OF ITS PRODUCTION MAY ACCOUNT FOR THE HIGH GROWTH RATE OBSERVED ON THIS SUBSTRATE OF LOW SOLUBILITY.
MJ PSEUDOMONAS, HYDROCARBONS, BIODETERIORATION.
MN GROWTH, BACTERIA, WATER- POLLUTION,

DISSOLVED-GASES, OXYGEN.
ID NTISDIOWRR.
AN N PB-233 438/1.

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AU HOUSTON, CHESTER W.
IN RHODE ISLAND UNIV. KINGSTON. DEPT. OF BACTERIOLOGY.
YR 70. 34P*.
TI BIOCHEMICAL OXIDATION OF HYDROCARBONS IN NATURAL WATERS.
NT TECHNICAL COMPLETION REPT. 1 JUL 68-30 SEP 70.
PR PC$3.00 MF$0.95.
AB A STUDY OF THE KINETICS OF MICROBIAL OXIDATION OF HYDROCARBONS WAS CARRIED OUT USING A ONE ORGANISM-PURE HYDROCARBON SYSTEM (PSEUDOMONAS AERUGINOSA-HEPTANE). IN BATCH CULTURE, HEPTANE SUPPLY IS GROWTH LIMITING AT A CELL CONCENTRATION OF 3 G/L ON A DRY BASIS. THE CELL CONCENTRATION WAS INCREASED TO 8 G/L WHEN HEPTANE WAS VOLATILIZED IN THE INFLUENT AIR TO INCREASE INTERFACIAL AREA AND MASS TRANSFER. SPECIFIC GROWTH RATE IS INCREASED BY TEMPERATURE MORE THAN CAN BE ACCOUNTED FOR BY THE EFFECT OF TEMPERATURE ALONE ON GROWTH RATE. THE EFFECT IS ATTRIBUTED TO THE HIGHER SOLUBILITY OF HEPTANE AT THE HIGHER TEMPERATURE. WASH-OUT CHARACTERISTIC OF CONTINUOUS CULTURES ON HEPTANE DIFFER FROM THE THEORETICAL AND IS EXPLAINED ON THE BASIS OF MASS TRANSFER LIMITATIONS. STEADY-STATES ARE POSSIBLE AT DILUTION RATES HIGHER THAN THOSE PREDICTED FROM BATCH CULTURES. PRODUCTIVITY WAS FOUND TO BE 1.5 G/L/HR AT D=0.26 WITH A HEPTANE FEED RATE OF 18 ML/HR. LIMITATION OF MAGNESIUM OR IRON IN THE HEPTANE LIMITED CULTURES RESULTED IN A MARKED INCREASE IN HEPTANOIC ACID PRODUCTION; HEPTANE GROWTH CELLS HAD A MARKEDLY HIGHER LIPID CONTENT THAN THOSE GROWN ON GLUCOSE. (AUTHOR).
MJ WATER-POLLUTION, HYDROCARBONS, OXIDATION, HYDROCARBONS, BIODETERIORATION, HYDROCARBONS.
MN PENTANES, REACTION-KINETICS, MICROORGANISMS, CARBOXYLATION.
ID WATER-POLLUTION-CONTROL, HEPTANOIC-ACIDS.
AN N PB-197 585.

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AU HOWLAND, ROBERT M.
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YR 69.
TI LABORATORY STUDIES ON POSSIBLE FISH-COLLECTING AIDS, WITH SOME TOXICITIES FOR THE ISOMERS OF CRESOL.
PG 34: 10 PP.
LG EN.
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AN C 07325128318.

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AU HRUTFIORD, B F. FRIBERG, T S. WILSON, J R. WILSON, D F.
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YR 75.
TI ORGANIC COMPOUNDS IN PULP MILL LAGOON DISCHARGE.
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LG EN.
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DE SPECTROMETRY, RESINS, PAPER INDUSTRY WASTES, ORGANIC COMPOUNDS, LIPIDS, INDUSTRIAL EFFLUENTS, GAS CHROMATOGRAPHY.
AN P 7600191.

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AU HRUTFIORD, BJORN F.
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YR 70.
TI ORGANIC MATERIALS IN PULP AND PAPER MILL EFFLUENTS.
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LG EN.
DE PAPER MILL EFFLUENT ORG. PULP MILL EFFLUENT. WOOD EXTRACTIVE EFFLUENT . BLEACH PLANT EFFLUENT. KRAFT LIGNIN EFFLUENT. PHENOL PAPER MILL EFFLUENT. CARBOHYDRATE PAPER MILL EFFLUENT. TERPENOID COMPD PAPER MILL EFFLUENT. CHLORINATED COMPD PAPER MILL EFFLUENT.
AN C 07624144630.

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AU HSIEH, JIH-HAN.
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YR 77.
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SO DAI V38(02), SEC B, P0802.
DE ENGINEERING, CHEMICAL (0542).
AN D ADG77-17536.

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AU HUANG, JU-CHANG. GLOYNA, EARNEST F.
IN TEXAS UNIV. AUSTIN. ENVIRONMENTAL HEALTH ENGINEERING RESEARCH LAB.
YR 67. 178P.
TI EFFECTS OF TOXIC ORGANICS ON PHOTOSYNTHETIC REOXYGENATION.
NT TECHNICAL REPT.
PR PC$11.00/MF$0.95.
AB THE REPORT DESCRIBES THE POTENTIAL REDUCTION OF DISSOLVED OXYGEN IN PONDS AND STREAMS DUE TO CHLOROPHYLL INHIBITION RESULTING FROM CERTAIN INDUSTRIAL WASTES. EMPHASIS IS PLACED ON THE LABORATORY TECHNIQUES DEVELOPED FOR THIS STUDY AND THE CHANGES THAT SHOULD BE INCORPORATED IN WASTE STABILIZATION POND DESIGNS. THE RELATIVE TOXICITY OF 33 PHENOLIC-TYPE COMPOUNDS AND 8 PESTICIDES TO CHLORELLA PYRENOIDOSA WAS EVALUATED. (AUTHOR MODIFIED ABSTRACT).
MJ WATER-POLLUTION, FRESH-WATER-BIOLOGY, PHOTOSYNTHESIS, WATER-POLLUTION, PHENOLS, WATER-POLLUTION, PESTICIDES, WATER-POLLUTION.
MN CHLOROPHYLL, TOXICOLOGY.
ID WATER-POLLUTION-EFFECTS-PLANTS, CHLORELLA-PYRENOIDOSA, EPAL.
AN N PB-216 749.

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AU HUBER, J F K. AICHINGER, H. MARKL, P.
IN UNIV. OF VIENNA, DR. KARL LUEGER-RING 1, 1010 VIENNA, AUSTRIA.
YR 76.
TI DETERMINATION OF POLYAROMATIC AND OTHER HYDROCARBONS IN WATER BY MEANS OF GAS-AND HIGH PRESSURE LIQUID CHROMATOGRAPHY.
SO SIXTH ANNUAL SYMPOSIUM ON RECENT ADVANCES IN THE ANALYTICAL CHEMISTRY OF POLLUTANTS. (N.P.), (1976?). NO. 15.
LG EN.
AB NONE.
ID XYLENE, ABSTRACT ONLY.
DE HYDROCARBONS, WATER POLLUTANTS, POLLUTANT DETECTION, LIQUID CHROMATOGRAPHY, GAS CHROMATOGRAPHY, AROMATIC COMPOUNDS.
AN P 7604313.

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AU HUFF, J E. HUFF, L L.
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YR 75.
TI ANALYSIS OF THE BENEFITS AND COSTS OF ALTERNATIVE CYANIDE STANDARDS IN ILLINOIS.
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AN P 7602405.

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YR 74. 339P*.
TI CONTROL OF ENVIRONMENTAL IMPACTS FROM ADVANCED ENERGY SOURCES.
NT ENVIRONMENTAL PROTECTION TECHNOLOGY SERIES (FINAL).
AV 600/2-74-002. 0.
PR PC$6.50/MF$2.25.
AB THE TECHNOLOGY AND ENVIRONMENTAL EFFECTS ASSOCIATED WITH PRODUCTION OF ENERGY FROM NEW OR ADVANCED SOURCES ARE REVIEWED. THESE INCLUDE SOLAR, GEOTHERMAL, OIL SHALE, SOLID WASTES, UNDERGROUND COAL GASIFICATION, AND HYDROGEN ENERGY SOURCES. PROJECTIONS TO THE YEAR 2000 OF LEVELS OF ENERGY PRODUCTION FROM THE FIRST FOUR OF THESE SOURCES ARE PRESENTED. ENVIRONMENTAL IMPACTS ON AIR AND WATER QUALITY, AND LAND USE ARE DERIVED PER UNIT OF ENERGY. LEVELS OF POLLUTANT EMISSIONS AND OTHER ENVIRONMENTAL EFFECTS OF THE DEVELOPMENT OF THESE ADVANCED ENERGY SOURCES ARE

PROJECTED. IMPACTS LIKELY TO REQUIRE CONTROL MEASURES ARE IDENTIFIED. SUBJECTS FOR RESEARCH AND DEVELOPMENT DIRECTED TOWARD CONTROL OF ENVIRONMENTAL IMPACTS ARE RECOMMENDED. THESE RECOMMENDATIONS ARE INCORPORATED INTO A RESEARCH AND DEVELOPMENT PLAN. APPROXIMATE PRIORITY ASSIGNMENTS DERIVED FROM CONSIDERATION OF THE TIMING OF DEVELOPMENT AND THE IMPORTANCE AND DEGREE OF DEFINITION OF THE IDENTIFIED ENVIRONMENTAL EFFECTS ARE GIVEN.

MJ ENERGY-CONVERSION, ENVIRONMENTAL-IMPACTS, SOLAR-ENERGY, GEOTHERMAL-PROSPECTING, OIL-SHALES, COAL-GASIFICATION.

MN HYDROGEN, WASTES, AIR-POLLUTION, WATER-POLLUTION, LAND-USE, MATERIALS-ESTIMATES, SULFUR-OXIDES, NITROGEN-OXIDES, METHANE, CARBON-MONOXIDE, HYDROCHLORIC-ACID, PARTICLES, FINES, SOLAR-SEA-POWER, HYDROELECTRIC-POWER, WIND-POWER, FORECASTING.

ID NTISEPAORD.

AN N PB-239 450/0SL.

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AU HUNDEMANN, AUDREY S.

IN NATIONAL TECHNICAL INFORMATION SERVICE, SPRINGFIELD, VA. 391 812.

YR 76. 228P*.

TI OIL SHALE MINING, PROCESSING, USES, AND ENVIRONMENTAL IMPACTS (CITATIONS FROM THE NTIS DATA BASE).

NT REPT. FOR 1964-MAR 76. SEE ALSO NTIS/PS-76/0320. SUPERSEDES NTIS/PS-75/362, AND COM-74-10969.

PR PC$25.00/MF$25.00.

AB EXPLORATION, MINING, RETORTING, CHEMISTRY, ENVIRONMENTAL IMPACTS, AND POLICIES RELATING TO OIL SHALE RESEARCH ARE COVERED. ABSTRACTS DISCUSS SUCH THINGS AS OIL SHALE AIR AND WATER POLLUTION CONTROL, PRODUCTION OF SYNTHETIC FUELS, USE OF SPENT OIL SHALE IN ROAD CONSTRUCTION, IDENTIFICATION OF RESEARCH AND DEVELOPMENT PRIORITIES, AND IN SITU RECOVERY OF SHALE OIL. (THIS UPDATED BIBLIOGRAPHY CONTAINS 223 ABSTRACTS, 87 OF WHICH ARE NEW ENTRIES TO THE PREVIOUS EDITION.).

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AN B 59028377.

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AU KARIYA, TEIJI. AKIBA, REIKO.
SUZUKI, SHUKO. TSUDA, TSUTOMU.
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AB NONE.
ID PIRIZIN-PIRAZORON METHOD.
DE CYANIDE, TOXICITY, FISHES.
AN P 7000631.

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OGASAARA, SUSUMU.
IN TOHOKU UNIV. SENDAI. JAPAN.
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TI POST-MORTEM IDENTIFCATION OF THE

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AN C 07211053327.

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AU KATO, TAKETOSHI.
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DE HEAVY METAL TOXICITY FISH MAMMAL. CYANIDE TOXICITY FISH MAMMAL. CADMIUM TOXICITY FISH MAMMAL. CHROMATE TOXICITY FISH MAMMAL. COPPER TOXICITY FISH MAMMAL. ZINC TOXICITY FISH MAMMAL. PERMANGANATE TOXICITY FISH MAMMAL. MERCURY TOXICITY FISH MAMMAL. LEAD TOXICITY FISH MAMMAL. ALUMINUM TOXICITY FISH MAMMAL.
AN C 08015078898.

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AU KATZ, S. PITT, W. W. JR.
IN OAK RIDGE NATL. LAB. OAK RIDGE. TENN.
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TI SENSITIVE MONITORING OF PHENOLS AFTER LIQUID CHROMATOGRAPHY. COMMENTS .
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DE PHENOL DETN WATER. CERATE OXIDATIVE MONITOR PHENOL DETN.
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AU KATZER, JAMES R.
IN DELAWARE UNIV. NEWARK. DEPT. OF CHEMICAL ENGINEERING. 401 240.
YR 73. 147P.
TI CATALYTIC OXIDATION OF ORGANICS IN WASTEWATER.
NT PROJECT COMPLETION REPT. JUL 70- JUN 73. SPONSORED IN PART CONTRACTS DI-14-31-0001-3508 AND DI-14-31-0001- 3808.
PR PC$4.50/MF$1.45.
AB MANY INDUSTRIAL WASTEWATER STREAMS CONTAIN HIGN CONCENTRATIONS OF ORGANIC MATERIAL WHICH ARE OFTEN DIFFICULT TO TREAT BIOLOGICALLY BECAUSE OF THEIR TOXICITY OR REFRACTORY NATURE. CATALYTIC OXIDATION IS A TECHNIQUE ON WHICH LITTLE DATA IS AVAILABLE ALTHOUGH AT LEAST ONE COMMERCIAL CATALYTIC OXIDATION PROCESS HAS BEEN ANNOUNCED. IN THIS WORK THE CATALYTIC OXIDATION OF PHENOL IN AQUEOUS SOLUTION HAS BEEN STUDIED OVER SUPPORTED COPPER OXIDE AND MANGANESE DIOXIDE TO PROVIDE BOTH FUNDAMENTAL AND PRACTICAL DESIGN INFORMATION ON THE PROCESS. THE AQUEOUS-PHASE PHENOL OXIDATION STUDIES WERE CARRIED OUT IN BATCHWISE MODE AT ATMOSPHERIC PRESSURE AND 100C, AND IN AN AUTOCLAVE AT TEMPERATURES FROM 96 TO 200C AND OXYGEN PRESSURE OF 1 TO 17 ATM. THE ECONOMICS OF THE SYSTEM ARE DISCUSSED.
MJ PHENOLS, OXIDATION, CATALYSIS, INDUSTRIAL-WASTE-TREATMENT.
MN COPPER-OXIDES, REACTION- KINETICS, WATER-TREATMENT, MANGANESE-OXIDES, PRESSURE, TEMPERATURE, DESIGN, PROCESSING, FREE-RADICALS, COST-ESTIMATES, FEASIBILITY, INDUSTRIAL-WASTES.
ID CHEMICAL-REACTION-MECHANISMS, OWRR.
AN N PB-226 300/2.

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AU KAUFMAN, K. S.
IN USSR.
YR 73.
TI INFLUENCE OF SOME COMPONENTS PRESENT IN WASTE WATERS ON THE DETERMINATION OF THE TOTAL CONTENT OF VOLATILE PHENOLS.
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AN C 08120126515.

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IN INST. ENVIRON. SCI. ENG. UNIV. TORONTO. TORONTO. ONT.
YR 73.
TI TOXICITY OF CRUDE OIL AND ITS COMPONENTS TO FRESH WATER ALGAE.
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LG EN.
DE CHLAMYDOMONAS OIL SPILL TOXICITY. CHLORELLA OIL SPILL TOXICITY. PHYTOPLANKTON FRESHWATER OIL TOXICITY. NAPHTHALENE OIL TOXICITY PHYTOPLANKTON. BICARBONATE UPTAKE ALGAE HYDROCARBON. HYDROCARBON PARAFFIN CHLORELLA GROWTH.
AN C 08017091731.

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AU KAWAHARA, FRED K.
IN FWQA, DIV. OF WATER QUALITY RESEARCH ANALYTICAL QUALITY CONTROL LAB. CINCINNATI, OH.
YR 71.
TI GAS CHROMATOGRAPHIC ANALYSIS OF MERCAPTANS, PHENOLS, AND ORGANIC ACIDS IN SURFACE WATERS WITH USE OF PENTAFLUOROBENZYL DERIVATIVES.
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DE GAS CHROMATOGRAPHY, SURFACE WATERS.
AN P 7006934.

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AN C 07326133835.

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AU KAWAI, FUSAKO. HANADA, KEIZO. TANI, YOSHIKI. OGATA, KOICHI.
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IN UNIV. OF TOKYO, DEPT. OF CHEMICAL ENGINEERING, BUNKYO-KU, TOKYO, 113 JAPAN.
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DE METAL INDUSTRY WASTES, REFINERIES, INDUSTRIAL EFFLUENTS, JAPAN COAST, GAS INDUSTRY WASTES, SEDIMENTS, WATER POLLUTANTS, SEAWATER, HYDROCARBONS, AROMATIC COMPOUNDS.
AN P 7701439.

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AU KEITH L H.
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TI GAS CHROMATOGRAPHY MASS SPECTROMETRY ANALYSES OF ORGANIC COMPOUNDS IN TREATED KRAFT PAPER MILL WASTE WATERS.
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AN B 77007314.

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AU KEITH L H. GARRISON A W. ALLEN F R. CARTER M H. FLOYD T L. POPE J D. THRUSTON A D JR.
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TI IDENTIFICATION OF ORGANIC COMPOUNDS IN DRINKING WATER FROM 13 USA CITIES.
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AN B 77007300.

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AU KELLY, JOHN ARTHUR.
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AN D ADG74-08061.

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AU KEMP, HOMER T. LITTLE, ROBERT L. HOLOMAN, VERNA L. DARBY, RALPH L.
IN BATTELLE COLUMBUS LABS. OHIO. WASHINGTON, D.C. 407 080.
YR 73. 538P*.
TI WATER QUALITY CRITERIA DATA BOOK, VOLUME V, EFFECTS OF CHEMICALS ON AQUATIC LIFE.
NT WATER POLLUTION CONTROL RESEARCH SERIES.
AV PAPER COPY ALSO AVAILABLE FROM GPO, PC$4.95.
PR PC$7.95/MF$2.25.
AB THE REPORT IS AN EXTENSIVE COMPILATION OF DATA ON THE EFFECTS OF CHEMICALS ON AQUATIC LIFE WHICH WERE EXTRACTED FROM LITERATURE PUBLISHED DURING THE PERIOD 1968-1972. IT IS AN UPDATE OF AN EARLIER REPORT ENTITLED 'WATER QUALITY CRITERIA DATA BOOK, VOLUME III, EFFECTS OF CHEMICALS ON AQUATIC LIFE.' THE DATA ARE ARRANGED ALPHABETICALLY BY CHEMICAL AND ARE CONCISELY REPRESENTED IN A COLUMNAR FORMAT WHICH INCLUDES ORGANISM NAMES, TYPE OF STUDY, CHEMICAL EFFECT, CONTROLLED PARAMETERS, SIGNIFICANT COMMENTS ON THE TEST, AND SOURCE OF THE DATA. THE DATA WERE COMPILED USING A PROGRAM PREPARED AS PART OF THE WORK.
MJ WATER-POLLUTION, TOXICOLOGY, AQUATIC-BIOLOGY.
MN INORGANIC-COMPOUNDS, ORGANIC-COMPOUNDS, TABLES-DATA, BIOASSAY, FISHES, BIOCHEMICAL-OXYGEN-DEMAND, INDUSTRIAL-WASTES, INDICATOR-SPECIES, TEMPERATURE, DISSOLVED-GASES, OXYGEN, METALS, ORGANIC-WASTES, PESTICIDES, CHLORINE-ORGANIC- COMPOUNDS, PHENOLS, CYANIDES.
ID WATER-POLLUTION-EFFECTS-ANIMALS, WATER-POLLUTION-EFFECTS-PLANTS, NTISEPAFWQ.
AN N PB-234 435/6.

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AU KENNEDY R S. FINNERTY W R.
IN DEPARTMENT OF MICROBIOLOGY, UNIVERSITY OF GEORGIA, ATHENS,

GEORGIA 30602.
YR 75.
TI MICROBIAL ASSIMILATION OF HYDROCARBONS. II. INTRACYTOPLASMIC MEMBRANE INDUCTION IN ACINETOBACTER SP.
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LG EN.
MJ ALCALIGENES: ME. OXIDATION-REDUCTION.
MN ACINETOBACTER: UL, GD. ME. UNITED-STATES-GOVERNMENT-SUPPORTED-NON-NIH: (NON-NIH-SUP).
AN M 75108073.

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AU KENNER, C T. BIEHL, E R. GUERRERO, H.
IN SOUTHERN METHODIST UNIV. DEPT. OF CHEMISTRY, DALLAS, TX 75275.
YR 76.
TI HIGH-PRESSURE LIQUID CHROMATOGRAPHY OF BENZO(A)PYRENE AND BENZO(GHI)PERYLENE IN OIL-CONTAMINATED SHELLFISH.
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LG EN.
AB NONE.
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DE POLLUTANT ANALYSIS, LIQUID CHROMATOGRAPHY, CARCINOGENS, OIL POLLUTION MOLLUSCA, HYDROCARBONS.
AN P 7700421.

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AU KHESINA, A. YA. PETROVA, T. V.
IN USSR.
YR 73.
TI USE OF QUASILINEAR LUMINESCENCE SPECTRA IN THE DETERMINATION OF A SERIES OF POLYCYCLIC AROMATIC HYDROCARBONS IN MIXED SOLVENTS AND COMPLEX EXTRACTS.
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LG RS.
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AN C 07908048993.

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AU KHODOROV, E. I. VERTESHEV, M. S.
IN USSR.
YR 72.
TI ANALYSIS OF CONCENTRATION FIELDS DURING THOROUGH SUPPLEMENTARY PURIFICATION OF PHENOLIC EFFLUENTS.
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IN USSR.
YR 76.
TI DETERMINATION OF RESORCINOL, PYROCATECHOL, AND HYDROQUINONE IN WATER BY THIN-LAYER CHROMATOGRAPHY.
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AN C 08626194878.

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AU KIEZYK, P. R. MACKAY, D.
IN DEP. CHEM. ENG. APPL. CHEM. UNIV. TORONTO. TORONTO. ONT.
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TI WASTE WATER TREATMENT BY SOLVENT EXTRACTION.
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LG EN.
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AU KIEZYK, PETER R. MACKAY, DONALD.
IN DEP. CHEM. ENG. APPL. CHEM. UNIV. TORONTO. TORONTO. ONT.
YR 73.
TI SCREENING AND SELECTION OF SOLVENTS FOR THE EXTRACTION OF PHENOL FROM WATER.
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LG EN.
DE PHENOL EXTN WASTE WATER.
AN C 08012064354.

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AU KIKUCHI T. MIMURA T. KAWASHIMA Y. MORIWAKI Y. MASADA Y. INOUE T.
YR 75.
TI ODOROUS COMPOUNDS IN RAW WATER OF WATER SUPPLIES IDENTIFICATION OF CAMPHOR AND P METHYL ACETOPHENONE.
SO YAKUGAKU ZASSHI. 95 (12). (RECD 1976) 1517-1519.
DE JAPAN POLLUTION LAKES GAS CHROMATOGRAPHY MASS SPECTROMETRY.
AN B 62039987.

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AU KILGORE, WENDELL W. CARLSON, ARNE E. DAGLEY, STANLEY. PIMENTEL, DAVID.
IN NATIONAL RESEARCH COUNCIL, WASHINGTON, D.C. SUBCOMMITTEE ON CHEMICAL ADDITIVES.
YR 72. 359P*.
TI DEGRADATION OF SYNTHETIC ORGANIC MOLECULES IN THE BIOSPHERE: NATURAL, PESTICIDAL, AND VARIOUS OTHER MAN-MADE COMPOUNDS.
NT PROCEEDINGS OF A CONFERENCE HELD IN SAN FRANCISCO, CALIF. 12-13 JUN 71. LIBRARY OF CONGRESS CATALOG CARD NO. 72-8844. INTERNATIONAL STANDARD BOOK NO. 0-309-02046-8.
AV PAPER COPY AVAILABLE FROM PRINTING AND PUBLISHING OFFICE OF THE NATIONAL ACADEMY OF SCIENCES, 2101 CONSTITUTION AVE. N.W. WASHINGTON, D.C. 20418, $13.95.
PR MF$0.95.
AB IN AN EFFORT TO MINIMIZE ENVIRONMENTAL POLLUTION, MANY SCIENTISTS AND RESEARCHERS ARE SEEKING TO DEVELOP MORE EFFECTIVE METHODS FOR DISPOSING OF INDUSTRIAL, DOMESTIC, AND AGRICULTURAL WASTES. THE REPORT EXPLORES THE CAPABILITIES AND LIMITATIONS OF THE PROCESS OF BIOLOGICAL DEGRADATION AS A MEANS FOR DISPOSING OF NATURAL, PESTICIDAL, AND VARIOUS OTHER MAN-MADE COMPOUNDS. THE TOPICS INCLUDE: MICROBIAL DEGRADATION OF STABLE CHEMICAL STRUCTURES; AN OUTLINE OF REACTION SEQUENCES USED FOR THE BACTERIAL DEGRADATION OF PHENOLIC COMPOUNDS; THE EVOLUTION OF METABOLIC PATHWAYS IN BACTERIA; MICROBIAL METABOLISM OF NORMAL AND BRANCHED CHAIN ALKANES; METABOLISM OF METHOXY- AND METHYLENEDIOXYPHENYL COMPOUNDS BY BACTERIA; INITIAL REACTIONS IN THE DEGRADATION OF AROMATIC HYDROCARBONS; EARLY REACTIONS IN THE DEGRADATION OF CAMPHOR: P-450(CAM) HYDROXYLASE; ENZYMOLOGY OF CARBON-HALOGEN BONDS; MICROBIAL DEGRADATION OF SOME CHLORINATED PESTICIDES; ENVIRONMENTAL FACTORS AFFECTING FATE OF PESTICIDES; ABSORPTION AND METABOLISM OF INSECTICIDE CHEMICALS IN PLANTS; DEVELOPMENT OF PERSISTENT BIODEGRADABLE INSECTICIDES RELATED TO DDT; ENVIRONMENTAL PHOTOOXIDATION OF PESTICIDES; PRINCIPLES OF PHOTODECOMPOSITION OF PESTICIDES; PARATHION IN PLANT TISSUES; THE TOXICITY OF PESTICIDES AND THEIR METABOLITES.
MJ BIODETERIORATION, ORGANIC-COMPOUNDS, PHENOLS, BIODETERIORATION, PESTICIDES, BIODETERIORATION, HALOHYDROCARBONS, BIODETERIORATION, MEETINGS, BIODETERIORATION.
MN POLLUTION, METABOLISM, BACTERIA, ALKANES, HYDROCARBONS, AROMATIC-COMPOUNDS, CAMPHOR, CHLORINE-ORGANIC- COMPOUNDS, PHOTOCHEMICAL-REACTIONS, OXIDATION, TOXICITY.
ID PARATHION, NAS.
AN N PB-218 665/8.

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AU KING R F G J. BROWN S B.
YR 76.
TI HEM DEGRADATION IN DI METHYL SULFOXIDE WATER MIXTURES AND PYRIDINE WATER MIXTURES.
SO BIOCHEM SOC TRANS. 4 (2). 299-301.
DE ABSTRACT.
AN B 76083791.

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AU KIPNIS, M. G. RUKIN, E. I. KUKHARENKO, T. A.
IN INST. GORYUCH. ISKOP. MOSCOW. USSR.
YR 73.
TI OXIDATION OF LIPTOBIOLITHIC COAL CONCENTRATES BY ATMOSPHERIC OXYGEN IN AN AQUEOUS-ALKALINE MEDIUM.
SO KHIM. TVERD. TOPL. P40-6. 1973.
LG RS.
DE LIPTOBIOLITH AIR OXIDN. BENZENE CARBOXYLIC ACID LIPTOBIOLITH.
AN C 07904021474.

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AU KIRSO, O. UIBOPUU, H. TUULMETS, A. GUBERGRITS, M. YA. LILLE, U.

IN INST. CHEM. TALLIN. USSR.
YR 73.
TI KINETICS OF THE INITIATED OXIDATION OF SUBSTITUTED PHENOLS IN WATER.
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DE PHENOL OXIDN KINETICS SUBSTITUENT. PHOTOCHEM OXIDN KINETICS PHENOL.
AN C 08023132494.

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AU KIRSO, U. BERNOVSKAYA, N. A. GUBERGRITS, M.
IN INST. KHIM. TALLIN. USSR.
YR 73.
TI REACTIVITY OF PHENOLS DURING BIOCHEMICAL OXIDATION IN MODELS OF WASTE WATERS.
SO KHIM. TVERD. TOPL. P100-5. 1973.
LG RS.
DE PHENOL REACTIVITY BIOL OXIDN.
AN C 07902009523.

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AU KITAGAWA, HIROSHI.
IN NATL. RES. INST. POLLUT. RESOUR. JAPAN.
YR 75.
TI ADSORPTION OF PHENOL, P-NITROPHENOL, AND 2,4-DICHLOROPHENOL IN AQUEOUS SOLUTIONS BY ACTIVATED CARBON.
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LG JA.
DE PHENOL ADSORPTION ACTIVATED CARBON. NITROPHENOL ADSORPTION ACTIVATED CARBON. CHLOROPHENOL ADSORPTION ACTIVATED CARBON.
AN C 08524181906.

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AU KITAZATO, HAJIME.
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YR 76.
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LG JA.
DE REVIEW WATER INSTRUMENTAL ANALYSIS. OXYGEN DEMAND DETN REVIEW. CARBON TOTAL DETN REVIEW. OIL DETN TURBIDITY REVIEW. PHENOL DETN WATER REVIEW. UV SPECTROSCOPY IR REVIEW.
AN C 08718140866.

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AU KLECZKOWSKI, A. S. KURDYKA, S. STOBIERSKI, J.
IN INST. HYDROGEOL. ENG. GEOL. ACAD. MIN. METALL. CRACOW. POL.
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TI INFLUENCE OF A CHEMICAL PLANT SEWAGE SEDIMENTATION CATCHPIT ON GROUND WATERS ON THE UPPER VISTULA FLOODPLAIN.
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DE SEDIMENTATION SEWAGE CATCHPIT EFFECT GROUNDWATER. CHLORIDE POLLUTION GROUNDWATER. SULFIDE POLLUTION GROUNDWATER. PHENOL POLLUTION GROUNDWATER. NEKAL POLLUTION GROUNDWATER.
AN C 07720130375.

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AU KLEIN, E. SMITH, J. K. WEAVER, R. E. C. WENDT, R. P. DESAI, SHYAMKANT V.
IN GULF SOUTH RES. INST. NEW ORLEANS. LA.
YR 73.
TI SOLUTE SEPARATIONS FROM WATER BY DIALYSIS. II. SEPARATION OF PHENOL BY DOWNSTREAM CONJUGATION.
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AN C 08219119705.

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AN C 08110054886.

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LG RS.
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AN C 08110054890.

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IN USSR.
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AN C 07920118901.

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AN C 08526197596.

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YR 70.
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AN C 07814089108.

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AU KORN, SID. STRUHSAKER, JEANNETTE W. BENVILLE, PETE, JR.
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LG EN.
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AN C 08523172405.

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TI OZONE TREATMENT AS A METHOD OF PURIFYING WATER POLLUTED WITH CHEMICAL COMPOUNDS.
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SO GIG SANIT. 37. 12. P78-83. DEC 72.
LG RS.
MJ INDUSTRIAL-WASTE.
MN BENZOPYRENES. INSECTICIDES-ORGANOPHOSPHATE. SURFACE-ACTIVE-AGENTS.
AN M 73131360.

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AU KOROLEV, A. A. ABINDER, A. A. BOGDANOV, M. V. ZAKHAROVA, T. A. KHITROV, N. K.
IN ENVIRONMENTAL PROTECTION AGENCY, RESEARCH TRIANGLE PARK, N.C. TRANSLATION SERVICES SECTION.
YR 73. 8P.
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KHARAKTERISTIKA PRODUKTOV DESTRUKTSII FENOLA PRI OZONIROVANII VODY).
NT TRANS. OF GIGIENA I SANITARIYA (USSR) V38 N8 P6-10 AUG 73.
PR PC$3.25/MF$2.25.
AB ALL TESTED PHENOLS ARE EASILY OXIDIZED BY OZONE, AS THE RESULT OF WHICH THE ORGANOLEPTIC PROPERTIES OF WATER CONTAMINATED BY THESE SUBSTANCES ARE SIGNIFICANTLY IMPROVED. THE PRODUCTS OF ADVANCED OXIDATION OF PHENOLS BY OZONE ARE PRACTICALLY NONTOXIC AND NONCUMULATIVE. THE OZONIZATION METHOD CAN BE RECOMMENDED FOR WIDE USE TO PURIFY DRINKING WATER AND SEWAGE CONTAMINATED BY PHENOLS.
MJ TOXICOLOGY, OZONIZATION, WATER-TREATMENT, PHENOLS.
MN POTABLE-WATER, HYGIENE, USSR, TRANSLATIONS, RECOMMENDATIONS, SEWAGE-TREATMENT, OXIDATION, DECOMPOSITION.
ID NTISEPAISD.
AN N PB-237 917-T/SL.

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IN NAGOYA INST. TECHNOL. NAGOYA, JAPAN.
YR 73.
TI OXIDATION OF HYDROQUINONE BY OXYGEN IN AQUEOUS SOLUTIONS AND IN ORGANIC SOLVENTS.
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LG JA.
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AN C 08221138933.

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AU KOSINKIEWICZ B. STANKIEWICZ M.
YR 75.
TI THE EFFECT OF MICROORGANISMS ON PHYTO TOXICITY OF HERBICIDES PART 2 INCREASE OF PHYTO TOXICITY OF VENZAR IN THE PRESENCE OF PHENOLIC COMPOUNDS PRODUCED BY PSEUDOMONAS-SP.
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AN B 61017305.

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YR 71.
TI METABOLIC FUNCTIONS OF MICROORGANISMS AS INDICATORS OF TOXIC SUBSTANCES.
TR STOFFWECHSELFUNKTIONEN VON MIKROORGANISMEN ALS INDIKATOREN FUR TOXISCHE SUBSTANZEN.
SO Z GESAMTE HYG. 17. 5. P317-21. MAY 71.
LG GE.
MJ BACTERIA: DE, ME.
MN BACTERIOLOGICAL-TECHNICS. BIOLOGICAL-ASSAY.
AN M 72049856.

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YR 74.
TI RADIATION-CHEMICAL OXIDATION OF 3-PICOLINE IN AQUEOUS SOLUTIONS.
SO VESTN. MOSK. UNIV. KHIM. 15. P755. 1974.
LG RS.
DE PICOLINE PHOTOCHEM OXIDN.
AN C 08225170627.

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AU KOSTROMIN, N. P. SARAEVA, V. V.
IN MOSK. GOS. UNIV. IM. LOMONOSOVA. MOSCOW. USSR.
YR 75.
TI KINETICS OF THE RADIATION- CHEMICAL OXIDATION OF PYRIDINE IN AQUEOUS SOLUTIONS.
SO KHIM. VYS. ENERG. 9. P34-8. 1975.
LG RS.
DE PYRIDINE OXIDN X RAY.
AN C 08215097420.

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AU KOSTROMIN, N. P. SARAEVA, V. V.
IN MOSK. GOS. UNIV. MOSCOW. USSR.
YR 74.
TI DETERMINATION OF PRODUCTS OF RADIATION-CHEMICAL OXIDATION OF PYRIDINE IN AQUEOUS SOLUTION.
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LG RS.
DE HYDROXYLATION PYRIDINE RADIOCHEM. IRRADN PYRIDINE HYDROXYLATION. HYDROXYPYRIDINE. OXIDE PYRIDINE.
AN C 08205031222.

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AU KOSTROMIN, N. P. SILANT'EV, A. I. SARAEVA, V. V.
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YR 77.
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SO KHIM. VYS. ENERG. 11. P81-2. 1977.
LG RS.
DE PICOLINE IRRADN OXIDN.
AN C 08619139793.

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AU KOSTYAEV, V. YA.
IN USSR.
YR 73.
TI INFLUENCE OF PHENOL ON THE HYDROCHEMICAL REGIME, PHYTOPLANKTON, AND PHYTOFOULING OF EXPERIMENTAL WATER BODIES.
SO TR. INST. BIOL. VNUTR. VOD, AKAD. NAUK SSSR. NO. 24. P119-51. 1973.
LG RS.
DE PHENOL POLLUTION WATER BIOTA.
AN C 08016087250.

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YR 73.
TI EFFECT OF PHENOL ON ALGAE.
SO TR. INST. BIOL. VNUTR. VOD, AKAD. NAUK SSSR. NO. 24. P98-113. 1973.
LG RS.
DE PHENOL TOXICITY ALGAE. PHOTOSYNTHESIS ALGAE PHENOL.
AN C 08015078930.

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AU KOSTYAEV, V. YA.
YR 73. 10P.
TI PATTERN OF PHENOL DEGRADATION IN THE VOLGA AND ITS TRIBUTARIES.
AV TRANSLATION.
PR PC$3.50/MF$2.25.
AB METHODS ARE DESCRIBED FOR TAKING WATER SAMPLES AND MAKING PHENOL DETERMINATIONS. STUDIES WERE MADE ON THE RATE OF PHENOL DESTRUCTION, EFFECTS OF ADDED NITROGEN AND PHOSPHORUS SALTS ON PHENOL DESTRUCTION RATE, AND EFFECTS OF LIGHT ON PHENOL DESTRUCTION. RESULTS SHOWED THAT NEITHER A DECREASE IN THE PH OF THE WATER NOR A DECREASE IN OXYGEN CONCENTRATION LEAD TO DESTRUCTION OF THE TOXICANT; ONLY ADDITION OF NITROGEN AND PHOSPHORUS CAUSED RAPID DESTRUCTION. IT WAS CONCLUDED THAT IF ALGAE AND OTHER PLANTS RELEASE ANTIBIOTICS, THEY DO NOT AFFECT THE PHENOL-DESTROYING BACTERIA UNFAVORABLY.
MJ PHENOLS, DECOMPOSITION.
MN ALGAE, ANTIBIOTICS, BACTERIA, OXYGEN, PLANTS, SAMPLING, VISIBLE-RADIATION, VOLGA-RIVER, WATER.
ID ERDA-520200, TRANSLATIONS, USSR, BIODEGRADATION, NUTRIENTS, WATER-POLLUTION, NTISERDA.
AN N ORNL-TR-2935.

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AU KOSTYAEV, V. YA.
YR 73. 69P.
TI EFFECT OF PHENOL ON THE HYDROCHEMICAL REGIME, PHYTOPLANKTON, AND PLANT OVERGROWTH IN ARTIFICIAL BODIES OF WATER.
AV TRANSLATED FROM TR. INST. BIOL. VNUTR. VOD, AKAD. NAUK SSSR.
PR PC$4.50/MF$2.25.
AB THE EFFECTS OF THE ADDITION OF VARIOUS AMOUNTS OF PHENOL COMPOUNDS ON THE GROWTH OF ALGAE IN LARGE TANKS FILLED WITH RIVER WATER WERE STUDIED. THE DEPOSITION OF PHENOLS IN SEDIMENTS AND THE DECOMPOSITION OF PHENOLS BY BACTERIA WERE OBSERVED.
MJ AQUATIC-ECOSYSTEMS, WATER-POLLUTION, PHENOLS, TOXICITY, ALGAE, PLANT-GROWTH.
MN BACTERIA, DECOMPOSITION, ENVIRONMENT, FRESH-WATER, SEDIMENTS, TIME-DEPENDENCE.
ID ERDA-520200, ERDA-560303, NTISERDA.
AN N ORNL-TR-2934.

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AU KOSTYAEV, V. YA. BARONKINA, L. A.
YR 73. 9P.
TI DECOMPOSITION OF PHENOL IN VARIOUS MEDIA.
PR PC$3.50/MF$2.25.
AB IN ORDER TO DECOMPOSE LARGE CONCENTRATIONS OF PHENOL A HIGHER BACTERIAL ACTIVITY IS REQUIRED WHICH, UNDER OTHERWISE EQUAL CONDITIONS, DEPENDS ON THE CONCENTRATION OF BIOGENIC ELEMENTS IN THE MEDIUM (N,P). THE TAMIIYA MEDIUM IN THIS RESPECT EXCEEDS THE CHU NO. 10 MEDIUM BY A FACTOR OF 10, AND THIS HIGHER CONCENTRATION OF BIOGENIC ELEMENTS IN THE TAMIIYA

MEDIUM DETERMINES THE HIGHER RATE OF DECOMPOSITION AT HIGHER PHENOL CONCENTRATIONS.
MJ PHENOLS, DECOMPOSITION, BACTERIA, METABOLISM.
MN BIOCHEMICAL-REACTION-KINETICS, CULTURE-MEDIA.
ID ERDA-400301, ERDA-510100, NTISERDA.
AN N ORNL-TR-2937.

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AU KOSTYAEV, V. YA. LAPTEVA, N. A. MIKRYAKOVA, T. V. BARONKINA, L. A. ZHUKOV, B. A. GORYACHEVA, N. B. ZAKHAROVA, L. I.
IN USSR.
YR 73.
TI DEGRADATION OF PHENOL IN ARTIFICIAL WATER BODIES. EXPERIMENTS IN 1970 .
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LG RS.
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AN C 08014074024.

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YR 75.
TI EFFECT OF FORMALDEHYDE ON THE CHEMICAL PROPERTIES OF WATER AND THE BIOCHEMICAL PROCESSES OCCURRING IN A RESERVOIR.
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LG RS.
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AN C 08426184747.

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IN ZOOL. INST. SOFIA. BULG.
YR 75.
TI TOXIC EFFECT OF PHENOL ON SEVERAL FRESH WATER INVERTEBRATES.
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LG BU.
DE PHENOL TOXICITY FRESHWATER INVERTEBRATE. OLIGOCHAETE PHENOL RESISTANCE. AMPHIPOD PHENOL RESISTANCE. ISOPOD PHENOL RESISTANCE. INSECT LARVAE PHENOL RESISTANCE. SAPROBIC ORGANISM PHENOL TOXICITY.
AN C 08525187331.

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IN JAPAN.
YR 72.
TI ENVIRONMENTAL POLLUTION BY CONCENTRATED CYANIDE SOLUTIONS AND COUNTERMEASURES AGAINST THE POLLUTION.
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LG JA.
DE REVIEW CYANIDE DISPOSAL WASTE WATER.
AN C 07706038801.

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AU KOZITSKAYA, V. N.
IN INST. GIDROBIOL. KIEV. USSR.
YR 71.
TI SOURCES OF PHENOL ACCUMULATION IN RESERVOIRS OF THE DNIEPER CASCADE.
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LG RS.
DE PHENOL WATER RESERVOIR. BLUE GREEN ALGAE PHENOL RESERVOIR. BLOOMING ALGAE PHENOL RESERVOIR.
AN C 07604017697.

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YR 75.
TI INCREASE IN GAS RESISTANCE AND PHENOL ACCUMULATING ABILITY OF PLANTS UNDER CONDITIONS OF AN INDUSTRIAL MEDIUM.
SO UKR BOT ZH. 32 (3). 367-370.
DE DACTYLIS-GLOMERATA SYRINGA- VULGARIS PSEUDOBACTERIUM-LACTICUM PSEUDOMONAS-LIQUEFACIENS HUMUS MIXTURE AIR POLLUTION BACTERIAL FERTILIZERS.
AN B 61060455.

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AU KRAMER, URS. BHATIA, KISHAN.
IN MELLON INST. SCI. CARNEGIE- MELLON UNIV. PITTSBURGH. PA.
YR 74.
TI DETERMINATION OF TRACE PHENOL AND ISOMERIC HYDROXYBENZOIC ACIDS IN AQUEOUS BENZOIC ACID SOLUTIONS BY AQUEOUS LIQUID CHROMATOGRAPHY.
SO J. CHROMATOGR. 89. P348-9. 1974.
LG EN.
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OXIDN PRODUCT.
AN C 08020115802.

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AU KREMMER, A. M. KNYAZEVA, G. V. SAMSONOVA, L. M.
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YR 72.
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LG RS.
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YR 73.
TI DETERMINATION OF PHENOL AND WATER IN PHENOL-FORMALDEHYDE RESINS IN A MEDIUM OF NONAQUEOUS SOLVENTS.
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LG RS.
DE PHENOL DETN PHENOLIC RESIN. WATER DETN PHENOLIC RESIN. FORMALDEHYDE PHENOL RESIN ANALYSIS.
AN C 07908043146.

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YR 75.
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LG EN.
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DE FISH, CHEMICAL POLLUTANTS, BIOASSAYS, AMMONIA, INSECTICIDES, TOXICITY SALTS, METALS.
AN P 7600951.

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AU KRISTOFFERSSON R. BROBERG S. OIKARI A.
YR 73.
TI PHYSIOLOGICAL EFFECTS OF A SUBLETHAL CONCENTRATION OF PHENOL IN THE PIKE ESOX-LUCIUS IN PURE BRACKISH WATER.
SO ANN ZOOL FENN. 10 (2). 392-397.
DE AMINO-ACID METABOLISM ACTIVITY.
AN B 58034724.

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YR 74.
TI EFFECT OF A SUBLETHAL CONCENTRATION OF PHENOL ON SOME BLOOD PLASMA ENZYME ACTIVITIES IN THE PIKE ESOX-LUCIUS IN BRACKISH WATER.
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AN B 59028857.

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AU KRIVENTSOVA T D.
YR 76.
TI THE EFFECT OF SEWAGE ON THE PHYSIOLOGICAL GROUPS OF BACTERIA IN THE DUBOSSARY RESERVOIR.
SO IZV AKAD NAUK MOLD SSR SER BIOL KHIM NAUK. 5. (RECD 1977) 46-50.
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AN B 78010900.

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AU KRUPATKIN, I. L. ROZHENTSOVA, E. P.
IN KIROV. POLITEKH. INST. KIROV. USSR.
YR 75.
TI LIQUID EXTRACTION OF DIHYDRIC PHENOLS FROM AQUEOUS SOLUTIONS.
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LG RS.
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AN C 08404022727.

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AU KRUPITSKAIA I D. PIKULEVA M M. RANOV A I.
YR 67.
TI EXPERIENCE IN STUDYING THE EFFICACY OF MEASURES FOR PREVENTING THE POLLUTION OF THE MIASS RIVER WITH PHENOLS.
TR OPYT IZUCHENIIA EFFEKTIVNOSTI MEROPRIIATII, PREDUPREZHDAIUSHCHIKH ZAGRAIAZENIE R. MIASS FENOLAMI.
SO GIG SANIT. 32. 5. P88-9. MAY 67.
LG RS.
MJ PHENOLS.
MN RUSSIAN-FEDERATION.
AN M 69184008.

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YR 74.
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AN C 08310084637.

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AU KUDRISH I K. MIAGKII B I. KHENKINA L M. EVSEEVA A E. KRYSHTAB T P.
YR 77.
TI EFFECT OF SUBSTANCES EXTRACTED FROM COAL ON THE OXIDATIVE AND GROWTH ACTIVITY OF METHANE-OXIDIZING BACTERIA.
TR VPLYV EKSTRAKTYVNYKH RECHOVYN VUHILLIA NA OKYSLIUVAL'NU I ROSTOVU AKTYVNIST' METANOKYSLIUIUCHYKH BAKTERII.
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LG UK.
MJ BACTERIA: ME.
MN BACTERIA: GD. OXIDATION-REDUCTION.
AN M 78030820. 7802.

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AU KUHN, A. T. WILSON, C.
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YR 77.
TI THE CATALYTIC AIR OXIDATION OF CYANIDES.
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LG GE.
DE CYANIDE REMOVAL CATALYTIC AIR OXIDN. WATER REMOVAL CYANIDE.
AN C 08706044733.

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LG EN.
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AN C 08008040860.

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YR 75.
TI THE DETERMINATION OF PHENOLS IN WATER: GAS CHROMATOGRAPHIC IDENTIFICATION BY MEANS OF THE ELECTRON AFFINITY (AUTHOR'S TRANSL).
TR UNTERSUCHUNGEN ZUR BESTIMMUNG VON PHENOLEN IM WASSER: GASCHROMATOGRAPHISCHE IDENTIFIZIERUNG AUF GRUND DES ELEKTRONENANLAGERUNGSVERMOGENS.
SO ZENTRALBL BAKTERIOL ORIG B. 160. 2. P148-54. MAR 75.
LG GE.
MJ PHENOLS: AN.
MN DINITROPHENOLS: AN. (GW).
AN M 76015468.

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AU KUNTE H.
YR 71.
TI THIN-LAYER AND GAS- CHROMATOGRAPHIC DETERMINATION OF PHENOLS PRESENT IN WATER.
TR UNTERSUCHUNGEN ZUR BESTIMMUNG VON PHENOLEN IM WASSER MIT HILFE DER DUNNSCHICHT- UND GASCHROMATOGRAPHIE.
SO ZENTRALBL BAKTERIOL ORIG B. 155. 1. P41-9. SEP 71.
LG GE.
MJ PHENOLS: IP.
MN CHROMATOGRAPHY-GAS. ESTERS.
AN M 72098297.

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YR 75.
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SO Z. WASSER ABWASSER FORSCH. 8. P176-82. 1975.
LG GE.
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AN C 08516112577.

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YR 68.
TI DISPERSON OF POLLUTANTS IN WIDE AND SHALLOW RIVERS.
SO ADD C1977030.
DE ENGINEERING, GENERAL (0537).
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IN INST. MIKROBIOL. VIRUSOL. KIEV. USSR.
YR 77.
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LG UK.
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AN C 08725197027.

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YR 73.
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AN B 58028365.

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YR 75.
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LG RS.
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AN C 08526201775.

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LG JA.
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YR 74.
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LG RS.
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YR 77.
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LG RS.
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AN C 08726205980.

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YR 70.
TI NAPHTHALENE OXIDIZING BACTERIA OF THE WESTERN UKRAINIAN OIL DEPOSITS2
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SO MIKROBIOL ZH. 32. 3. P294-7. MAY-JUN 70.
LG UK.
MJ BACTERIA: ME. SOIL-MICROBIOLOGY.
MN ACTINOMYCETALES: ME. MYCOBACTERIUM: ME. XANTHOMONAS: ME.
AN M 71204365.

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YR 74.
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LG EN.
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AN B 65041584.

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LG EN.
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DE METABOLITES, HUMANS, MAMMALS, AROMATIC COMPOUNDS, CHROMATOGRAPHY, LABORATORY METHODS.
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YR 75.
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YR 70.
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LG EN.
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AN P 7004874.

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AU LAMONTAGNE, R A. SWINNERTON, J W.
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YR 74.
TI OCEANIC DISTRIBUTION OF LOW-MOLECULAR WEIGHT HYDROCARBONS: BASELINE MEASUREMENTS.
SO ENVIRONMENTAL SCIENCE & TECHNOLOGY, 8(7): 657-663, JULY 1974.
LG EN.
AB NONE.
ID BASE LINE CONCENTRATIONS, ETHANE, ETHYLENE, METHANE, PROPANE, PROPYLENE.
DE ALIPHATIC COMPOUNDS, DISTRIBUTION, MARINE ENVIRONMENTS, WATER POLLUTION MEASUREMENTS.
AN P 7501293.

<719>
AU LANGLEY, WILLIAM D.
IN TEXAS A AND M UNIV. COLLEGE STATION. TEX.
YR 69.
TI GAS CHROMATOGRAPHIC INVESTIGATION OF SECONDARY ALCOHOL AND KETONE UTILIZATION BY AEROBIC MICROORGANISMS.
PG 81 PP.
LG EN.
AV 69-14,149.
DE AEROBIC TRANSFORMATION KETONES. KETONES AEROBIC TRANSFORMATION. ALCS AEROBIC TRANSFORMATION. GAS CHROMATOG AEROBIC PROCESSES. CHROMATOG AEROBIC PROCESSES.
AN C 07222114749.

<720>
AU LANK, JOHN C. JR. WALLACE, ALFRED T.
IN B. F. GOODRICH CHEM. CO. CLEVELAND. OHIO.
YR 70.
TI EFFECT OF ACRYLONITRILE ON ANAEROBIC DIGESTION OF DOMESTIC SLUDGE.
SO ENG. BULL. PURDUE UNIV. ENG. EXT. SER. 137. P518-27. 1970.
LG EN.
DE ACRYLONITRILE ANAEROBIC DIGESTION. WASTE WATER ACRYLONITRILE DECOMPN BIOL. DOMESTIC SLUDGE ACRYLONITRILE DECOMPN. ACTIVATED SLUDGE ACRYLONITRILE DECOMPN.
AN C 07622131165.

<721>
AU LAPTEVA, N. A.
IN USSR.
YR 73.
TI ROLE OF SOME PHYSIOLOGICAL GROUPS OF BACTERIA IN PHENOL OXIDATION IN EXPERIMENTAL WATER BODIES.
SO TR. INST. BIOL. VNUTR. VOD, AKAD. NAUK SSSR. NO. 24. P172-7. 1973.
LG RS.
DE PHENOL OXIDN BACTERIA WASTEWATER.
AN C 08016087251.

<722>
AU LAPTEVA, N. A.
IN USSR.
YR 73.
TI MICROFLORA OF EXPERIMENTAL POOLS POLLUTED WITH PHENOL.
SO TR. INST. BIOL. VNUTR. VOD, AKAD. NAUK SSSR. NO. 24. P152-8. 1973.
LG RS.
DE PHENOL POLLUTION FRESHWATER MICROFLORA. BIODEGRDN PHENOL FRESHWATER.
AN C 08014074023.

<723>
AU LAPTEVA, N. A.
YR 73. 12P.
TI CHANGES IN BACTERIAL PERIPHYTON DURING PHENOL DEGRADATION IN MODEL BODIES OF WATER.
AV TRANSLATED BY MARTHA GERRARD FROM TR. INST. BIOL. VNUTR. VOD, AKAD. NAUK SSSR.
PR PC$3.50/MF$2.25.
AB THE REMOVAL OF PHENOLS FROM SURFACE WATERS BY DEGRADATION, BY BACTERIA AND AQUATIC PLANTS WAS INVESTIGATED IN TANKS TO WHICH PHENOL WAS INTRODUCED AT DAILY CONCENTRATIONS RANGING FROM 1 MG TO 500 MG/LITER. RESULTS SHOWED THAT THE PRESENCE OF PHENOL STIMULATED THE MULTIPLICATION OF MANY SPECIES OF BACTERIA AND THE GROWTH OF PLANKTON, SINCE MANY OF THE MICROFLORA ADAPTED TO THE UPTAKE AND METABOLSIM OF PHENOL.
MJ PHENOLS, BIODEGRADATION, SURFACE-WATERS, PURIFICATION, BACTERIA, METABOLISM, PLANKTON, METABOLISM.
MN AQUATIC-ECOSYSTEMS, BIOADSORBENTS, WATER-POLLUTION.
ID ERDA-520200, ERDA-560302, NTISERDA.
AN N ORNL-TR-2929.

<724>
AU LAPTEVA, N. A. MIKRYAKOVA, T. F. BARONKINA, L. A. ZHUKOV, B. F. GORYACHEVA, N. V.
YR 73. 10P.
TI PHENOL DEGRADATION IN ARTIFICIAL BODIES OF WATER (1970 EXPERIMENTS).
AV TRANSLATION.
PR PC$3.50/MF$2.25.
AB PHENOL AS INTRODUCED DAILY INTO WATER WHICH CONTAINED THE AQUATIC PLANTS ELODEA, LEMNA, AND SPIROGYRA. AT WEEKLY INTERVALS DETERMINATIONS WERE MADE ON NITRATE NITROGEN, PHOSPHATE PHOSPHORUS, AND AMMONIA. THE WATER WAS ALSO ANALYZED FOR BACTERIA, FLAGELLATES, AND INFUSORIA. RESULTS ARE SHOWN BY MEANS OF GRAPHS.
MJ PHENOL, BIODEGRADATION, PLANTS, ABUNDANCE, BACTERIA, ABUNDANCE.
MN AMMONIA, AQUATIC-ORGANISMS, DECOMPOSITION, NITRATES, NITROGEN,

PHOSPHATES, PHOSPHORUS, PROTOZOA.
ID ERDA-520200, TRANSLATIONS, WATER-POLLUTION, USSR, NTISERDA.
AN N ORNL-TR-2930.

<725>
AU LAQUA, ERIKA. RUNGE, FRANZ. THIELEMANN, HORST.
IN SAECHS. AKAD. WISS. LEIPZIG. E. GER.
YR 73.
TI ADSORPTIVE ELIMINATION AND IDENTIFICATION OF ORGANIC MATTER IN WATER USING DIFFERENT FILTERING MEDIA.
SO ACTA HYDROCHIM. HYDROBIOL. 1. P345-51. 1973.
LG GE.
DE ACTIVATED CARBON ADSORPTION WATER TREATMENT. ADSORPTION ORG WATER TREATMENT. FILTER MEDIA ORG WATER TREATMENT. POLYMERIC ADSORBENT WATER TREATMENT. PHENOL IDENTIFICATION WATER. CHROMATOG PHENOL WATER .
AN C 08218115946.

<726>
AU LARSON R A. WESTON J C.
YR 76.
TI ANALYSIS OF WATER EXTRACTS OF CRUDE PETROLEUM BY GEL PERMEATION CHROMATOGRAPHY.
SO BULL ENVIRON CONTAM TOXICOL. 16 (1). 44-52.
DE AQUATIC ORGANISMS TOXICITY AROMATIC HYDRO CARBONS ALIPHATIC HYDRO CARBONS PHENOLIC SUBSTANCES UV SPECTRA FLUORESCENCE EMISSION GAS CHROMATOGRAPHY.
AN B 77077748.

<727>
AU LASTOCHKINA K O.
YR 73.
TI SPECTROPHOTOMETRIC DETERMINATION OF CYCLO HEXANONE IN BODIES OF WATER.
SO GIG SANIT. 38 (1). 68-70.
DE POLLUTION.
AN B 57057693.

<728>
AU LE PETIT J. BERTRAND J C. N'GUYEN M H. TAGGER S.
IN LABORATOIRE DE MICROBIOLOGIE, UNIVERSITE AIX-MARSEILLE III CENTRE DE SAINT-JER-OME 13013 MARSEILLE (FRANCE).
YR 75.
TI ON THE TAXONOMY AND PHYSIOLOGY OF BACTERIA UTILIZING HYDROCARBONS IN THE SEA (AUTHOR'S TRANSL).
TR ETUDE TAXONOMIQUE ET PHYSIOLOGIQUE DE BACTERIES SE DEVELOPPANT SUR HYDROCARBURES EN MILIEU MARIN.
SO ANN MICROBIOL (PARIS). 126. 3. P367-80. APR 75.
LG FR.
MJ ALKANES: ME. SEAWATER.
MN ACETATES: ME. IP, ME, CL. GRAM-NEGATIVE-AEROBIC-BACTERIA: IP, ME, CL. PSEUDOMONAS: ME.
AN M 76060019.

<729>
AU LE PETIT J. TAGGER S.
IN LABORATOIRE DE MICROBIOLOGIE, FACULTE DES SCIENCES ET TECHNIQUES DE SAINT-JER-OME, MARSEILLE, FRANCE.
YR 76.
TI DEGRADATION OF HYDROCARBONS IN THE PRESENCE OF OTHER ORGANIC SUBSTANCES BY BACTERIA ISOLATED FROM SEAWATER.
TR DEGRADATION DES HYDROCARBURES EN PRESENCE D'AUTRES SUBSTANCES ORGANIQUES PAR DES BACTERIES ISOLEES DE L'EAU DE MER.
SO CAN J MICROBIOL. 22. 11. P1654- 7. NOV 76.
LG FR.
MJ ACINETOBACTER: ME. WATER-MICROBIOLOGY.
MN ACETATES: ME. ENGLISH-ABSTRACT.
AN M 77023477. 7702.

<730>
AU LE POIDEVIN, G. J.
IN ELECTR. COUNC. RES. CENT. CAPENHURST/CHESTER. ENGL.
YR 77.
TI THE OXIDATION OF POLYETHYLENE IN AQUEOUS SOLUTION. PART 1. DETECTION AND CHARACTERIZATION OF OXYGENATED GROUPS BY INFRARED SPECTROSCOPY.
PG 27 PP.
LG EN.
DE POLYETHYLENE OXIDN MECHANISM. SODIUM CHLORIDE POLYETHYLENE OXIDN. ANTIOXIDANT POLYETHYLENE OXIDN.
AN C 08718136690.

<731>
AU LE RAL P. BUATOIS J. PENY J. FONTANGES R.
YR 73.
TI ADAPTATION OF AN ACTIVATED SLUDGE TO THE PURIFICATION OF AN INDUSTRIAL

EFFLUENT.
SO TRIB CEBEDEAU (CENT BELG ETUD DOC EAUX AIR). 26 (351). 78-89.
DE ARTHROBACTER PSEUDOMONADACEAE MICRO FLORA PHENOL DI METHYL SULFOXIDE DEGRADATION.
AN B 74044379.

<732>
AU LEBEDINSKII, N. A.
IN INST. GIDROBIOL. KIEV. USSR.
YR 70.
TI EFFECT OF SMALL CONCENTRATIONS OF PHENOL ON A CHANGE IN THE LEVEL OF TRACE ELEMENTS IN CARP.
SO VOP. VOD. TOKSIKOL. P181-3. 1970.
LG RS.
AV TOPACHEVSKII, A. V.
DE CYPRINUS PHENOL TRACE ELEMENT. CARP PHENOL TRACE ELEMENT. FISH METAL TISSUE PHENOL.
AN C 07421108744.

<733>
AU LECLERC, E. DEVLAMINCK, F.
YR 50. 11P.
TI TOXICOLOGICAL STUDY OF SOME SUBSTANCES GENERALLY PRESENT IN COKING PLANT EFFLUENTS.
AV TRANSLATION.
PR PC$3.50/MF$2.25.
AB THE RULE OF STRONG ACIDS IS VERIFIED FOR SULFURIC ACIDS. THE HEMOGLOBIN POISONS, AND PRINCIPALLY POTASSIUM CYANIDE, ARE THE MOST TOXIC OF THE POISONS EXAMINED. BENZENE, NAPHTHALENE, CRESOL, AND PHENOL, WITH POTASSIUM CYANIDE, ARE THE CHIEF CHEMICAL SUBSTANCES ON WHICH PURIFICATION SHOULD BE ATTEMPTED. INDIRECTLY TOXIC SUBSTANCES, WHOSE MECHANICAL ACTION (LESIONS, CLOSING OF THE GILL COVERS) IS SOMETIMES DANGEROUS, ARE PRACTICALLY ABSENT IN THE WATERS STUDIED. ONLY THOSE WHICH COME FROM COKE QUENCHING CONTAINING VERY HARD PARTICLES DETACHED FROM THE MASS.
NEVERTHELESS, THEY MOSTLY FLOAT AND ARE THUS NOT TOO MUCH OF A PROBLEM.
MJ COKING, ENVIRONMENTAL-EFFECTS, SULFURIC-ACID, TOXICITY, CYANIDES, TOXICITY, BENZENE, TOXICITY.
MN AMMONIA, CRESOLS, FISHES, HEMOGLOBIN, NAPHTHALENE, PHENOLS, POLLUTION, QUENCHING, SODIUM-CHLORIDES, TOXINS, WATER, WATER-POLLUTION.
ID ERDA-520200, TRANSLATIONS, NTISERDA.
AN N ORNL-TR-2973.

<734>
AU LEDUC, G. DIXON, D G.
IN CONCORDIA UNIV. DEPT. OF BIOLOGICAL SCIENCES, MONTREAL, QUE. CAN.
YR 77.
TI EXPOSURE OF RAINBOW TROUT TO SUBLETHAL LEVELS OF CYANIDE: EFFECTS ON GROWTH AND LIVER TISSUE.
SO 12TH CANADIAN SYMPOSIUM ON WATER POLLUTION RESEARCH: ABSTRACTS OF PAPERS. IN WATER AND POLLUTION CONTROL, 115(4): 63, APR. 1977.
LG EN.
AB NONE.
ID ABSTRACT ONLY, RAINBOW TROUT, LIVER.
DE FISH, TOXICANTS, GROWTH, TISSUES, DIGESTIVE PATHOLOGY, CYANIDES, ORGANS.
AN P 7704377.

<735>
AU LEDUC, G. DIXON, D. G. RUBER, H. RUBY, S. M. SPEYER, M. WEBB, M.
IN DEP. BIOL. SCI. CONCORDIA UNIV. ST. PAUL. MINN.
YR 76.
TI TOXICITY STUDIES OF CHEMICALS ASSOCIATED WITH NORTHERN MINING OPERATIONS.
PG 21 PP.
LG EN.
DE XANTHATE WATER POLLUTION FISH. TROUT CYANIDE WATER POLLUTION. ARSENIC TROUT WATER POLLUTION.
AN C 08703016691.

<736>
AU LEDUC, GERARD.
IN OREGON STATE UNIVERSITY (0172) PH.D. 1966 158PP.
YR 66.
TI SOME PHYSIOLOGICAL AND BIOCHEMICAL RESPONSES OF FISH TO CHRONIC POISONING BY CYANIDE.
SO DAI V27(08), SEC B, P2560.
DE AGRICULTURE, FORESTRY AND WILDLIFE (0478).
AN D ADG67-00723.

<737>
AU LEDUC, GERARD. CHAN, KENNETH K. S.
IN DEP. BIOL. SCI. CONCORDIA UNIV. MONTREAL. QUE.
YR 75.
TI THE EFFECTS OF CHRONIC CYANIDE

POISONING ON THE TOLERANCE OF RAINBOW TROUT TO VARYING SALINITY.
SO WATER POLLUT. RES. CAN. 10. P118-25. 1975.
LG EN.
DE CHLORIDE BLOOD FISH CYANIDE. TROUT SALINITY TOLERANCE CYANIDE. OSMOREGULATION FISH CYANIDE TOXICITY.
AN C 08607038298.

<738>
AU LEE D R. BUIKEMA A L JR. CAIRNS J JR.
YR 75.
TI THE TOXICITY OF A SIMULATED REFINERY EFFLUENT TO SOME FRESH WATER ANIMALS.
SO ASB (ASSOC SOUTHEAST BIOL) BULL. 22 (2). 63.
DE ABSTRACT DAPHNIA-PULEX DAPHNIA-MAGNA NITOCRIS-SP AEDES-AEGYPTI DERO-SP SALMO-GAIRDNERI STYLARIA-SP HYALELLA-AZTECA TUBIFEX-SP GONIOBASIS-SP CAMBARUS-SP PHILODINA-ACUTICORNIS DUGESIA-TIGRINA PHYSA-SP AEOLOSOMA-HEADLEYI HELIOSOMA-SP LEPOMIS-MACROCHIRUS CARASSIUS-AURATUS KAOLINITE PHENOL AMMONIUM CHLORIDE FUEL OIL POTASSIUM CHROMATE SODIUM MONO SULFIDE LETHALITY.
AN B 76072695.

<739>
AU LEE R F. RYAN C. NEUHAUSER.
YR 76.
TI FATE OF PETROLEUM HYDRO CARBONS TAKEN UP FROM FOOD AND WATER BY THE BLUE CRAB CALLINECTES-SAPIDUS.
SO MAR BIOL (BERL). 37 (4). 363-370.
DE BENZO PYRENE FLUORENE NAPHTHALENE METHYL NAPHTHALENE METHYL CHOLANTHRENE HEXA DECANE HEPTA DECANE DOTRIACONTANE RADIO LABEL METABOLISM HEPATO PANCREAS BLOOD.
AN B 63026689.

<740>
AU LEE R F. SAUERHEBER R. DOBBS G H.
YR 72.
TI UPTAKE METABOLISM AND DISCHARGE OF POLY CYCLIC AROMATIC HYDRO CARBONS BY MARINE FISH.
SO MAR BIOL (BERL). 17 (3). (RECD 1973) 201-208.
DE GILLICHTHYS-MIRABILIS OLIGOCOTTUS-MACULOSUS CITHARICHTHYS-STIGMAEUS CARBON-14 NAPHTHALENE TRITIATED 3 4 BENZO PYRENE CARCINOGENS GILL UPTAKE LIVER METABOLISM URINARY EXCRETION.
AN B 56044121.

<741>
AU LEE, RICHAD F. ANDERSON, JACK W.
IN SKIDAWAY INST. OCEANOGR. SAVANNAH. GA.
YR 77.
TI FATE AND EFFECT OF NAPHTHALENES. CONTROLLED ECOSYSTEM POLLUTION EXPERIMENT.
SO BULL. MAR. SCI. 27. P127-34. 1977.
LG EN.
DE NAPHTHALENE WATER POLLUTION PLANKTON. PETROLEUM NAPHTHALENE WATER POLLUTION.
AN C 08623166022.

<742>
AU LEE, RICHARD F.
IN SKIDAWAY INST. OF OCEANOGRAPHY, SAVANNAH, GA. FOUNDATION, WASHINGTON, D.C. OFFICE FOR THE INTERNATIONAL DECADE OF OCEAN EXPLORATION. 407 934.
YR 77. 8P.
TI FATE OF PETROLEUM COMPONENTS IN ESTUARINE WATERS OF THE SOUTHEASTERN UNITED STATES.
AV PUB. IN PROCEEDINGS OF 1977 OIL SPILL CONFERENCE (PREVENTION, BEHAVIOR, CONTROL, CLEANUP) HELD AT NEW ORLEANS, LOUISIANA ON MARCH 8-10, 1977, P611-618 1977.
PR NOT AVAILABLE NTIS.
AB RADIOLABELED HYDROCARBONS AND PHENOLS WERE ADDED TO WATER SAMPLES FROM THE SKIDAWAY AND COOPER RIVERS, TWO ESTUARINE RIVERS ON THE U. S. SOUTH ATLANTIC COAST. THE ADSORPTION OF HYDROCARBONS TO PARTICLES AND MICROBIAL DEGRADATION OF DIFFERENT PETROLEUM COMPONENTS WERE THE PROCESSES STUDIED. ALKANES, LOW MOLECULAR WEIGHT AROMATICS AND PHENOLS WERE RAPIDLY DEGRADED TO 14CO2. LOW DEGRADATION RATES WERE OBSERVED FOR THE HIGHER WEIGHT POLYCYCLIC AROMATIC HYDROCARBONS, FLUORENE, ANTHRACENE, BENZ(A)ANTHRACENE, AND BENZ(A)PYRENE, AND FROM 12 TO 70% OF THESE HYDROCARBONS WERE ABSORBED TO SUSPENDED PARTICLES IN THE WATER. RADIOAUTOGRAPHS OF PARTICLES AFTER THE ADDITION OF (3)H-BENZ(A)PYRENE AND (3)H-HEXADECANE TO THE WATER

SAMPLES INDICATED THE HYDROCARBONS ASSOCIATED WITH DETRITAL PARTICLES. THIS DETRITUS WAS COMPOSED OF A MIXTURE OF CLAY, ORGANIC MATTER, PLANKTON REMAINS AND LIVING MICROBES. ONE AREA OF THE COOPER RIVER HAD VISIBLE OIL SLICKS AND THE DEGRADATION RATES OF ADDED HEPTADACANE, NAPHTHALENE AND METHYLNAPHTHALENE WERE 0.4, 2.8 AND 1.1 MICRO G/L/DAY, RESPECTIVELY. IN CONTRAST, AT A DOWNSTREAM SITE, WHERE THERE WERE NO VISIBLE SLICKS, THE DEGRADATION RATE OF THESE SAME HYDROCARBONS WERE 0.1, 0.7 AND 0.1 MICRO G/L/DAY, RESPECTIVELY.

MJ AROMATIC-HYDROCARBONS, PHENOLS.

MN ADSORPTION, PETROLEUM-PRODUCTS, WATER-POLLUTION, OIL-POLLUTION, PARTICLES, RADIOACTIVE-ISOTOPES, LIMNOLOGY, CONCENTRATION-COMPOSITION, ISOTOPIC-LABELING, ESTUARIES, LABELED-SUBSTANCES, SKIDAWAY-RIVER, COPPER-RIVER, SEDIMENTS, WATER-ANALYSIS, CHEMICAL-ANALYSIS.

ID WATER-POLLUTION-DETECTION, OIL-POLLUTION-DETECTION, SOUTH-ATLANTIC-REGION-UNITED-STATES, BIODETERIORATION, INTERNATIONAL-DECADE-OF-OCEAN-EXPLORATION, OIL-TAGGING, OIL-SPILLS, REPRINTS, NTISIDOE, NTISNSFG.

AN N PB-267 708/6SL.

<743>

AU LEE, RICHARD F.

IN SKIDAWAY INST. OF OCEANOGRAPHY, SAVANNAH, GA. FOUNDATION, WASHINGTON, D.C. OFFICE FOR THE INTERNATIONAL DECADE OF OCEAN EXPLORATION. NATIONAL RESEARCH COUNCIL OF CANADA, OTTAWA, (ONTARIO). 407 934.

YR 75. 6P.

TI FATE OF PETROLEUM HYDROCARBONS IN MARINE ZOOPLANKTON.

NT SPONSORED IN PART BY NATIONAL RESEARCH COUNCIL OF CANADA, OTTAWA (ONTARIO), AND BY GRANTS NSF-GX-42482 AND NSF-GB-24834.

AV PUB. IN CONFERENCE ON PREVENTION AND CONTROL OF OIL POLLUTION EFFECTS, P549-553.

PR NOT AVAILABLE NTIS.

AB THE WORK DESCRIBED IN THE PAPER IS CONCERNED WITH THE UPTAKE, METABOLISM, STORAGE, AND DISCHARGE OF PETROLEUM HYDROCARBONS BY MARINE ZOOPLANKTON, AN IMPORTANT LINK IN THE MARINE FOOD WEB. BOTH PARAFFINIC AND POLYCYCLIC AROMATIC HYDROCARBONS WERE ADDED TO SEAWATER CONTAINING VARIOUS SPECIES OF ZOOPLANKTON COLLECTED OFF CALIFORNIA, BRITISH COLUMBIA, AND IN THE ARCTIC. UPTAKE WAS LINEAR FOR 24 HOURS WITH NO FURTHER INCREASE IN STORED HYDROCARBON AFTER THAT TIME. MOST INGESTED HYDROCARBON WAS METABOLIZED AND DISCHARGED BY THE VARIOUS CRUSTACEAN SPECIES ALTHOUGH A SMALL PERCENTAGE (LESS THAN 1% OF THE INGESTED HYDROCARBON) WAS STORED BY ALL SPECIES EVEN AFTER A LONG DEPURATION TIME. PRELIMINARY WORK HAS SUGGESTED THAT HYDROCARBONS ARE METABOLIZED AND DISCHARGED AT A GREATER RATE WHEN ABSORBED TO INGESTED ALGAE. NO METABOLISM OF HYDROCARBONS BY THE ALGAE CELLS WAS NOTED. ALSO, ALKYLATED AROMATIC HYDROCARBONS APPEAR TO BE METABOLIZED AT A HIGHER RATE THAN THE NONALKYLATED AROMATIC HYDROCARBONS.

MJ ZOOPLANKTON, HYDROCARBONS.

MN WATER-POLLUTION, OILS, PLANKTON, AQUATIC-ANIMALS, MARINE-BIOLOGY, METABOLISM, PETROLEUM-PRODUCTS, CRUSTACEA, PARAFFIN-BASE-CRUDES, POLYCYCLIC-COMPOUNDS, AROMATIC-COMPOUNDS, ADSORPTION, STEROIDS, NAPHTHALENE, ALGAE.

ID OIL-POLLUTION, WATER-POLLUTION-EFFECTS-ANIMALS, METABOLITES, BENZOPYRENES, METHYLCHOLANTHRENES, NTISIDOE, NTISDODN, NTISNSF.

AN N PB-245 699/4SL.

<744>

AU LEE, RICHARD F. RYAN, CHARLOTTE.

IN SKIDAWAY INST. OF OCEANOGRAPHY, SAVANNAH, GA. FOUNDATION, WASHINGTON, D.C. OFFICE FOR THE INTERNATIONAL DECADE OF OCEAN EXPLORATION. 407 934.

YR 76. 8P.

TI BIODEGRADATION OF PETROLEUM HYDROCARBONS BY MARINE MICROBES.

AV PUB. IN PROCEEDINGS OF THE INTERNATIONAL BIODEGRADATION SYMPOSIUM (3RD), P119-125 1976.

PR NOT AVAILABLE NTIS.

AB DIFFERENT PARAFFINIC AND AROMATIC 14C-LABELLED HYDROCARBONS WERE ADDED TO ESTUARINE AND OFFSHORE WATER SAMPLES FOLLOWED BY THE MEASUREMENT OF 14CO2 PRODUCED AFTER INCUBATION PERIODS OF 6-96 HR. BENZENE,

TOLUENE, NAPHTHALENE, METHYLNAPHTHALENE, HEPTADECANE, HEXADECANE, AND OCTADECANE HAD HIGH DEGRADATION RATES RELATIVE TO FLUORENE AND BENZPYRENE. THESE RATES WERE AFFECTED BY SEASON, TIDE, CONCENTRATION OF HYDROCARBON, AND INCUBATION TIME. BENZENE AND TOLUENE, BUT NOT THE OTHER HYDROCARBONS TESTED, OBEYED THE KINETIC MODEL OF DEGRADATION, I.E. A LINEAR INCREASE IN TURNOVER TIME WITH AN INCREASE IN HYDROCARBON CONCENTRATION. THE RESULTS SUPPORT THE CONCLUSION THAT MICROBES ARE IMPORTANT IN DEGRADING MANY PETROLEUM HYDROCARBONS IN OCEAN WATERS. HOWEVER, BASED ON THE LOW DEGRADATION RATES OF FLUORENE AND BENZPYRENE, IT IS HYPOTHESIZED THAT MICROBIAL BREAKDOWN OF HIGH MOLECULAR WEIGHT AROMATICS IS NOT AN IMPORTANT PROCESS IN OCEAN WATER.

MJ OIL-POLLUTION-CONTROL, BIODETERIORATION, MARINE-MICROORGANISMS.

MN CRUDE-OIL, PETROLEUM-PRODUCTS, ISOTOPIC-LABELING, OCEAN-CURRENTS, OCEAN-TIDES, HYDROCARBONS, ESTUARIES, SEA-WATER, CARBON-14, BENZENE, TOLUENE, NAPHTHALENE, NAPTHALENE-COMPOUNDS, FLUORENES.

ID WATER-POLLUTION-SAMPLING, HEXADECANES, INTERNATIONAL-DECADE-OF-OCEAN-EXPLORATION, NTISIDOE, NTISNSFG.

AN N PB-261 794/2SL.

<745>

AU LEMBIK, ZH. L.

IN USSR.

YR 72.

TI ACCUMULATION OF BENZO(A)PYRENE BY DAPHNINS SPECIES.

SO VOP. PROFIL. ZAGRYAZNENIYA VNESH. SREDY, CHASTNOSTI VODOEMOV, KANTSEROGEN. VESHCHESTV. P88-90. 1972.

LG RS.

DE BENZOPYRENE ACCUMULATION DAPHNIA. POLLUTION WATER BENZOPYRENE.

AN C 07902009555.

<746>

AU LEPRI L. DESIDERI P G. LANDINI M. TANTURLI G.

IN INSTITUTE OF ANALYTICAL CHEMISTRY, UNIVERSITY OF FLORENCE, FLORENCE (ITALY).

YR 75.

TI CHROMATOGRAPHIC BEHAVIOUR OF PHENOLS ON THIN LAYERS OF CATION AND ANION EXCHANGERS. II. DOWEX 50- X4 AND REXYN 102.

SO J CHROMATOGR. 109. 2. P365-76. 18 JUN 75.

LG EN.

MJ CHROMATOGRAPHY-ION-EXCHANGE: MT. PHENOLS: AN.

MN ACETATES. CHEMISTRY-PHYSICAL. HYDROGEN-ION-CONCENTRATION.

AN M 75211621.

<747>

AU LEPRI L. DESIDERI P G. MUZZARELLI R A.

IN INSTITUTE OF ANALYTICAL CHEMISTRY, UNIVERSITY OF FLORENCE, FLORENCE, ITALY.

YR 77.

TI CHROMATOGRAPHIC BEHAVIOUR OF NUCLEIC ACID CONSTITUENTS AND OF PHENOLS ON CHITOSAN THIN LAYERS.

SO J CHROMATOGR. 139. 2. P337-42. 21 SEP 77.

LG EN.

MJ CHITIN: AA. PURINES: AN.

MN CHEMISTRY.

AN M 77249944. 7712.

<748>

AU LEVAGGI, D. A. FELDSTEIN, M.

IN BAY AREA AIR POLLUT. CONTROL DIST. SAN FRANCISCO. CALIF.

YR 72.

TI DETERMINATION OF PHENOLS AND TRIMETHYLAMINE IN INDUSTRIAL EFFLUENTS.

SO JOINT CONF. SENSING ENVIRON. POLLUTANTS, COLLECT. TECH. PAP. 1. P71-1115, 2 PP. 1972.

LG EN.

DE PHENOL DETN INDUSTRIAL EFFLUENT. TRIMETHYLAMINE DETN INDUSTRIAL EFFLUENT. GAS CHROMATOG INDUSTRIAL EFFLUENT.

AN C 07704024324.

<749>

AU LEVICHEV, S A. PLEKHOTKIN, V F.

IN LENINGRAD A.A. ZHDANAV STATE UNIV. (ORDER OF LENIN), UNIVERSITETSKAYA NAB. 7/9 LENINGRAD B-164, USSR.

YR 73.

TI REMOVAL OF DIMETHYLAMINE FROM WATER BY FROTH SEPARATION.

SO JOURNAL OF APPLIED CHEMISTRY OF THE

U.S.S.R. 46(1): 225-227, JULY 1, 1973.
LG EN.
AB NONE.
ID DIMETHYLAMINE, MULTISTAGE FROTH SEPARATION.
DE WATER PURIFICATION, POLLUTANT REMOVAL, ADSORPTION.
AN P 7401424.

<750>
AU LEWIS, W. M.
IN SEVERN-TRENT WATER AUTH. ENGL.
YR 75.
TI POLYNUCLEAR AROMATIC HYDROCARBONS IN WATER.
SO WATER TREAT. EXAM. 24, PT. 4. P243-77. 1975.
LG EN.
DE POLYNUCLEAR AROM HYDROCARBON POLLUTION. FLUORANTHENE WATER POLLUTION . BENZOPYRENE WATER POLLUTION. INDENOPYRENE WATER POLLUTION. BENZOFLUORANTHENE WATER POLLUTION. BENZOPERYLENE WATER POLLUTION.
AN C 08512083025.

<751>
AU LIAW G S. WOODBRIDGE D D.
IN UNIVERSITY CENTER FOR POLLUTION RESEARCH, ENVIRONMENTAL ENGINNEERING DEPARTMENT, FLORIDA INSTITUTE OF TECHNOLOGY, MELBOURNE, FLA.
YR 77.
TI EFFECTS OF GAMMA RADIATION ON AQUEOUS SOLUTIONS OF CYANIDE.
SO BULL ENVIRON CONTAM TOXICOL. 17. 6. P714-9. JUN 77.
LG EN.
MJ CYANIDES: RE.
MN COBALT-RADIOISOTOPES. TIME- FACTORS.
AN M 77222693. 7711.

<752>
AU LILLARD, DORRIS A. POWERS, JOHN J.
IN GEORGIA UNIV. ATHENS. DEPT. OF FOOD SCIENCE. RESEARCH CENTER, CORVALLIS, OREG.
YR 75. 27P.
TI AQUEOUS ODOR THRESHOLDS OF ORGANIC POLLUTANTS IN INDUSTRIAL EFFLUENTS.
NT FINAL REPT.
PR PC$3.75/MF$2.25.
AB THE INVESTIGATION WAS DESIGNED TO DETERMINE THE ODOR THRESHOLDS IN WATER OF ORGANIC POLLUTANTS THAT HAVE BEEN IDENTIFIED IN INDUSTRIAL EFFLUENTS. SEVEN TO FOURTEEN JUDGES WERE USED TO DETERMINE THE ODOR THRESHOLD VALUES OF 13 COMPOUNDS AT ROOM TEMPERATURE AND 60C. ODOR THRESHOLD VALUES FOR THE COMPOUNDS IN PPM AT ROOM TEMPERATURE ARE ACENAPHTHENE, 0.08; 2-ETHYL-1-HEXANOL, 1.28; BUTANOL, 2.77; GEOSMIN, 0.00013; 2-METHYL NAPHTHALENE, 0.01; 1-METHYL NAPHTHALENE, 0.02; DIACETONE ALCOHOL, 44.1; DIBENZOFURAN, 0.12; 2- BENZOTHIAZOLE, 0.08; 2-MERCAPTOBENZOTHIAZOLE, 1.76; 2-ETHYL- 4-METHYL-1,3-DIOXOLANE, 0.38; CAPROLACTAM, 59.7; D-CAMPHOR, 1.29. EXTREME VALUE CALCULATIONS WERE MADE TO PREDICT A CONCENTRATION BELOW WHICH A CERTAIN PERCENTAGE OF THE POPULATION MIGHT STILL BE ABLE TO DETECT THE COMPOUND(S).
MJ ODORS, INDUSTRIAL-WASTES, SMELL, WATER-POLLUTION.
MN THRESHOLDS-PERCEPTION, TEMPERATURE, EFFLUENTS, ORGANIC- COMPOUNDS, WATER-ANALYSIS, STATISTICAL-ANALYSIS, RESPONSES, EVALUATION, TABLES-DATA, HUMANS.
ID NTISEPAORD.
AN N PB-242 734/2SL.

<753>
AU LILLE, J. BITTER, L. A. KUNDEL, H. MURD, A. PEINAR, U.
IN INST. SLANTSEV. KOHTLA-JARVE. USSR.
YR 69.
TI SEPARATION OF ALKYLRESORCINOLS FROM WATER-SOLUBLE, SHALE PHENOLS.
SO EESTI NSV TEAD. AKAD. TOIM. KEEM. GEOL. 18. P359-64. 1969.
LG RS.
DE METHYL RESORCINOLS. RESORCINOLS METHYL. SHALE OILS RESORCINOLS. PHENOLS SHALE RESORCINOLS.
AN C 07212057386.

<754>
AU LIND D T. SMITH L. L. JR. BRODERIUS S J.
YR 77.
TI CHRONIC EFFECTS OF HYDROGEN CYANIDE ON THE FATHEAD MINNOW.
SO J WATER POLLUT CONTROL FED. 49. 2. P262-8. FEB 77.
LG EN.
MJ FISHES: PH.
MN ANIMAL. TIME-FACTORS. (NON-NIH-SUP).
AN M 77168475. 7708.

<755>

AU LINDEN AC VAN DER. THIJSSE G J.
YR 65.
TI THE MECHANISMS OF MICROBIAL OXIDATIONS OF PETROLEUM HYDROCARBONS.
SO ADV ENZYMOL. 27. P469-546. 1965.
LG EN.
MJ BACTERIA: ME.
MN ALKANES: ME. CATECHOLS: ME. MYCOBACTERIUM: ME. PHENANTHRENES: ME.
AN M 69087458.

<756>

AU LITERATHY P.
YR 75.
TI STUDY OF RIVER POLLUTION CAUSED BY MICRO POLLUTANTS.
SO WATER RES. 9 (11). 1001-1003.
DE DANUBE HUNGARY PHENOLS PETROLEUM HEAVY METALS FATS SUSPENDED SOLIDS.
AN B 61034234.

<757>

IN LITTLE (ARTHUR D.), INC. CAMBRIDGE, MASS. 208 850.
YR 70. 399P.
TI WATER QUALITY CRITERIA DATA BOOK. VOLUME I. ORGANIC CHEMICAL POLLUTION OF FRESHWATER.
NT WATER POLLUTION CONTROL RESEARCH SERIES. SEE ALSO VOLUME 2, PB-208 988.
AV 18010 DPV 12/70.
PR PC-GPO/MF$0.95.
AB THE REPORT DISCUSSES AND LISTS RESULTS FROM A LITERATURE SEARCH ON ORGANIC WATER POLLUTANTS WHICH HAVE BEEN FOUND IN U.S. WATERS. AFTER A BRIEF DISCUSSION ON INTERPRETING THE RESULTS, TABLES ARE PRESENTED LISTING SPECIFIC CHEMICALS AND NOT ONLY THEIR CONCENTRATION BUT ALSO THE FOLLOWING: TOXICITY; TISSUE CONCENTRATION; CARCINOGENICITY; MUTAGENICITY AND TERATOGENICITY; SOURCES; AND THRESHOLD DOSES.
MJ TOXICOLOGY, WATER-POLLUTION, WATER-POLLUTION, ORGANIC-COMPOUNDS.
MN TABLES-DATA, REVIEWS, CONCENTRATION-COMPOSITION, CARCINOGENS, SOURCES, INDUSTRIAL-WASTES, HALOHYDROCARBONS, HYDROCARBONS, MUTAGENS, SULFUR-ORGANIC-COMPOUNDS, INSECTICIDES, HERBICIDES, CHLORINE-ORGANIC-COMPOUNDS, CARBOXYLIC-ACIDS, SULFONATES, ORGANIC-PHOSPHATES, AROMATIC-POLYCYCLIC-HYDROCARBONS, METAL-CONTAINING-ORGANIC-COMPOUNDS, PHENOLS, LEATHAL-DOSAGE.
ID WATER-POLLUTION-EFFECTS-ANIMALS, WATER-POLLUTION-EFFECTS-PLANTS.
AN N PB-208 987.

<758>

AU LIU, C. C.
IN PITTSBURGH UNIV. PA. CHEMICAL AND PETROLEUM ENGINEERING DEPT.
YR 76. 42P.
TI THE DEVELOPMENT OF SENSORS AND TECHNIQUES FOR IN SITU WATER QUALITY MONITORING.
NT ANNUAL REPORT, 13 JUN. 1975 - 12 JUN. 1976.
PR PC$4.00/MF$3.00.
AB ENZYME ELECTRODES AND CHLORIDE ION ELECTRODES WERE INVESTIGATED FOR IN SITU MONITORING OF WATER QUALITY. PRELIMINARY RESULTS SHOW THAT MINIATURE CHLORIDE ION ELECTRODES AND A PHENOL SENSOR ARE MOST PROMISING IN DETERMINING TRACE CONTAMINANTS IN WATER.
MJ ION-SELECTIVE-ELECTRODES, POLLUTION-MONITORING, TRACE-CONTAMINANTS, WATER-QUALITY.
MN CHEMICAL-ANALYSIS, ELECTROCHEMISTRY, PHENOLS.
ID WATER-POLLUTION-DETECTION, NTISNASA.
AN N N76-26717/8SL.

<759>

AU LIU, S -Y. BOLLAG, J -M.
IN PENNSYLVANIA STATE UNIV. DEPT. OF AGRONOMY, LAB. OF SO MICROBIOLOGY, UNIVERSITY PARK.
YR 72.
TI FUNGAL DEGRADATION OF 1-NAPHTHOL.
SO CANADIAN JOURNAL OF MICROBIOLOGY. OTTAWA, 18(7): 1113- 1117, JULY 1972.
LG EN.
AB NONE.
ID *FUSARIUM SOLANI., 1-NAPHTHOL.
DE PESTICIDE DECOMPOSITION, INSECTICIDES, FUNGI, CARBARYL, MICROBIAL ACTIVITY, BIODEGRADATION, SOILS.
AN P 7300045.

<760>

AU LIZINA, N. N. CHEMOVA, N. G. CHASTOV, A. I.
IN USSR.
YR 75.

TI STUDY OF THE TOXIC EFFECT OF FORMALIN ON FISH.
SO TR. SARAT. OTD. GOSNIORKH. 13. P18-22. 1975.
LG RS.
DE FORMALIN TOXICITY CARP.
AN C 08713096925.

<761>
AU LLOYD, R. SWIFT, D J.
IN GREAT BRITAIN MINISTRY OF AGRICULTURE, FISHERIES AND FOO SALMON AND FRESHWATER FISHERIES LAB. 10 WHITEHALL PL. LONDON SW1A 2HH, ENG.
YR 76.
TI SOME PHYSIOLOGICAL RESPONSES BY FRESHWATER FISH TO LOW DISSOLVED OXYGEN, HIGH CARBON DIOXIDE, AMMONIA AND PHENOL WITH PARTICULAR REFERENCE TO WATER BALANCE.
SO EFFECTS OF POLLUTANTS ON AQUATIC ORGANISMS. EDITED BY A. P. M. LOCKWOOD. SOCIETY FOR EXPERIMENTAL BIOLOGY SEMINAR SERIES, 2. LONDON: CAMBRIDGE UNIVERSITY PRESS, 1976. PP. 47-69.
LG EN.
AB NONE.
ID PHENOL, HYPOXIA, URINE FLOW RATE, TROUT.
DE DO, FISH, ALCOHOLS, HEMATOLOGY, PHYSIOLOGY, AMMONIA, CARBON DIOXIDE.
AN P 7703290.

<762>
AU LONSANE B K. BARUA P K. SINGH H D. MATHUR R K. BARUAH J N. IYENGAR M S.
YR 74.
TI FORMATION OF SALICYLIC ACID FROM NAPHTHALENE BY MICROORGANISMS: PART I. STUDIES ON ISOLATION, CHARACTERIZATION & GROWTH OF BACTERIAL ISOLATES UTILIZING NAPHTHALENE.
SO INDIAN J EXP BIOL. 12. 2. P158- 61. MAR 74.
LG EN.
MJ BACTERIA: ME. (SALICYLIC-ACID).
MN BACTERIA: IP, GD.
AN M 75059461.

<763>
AU LORBACHER H. PUELS H-D. SCHLIPKOETER H-W.
YR 71.
TI STUDIES ON THE STORAGE AND METABOLISM OF 3 4 BENZ PYRENE BENZO A PYRENE IN MICROORGANISMS.
SO ZENTRALBL BAKTERIOL PARASITENKD INFEKTIONSKR HYG ERSTE ABT ORIG REIHE B HYG PRAEV MED. 155 (2). (RECD 1972) 168-174.
DE ESCHERICHIA-COLI PSEUDOMONAS-AERUGINOSA PROTEIN.
AN B 56004350.

<764>
AU LORBACHER H. SCHLIPKOETER H-W.
YR 71.
TI STUDIES ON THE MICROBIAL DEGRADATION OF OIL.
SO ARCH HYG BAKTERIOL. 154 (6). 577-580.
DE PSEUDOMONAS-AERUGINOSA YEAST EXTRACT PROTEIN SYNTHESIS N HEPTA DECANE MINERAL SALTS MEDIUM.
AN B 53019352.

<765>
AU LU P Y. METCALF R L.
IN DEPARTMENTS OF ENTOMOLOGY AND ZOOLOGY, UNIVERSITY OF ILLINOIS, URBANA-CHAMPAIGN, ILLINOIS 61801.
YR 75.
TI ENVIRONMENTAL FATE AND BIODEGRADABILITY OF BENZENE DERIVATIVES AS STUDIED IN A MODEL AQUATIC ECOSYSTEM.
SO ENVIRON HEALTH PERSPECT. 10. P269-84. APR 75.
LG EN.
MJ BENZENE-DERIVATIVES. WATER-POLLUTANTS-CHEMICAL.
MN ALGAE-GREEN: ME. BIODEGRADATION. INSECTICIDES. SOLUBILITY. (NON-NIH-SUP).
AN M 76002930.

<766>
AU LU P Y. METCALF R L. PLUMMER N. MANDEL D.
IN DEPARTMENT OF ENTOMOLOGY AND INSTITUTE FOR ENVIRONMENTAL STUDIES URBANA, ILLINOIS.
YR 77.
TI THE ENVIRONMENTAL FATE OF THREE CARCINOGENS: BENZO-(ALPHA)-PYRENE, BENZIDINE, AND VINYL CHLORIDE EVALUATED IN LABORATORY MODEL ECOSYSTEMS.
SO ARCH ENVIRON CONTAM TOXICOL. 6. 2-3. P129-42. 1977.
LG EN.
MJ BENZIDINES. (VINYL-CPDS).

MN ALGAE-GREEN: ME. DAPHNIA: ME. MOSQUITOES: ME. SOIL: AN. (NON-NIH-SUP). VINYL-CPDS.
AN M 77265613. 7712.

<767>
AU LU, P -Y. METCALF, R L.
IN UNIV. OF ILLINOIS, DEPT. OF ENTOMOLOGY, IL 61801.
YR 75.
TI ENVIRONMENTAL FATE AND BIODEGRADABILITY OF BENZENE DERIVATIVES AS STUDIED IN A MODEL AQUATIC ECOSYSTEM.
SO ENVIRONMENTAL HEALTH PERSPECTIVES, 10: 269-284, APR. 1975.
LG EN.
AB NONE.
ID BENZENE DERIVATIVES, ENVIRONMENTAL FATE.
DE BIODEGRADATION, ECOSYSTEMS, ENVIRONMENTAL IMPACT, FOOD CHAINS, ORGANIC WASTES, SIMULATION, WASTE DISPOSAL, WATER POLLUTION.
AN P 7503548.

<768>
AU LUBINSKI K S. SPARKS R E.
YR 75.
TI THE USE OF TOXICITY INDICES TO ASSESS THE QUALITY OF THE ILLINOIS RIVER.
SO ASB (ASSOC SOUTHEAST BIOL) BULL. 22 (2). 64.
DE ABSTRACT USA BLUEGILL FISH AMMONIA COPPER CYANIDE DETERGENTS FLUORIDE ZINC COMBINED LETHALITY.
AN B 76072701.

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AU LUBINSKI K S. SPARKS R E. JAHN L A.
YR 74.
TI THE DEVELOPMENT OF TOXICITY INDICES FOR ASSESSING THE QUALITY OF THE ILLINOIS RIVER.
SO UNIV ILL URBANA-CHAMPAIGN WATER RESOUR CEN RES REP. (96). (RECD 1975) 1-46.
DE USA BLUEGILL FISH ALDRIN AMMONIA COPPER CYANIDE FLUORIDE LINEAR ALKYLATE SULFONATE LEAD MERCURY PHENOLS ZINC CHROMIUM ARSENIC CADMIUM.
AN B 60046381.

<770>
AU LUDZACK, F. J. MOORE, W. A. RUCHHOFT, C. C.
IN ENVIRONMENTAL HEALTH CENTER, CINCINNATI, OHIO.
YR 53. 18P.
TI ANALYSIS OF CYANIDE IN WATER AND WASTE SAMPLES.
PR PC$3.00/MF$0.95.
AB THE PRESENCE OF CYANIDE IN WATER HAS A SIGNIFICANT EFFECT UPON THE BIOLOGICAL ACTIVITY OF THE SYSTEM. MOST CYANIDE COMPOUNDS ARE HIGHLY REACTIVE. THE ANALYTICAL PROCEDURES USED FOR THEIR ESTIMATION ARE NOT SPECIFIC; THEREFORE THE MAJOR PROBLEM IS THAT OF ISOLATION FROM INTERFERENCES. ALTHOUGH MANY PROCEDURES FOR THE ANALYSIS OF CYANIDE HAVE BEEN PUBLISHED, RELATIVELY FEW OF THESE ARE SATISFACTORY FOR GENERAL USE IN WATER AND INDUSTRIAL WASTE ANALYSIS. THE PROCEDURES DESCRIBED WERE SELECTED BECAUSE THEY ARE APPLICABLE FOR MANY TYPES OF SAMPLES. THE METHODS WERE FOUND EFFECTIVE ON RELATIVELY PURE WATER, RIVER WATER, SEWAGE AND SEVERAL INDUSTRIAL WASTES, INCLUDING THOSE FROM GAS AND COKE OPERATION, PETROLEUM REFINING, AND PLATING.
MJ CYANIDES, WATER-ANALYSIS.
ID WATER-POLLUTION-DETECTION, EPAL.
AN N PB-215 553.

<771>
AU LUDZACK, F. J. SCHAFFER, R. B.
IN ROBERT A. TAFT SANITARY ENGINEERING CENTER, CINCINNATI, OHIO. 306 950.
YR 60. 32P.
TI ACTIVATED SLUDGE TREATMENT OF CYANIDE, CYANATE AND THIOCYANATE.
NT PRESENTED AT THE INDUSTRIAL WASTE CONFERENCE (15TH), LAFAYETTE, IND. 2-5 MAY 60.
PR PC$3.75/MF$0.95.
AB CYANIDE, CYANATE, AND THIOCYANATE, SEPARATELY OR IN COMBINATION WITH OTHER WASTES, FREQUENTLY ARE WASTE WATER PROBLEMS. SEVERAL TREATMENT METHODS ARE AVAILABLE FOR CYANIDE; SOME LACK THE DESIRED EFFICIENCY, OTHERS ARE DIFFICULT TO CONTROL, AND ALL HAVE HIGH OPERATING COSTS. LITTLE INFORMATION IS AVAILABLE ON THE BIOLOGICAL DEGRADATION OF CYANATES. THIOCYANATE POLLUTION HAS A LONG HISTORY BUT ITS CHARACTERISTICS COMMONLY ARE

MISUNDERSTOOD OR IGNORED; LOWER TREATMENT EFFICIENCY FOLLOWS. SINCE THE THREE ANIONS ARE RELATED IN CHEMISTRY, IN INDUSTRY, AND IN WASTE CONTROL, A GROUP COMPARISON SHOULD BRING OUT CERTAIN ASPECTS OF THE INDIVIDUALS THAT MIGHT OTHERWISE BE UNNOTICED. THE REPORT DISCUSSES THE AUTHORS' RESEARCH IN THIS AREA.
MJ ACTIVATED-SLUDGE-PROCESS, CYANIDES, SEWAGE-TREATMENT, CYANIDES, CYANATES, SEWAGE- TREATMENT, THIOCYANATE, SEWAGE- TREATMENT, CHEMICAL-REMOVAL-SEWAGE- TREATMENT, CYANATES.
ID EPAL.
AN N PB-216 384.

<772>
AU LUKYANENKO, V I. FLEROV, B A.
YR 71.
TI COMPARATIVE INVESTIGATION OF THE RESISTANCE TO PHENOL OF TWO DIFFERENT AGE GROUPS OF SALMO IRIDENS GIBB.
SO NEWFOUNDLAND. MEMORIAL UNIVERSITY, ST. JOHNS. LIBRARY BULLETIN, 5(2): 14-15, MARCH 1971.
LG EN.
AB NONE.
ID *SALMO IRIDENS, EXTENDED SUMMARY ONLY.
DE PHENOL, FISHES, TOXICITY.
AN P 7006934.

<773>
AU LUKYANENKO, V I. PETUKHOVA, L A.
YR 71.
TI CHANGES IN ACTIVITY OF CHOLINESTERASE IN THE MUSCLES AND AMOUNT OF AMMONIAC IN BRAIN OF PHENOL POISONED CARASSIUS CARASSIUS.
SO NEWFOUNDLAND. MEMORIAL UNIVERSITY, ST. JOHNS. LIBRARY BULLETIN, 5(2): 17, MARCH 1971.
LG EN.
AB NONE.
ID *CARASSIUS CARASSIUS, SUMMARY ONLY.
DE PHENOL, FISHES, TOXICITY.
AN P 7006934.

<774>
AU LUKYANENKO, V. I.
IN BUREAU OF COMMERCIAL FISHERIES, WASHINGTON, D.C. OFFICE OF FOREIGN FISHERIES (TRANSLATIONS).
YR 72. 10P.
TI ON THE MECHANISM OF ACTION OF PHENOL ON THE CENTRAL NERVOUS SYSTEM OF FISH IN CONNECTION WITH CHANGE OF THE EXTERNAL SYMPTOM COMPLEX OF PHENOL INTOXICATION UNDER THE INFLUENCE OF ANTICHOLINESTERASE PREPARATIONS (O MEKHANI ZME DEISTVIYA FENOLA NA TSENTRALNUYU SISTEMU RYB V SVYAZI S IZMENENIEM VNESHNOGO SIMPTOMOKOMPLEKSA FENOLNOI INTOKSIKATSII POD VLIYANIEM ANTIKHOLINESTERAZNYKH PREPARATOV).
NT TRANS. OF MONO. VOPROSY VODNOI TOKSIKOLOGII, MOSCOW, 1970 P154-162, BY ROBERT M. HOWLAND.
PR PC$3.00/MF$0.95.
AB ACETYLCHOLINE ALSO HAS SIGNIFICANT IMPORTANCE AS A MEDIATOR IN THE CENTRAL NERVOUS SYSTEM OF FISH, WHICH WAS SHOWN AS FAR BACK AS THE EXPERIMENTS OF BYKOV (1935, 1937). IT IS QUITE WELL- FOUNDED TO HYPOTHESIZE THAT AT THE BASE OF GENERAL INTOXICATION OF THE NERVE TYPE, WHICH INCLUDES PHENOL POISONING, LIES DISTURBANCE OF THE ACETYLCHOLINE METABOLISM OF THE BRAIN, AND IN PARTICULAR DISTURBANCE OR CHANGE IN THE COURSE OF ITS ENZYMATIC HYDROLYSIS. THIS INVESTIGATION WAS UNDERTAKEN FOR THE PURPOSE OF ESTABLISHING THE CHARACTER OF INFLUENCE OF ANTICHOLINESTERASE PREPARATIONS ON THE EXTERNAL SYMPTOM COMPLEX OF PHENOL INTOXICATION, WHICH IN TURN WOULD PERMIT THE FORMING OF AN OPINION ABOUT THE ROLE OF THE COMPLEX OF ACETYLCHOLINESTERASES IN THE REACTIONS OF FISH TO PHENOL IRRITATION.
MJ FISHES, PHENOL, PHENOL, TOXICITY, CHOLINESTERASE- INHIBITORS, PHENOL.
MN CENTRAL-NERVOUS-SYSTEM, ACETYLCHOLINE, ACETYLCHOLINESTERASE, METABOLISM, MOTOR-REACTIONS, USSR, TRANSLATIONS.
ID PHENOL-INTOXICATION.
AN N PB-208 200-T.

<775>
AU LUNT D. EVANS W C.
YR 70.
TI THE MICROBIAL METABOLISM OF BIPHENYL.
SO BIOCHEM J. 118. 3. P54P-55P. JUL 70.
LG EN.
MJ BACTERIA: ME.
MN PHENYLPYRUVIC-ACIDS: BI.
AN M 71011010.

<776>
AU LUPANOVA, L. K. SHKODICH, P. E. LEMBIK, ZH. L.
IN USSR.
YR 72.
TI BENZO(A)PYRENE CONTENT IN WASTE WATERS FROM PHENOL AND ACETONE PRODUCTION STUDIED BY THE CUMENE METHOD.
SO VOP. PROFIL. ZAGRYAZNENIYA VNESH. SREDY, CHASTNOSTI VODOEMOV, KANTSEROGEN. VESHCHESTV. P28-9. 1972.
LG RS.
DE BENZOPYRENE WATER POLLUTION.
AN C 07902009479.

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AU LUR'E, YU. YU. BELEVTSEV, A. N. OVCHINNIKOVA, I. V.
IN USSR.
YR 74.
TI OXIDATION OF CRESOLS, QUINONES, AND POLYHYDRIC PHENOLS WITH CHLORINE DIOXIDE IN AQUEOUS SOLUTIONS.
SO TR. VNII VODOSNABZH. KANALIZ. GIDROTEKHN. SOORUZH. I INZH. GIDROGEOL. P1-4. 1974.
LG RS.
DE CRESOL OXIDN CHLORINE DIOXIDE. PHENOL POLYHYDRIC OXIDN CHLORINE DIOXIDE. QUINONE OXIDN CHLORINE DIOXIDE. CHLORINE DIOXIDE OXIDN CRESOL. OXIDN CRESOL CHLORINE DIOXIDE.
AN C 08313113855.

<778>
AU LUR'E, YU. YU. BELEVTSEV, A. N. OVCHINNIKOVA, I. V.
IN VSES. NAUCHNO-ISSLED. INST. VODOSNABZH. KANALIZ. GIDROTEKH. SOORUZH. INZH. GIDROGEOL. MOSCOW. USSR.
YR 73.
TI OXIDATION OF PHENOL BY CHLORINE DIOXIDE IN NATURAL AND WASTE WATERS.
SO VODOSNABZH. SANIT. TEKH. P7-11. 1973.
LG RS.
DE PHENOL OXIDN CHLORINE DIOXIDE. WASTE WATER PHENOL OXIDN.
AN C 07904023266.

<779>
AU LYKOVA, L. K.
IN USSR.
YR 75.
TI EFFECT OF THE CONCENTRATION OF PHENOL (CARBOLIC ACID) ON THE RATE OF ITS DECOMPOSITION IN SEA WATER.
SO TR. GOS. OKEANOGR. INST. 127. P55-7. 1975.
LG RS.
DE PHENOL BIODEGRDN SALT LAKEWATER. CASPIAN SEA PHENOL BIODEGRDN. POLLUTION PHENOL SEAWATER BIODEGRDN. DEGRDN BIO PHENOL SEAWATER.
AN C 08514098909.

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AU LYNCH, R S. MIYAZAKI, S. SIKKA, H C.
IN SYRACUSE UNIV. RESEARCH CORP. LIFE SCIENCES DIV. SYRACUSE, NY 13210.
YR 75.
TI DEGRADATION OF CARBARYL AND 1-NAPHTHOL BY MARINE MICROORGANISMS.
SO BULLETIN OF ENVIRONMENTAL CONTAMINATION AND TOXICOLOGY, 13(6): 666-672, JUNE 1975.
LG EN.
AB NONE.
ID YEASTS, 1-NAPHTHOL.
DE BACTERIA, BIODEGRADATION, CARBAMATE COMPOUNDS, CARBARYL, FUNGI, MARINE ORGANISMS, METABOLITES, MICROORGANISMS.
AN P 7505867.

<781>
AU LYSYI, I. NELSON, K. H. NEWTON, P. R.
IN ROCKETDYNE, CANOGA PARK, CALIF. 308 000.
YR 67. 42P.
TI METHODS FOR THE DETERMINATION OF TRACE ORGANIC MATERIALS IN WATER.
NT RESEARCH AND DEVELOPMENT PROGRESS REPT. 1 JUN 65-24 NOV 66.
PR PC$3.00/MF$0.95.
AB THE DESCRIBED RESEARCH COVERS THE DEVELOPMENT OF ANALYTICAL METHODOLOGY FOR THE DETERMINATION OF ORGANICS IN WATER AS IT RELATES TO THE PROBLEM OF WATER DESALINATION. THE PRINCIPAL OBJECTIVE OF THE RESEARCH EFFORT WAS THE DEVELOPMENT OF INSTRUMENTAL MEANS FOR THE RAPID DETERMINATION OF THE TOTAL ORGANIC CONTENT IN WATER MATRICES. GAS CHROMATOGRAPHIC SEPARATION AND HYDROGEN FLAME IONIZATION DETECTION HAVE BEEN COMBINED WITH PYROLYSIS FOR THE RAPID DIRECT MEASUREMENT OF THE TOTAL ORGANIC CONTENT OF WATER AT THE PARTS PER MILLION

CONCENTRATION LEVEL. A MODIFICATION OF THE PROCEDURE, WHICH PROVIDES HIGHER SENSITIVITY AND MORE UNIFORM RESPONSE FOR A GREATER NUMBER OF ORGANIC COMPOUNDS, EMPLOYS STEAM AS A CARRIER GAS, AND A GLASS BEAD COLUMN. (AUTHOR).
MJ GAS-CHROMATOGRAPHY, WATER- ANALYSIS, CARBOHYDRATES, WATER- ANALYSIS.
MN PYROLYSIS, TRACE-ELEMENTS, METHANE, CELLULOSE, STARCHES, HEXOSES, FRESH-WATER, ORGANIC- COMPOUNDS.
ID PYROLYSIS-GAS-CHROMATOGRAPHY.
AN N PB-207 012.

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AU MACIEJOWSKI, FRANCISZEK. SOKOLOWSKA, JADWIGA.
IN OSRODEK BADAW.-ROZWOJOWY KAUCZUKOW TWORZYW WINYLOWYCH. OSWIECIM. POL.
YR 76.
TI CHROMATOGRAPHIC DETERMINATION OF PHENOLS AND CHLORINATED BENZENE DERIVATIVES IN WASTE WATERS FROM PRODUCTION OF SYNTHETIC PHENOL.
SO GAZ. WODA TECH. SANIT. 50. P70- 2. 1976.
LG PO.
DE PHENOL WASTEWATER GAS CHROMATOG. CHLORINATED BENZENE WASTEWATER CHROMATOG.
AN C 08512082823.

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AU MAGEE P N.
YR 73.
TI METABOLIC ASPECTS OF CHEMICAL CARCINOGENESIS.
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DE HUMAN PLANT PRODUCTS MOLD PRODUCTS BACTERIAL PRODUCTS 7 12 DI METHYL BENZ A ANTHRACENE 2 NAPHTHYLAMINE DI METHYLAMINO AZO BENZENE BETA PROPIO LACTONE NITROSOMETHYL UREA CARBON TETRA CHLORIDE ETHIONINE ETHYL CARBAMATE 4 NITRO QUINOLINE N OXIDE CARCINOGENS ENZYME ACTIVATION.
AN B 75013075.

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AU MAGNARADZE, G. F. DOLIDZE, TS. G.
IN USSR.
YR 71.
TI USE OF SPECTROPHOTOMETRY FOR DETERMINATION OF PHENOL IN WATERS.
SO TR. GRUZ. NAUCH.-ISSLED. INST. PISHCH. PROM. NO. 5. P250-1. 1971.
LG RS.
DE PHENOL DETN WATER. WATER ANALYSIS PHENOL.
AN C 07822140161.

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AU MAJESKI, EDWARD JOSEPH.
IN UNIVERSITY OF RHODE ISLAND (0186) PH.D. 1966, 089PP.
YR 66.
TI CONTROLLED POTENTIAL ELECTROLYSIS OF ANTHRACENE.
SO DAI V29(08), SEC B, P2782.
DE CHEMISTRY, ANALYTICAL (0486).
AN D ADG69-01033.

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AU MAKALETS, B. I. IVANOVA, L. G. KURZANOVA, V. V.
IN NOVOKUIBYSHEV. FIL. NAUCHNO- ISSLED. INST. SINT. SPIRT. ORG. PROD. NOVOKUIBYSHEV. USSR.
YR 71.
TI CATALYTIC OXIDATION OF PHENOL IN AQUEOUS SOLUTIONS BY ATMOSPHERIC OXYGEN.
SO NEFTEKHIMIYA. 11. P723-8. 1971.
LG RS.
DE PHENOL OXIDN ATM OXYGEN.
AN C 07605024425.

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AU MAKALETS, B. I. IVANOVA, L. G. KURZANOVA, V. V.
IN NOVOKUIBYSHEV, FIL. NAUCHNO- ISSLED. INST. SINT. SPIRT. ORG. PROD. NOVOKUIBYSHEV. USSR.
YR 71.
TI KINETICS OF THE ACCUMULATION OF HYDROQUINONE AND PYROCATECHOL DURING THE CATALYTIC OXIDATION OF PHENOL BY ATMOSPHERIC OXYGEN IN AQUEOUS SOLUTIONS.
SO NEFTEKHIMIYA. 11. P729-33. 1971.
LG RS.
DE HYDROQUINONES PYROCATECHOLS VIA OXIDN. PHENOL OXIDN ATM OXYGEN.
AN C 07605024424.

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AU MAKALETS, B. I. IVANOVA, L. G. PANKRATOVA, K. G. KIRICHENKO, G. S.
IN NOVOKUIBYSHEVSK. FILIAL NIISS. NOVOKUIBYSHEVSK. USSR.
YR 70.
TI PREPARATION OF DIHYDRIC PHENOLS BY THE CATALYTIC OXIDATION OF PHENOL IN AQUEOUS SOLUTIONS.
SO NEFTEPERERAB. NEFTEKHIM. (MOSCOW). P23-5. 1970.
LG RS.
DE PYROCATECHOL PRODN PHENOL. HYDROQUINONE PRODN PHENOL. PHENOL CATALYTIC OXIDN. OXIDN CATALYTIC PHENOL.
AN C 07301003592.

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AU MAKEEVA E N. MAKEEV A M. RODZILLER I D.
YR 75.
TI METABOLISM OF MONO CARBON COMPOUNDS DURING BIOLOGICAL PURIFICATION OF SEWAGE WATERS.
SO PRIKL BIOKHIM MIKROBIOL. 11 (3). 367-373.
DE OPERCULARIA-COARCTATA STYLONYCHIA-PUSTULATA NOTOMMATA-ANSATA METHANOL FORMALDEHYDE FORMIC-ACID.
AN B 61069317.

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AU MAKEIKINA, V. V. MAMONTOVA, O. V. NEMCHENKO, A. G.
IN USSR.
YR 70.
TI VAPOR-PHASE CATALYTIC OXIDATION OF ORGANIC MATTER IN WASTE WATER FROM THE PRODUCTION OF BUTYL AND HIGHER ALCOHOLS.
SO KHIM. TEKHNOL. TOPL. MASEL. 15. P34-6. 1970.
LG RS.
DE CATALYTIC OXIDN ALCS PRODN WASTES. OXIDN CATALYTIC ALCS PRODN WASTES . BUTANOL PRODN WASTES OXIDN. ALCS PRODN WASTES OXIDN.
AN C 07312059107.

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AU MAKULA R A. LOCKWOOD P J. FINNERTY W R.
IN DEPARTMENTS OF BIOCHEMISTRY AND MICROBIOLOGY, UNIVERSITY OF GEORGIA, ATHENS, GEORGIA 30602.
YR 75.
TI COMPARATIVE ANALYSIS OF THE LIPIDS OF ACINETOBACTER SPECIES GROWN ON HEXADECANE.
SO J BACTERIOL. 121. 1. P250-8. JAN 75.
LG EN.
MJ ALCALIGENES: AN.
MN ACINETOBACTER: ME, GD. CHROMATOGRAPHY-THIN-LAYER. DIGLYCERIDES: AN. FATTY-ALCOHOLS: AN. SPECTROPHOTOMETRY-INFRARED. UNITED-STATES-GOVERNMENT-SUPPORTED-NON-NIH: (NON-NIH-SUP). AN.
AN M 75114649.

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AU MALLEVIALLE, J.
IN LABORATOIRE DE LA SOCIETE LYONNAISE DES EAUX ET DE L'ECLAIRAGE.
YR 75.
TI ACTION DE L'OZONE DANS LA DEGRADATION DES COMPOSES PHENOLIQUES SIMPLES ET POLYMERISES: APPLICATION AUX MATIERES HUMIQUES CONTENUES DANS LES EAUX.
SO TECHNIQUES ET SCIENCES MUNICIPALES ET REVUE L'EAU, 70(3): 107-113, MAR. 1975.
LG FR.
AB NONE.
ID BLEACHING, PHENOLS.
DE CHEMICAL DEGRADATION, EFFLUENT TREATMENT, OZONATION, OZONE, WATER TREATMENT.
AN P 7503538.

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AU MALOSEJA Z. PAVLETIC Z. MUNJKO I.
YR 72.
TI BIOLOGICAL DECOMPOSITION OF PHENOL BY MIXED AND PURE CULTURES OF ALGAE.
SO ACTA BOT CROAT. 31 129-138.
DE CHLORELLA-VULGARIS PEDIASTRUM-DUPLEX COSMARIUM-LAEVE SCENEDESMUS-QUADRICAUDA CHROOCOCCUS-TURGIDUS NOSTOC-ENTOPHYTUM ANABAENA-AUGSTUMALIS GROWTH.
AN B 55022243.

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AU MAMEDOVA, V. M. ABASHIN, V. G. LINETSKII, V. A.
IN VSES. NAUCHNO-ISSLED. INST. OLEFINOV. BAKU. USSR.
YR 73.
TI DETERMINATION OF ACETOPHENONE IN WASTE WATERS FROM THE COMBINED PRODUCTION OF PROPYLENE OXIDE AND

STYRENE.
SO AZERB. KHIM. ZH. P121-3. 1973.
LG RS.
DE ACETOPHENONE DETN WASTEWATER STYRENE. STYRENE WASTEWATER ANALYSIS ACETOPHENONE.
AN C 08102006027.

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AU MANESCU, S. PETRE, I.
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YR 72.
TI EPIDEMIOLOGIC ASPECTS OF ACCIDENTAL WATER POLLUTION WITH CHEMICAL SUBSTANCES.
SO IGIENA. 21. P387-92. 1972.
LG RO.
DE POLLUTION PESTICIDE PHENOL WATER.
AN C 07902009583.

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AU MANTOVANI, E. MAZZEI, M. ROBERTIELLO, A. ZANOBI, A.
IN LAB. PROCESSI MICROBIOL. SNAM PROGETTI S.P.A. ROME. ITALY.
YR 77.
TI PHOTOSENSITIZED DEGRADATION OF POLYOLEFINS. II.
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LG EN.
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AN C 08620140655.

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AU MARCONI, SIMONA. IONESCU, MARIOARA.
IN RES. DES. INST. WATER RESOUR. ENG. BUCHAREST. ROM.
YR 74.
TI TOXIC ACTION OF ACRYLONITRILE ON FISH.
SO STUD. PROT. CALITATII APELOR. 16. P7-22. 1974.
LG RO.
DE ACRYLONITRILE TOXICITY FISH.
AN C 08411069956.

<798>
AU MARINESCU A G. GODEANU M. MARINESCU D. IONILA D. NEGULESCU A.
YR 76.
TI EFFECT OF ORGANIC POLLUTANTS PHENOLS ON SURVIVAL AND RESPIRATORY METABOLISM IN 2 SPECIES OF FISH CARASSIUS-AURATUS-GIBELIO AND CYPRINUS-CARPIO.
SO STUD CERCET BIOL. 28 (2). (RECD 1977) 109-116.
DE TEMPERATURE ADAPTATION.
AN B 63072222.

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AU MARKING, LEIF L. DAWSON, VERDEL K.
IN FISH CONTROL LAB. LA CROSSE. WIS.
YR 73.
TI TOXICITY OF QUINALDINE SULFATE TO FISH.
SO INVEST. FISH CONTR. NO. 47-50. PII/1-II/8. 1973.
LG EN.
DE QUINALDINE SULFATE TOXICITY FISH.
AN C 08023128087.

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AU MARTONOVA M. SKARKA B. RADEJ Z.
YR 72.
TI DEGRADATION OF NAPHTHALENE TO SALICYLIC ACID BY CULTURES OF PSEUDOMONAS DENITRIFICANS AND ACHROMOBACTER SP. FROM THE EFFLUENTS OF PETROLEUM REFINERY.
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LG EN.
MJ ALCALIGENES: ME. PSEUDOMONAS: ME.
MN ALCALIGENES: GD. COLORIMETRY. PSEUDOMONAS: GD.
AN M 72118730.

<801>
AU MARUOKA, SHOJI. NISHIO, TOSHISABURO. KAWAI, SENZO.
IN KYOTO MUNIC. HYG. LAB. KYOTO. JAPAN.
YR 74.
TI SUBACUTE TOXICITY OF CARBON N-HEXANE-ACETONE EXTRACT RECOVERED FROM DRINKING WATER.
SO BULL. ENVIRON. CONTAM. TOXICOL. 11. P545-50. 1974.
LG EN.
DE WATER CONTAMINANT KYOTO CITY.
AN C 08123146552.

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AU MARX J L.
YR 72.
TI PHTHALIC ACID ESTERS: BIOLOGICAL IMPACT UNCERTAIN.
SO SCIENCE. 178. 56. P46-7. 6 OCT 72.
LG EN.
MJ PHTHALIC-ACIDS: AE.

MN ABNORMALITIES-DRUG-INDUCED. BLOOD-PRESERVATION. DE. GUINEA-PIGS. RABBITS.
AN M 73003742.

<803>
AU MASHUR, V. A. IORDAN, E. P.
IN USSR.
YR 72.
TI ROLE OF VITAMIN B12 IN THE METABOLISM OF THE PROPIONIC ACID BACTERIA .
SO VESTN. MOSK. UNIV. BIOL. POCHVOVED. 27. P107-9. 1972.
LG RS.
DE VITAMIN B12 PROPIONIBACTERIUM.
AN C 07715098608.

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AU MASTERS, MARGARET J. ZAJIC, J. E.
IN FAC. ENG. SCI. UNIV. WEST. ONTARIO. LONDON. ONT.
YR 71.
TI MYXOTROPHIC GROWTH OF ALGAE ON HYDROCARBON SUBSTRATES.
SO DEVELOP. IND. MICROBIOL. 12. P77-86. 1971.
LG EN.
DE ALKANE METAB ALGAE. HEPTADECANE METAB ALGAE. SCENEDESMUS HEPTADECANE METAB.
AN C 07609042294.

<805>
AU MATEI V E. POLENOV A L.
TI EFFECT OF HYPERTONIC MEDIUM AND PHENOL INTOXICATION ON THE HYPOTHALAMIC HYPOPHYSEAL NEURO SECRETORY SYSTEM OF THE GUPPY LEBISTES-RETICULATUS.
SO J EVOL BIOCHEM PHYSIOL (ENGL TRANSL ZH EVOL BIOKHIM FIZIOL). 8 (4). 1972 (1973) 343-349.
DE TELEOST WATER POLLUTANT STRESS.
AN B 74051315.

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AU MATEI, V. E.
IN USSR.
YR 73.
TI HYPOTHALAMIC NEUROSECRETION IN LEBISTES RETICULATUS UNDER CONDITIONS OF CHRONIC PHENOL INTOXICATION.
SO TR. INST. BIOL. VNUTR. VOD, AKAD. NAUK SSSR. NO. 24. P39-43. 1973.
LG RS.
DE PHENOL HYPOTHALAMUS NEUROSECRETION LEBISTES. FISH PHENOL TOXICITY.
AN C 08017091777.

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AU MATEI, V. E.
IN USSR.
YR 69.
TI EFFECT OF SUBTOXIC CONCENTRATIONS OF PHENOL ON THE FORMATION RATE OF GROUP CONDITIONED REFLEXES IN LEBISTES RETICULATUS.
SO TR. INST. BIOL. VNUTR. VOD, AKAD. NAUK SSSR. NO. 19. P62-5. 1969.
LG RS.
DE PHENOL REFLEXES FISH. FISH REFLEXES PHENOL. REFLEXES PHENOL FISH.
AN C 07221109683.

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AU MATEI, V. E. FLEROV, B. A.
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YR 70.
TI EFFECT OF SUBTOXIC CONCENTRATIONS OF PHENOL ON THE CONDITIONED REFLEXES OF LEBISTES RETICULATUS.
SO VOP. VOD. TOKSIKOL. P175-81. 1970.
LG RS.
AV TOPACHEVSKII, A. V.
DE LEBISTES CONDITIONED REFLEXES. REFLEXES CONDITIONED LEBISTES. FISH POISONING PHENOL. POISONING FISH PHENOL. PHENOL POISONING FISH.
AN C 07417084579.

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AU MATEL, V. E.
IN INST. BIOL. INLAND WATERS. BOROK. USSR.
YR 73.
TI HYPOTHALAMOHYPOPHYSEAL NEUROSECRETORY SYSTEM OF THE GUPPY LEBISTES RETICULATUS DURING CHRONIC PHENOK INTOXICATION.
SO ZH. EVOL. BIOKHIM. FIZIOL. 9. P481-6. 1973.
LG RS.
DE PHENOL NEUROHORMONE HYPOTHALAMUS PITUITARY. FISH NEUROSECRETION PHENOL. ENDOCRINE SYSTEM PHENOL GUPPY.
AN C 08005023272.

<810>
AU MATSUDA, YOSHIHARU. FUJISAWA, TOSHIO. FUJIKAWA, SHUZO. TAKASU, YOSHIO. TANAKA, YOSHIE. IMAGAWA,

HIROSHI.
IN FAC. ENG. YAMAGUCHI UNIV. UBE. JAPAN.
YR 75.
TI OXIDATION OF CYANIDE IONS IN AQUEOUS ALKALINE SOLUTIONS BY OZONE.
SO NIPPON KAGAKU KAISHI. P602-6. 1975.
LG JA.
DE CYANIDE OXIDN ALK WASTEWATER.
AN C 08310084340.

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AU MATSUDA, YUKIO.
IN TOYO INK MANUF. CO. LTD. TOKYO. JAPAN.
YR 72.
TI TREATMENT AND ANALYSIS METHODS FOR CYANIDES AND THE USE OF CYANIDE CONCENTRATION-MEASURING INSTRUMENTS.
SO NENRYO OYOBI NENSHO. 39. P691-8. 1972.
LG JA.
DE REVIEW CYANIDE TREATMENT WATER.
AN C 07820128129.

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AU MATSUDA, YUKIO.
IN TOYO INK MANUF. CO. LTD. TOKYO. JAPAN.
YR 72.
TI TREATMENT AND ANALYSIS METHODS FOR CYANIDES AND THE USE OF CYANIDE CONCENTRATION-MEASURING INSTRUMENTS.
SO NENRYO OYOBI NENSHO. 39. P691-8. 1972.
LG JA.
DE REVIEW CYANIDE TREATMENT WATER.
AN C 07820128129.

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AU MATSUMOTO, GENKI. ISHIWATARI, RYOSHI. HANYA, TAKAHISA.
IN FAC. SCI. TOKYO METROP. UNIV. TOKYO. JAPAN.
YR 77.
TI GAS CHROMATOGRAPHIC-MASS SPECTROMETRIC IDENTIFICATION OF PHENOLS AND AROMATIC ACIDS IN RIVER WATERS.
SO WATER RES. 11. P693-8. 1977.
LG EN.
DE PHENOL DETN RIVER WATER. AROM ACID DETN RIVER WATER. GAS CHROMATOG RIVER WATER. MASS SPECTROMETRY RIVER WATER. ORG ANALYSIS RIVER WATER .
AN C 08724189171.

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AU MATSUNAGA, KATSUHIKO. NAKAYA, MITSUKO.
IN FAC. FISH. HOKKAIDO UNIV. HAKODATE. JAPAN.
YR 71.
TI DETERMINATION OF CYANIDE BY OXIDATION TO NITRITE.
SO BUNSEKI KAGAKU. 20. P887-9. 1971.
LG JA.
DE CYANIDE DETN. OXIDN CYANIDE DETN. NITRITE CYANIDE DETN. PHOTOMETRY CYANIDE DETN. SULFANILAMIDE CYANIDE DETN. NAPHTHYLETHYLENEDIAMINE CYANIDE DETN.
AN C 07520126047.

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AU MATSUURA, TAKESHI. SMITH, JOE MAUK.
IN UNIV. CALIFORNIA. DAVIS. CALIF.
YR 70.
TI PHOTODECOMPOSITION KINETICS OF FORMIC ACID IN AQUEOUS SOLUTION.
SO AICHE J. 16. P1064-71. 1970.
LG EN.
DE PHOTODECOMPN KINETICS FORMIC ACID SOLN. KINETICS PHOTODECOMPN FORMIC ACID SOLN. FORMIC ACID SOLN PHOTODECOMPN KINETICS. ORG POLLUTANTS REMOVAL WATER MODEL. POLLUTANTS ORG REMOVAL WATER MODEL. MODEL ORG POLLUTANTS REMOVAL WATER.
AN C 07406023941.

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AU MATTHEWS, JOHN E. MYERS, LEON H.
IN ROBERT S. KERR ENVIRONMENTAL RESEARCH LAB. ADA, OKLA.
YR 76. 62P.
TI ACUTE TOXIC EFFECTS OF PETROLEUM REFINERY WASTEWATERS ON REDEAR SUNFISH.
PR PC A04/MF A01.
AB STATIC BIOASSAYS OF 24 HOURS' DURATION WERE PERFORMED ON SAMPLES OF WASTEWATERS PROVIDED BY 22 DOMESTIC PETROLEUM REFINERS. THESE WASTEWATERS REPRESENT THREE TYPES OF WATER DISCHARGES PREVALENT TO THIS INDUSTRY: PROCESS WASTEWATERS PRIOR TO DILUTION WITH OTHER STREAMS; API SEPARATOR EFFLUENTS WHICH ARE A CONJUGATE OF VARIOUS STREAMS WITHIN A REFINERY; AND WASTEWATERS FOLLOWING TREATMENT BY ACTIVATED SLUDGE SYSTEMS. BIOASSAYS WERE PERFORMED USING REDEAR SUNFISH (LEPOMIS MICROLOPHUS) AS TEST ORGANISMS. TWENTY-FOUR HOUR 50

PERCENT TOLERANCE LIMITS (TL SUB 50) OF THE VARIOUS WASTEWATERS ARE COMPARED WITH RESULTS OF CHEMICAL ANALYSES PERFORMED DURING THE SAME STUDY. TOXICITY VARIED CONSIDERABLY BOTH BETWEEN REFINERIES AND FOR WASTE STREAMS FROM WITHIN A SINGLE REFINERY. RESULTS OF THESE ANALYSES AND OBSERVED BEHAVIORAL SYMPTOMS OF DISTRESSED FISH REVEALED THAT AMMONIA, SULFIDES, AND PHENOLICS, ALONE OR IN COMBINATION, WERE MAJOR CONTRIBUTORS TO TOXICITY EXERTED IN MOST SAMPLES. THREE REFINERIES HAD SAMPLES WHICH WERE MORE TOXIC THAN ANTICIPATED BASED ON RESULTS OF CHEMICAL ANALYSES, INDICATING THE PRESENCE OF OTHER TOXIC COMPOUNDS IN UNKNOWN QUANTITIES; E.G. VARIOUS HYDROCARBONS.

MJ FRESH-WATER-FISHES, TOXICITY, INDUSTRIAL-WASTES, REFINERIES.

MN BIOASSAY, WASTE-WATER, ANIMAL-BEHAVIOR, TOXIC-TOLERANCES, HYDROCARBONS, AMMONIA, ORGANIC-SULFIDES, PHENOLS.

ID LEPOMIS-MICROLOPHUS, NTISEPAORD.

AN N PB-262 913/7SL.

<817>

AU MATTSON, VINCENT R. ARTHUR, JOHN W. WALBRIDGE, CHARLES T.

IN ENVIRONMENTAL RESEARCH LAB. DULUTH, MINN.

YR 76. 20P.

TI ACUTE TOXICITY OF SELECTED ORGANIC COMPOUNDS TO FATHEAD MINNOWS.

NT FINAL REPT. FEB 73-JUL 74.

PR PC A02/MF A01.

AB STATIC NONRENEWAL LABORATORY BIOASSAYS WERE CONDUCTED WITH 26 ORGANIC COMPOUNDS COMMONLY USED BY INDUSTRY. THE SELECTED COMPOUNDS REPRESENTED THE FIVE FOLLOWING CHEMICAL CLASSES: ACIDS, ALCOHOLS, HYDROCARBONS, KETONES AND ALDEHYDES, AND PHENOLS. JUVENILE FATHEAD MINNOWS (PIMEPHALES PROMELAS) WERE THE TEST ANIMAL, AND TEST DURATION WAS LIMITED TO 96 HR. LAKE SUPERIOR WATER SERVED AS THE DILUENT SOURCE FOR ALL TEST COMPOUNDS. ADDITIONAL TESTS WERE CONDUCTED WITH A RECONSTITUTED DILUENT WATER FOR FIVE COMPOUNDS. THE ALCOHOL COMPOUNDS WERE GENERALLY 10 TO 100 TIMES LESS TOXIC THAN CHEMICALS TESTED IN THE OTHER FOUR CHEMICAL CLASSES. COMPOUNDS IN THE OTHER FOUR CLASSES HAD A SIMILAR TOXICITY RANGE. THE MOST LETHAL CHEMICAL TESTED WAS PENTACHLOROPHENOL (96-HR LC50 OF 0.6 MG/L.) AND THE LEAST LETHAL WAS ETHANOL (96-HR LC50 OF 13,480 MG/L.). MOST OF THE MINNOW DEATHS OCCURRED DURING THE FIRST 24 HR. COMPARATIVE CHEMICAL TESTS IN THE TWO DILUENT WATERS GAVE SIMILAR LETHAL RESPONSES.

MJ MINNOWS, ORGANIC-COMPOUNDS, TOXICITY.

MN ORGANIC-ACIDS, ALCOHOLS, HYDROCARBONS, KETONES, ALDEHYDES, PHENOLS, MORTALITY, ETHANOLS, CONCENTRATION-COMPOSITION, LETHAL-DOSAGE, CLASSIFICATIONS, BIOASSAY, EXPOSURE.

ID PIMEPHALES-PROMELAS, PHENOL- CHLORO, WATER-POLLUTION-EFFECTS- ANIMALS, NTISEPAORD.

AN N PB-262 897/2SL.

<818>

AU MAYER F. L. JR. SANDERS H O.

YR 73.

TI TOXICOLOGY OF PHTHALIC ACID ESTERS IN AQUATIC ORGANISMS.

SO ENVIRON HEALTH PERSPECT. 3. P153- 7. JAN 73.

LG EN.

MJ MARINE-BIOLOGY.

MN ANIMAL. ENVIRONMENTAL-EXPOSURE. PHTHALIC-ACIDS: ME. UNITED-STATES.

AN M 73177210.

<819>

AU MC DERMOTT, J H. KABLER, P W. WOLF, H W.

IN ECA, ENVIRONMENTAL HEALTH SERVICE, BUREAU OF WATER HYGIENE, DIV. OF CRITERIA AND STANDARDS, ROCKVILLE, MD.

YR 71.

TI HEALTH ASPECTS OF TOXIC MATERIALS IN DRINKING WATER.

SO AMERICAN JOURNAL OF PUBLIC HEALTH AND THE NATION'S HEALTH, 61(11): 2269-2276, NOV. 1971.

LG EN.

AB NONE.

DE TOXIC MATERIALS, WATER CONTAMINATION, WATER QUALITY STANDARDS.

AN P 7006934.

<820>

AU MCCORMACK, LAWRENCE M. GOODMAN, ALAN. JONES, ARTHUR R. SILVESTRI,

ARCHILLE.
IN EDGEWOOD ARSENAL ABERDEEN PROVING GROUND MD. 401007.
YR 76. 20P.
TI A DIRECT METHOD FOR THE DETERMINATION OF PHENOL IN NATURAL WATERS.
NT TECHNICAL REPT. JUN-OCT 74.
PR PC$3.50/MF$3.00.
AB A RAPID, DIRECT PROCEDURE FOR THE DETERMINATION OF PHENOL, SENSITIVE IN THE MICROGRAM RANGE, HAS BEEN DEVISED UTILIZING A MODIFICATION OF THE BERTHELOT REACTION. THE METHOD IS ESPECIALLY APPLICABLE TO WATER SAMPLES AND REQUIRES NO EXTRACTION OR DISTILLATION. PHENOL, AS THE LIMITING FACTOR, PRODUCES A STRONG INDOPHENOL BLUE COLOR, WHICH IS LINEAR IN THE RANGE OF 1 TO 5 UG/ML. CHALLENGE OF THE METHOD WITH 33 POTENTIAL WATER POLLUTANTS SHOWS GOOD SPECIFICITY FOR PHENOLS. (AUTHOR).
MJ WATER-POLLUTION, PHENOLS.
MN TEST-METHODS, METHODOLOGY, LABORATORY-TESTS, LINEARITY.
ID BERTHELOT-REACTION, WATER- ANALYSIS, WATER-DETECTION, NTISDODXA.
AN N AD-A031 155/5SL.

<821>
AU MCDONALD, F. R.
IN BUREAU OF MINES, LARAMIE, WYO. LARAMIE ENERGY RESEARCH CENTER.
YR 74. 13P.
TI THE IDENTIFICATION OF GAMMA-VALEROLACTONE IN WASTE FROM AN OIL-SHALE IN SITU RETORT.
NT REPT. OF INVESTIGATIONS 1974.
PR PC$3.25/MF$2.25.
AB THE COMPOUND GAMMA-VALEROLACTONE HAS BEEN IDENTIFIED IN AN ACID FRACTION ISOLATED FROM WASTE WATER COLLECTED FROM AN IN SITU OIL-SHALE RETORT. INFRARED, NUCLEAR MAGNETIC RESONANCE, AND MASS SPECTROMETRY WERE USED TO CONFIRM THE IDENTIFICATION OF THE FRACTION COLLECTED FROM A GAS CHROMATOGRAPH.
MJ OIL-SHALE, LACTONES, INDUSTRIAL-WASTES, WATER-ANALYSIS.
MN INDUSTRIAL-WATER, WATER- POLLUTION, RETORTS-REACTORS, INFRARED-SPECTRA, NUCLEAR-MAGNETIC- RESONANCE, MASS-SPECTRA.
ID FURANONE-DIHYDRO-METHYL, NTISDIBM.
AN N PB-240 098/4SL.

<822>
AU MCFARREN, EARL F. . MATTHEWS, JOHN M. . LISHKA, RAYMOND J.
IN NATIONAL CENTER FOR URBAN AND INDUSTRIAL HEALTH, CINCINNATI, OHIO.
YR 67. 55P.
TI WATER PHENOLS NO. 1.
NT ENVIRONMENTAL HEALTH SERIES. REPORT OF A STUDY CONDUCTED BY THE ANALYTICAL REFERENCE SERVICE.
PR PC$4.75/MF$0.95.
AB THE OBJECTIVE OF THE STUDY WAS TO EVALUATE THE ABILITY OF METHODS TO QUANTITATIVELY MEASURE A LOW CONCENTRATION OF A MIXTURE OF PHENOLS. THE STUDY CONSISTED OF FOUR CONCENTRATED SOLUTIONS SHIPPED IN SEALED GLASS AMPOULES TO VARIOUS LABORATORIES. THE PARTICIPANTS WERE INSTRUCTED ON RECEIPT TO DILUTE 5 ML OF EACH SAMPLE TO 1 LITER WITH A GOOD QUALITY (PHENOL FREE) DISTILLED WATER, AND WERE INFORMED THAT THE SAMPLES WOULD THEN CONTAIN CONCENTRATIONS OF PHENOL AND 2,4-DICHLOROPHENOL IN THE RANGE OF 1.0 TO 200 MICROGRAM PER LITER. THE DISTILLATION AND CHLOROFORM EXTRACTION (OF THE FINAL COLOR) METHOD WILL MEASURE THE PHENOL CONTENT OF A SAMPLE VERY ACCURATELY AND PRECISELY, BUT IT IS NOT AS SENSITIVE AS IS DESIRED. ON THE OTHER HAND THE SIMPLIFIED AMINOANTIPYRINE METHOD WILL MEASURE NEITHER PHENOL NOR 2,4-DICHLOROPHENOL VERY ACCURATELY OR PRECISELY.
MJ WATER-ANALYSIS, PHENOLS, WATER-POLLUTION, PHENOLS.
MN STANDARDS, ACCURACY.
ID WATER-POLLUTION-DETECTION, PHENOL-DICHLORO, EPAL.
AN N PB-216 209.

<823>
AU MCGINNES, PAUL R. SNOEYINK, VERNON L.
IN ILLINOIS UNIV. URBANA. WATER RESOURCES CENTER.
YR 74. 62P.
TI DETERMINATION OF THE FATE OF POLYNUCLEAR AROMATIC HYDROCARBONS IN NATURAL WATER SYSTEMS.
NT RESEARCH REPT.
PR PC$3.75/MF$1.45.
AB THE POLYNUCLEAR AROMATIC HYDROCARBONS, OR PAH, ARE OF CURRENT CONCERN AS WATER POLLUTANTS AND POTENTIAL HEALTH HAZARDS. THE

PRESENCE OF PAH IN NATURAL WATER SYSTEMS WAS EVALUATED AND AN ANALYTICAL TECHNIQUE FOR SPECIFIC PAH WAS DEVELOPED. IT WAS FOUND THAT THE PAH ARE NOT SOLUBLE IN WATER BUT THEY EITHER ARE PRESENT AS PARTICULATE MATERIAL OR AS MATERIAL ABSORBED ON SOLID SURFACES IN NATURAL WATER SYSTEMS. THE PHOTODECOMPOSITION OF TWO PAH, 1,2 BENZANTHRACENE, OR BA, AND 3,4 BENZPYRENE, OR BP, WAS EXAMINED. THIS DECOMPOSITION IS RELATIVELY UNAFFECTED BY WATER CHEMISTRY AND WILL OCCUR UNDER SOLAR RADIATION AND IN TURBID WATERS.

MJ AROMATIC-POLYCYCLIC- HYDROCARBONS, PHOTOLYSIS.

MN HYDROSOLS, SOLVENT-EXTRACTION, CARCINOGENS, PARTICLES, PARTICLE-SIZE, REACTION-KINETICS, WATER-ANALYSIS, GAS-CHROMATOGRAPHY, ULTRAVIOLET-RADIATION, QUINONES, WATER-POLLUTION.

ID BENZANTHRACENES, BENZOPYRENES, NTISOWRR.

AN N PB-232 168/5.

<824>

AU MCGINNISS M J. BUIKEMA A L JR. CAIRNS J JR.

YR 77.

TI TEMPERATURE EFFECTS ON THE ACUTE TOXICITY OF 2 SIMULATED EFFLUENTS TO DAPHNIA-PULEX CLADOCERA.

SO ASB (ASSOC SOUTHEAST BIOL) BULL. 24 (2). 68-69.

DE ABSTRACT ARBITRARY REFINERY MIXTURE COOLING TOWER BLOWDOWN MIXTURE ZINC PHOSPHATE CHROMATE SULFATE BORON CHROMIUM OIL GREASE PHENOL SULFIDE ACCLIMATION TEMPERATURE MOLT METABOLISM.

AN B 77097351.

<825>

AU MCGONIGLE, E J.

IN MERCK SHARP AND DOHME RESEARCH LABS. PHARMACEUTICAL RESEARCH AND DEVELOPMENT, W. POINT, PA 19486.

YR 75.

TI THIN-LAYER CHROMATOGRAPHIC ANALYSIS IN WASTE CHEMISTRY.

SO CHROMATOGRAPHIC ANALYSIS OF THE ENVIRONMENT. EDITED BY R. L. GRAB. NEW YORK: MARCEL DEKKER, 1975. PP. 639-673.

LG EN.

AB NONE.

ID PHENOLS, STEROLS, TLC.

DE SAMPLING METHODS, POLLUTANT ANALYSIS, PESTICIDES, ORGANIC WASTES, METALS, LIQUID CHROMATOGRAPHY, HYDROCARBONS, HERBICIDES.

AN P 7601855.

<826>

AU MCGUIRE, JOHN M. ALFORD, ANN L. CARTER, MIKE H.

IN ENVIRONMENTAL PROTECTION AGENCY, ATHENS, GA. SOUTHEAST ENVIRONMENTAL RESEARCH LAB.

YR 73. 52P.

TI ORGANIC POLLUTANT IDENTIFICATION UTILIZING MASS SPECTROMETRY.

NT ENVIRONMENTAL PROTECTION TECHNOLOGY SERIES.

AV 73-234.

PR PC-GPO/MF$1.45-NTIS.

AB A SYSTEM HAS BEEN DEVELOPED FOR THE RAPID IDENTIFICATION OF VOLATILE ORGANIC WATER POLLUTANTS. IT INVOLVES COMPUTER CONTROLLED GAS CHROMATOGRAPHY/MASS SPECTROMETRY WITH COMPUTERIZED MATCHING OF MASS SPECTRA. APPLICATION OF THIS SYSTEM TO THE ANALYSIS OF WASTE EFFLUENTS REVEALED A SIGNIFICANT NUMBER OF POLLUTANTS THAT WERE NOT PREVIOUSLY KNOWN TO BE PRESENT. (AUTHOR).

MJ WATER-ANALYSIS, ORGANIC- COMPOUNDS, MASS-SPECTROSCOPY, GAS-CHROMATOGRAPHY.

MN COMPUTERS, AUTOMATIC-CONTROL, DATA-PROCESSING, PESTICIDES, INDUSTRIAL-WASTES, PHENOLS, WATER-POLLUTION, SYNTHETIC-ELASTOMERS, COAL-GASIFICATION.

ID WATER-POLLUTION-DETECTION, EPAORM.

AN N PB-227 163/3.

<827>

AU MCKEE, HERBERT C. TARAZI, DAVID S.

IN SOUTHWEST RESEARCH INST. HOUSTON, TEX.

YR 74. 64P*.

TI DEVELOPMENT OF SAMPLE PREPARATION METHODS FOR ANALYSIS OF MARINE ORGANISMS.

NT ECOLOGICAL RESEARCH SERIES.

AV PAPER COPY ALSO AVAILABLE FROM GPO $1.05.

PR PC$3.75/MF$2.25.

AB THE OVERALL OBJECTIVE OF THE RESEARCH WAS TO DEVELOP METHODS OF SAMPLE PREPARATION SUITABLE FOR PROCESSING, EXTRACTING, PURIFYING,

AND CONCENTRATING SPECIFIC ORGANIC POLLUTANTS FOUND IN MARINE ORGANISMS, SO THAT CHEMICAL ANALYSIS TO MEASURE THESE CONTAMINANTS CAN BE CARRIED OUT. THE INVESTIGATION WAS DIRECTED PRIMARILY AT THE MEASUREMENT OF CONTAMINANTS OF INDUSTRIAL ORIGIN. THE METHODS DEVELOPED PROVIDE NEW TECHNIQUES FOR MEASURING ORGANIC CONTAMINANTS IN WATER TO ESTABLISH MONITORING PROCEDURES, IDENTIFY SOURCES OF CONTAMINATION, EVALUATE METHODS OF TREATMENT, OR FOR OTHER USES IN WATER QUALITY MANAGEMENT. THE TECHNIQUE USED FLAME IONIZATION GAS CHROMATOGRAPHY FOR DETECTION.

MJ GAS-CHROMATOGRAPHY, WATER- ANALYSIS.

MN RESIDUES, INDUSTRIAL-WASTES, WATER-POLLUTION, QUANTITATIVE-ANALYSIS, QUALITATIVE-ANALYSIS, HYDROCARBONS, AROMATIC-COMPOUNDS, ALCOHOLS, MARINE-BIOLOGY, AMINES, GLYCOLS, KETONES, PHENOLS, ESTERS, ORGANIC-SULFIDES.

ID FLAME-IONIZATION, WATER-POLLUTION-DETECTION, NTISEPAORD.

AN N PB-234 201/2.

<828>

AU MCKENNA E J. KALLIO R E.

YR 71.

TI MICROBIAL METABOLISM OF THE ISOPRENOID ALKANE PRISTANE.

SO PROC NATL ACAD SCI U S A. 68 (7). 1552-1554.

DE 2 6-10 14 TETRA METHYL PENTA DECANE.

AN B 52127040.

<829>

AU MCKIM, JAMES M.

IN ENVIRONMENTAL RESEARCH LAB.- DULUTH, MINN.

YR 77. 10P.

TI EVALUATION OF TESTS WITH EARLY LIFE STAGES OF FISH FOR PREDICTING LONG-TERM TOXICITY.

NT JOURNAL ARTICLE. PUB. IN JNL. OF FISHERIES RESEARCH BOARD OF CANADA, V34 N8 P1148-1154 1977.

PR PC A02/MF A01.

AB PARTIAL AND COMPLETE LIFE-CYCLE TOXICITY TESTS WITH FISH, INVOLVING ALL DEVELOPMENTAL STAGES, HAVE BEEN USED EXTENSIVELY IN THE ESTABLISHMENT OF WATER-QUALITY CRITERIA FOR AQUATIC LIFE. DURING EXTENDED CHRONIC EXPOSURES OF FISH TO SELECTED TOXICANTS, CERTAIN DEVELOPMENTAL STAGES HAVE FREQUENTLY SHOWN A GREATER SENSITIVITY THAN OTHERS. IN 56 LIFE-CYCLE TOXICITY TESTS COMPLETED DURING THE LAST DECADE WITH 34 ORGANIC AND INORGANIC CHEMICALS AND FOUR SPECIES OF FISH, THE EMBRYO-LARVAL AND EARLY JUVENILE LIFE STAGES WERE THE MOST, OR AMONG THE MOST, SENSITIVE. TESTS WITH THESE STAGES CAN BE USED TO ESTIMATE THE MAXIMUM ACCEPTABLE TOXICANT CONCENTRATION (MATC) WITHIN A FACTOR OF TWO IN MOST CASES. THEREFORE, TOXICITY TESTS WITH THESE EARLY LIFE STAGES OF FISH SHOULD BE USEFUL IN ESTABLISHING WATER-QUALITY CRITERIA AND IN SCREENING LARGE NUMBERS OF CHEMICALS.

MJ PESTICIDES, TOXICITY, FISHES, WATER-POLLUTION.

MN LIFE-CYCLES, METALS, SEWAGE, BIPHENYL, CHLORINE-ORGANIC-COMPOUNDS, SURVIVAL, EVALUATION, GROWTH, CONCENTRATION-COMPOSITION, TIME, EXPOSURE, SENSITIVITY, PREDICTIONS.

ID REPRINTS, BIPHENYL-CHLORO, POLYCHLORINATED-BIPHENYLS, NTISEPAORD.

AN N PB-272 769/1SL.

<830>

AU MCKOWN, M M. WOLVERTON, B C.

IN NASA, NATIONAL SPACE TECHNOLOGY LABS. BAY ST. LOUIS, MS 39520.

YR 76.

TI WATER HYAEINTHS FOR REMOVAL OF PHENOLS FROM POLLUTED WATERS.

SO AQUATIC BOTANY, 2(3): 191-201, SEPT. 1976.

LG EN.

AB NONE.

ID WATER HYACINTHS, PHENOLS REMOVAL.

DE ANGIOSPERMS, AQUATIC ORGANISMS, POLLUTANT REMOVAL, WATER POLLUTANTS, AROMATIC COMPOUNDS.

AN P 7700295.

<831>

AU MCLEAY, D J.

IN BRITISH COLUMBIA RESEARCH, DIV. OF APPLIED BIOLOGY, VANCOUVER, B.C. V6S 2L2, CAN.

YR 76.

TI A RAPID METHOD FOR MEASURING THE ACUTE TOXICITY OF PULPMILL EFFLUENTS AND OTHER TOXICANTS TO SALMONID FISH AT AMBIENT ROOM TEMPERATURE.

SO CANADA. FISHERIES RESEARCH BOARD.

JOURNAL, 33(6): 1303-1311, JUNE 1976.
LG EN.
AB NONE.
ID DEHYDROABIETIC ACID, PHENOL, COHO SALMON, RAINBOW TROUT.
DE AROMATIC COMPOUNDS, BIOASSAYS, ACIDS, FISH, TOXICITY, OXYGEN, TOXICANTS, ZINC, LINDANE, PAPER INDUSTRY WASTES.
AN P 7605499.

<832>
AU MCLEE A G. KORMENDY A C. WAYMAN M.
YR 72.
TI ISOLATION AND CHARACTERIZATION OF N-BUTANE-UTILIZING MICROORGANISMS.
SO CAN J MICROBIOL. 18. 8. P1191-5. AUG 72.
LG EN.
MJ ALKANES: ME. FUNGI: IP.
MN ALCOHOLS-BUTYL: ME. CHROMATOGRAPHY-GAS. KINETICS.
AN M 72259873.

<833>
AU MCMICHAEL, W. J. FORNEY, A. J. HAYNES, W. P. STRAKEY, J. P. GASIOR, S. J.
IN ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION, PITTSBURGH, PA. PITTSBURGH ENERGY RESEARCH CENTER. 9500865.
YR 77. 39P.
TI SYNTHANE GASIFIER EFFLUENT STREAMS.
PR PC A03/MF A01.
AB A SUBSTANTIAL NUMBER OF EXPERIMENTS HAVE BEEN CARRIED OUT WITH THE 4-INCH SYNTHANE PDU GASIFIER, PRIMARILY USING THREE COALS: NORTH DAKOTA LIGNITE, ILLINOIS NO. 6 BITUMINOUS AND MONTANA SUBBITUMINOUS COAL. THESE EXPERIMENTS WERE PERFORMED OVER A WIDE RANGE OF OPERATING CONDITIONS USING SEVERAL COAL FEEDING CONFIGURATIONS. OPERATING PRESSURES RANGED FROM 10 TO 40 ATMOSPHERES AND THE STEAM-TO-COAL AND OXYGEN-TO-COAL RATIOS VARIED FROM 0.45 TO 2.46 AND 0.12 TO 0.51, RESPECTIVELY. THE EFFLUENT STREAMS OF THE GASIFIER HAVE BEEN ANALYZED WITH REGARD TO COMPOSITION. THE MOST INFLUENTIAL FACTORS AFFECTING POLLUTANT YIELDS APPEAR TO BE COAL TYPE AND THE METHOD OF FEEDING COAL TO THE FLUIDIZED BED OF THE GASIFIER (I. E. FREE FALL THROUGH THE CARBONIZER OR BY-PASSING CARBONIZER USING A DIP TUBE). THE DIP TUBE FEEDING OF THE COAL WAS FOUND TO SUBSTANTIALLY REDUCE PHENOL, COD, THIOCYANATE, CYANIDE AND TAR YIELDS ASSOCIATED WITH THE CONDENSATE STREAM. HOWEVER, DIP TUBE FEEDING DID NOT MAKE SIGNIFICANT CHANGES IN THE CONTAMINANTS FOUND IN THE GAS STREAM. THE RANK OF THE COAL BEING GASIFIED WAS BY FAR THE MOST INFLUENTIAL FACTOR AFFECTING THE PRODUCTION OF POSSIBLE ENVIRONMENTAL POLLUTANTS. THE EFFECT OF ADDITIVES ON THE YIELD OF CONTAMINANTS IN BOTH THE GAS AND CONDENSATE EFFLUENT STREAMS WAS CONSIDERED. DUE TO SCATTER OF THE DATA NO SIGNIFICANT EFFECT ON THE PRODUCTION OF CONDENSATE OR GASEOUS CONTAMINANTS DUE TO FEEDING ADDITIVES WITH THE COAL COULD BE OBSERVED. ALTHOUGH THE DATA PRESENTED IS FROM A SMALL SCALE SYNTHANE UNIT AND HAS A SIGNIFICANT AMOUNT OF SCATTER, IT CAN SERVE TO ESTIMATE THE PRODUCTION OF POTENTIAL ENVIRONMENTAL POLLUTANTS WHICH MUST BE TREATED IN COMMERCIAL SYNTHANE GASIFIERS AND THOSE WITH SIMILAR OPERATIONAL PRINCIPLES. (ERA CITATION 02: 042367).
MJ SYNTHANE-PROCESS.
MN AMMONIA, BENZENE, BITUMINOUS- COAL, CARBON-OXYSULFIDE, CHARS, CHLORIDES, COAL-GASIFICATION, COAL- RANK, COAL-TAR, CYANIDES, ENVIRONMENTAL-EFFECTS, FUEL-FEEDING-SYSTEMS, GASEOUS-WASTES, HYDROGEN-SULFIDES, LEACHING, LIGNITE, LIQUID-WASTES, PHENOL, PHOSPHATES, PROCESS-DEVELOPMENT-UNITS, SOLID-WASTES, SUBBITUMINOUS-COAL, THIOCYANATES, THIOPHENE, TOLUENE, XYLENES.
ID ERDA-010404, AIR-POLLUTION, ENVIRONMENTAL-SURVEYS, NTISERDA.
AN N PERC/RI-77/4.

<834>
AU MEAD, S. W. CAMPBELL, J. H. STEPHENS, D. R.
IN CALIFORNIA UNIV. LIVERMORE. LAWRENCE LIVERMORE LAB. AND DEVELOPMENT ADMINISTRATION. 9500007.
YR 77. 15P.
TI GROUND-WATER QUALITY EFFECTS OF AN UNDERGROUND COAL GASIFICATION EXPERIMENT.
NT ANNUAL UNDERGROUND COAL CONVERSION SYMPOSIUM, FALLEN LEAF LAKE,

CALIFORNIA, UNITED STATES OF AMERICA (USA), 6 JUN 1977.
PR PC A02/MF A01.
AB GROUND-WATER SAMPLING AND ANALYSIS HAVE BEEN CARRIED OUT AT THE SITE OF AN IN SITU COAL GASIFICATION EXPERIMENT CONDUCTED BY THE LAWRENCE LIVERMORE LABORATORY (LLL) NEAR GILLETTE, WYOMING. AN IMPORTANT ENVIRONMENTAL QUESTION ASSOCIATED WITH THE IN SITU GASIFICATION OF COAL CONCERNS THE POSSIBILITY THAT REACTION PRODUCTS (ASH AND TARS) LEFT UNDERGROUND FOLLOWING THE GASIFICATION PROCESS MAY LEAD TO THE CONTAMINATION OF LOCAL GROUND WATERS. IN AN EFFORT TO CLARIFY THE SIGNIFICANCE OF THIS PROBLEM, THE WATER FROM MORE THAN 12 WELLS IN THE VICINITY OF AN UNDERGROUND GASIFICATION EXPERIMENT BEFORE, DURING, AND UP TO 6 MONTHS FOLLOWING GASIFICATION WAS SAMPLED. WATER SAMPLES WERE ANALYZED IN THE FIELD AND AT LLL, U.S. GEOLOGICAL SURVEY, AND RESEARCH TRIANGLE INSTITUTE FOR A VARIETY OF CHARACTERISTICS, INCLUDING THE PRESENCE OF 70 INORGANIC ELEMENTS AND COMPOUNDS, PHENOLIC MATERIALS, DISSOLVED ORGANIC CARBON, AND VOLATILE ORGANICS. A GREATLY INCREASED CONCENTRATION OF PHENOLIC MATERIALS (450 MG/L) JUST OUTSIDE THE BURN BOUNDARY, AND A VARIETY OF INORGANIC SPECIES ISSUING FROM WITHIN THE RESIDUAL ASH BED WERE FOUND. ALL CONTAMINANTS DECREASE RAPIDLY WITH DISTANCE, ALTHOUGH ABOVE-BACKGROUND LEVELS OF SOME SPECIES WERE DETECTED 100 FT FROM THE BURN ZONE. SEVERAL IMPORTANT CONTAMINANTS SHOWED A LARGE DECREASE IN CONCENTRATION WITH TIME, POSSIBLY A RESULT OF ADSORPTION. (ERA CITATION 03: 009028).
MJ GROUND-WATER, IN-SITU- GASIFICATION, COAL-GASIFICATION.
MN ASHES, CHEMICAL-ANALYSIS, COAL- TAR, ENVIRONMENTAL-EFFECTS, MONITORING, SAMPLING, TIME- DEPENDENCE, WYOMING.
ID ERDA-520200, ERDA-010400, ERDA-010900, WATER-POLLUTION-DETECTION, WATER-ANALYSIS, NTISDE.
AN N UCRL-79867.

<835>
AU MELDER, L. KAPS, T. TAMVELIUS, H. ARRO, J.
IN USSR.
YR 69.
TI RECOVERY OF A SOLVENT FROM THE PHENOL EXTRACT OF WATER DEPHENOLATION UNITS OF SHALE CONVERSION PLANTS.
SO GORYUCH. SLANTSY. NO. 5. P26-31. 1969.
LG RS.
DE PHENOLS SHALE CONVERSION SOLVENT RECOVERY.
AN C 07512078846.

<836>
AU MELESHCHENKO K F.
YR 75.
TI HYGIENIC STANDARDIZATION OF DI ETHYL BENZENE IN WATER BODIES.
SO GIG SANIT. (6). 90-92.
DE RABBIT TOXICITY ION EXCHANGE RESIN DI VINYL BENZENE MAXIMUM ALLOWABLE CONCENTRATION.
AN B 61034823.

<837>
AU MELESHCHENKO K F. MIRONETS N V. ROZHKOVETSKAIA R K.
YR 67.
TI EXPERIMENTAL DATA ON SUBSTANTIATION OF THE MAXIMUM PERMISSIBLE CONCENTRATION OF PHTHALIC ACID (PHTHALIC ANHYDRIDE) IN BODIES OF WATER.
TR EKSPERIMENTAL'NYE DANNYE K OBOSNOVANIIU PREDEL'NO DOPUSTIMOI KOSTSENTRASTSII FTALEVOI KISLOTY (FTALEVOGO ANGIDRIDA) V VODOEMAKH.
SO GIG SANIT. 32. 8. P12-5. AUG 67.
LG RS.
MJ INDUSTRIAL-WASTE.
MN ANIMAL. PHTHALIC-ACIDS: ST.
AN M 69231961.

<838>
AU METSIK, R. BERNOVSKAYA, N. A.
IN USSR.
YR 73.
TI EFFECT OF THE DISSOLVED OXYGEN CONCENTRATION ON THE RATE OF BIOCHEMICAL PHENOLIC SUBSTANCE OXIDATION.
SO GORYUCH. SLANTSY (TALLINN). NO. 4. P27-31. 1973.
LG RS.
DE PHENOL OXIDN OXYGEN WATER. WASTEWATER BIOCHEM OXIDN PHENOL.
AN C 08124158328.

<839>
AU MEYER T. BAKKE T.
IN FROM THE DEPARTMENT OF PHARMACOLOGY, UNIVERSITY OF BERGEN, BERGEN, NORWAY, AND THE BIOLOGICAL STATION OF THE UNIVERSITY OF BERGEN, BERGEN, NORWAY.
YR 77.
TI THE METABOLISM OF BIPHENYL. V. PHENOLIC METABOLITES IN SOME MARINE ORGANISMS.
SO ACTA PHARMACOL TOXICOL (KBH). 40. 2. P201-8. FEB 77.
LG EN.
MJ BIPHENYL-COMPOUNDS: ME, (BIPHENYL-CPDS). ECHINODERMATA: ME.
MN ANIMAL.
AN M 77131218. 7706.

<840>
AU MEYERHOFF, R D.
IN OREGON STATE UNIV. DEPT. OF FISHERIES AND WILDLIFE, CORVALLIS, OR 97331.
YR 75.
TI ACUTE TOXICITY OF BENZENE, A COMPONENT OF CRUDE OIL, TO JUVENILE STRIPED BASS (MORONE SAXATILIS).
SO CANADA. FISHERIES RESEARCH BOARD. JOURNAL, 32(10): 1864-1866, OCT. 1975.
LG EN.
AB NONE.
ID STRIPED BASS, BENZENE, TIBURON.
DE TOXICITY, BIOASSAYS, AROMATIC COMPOUNDS, PETROLEUM WASTES, OIL POLLUTION, FISH, CALIFORNIA COAST.
AN P 7601506.

<841>
AU MEZHNIN, F. I.
IN USSR.
YR 73.
TI HISTOPATHOLOGICAL CHANGES IN ORGANS AND TISSUES OF LEBISTES RETIVULATUS DURING ACUTE EXPERIMENTAL INTOXICATION WITH POLYCHLOROPINENE, PHENOL, AND UNDER INCREASED SALT LOAD.
SO TR. INST. BIOL. VNUTR. VOD, AKAD. NAUK SSSR. NO. 24. P53-66. 1973.
LG RS.
DE PHENOL TOXICITY LEBISTES CARASSIUS. POLYCHLOROPINENE TOXICITY LEBISTES CARASSIUS. LEBISTES PHENOL POLYCHLOROPINENE SALT. CARASSIUS PHENOL POLYCHLOROPINENE SALT. FISH PHENOL POLYCHLOROPINENE TOXICITY. SALT TOXICITY LEBISTES CARASSIUS.
AN C 08025141597.

<842>
AU MEZHNIN, F. I.
IN USSR.
YR 73.
TI HISTOLOGICAL CHANGES IN ORGANS AND TISSUES OF LEBISTES RETICULATUS UNDER CONDITIONS OF ACUTE PHENOL INTOXICATION.
SO TR. INST. BIOL. VNUTR. VOD, AKAD. NAUK SSSR. NO. 24. P44-52. 1973.
LG RS.
DE PHENOL TOXICITY LEBISTES. FISH PHENOL TOXICITY. GILL PHENOL LEBISTES . SKIN PHENOL LEBISTES. KIDNEY PHENOL LEBISTES. HEART PHENOL LEBISTES .
AN C 08017091778.

<843>
AU MIDDLEBROOKS, E J. GRENNEY, W J. REYNOLDS, J H. PERCELLA, D B.
IN UTAH STATE UNIV. OF AGRICULTURE AND APPLIED SCIENCE, DEP OF CIVIL ENGINEERING, LOGAN, UT 84321.
YR 75.
TI EFFECTS OF TEMPERATURE ON OIL REFINERY WASTE TOXICITY.
SO WATER POLLUTION CONTROL FEDERATION. JOURNAL, 47(11): 2674- 2693, NOV. 1975.
LG EN.
AB NONE.
ID PHENOL.
DE AROMATIC COMPOUNDS, ALGAE, TOXICITY, TEMPERATURE, REFINERIES, MATHEMATICAL MODELS, KINETICS, INDUSTRIAL EFFLUENTS.
AN P 7602252.

<844>
AU MIELUCH, JOZEF. SODOWSKI, ANDRZEJ. WILD, JAKUB. ZOLTOWSKI, PIOTR.
IN INST. CHEM. FIZ. PAN. WARSAW. POL.
YR 75.
TI ELECTROCHEMICAL OXIDATION OF PHENOL COMPOUNDS IN AN AQUEOUS SOLUTION .
SO PRZEM. CHEM. 54. P513-16. 1975.
LG PO.
DE WASTE WATER PHENOL ELECTROCHEM OXIDN.
AN C 08402010275.

<845>
AU MIGET, R J. OPPENHEIMER, C H. KATOR, H I. LA ROCK, P A.

IN FLORIDA STATE UNIV. DEPT. OF OCEANOGRAPHY, TALLAHASSEE.
YR 69.
TI MICROBIAL DEGRADATION OF NORMAL PARAFFIN HYDROCARBONS IN CRUDE OIL.
SO SEE CITATION NO. P70-04374, PP. 327 - 33L, 1969.
LG EN.
AB NONE.
DE MICROBIAL DEGRADATION, OIL SPILLS, HYDROCARBONS, BIODEGRADATION.
AN P 7004407.

<846>
AU MIGUEL, ANTONIO HORACIO.
IN UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN (0090) PH.D. 1976, 143PP.
YR 76.
TI STUDIES OF GAS-SOLID REACTIONS OF ENVIRONMENTAL SIGNIFICANCE: I. PYRENE ADSORPTION ONTO FLY ASH. II. THIOL OXIDATION AND ADSORPTION BY ACTIVATED CARBON.
SO DAI V37(01), SEC B, P0182.
DE CHEMISTRY, ANALYTICAL (0486).
AN D ADG76-16170.

<847>
AU MIKRYAKOVA, T. F. KLAIN, N. P.
IN USSR.
YR 75.
TI EFFECT OF VARIOUS DOSES OF MINERAL NITROGEN ON THE MICROBIOLOGICAL DEGRADATION OF PHENOL.
SO TR. INST. BIOL. VNUTR. VOD, AKAD. NAUK SSSR. 30. P130-4. 1975.
LG RS.
DE PHENOL DEGRDN MICROBIOL NITRATE. OXYGEN DEGRDN PHENOL MICROBIOL.
AN C 08524181851.

<848>
AU MILLER D L. OGILVIE D M.
YR 75.
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PR PC-GPO/MF$0.95-NTIS.
AB THE HANDBOOK DESCRIBES CHEMICAL ANALYTICAL PROCEDURES TO BE USED IN WATER QUALITY OFFICE (WQO) LABORATORIES. EXCEPT WHERE NOTED UNDER 'SCOPE AND APPLICATION' FOR EACH CONSTITUENT, THE METHODS CAN BE USED FOR THE MEASUREMENT OF THE INDICATED CONSTITUENT IN BOTH WATER AND WASTEWATERS AND IN BOTH SALINE AND FRESH WATER SAMPLES. INSTRUMENTAL METHODS HAVE BEEN SELECTED IN PREFERENCE TO MANUAL PROCEDURES BECAUSE OF THE IMPROVED SPEED, PRECISION, AND ACCURACY. PROCEDURES FOR THE TECHNICON AUTOANALYZER HAVE BEEN INCLUDED FOR LABORATORIES HAVING THIS EQUIPMENT AVAILABLE.
MJ WATER-ANALYSIS, HANDBOOKS, WATER-POLLUTION, WATER-ANALYSIS, SEWAGE, WATER-ANALYSIS, INDUSTRIAL-WASTES, WATER-ANALYSIS.
MN ACIDITY, ALKALINITY, ARSENIC, BIOCHEMICAL-OXYGEN-DEMAND, CHLORIDES, COLOR, CYANIDES, DISSOLVED-GASES, OXYGEN, FLUORIDES, METALS, TRACE-ELEMENTS, MERCURY, NITROGEN, OILS, DISSOLVED-ORGANIC-MATTER, PHENOLS, PHOSPHORUS, SELINIUM, SOLIDS, SULFATES, SULFIDES, ODORS, WATER-QUALITY, TURBIDITY.
ID WATER-POLLUTION-DETECTION, CHEMICAL-OXYGEN-DEMAND, ACETIC-ACID-NITRILO-TRI.
AN N PB-211 968.

<894>

AU NAZARENKO, I. V.
IN BUREAU OF COMMERCIAL FISHERIES, WASHINGTON, D.C. OFFICE OF FOREIGN FISHERIES (TRANSLATIONS).
YR 70. 6P.
TI EFFECT OF FORMALDEHYDE ON AQUATIC

ORGANISMS (VLIYANIE FORMALDEGIDA NA VODNYE ORGANIZMY).
NT TRANS. OF VSESOYUZNOE GIDROBIOLOGICHESKOE OBSHCHESTVO. TRUDY (USSR) V10 P170-174 1960, BY ROBERT M. HOWLAND.
PR PC$3.00 MF$0.95.
AB FORMALDEHYDE IS WIDELY EMPLOYED IN INDUSTRY, AND, AS A WASTE PRODUCT OF PRODUCTION, IS DISCARDED INTO BODIES OF WATER WITH THE WASTE WATERS. THE REPORT IS PART OF THE WORK ON THE ESTABLISHMENT OF A MAXIMUM PERMISSIBLE CONCENTRATION OF FORMALDEHYDE IN BODIES OF WATER. ATTEMPTS WERE MADE TO ASCERTAIN AT WHAT CONCENTRATIONS IN THE WATER FORMALDEHYDE CAN EXERT A HARMFUL INFLUENCE ON THE AQUATIC ORGANISMS LIVING IN WATERS. TESTS WERE CONDUCTED ON FRY OF THE VERKHOVKA (LEUCASPIUS DELINEATUS), DAPHNIA (DAPHNIA MAGNA), HORNWORT (CERATOPHYLLUM DEMERSUM) AND A PROTOCOCCAL ALGA (ANKISTRODESMUS FALCATUS). THE EFFECT OF FORMALDEHYDE AT CONCENTRATIONS FROM 1 TO 50 MG/L WAS STUDIED. THE STUDY ORGANISMS PLACED IN THE ORIGINAL WATER WITHOUT FORMALDEHYDE SERVED AS THE CONTROL. (AUTHOR).
MJ AQUATIC-ANIMALS, FORMALDEHYDE.
MN FISHES, WATER-POLLUTION, EFFECTIVENESS, WASTE-WATER, PERMISSABLE-DOSAGE, AQUATIC-PLANTS, INDUSTRIAL-WASTES, CRUSTACEA, ALGAE, USSR, TRANSLATIONS.
AN N PB-196 702T.

<895>

AU NEELY, W. C. SMITH, R. C. CODY, R. M. MCDUFFIE, J. R. JR. LANSDEN, J. A.
IN AUBURN UNIV. ALA. WATER RESOURCES RESEARCH INST.
YR 73. 121P*.
TI BIOLOGICAL AND PHOTOBIOLOGICAL ACTION OF POLLUTANTS ON AQUATIC MICROORGANISMS.
NT COMPLETION REPT.
PR PC$5.45/MF$0.95.
AB THE VARIOUS ASPECTS OF THE BIOLOGICAL AND PHOTOBIOLOGICAL ACTION OF POLLUTANTS ON AQUATIC MICROORGANISMS HAVE BEEN EXPLORED IN A SERIES OF STUDIES COVERING A WIDE RANGE OF CHEMICAL SPECIES AND TWO CLASSES OF AQUATIC MICROORGANISMS, PARAMECIA AND BACTERIA. CERTAIN METAL IONS, INSECTICIDES, POLYCYCLIC AMINES AND MYCOTOXINS ARE CAPABLE OF DRASTIC ALTERATION OF THE LIFE PROCESSES IN TEST STRAINS OF EITHER BACTERIA OR PARAMECIA OR BOTH. IN SOME CASES CONCURRENT EXPOSURE TO LIGHT AND THE POLLUTANT WAS NECESSARY AND IN OTHERS THE TOXIC AND/OR MUTAGENIC REACTIONS WERE INDEPENDENT OF LIGHT EXPOSURE. IN PARTICULAR THE URANYL ION, BETA NAPHTHYL AMINE, AND AFLATOXIN B1 WERE PHOTOTOXIC WHILE THE INSECTICIDE, PHYGON, WAS STRONGLY DARK-TOXIC. ALL AGENTS AFFECTED PARAMECIUM CAUDATUM AND ALL BUT AFLATOXIN B1 AFFECTED ESCHERICHIA COLI. (AUTHOR MODIFIED ABSTRACT).
MJ WATER-POLLUTION, AQUATIC-MICROBIOLOGY, PARAMECIUM, WATER-POLLUTION, ESCHERICHI-COLI, WATER-POLLUTION.
MN METALS, PESTICIDES, INSECTICIDES, RESIDUES, TOXICITY, BACTERIA, TRACE-ELEMENTS, PHOTOSENSITIVITY, MUTAGENS, CARCINOGENS, URANYL-COMPOUNDS, ELECTRON-MICROSCOPY, INVERTEBRATES, NAPHTHOQUINONES, NAPHTHALENE-COMPOUNDS, CHLORINE-AROMATIC-COMPOUNDS.
ID WATER-POLLUTION-EFFECTS-ANIMALS, WATER-POLLUTION-EFFECTS-PLANTS, PESTICIDE-RESIDUES, PARAMECIUM-CAUDATUM, AFLATOXINS, NAPHTHYLAMINES, SPIRO-BENZOFURAN-CYCLOHEXENE-DIONE-CHLORO-METHYL-TRIMETHOXY, BENZOPYRAN-CARBOXYLIC-ACID-DIHYDRO-HYDROXY-OXO-TRIMETHYL, DICHLONE, NAPHTHOQUINONE-2-3-DICHLORO-1-4, PHOTOTOXICITY, OWRR.
AN N PB-220 167/1.

<896>

AU NEFF, JERRY M. ANDERSON, JACK W.
IN DEP. BIOL. TEXAS A AND M UNIV. COLLEGE STATION. TEX.
YR 75.
TI ACCUMULATION, RELEASE, AND DISTRIBUTION OF BENZO(A)PYRENE-C14 IN THE CLAM RANGIA CUNEATA.
SO PROC. - CONF. PREV. CONTROL OIL POLLUT. P469-71. 1975.
LG EN.
DE BENZOPYRENE METAB CLAM. RANGIA BENZOPYRENE METAB. WATER POLLUTION BENZOPYRENE CLAM.
AN C 08511073215.

<897>
AU NELSON, K H. LYSYJ, I.
IN BURLINGTON INDUSTRIES RESEARCH AND DEVELOPMENT CENTER, GREENSBORO, NC.
YR 71.
TI ANALYSIS OF WATER FOR MOLECULAR HYDROGEN CYANIDE.
SO WATER POLLUTION CONTROL FEDERATION. WASH. D.C. JOURNAL, 43(5): 799-805, MAY 1971.
LG XX.
AB NONE.
DE WASTEWATER, HYDROGEN CYANIDE, GAS CHROMATOGRAPHY, FISHES, CALIFORNIA .
AN P 7006934.

<898>
AU NIAUSSAT P M. TRICHET J. HEROS M. JUONG N T. EHRHARDT J P.
YR 75.
TI OCCURRENCE OF BENZO-3 4 PYRENE IN WATER AND SEDIMENTS OF BRINY PONDS OF SOME POLYNESIAN ATOLLS.
SO C R HEBD SEANCES ACAD SCI SER D SCI NAT. 281 (14). 1031-1034.
DE PHYTO PLANKTON BACTERIA WATER POLLUTION CARCINOGEN.
AN B 76059749.

<899>
AU NIAUSSAT, PIERRE. AUGER, CHRISTIAN.
IN CENTRE RECH. SERV. SANTE ARMEES. MUS. NAT. HIST. NAT. PARIS. FR.
YR 70.
TI DISTRIBUTION OF BENZO(A)PYRENE AND PERYLENE IN VARIOUS ORGANISMS OF THE CLIPPERTON LAGOON ECOSYSTEM.
SO C. R. ACAD. SCI. SER. D. 270. P2702-5. 1970.
LG FR.
DE BENZOPYRENE PERYLENE POLLUTANTS ECOSYSTEM. PERYLENE BENZOPYRENE POLLUTANTS ECOSYSTEM. POLLUTANTS ECOSYSTEM BENZOPYRENE PERYLENE. ECOSYSTEM POLLUTANTS BENZOPYRENE PERYLENE. HYDROCARBONS PLANKTON CRUSTACEA GRASSES. PLANKTON HYDROCARBONS. CRUSTACEA HYDROCARBONS. GRASSES HYDROCARBONS.
AN C 07315073102.

<900>
AU NIEMI, AA.
IN INST. OF MARINE RESEARCH, BIOLOGICAL DIV. BULEV. 9 A 7, SF- 00120 HELSINKI/HELSINGFORS 12, FIN.
YR 72.
TI EFFECTS OF TOXICANTS ON BRACKISH-WATER PHYTOPLANKTON ASSIMILATION.
SO FINSKA VETENSKAPS-SOCIETETEN, HELSINGFORS. COMMENTATIONES BIOLOGICAE, 55: 19 PP. 1972.
LG EN.
AB NONE.
ID PHENOL, COPPER SULFATE, ASSIMILATION MEASUREMENTS, POTASSIUM CYANIDE .
DE PHYTOTOXICANTS, COPPER COMPOUNDS, BRACKISH WATERS, PHYTOPLANKTON, FINLAND COAST, POTASSIUM COMPOUNDS, AROMATIC COMPOUNDS.
AN P 7401381.

<901>
AU NIGMATULLINA, A. A. CHERNYSHOVA, N. S.
IN USSR.
YR 70.
TI DETERMINATION OF MICROGRAM AMOUNTS OF PHENOL BY SORPTION ON ACTIVATED CARBON.
SO TR. NAUCH.-ISSLED. PROEKT. INST. OBOGASHCH. RUD. TSVET. METAL. 4. P321-4. 1970.
LG RS.
DE PHENOL DETN. ACTIVATED CARBON PHENOL DETN. CARBON ACTIVATED PHENOL DETN. SORPTION PHENOL DETN. WASTE WATER ANALYSIS PHENOL.
AN C 07612067970.

<902>
AU NIGMATULLINA, A. A. SHTREKKER, G. P. CHERNYSHOVA, N. S.
IN USSR.
YR 71.
TI DETERMINATION OF PHENOL IN INDUSTRIAL WASTE WATERS.
SO SB. TR. NAUCH-ISSLED. PROEKT. INST. OBOGASHCH. RUD TSVET. METAL. NO. 2. P109-13. 1971.
LG RS.
DE PHENOL DETN WATER. WATER ANALYSIS PHENOL.
AN C 07824151105.

<903>
AU NIKOLAEVA, T. A. PLETNIKOVA, I. P.
IN INST. OBSHCH. KOMMUNAL'N. GIG. IM. SYSINA. MOSCOW. USSR.
YR 75.
TI HYGIENIC ASSESSMENT OF THE EXISTING TECHNOLOGY OF DRINKING WATER TREATMENT AND CERTAIN MEANS FOR IMPROVING IT.
SO GIG. SANIT. P29-33. 1975.
LG RS.

DE DRINKING WATER PURIFN. POLLUTANT REMOVAL DRINKING WATER. METAL REMOVAL DRINKING WATER. DDT REMOVAL DRINKING WATER. PETROLEUM REMOVAL DRINKING WATER. PHENOL REMOVAL DRINKING WATER.
AN C 08404021938.

<904>
AU NIKOLAEVA, T. A. PLETNIKOVA, I. P. LOVTSEVICH, E. L.
IN USSR.
YR 74.
TI HYGIENIC EVALUATION OF THE EFFECTIVENESS OF EXISTING METHODS AND INSTALLATIONS FOR PURIFYING AND DECONTAMINATING DRINKING WATER BY REMOVING VIRUSES, BACTERIA, AND SOME TOXIC CHEMICAL SUBSTANCES.
SO GIG. ASPEKTY OKHR. OKRUZHAYUSHCHEI SREDY. 2. P77-9. 1974.
LG RS.
DE PETROLEUM REMOVAL WATER PURIFN. PHENOL REMOVAL WATER PURIFN. DDT REMOVAL WATER PURIFN. METAL REMOVAL WATER PURIFN. BACTERIA REMOVAL WATER PURIFN. VIRUS REMOVAL WATER PURIFN.
AN C 08522166412.

<905>
AU NOTA, GIORGIO. PALOMBARI, ROBERTO.
IN IST. CHIM. UNIV. NAPOLI. NAPLES. ITALY.
YR 73.
TI DETERMINATION OF CYANIDES AND THIOCYANATES IN WATER BY GAS CHROMATOGRAPHY.
SO J. CHROMATOGR. 84. P37-41. 1973.
LG EN.
DE CYANIDE GAS CHROMATOG WATER. THIOCYANATE GAS CHROMATOG WATER. CHROMATOG CYANIDE THIOCYANATE WATER.
AN C 07920118230.

<906>
AU NOVOTNY, J.
IN USTAV VYZK. VYUZITI PALIV. BECHOVICE. CZECH.
YR 72.
TI CHROMATOGRAPHIC DETERMINATION OF DIHYDRIC PHENOLS IN WASTE WATERS.
SO VOD. HOSPOD. B. 22. P96-100. 1972.
LG CZ.
DE PHENOL DETN WASTE WATER. GASIFICATION LIGNITE WASTE WATER. PHOTOMETRIC DETN DIHYDRIC PHENOL. PAPER CHROMATOG DIHYDRIC PHENOL.
AN C 07906034890.

<907>
AU NOVOTNY, JAROSLAV.
IN USTAV VYZK. PALIV. BECHOVICE. CZECH.
YR 70.
TI DETERMINATION OF PYRIDINE BASES, AROMATIC HYDROCARBONS, AND KETONES IN WASTE WATER BY THE DIRECT INJECTION METHOD OF GAS-CHROMATOGRAPHY.
SO CHEM. PRUM. 20. P575-9. 1970.
LG CZ.
DE PYRIDINE BASES DETN WASTE WATERS. AROM HYDROCARBONS DETN WASTE WATERS . HYDROCARBONS AROM DETN WASTE WATERS. KETONES DETN WASTE WATERS.
AN C 07416079301.

<908>
AU NOVOTNY, JAROSLAV. DRAHORAD, JOSEF.
YR 70.
TI SEPARATION OF TARS FROM PHENOL WATERS OF HIGH-PRESSURE GAS AT TEMPERATURES SLIGHTLY ABOVE DEW POINT.
SO SB. PR. UVP (USTAV VYZK. VYUZITI PALIV). 21. P3-65. 1970.
LG CZ.
DE TAR SEPN PHENOLIC WASTE WATER. PHENOLIC WASTE WATER TAR SEPN.
AN C 07318091046.

<909>
AU NOZAKA, JUNICHIRO.
IN SCH. MED. OSAKA UNIV. OSAKA. JAPAN.
YR 71.
TI OXIDATION OF AROMATIC HYDROCARBONS BY (CELL-FREE ENZYME PREPARATIONS OF) MICROORGANISMS.
SO OSAKA DAIGAKU IGAKU ZASSHI. 23. P269-76. 1971.
LG JA.
DE AROM HYDROCARBON OXIDN PSEUDOMONAS. TOLUENE XYLENE OXIDN PSEUDOMONAS .
AN C 08003012263.

<910>
AU NUMAZAWA, RYOZO. WATANABE, KAZUHO. FUKIMBARA, TAKASHI.
IN MITSUBISHI RAYON CO. LTD. TOKYO. JAPAN.
YR 74.
TI MICROBIAL DEGRADATION OF FORMALDEHYDE. I. ISOLATION AND IDENTIFICATION OF FORMALDEHYDE-OXIDIZING MICROORGANISMS.
SO HAKKO KOGAKU ZASSHI. 52. P799- 804. 1974.
LG JA.

DE FORMALDEHYDE DECOMPN MICROCOCCUS.
AN C 08209053972.

<911>
AU NUMAZAWA, RYOZO. WATANABE, KAZUHO. FUKIMBARA, TAKASHI.
IN MITSUBISHI RAYON CO. LTD. TOKYO. JAPAN.
YR 74.
TI MICROBIAL DEGRADATION OF FORMALDEHYDE. II. FORMALDEHYDE-OXIDIZING ENZYME FROM MICROCOCCUS FLAVUS.
SO HAKKO KOGAKU ZASSHI. 52. P805- 10. 1974.
LG JA.
DE MICROCOCCUS FORMALDEHYDE OXIDIZING ENZYME. ALDEHYDE OXIDASE MICROCOCCUS.
AN C 08209053235.

<912>
AU NUNOGAWA J N. BURBANK N C. YOUNG R H F.
YR 71.
TI THE RELATIVE TOXICITIES OF SELECTED CHEMICALS TO SEVERAL SPECIES OF TROPICAL FISH.
SO JENKINS, S.H. (ED.). ADVANCES IN WATER POLLUTION RESEARCH, VOLS. I + II. PROCEEDINGS OF THE 5TH INTERNATIONAL CONFERENCE INTERNATIONAL ASSOCIATION ON WATER POLLUTION RESEARCH SAN FRANCISCO, CALIF. U.S.A. JULY 27-31, 1970; HONOLULU, HAWAII, U.S.A. AUGUST 2-5, 1970. XVII+IRREG. P. (VOL. I). ILLUS. MAPS. XVI+IRREG. P. (VOL. II). ILLUS. MAPS. PERGAMON PRESS: OXFORD, ENGLAND; NEW YORK, N.Y. U.S.A. 1971. HA-14.1-HA-14.14.
DE GAMBUSIA-AFFINIS LEBISTES-RETICULATUS TILAPIA-MOSSAMBICA KUHLIA-SANDVICENSIS STOLEPHORUS-PURPUREUS WATER POLLUTANTS PHENOL DDT DIELDRIN LINDANE.
AN B 72093869.

<913>
IN OAK RIDGE NATIONAL LAB. TENN. ADMINISTRATION. 4832000.
YR 76. 134P.
TI COAL TECHNOLOGY PROGRAM. QUARTERLY PROGRESS REPORT FOR THE PERIOD ENDING MARCH 31, 1976.
PR PC A07/MF A01.
AB ORNL'S PROGRESS IN COAL RESEARCH PROGRAMS IS REPORTED: COAL GASIFICATION AND COAL LIQUEFACTION (HYDROCARBONIZATION, RESIDUE CARBONIZATION, SOLIDS REMOVAL FROM COAL LIQUIDS, PYROLYSIS, IN-SITU GASIFICATION, SYNTHOIL PROCESS, ANALYTICAL CHEMISTRY (OF BY-PRODUCTS, EFFLUENTS, ETC.), ENVIRONMENTAL EFFECTS (INCLUDING STUDY OF CARCINOGENS, MUTAGENS, ETC.), TRACE ELEMENTS, MATERIALS TECHNOLOGY, NONDESTRUCTIVE TESTING, CHEMICAL RESEARCH, AND POSSIBLE APPLICATIONS OF PROCESS HEAT REACTORS. (ERA CITATION 01: 022402).
MJ COAL, RESIDUES, COAL-LIQUIDS, SOLVENT-REFINED-COAL, AEROSOLS, IN-SITU-GASIFICATION, BY-PRODUCTS, COED- PROCESS, LIQUID-WASTES, OIL-SHALE- PROCESSING-PLANTS, SYNTHANE-PROCESS, COAL-PREPARATION, SYNTHOIL-PROCESS, BENZOPYRENE, CONDENSED-AROMATICS.
MN RESEARCH-PROGRAMS, CARBONIZATION, CHEMICAL- COMPOSITION, COAL-GASIFICATION, COAL-LIQUEFACTION, FUEL-FEEDING-SYSTEMS, HYDROGENATION, TESTING, ADDITIVES, AGGLOMERATION, SEPARATION-PROCESSES, GASEOUS-WASTES, PYROLYSIS, CARBOXYLIC-ACIDS, CHEMICAL-ANALYSIS, HEALTH-HAZARDS, ORGANIC-COMPOUNDS, PHENOLS, AMMONIA, FLUIDIZED-BED-COMBUSTION, WATER-CHEMISTRY, BIOLOGICAL-EFFECTS, CARCINOGENS, CHROMOSOMAL-ABERRATIONS.
ID ERDA-010000, ERDA-560300, ERDA-040402, REVIEWING, NTISERDA.
AN N ORNL-5159.

<914>
IN OAK RIDGE NATIONAL LAB. TENN. 4832000.
YR 76. 81P.
TI COAL TECHNOLOGY PROGRAM QUARTERLY PROGRESS REPORT FOR THE PERIOD ENDING DECEMBER 31, 1975.
PR PC$5.00/MF$3.00.
AB INSTALLATION OF THE BENCH-SCALE HYDROCARBONIZATION RESEARCH SYSTEM WAS COMPLETED AND INITIAL PRESSURIZATION WAS FOLLOWED BY HEAT UP, LEAK CHECKING, AND TESTING OF INSTRUMENTATION. SHAKEDOWN RUNS WERE COMPLETED USING 5 AND 20 LB OF PULVERIZED COAL AS FEED AND PYROLYZING THE COAL AT APPROX. 1050 EXP 0 F UNDER 5 ATM OF NITROGEN PRESSURE. SOME EXCELLENT RESULTS HAVE BEEN OBTAINED IN THE ADDITIVE

AGGLOMERATION STUDIES USING LIQUID ADDITIVES DESIGNED FOR THE PETROLEUM INDUSTRY. CHARACTERIZATION STUDIES OF SRC OILS CONTINUE USING A NUMBER OF METHODS. STUDIES HAVE CONTINUED ON SEVERAL ASPECTS OF THE PHYSICAL STRUCTURE OF COAL, THE SORPTION AND DESORPTION OF WATER VAPOR ON A COBALT--MOLYBDENUM CATALYST, AND THE CATALYTIC CHEMISTRY OF THE SAME CATALYST. SYNTHOIL AND COED PROCESS OIL SAMPLES HAVE BEEN CHEMICALLY FRACTIONATED FOR BIOLOGICAL AND CHEMICAL CHARACTERIZATION. DEVELOPMENT CONTINUES ON ACHIEVING CLEANER FRACTIONATION OF CHEMICAL CLASSES THAN HAS PREVIOUSLY BEEN AFFORDED BY MORE CONVENTIONAL SCHEMES. STUDIES HAVE BEGUN TO CHARACTERIZE AQUEOUS EFFLUENTS FROM THE SYNTHANE PROCESS AND IN-SITU SHALE OIL RETORTING. ENGINEERING EVALUATIONS OF SEVERAL PROCESSES ARE REPORTED. INVESTIGATION INTO THE FATE AND AVAILABILITY OF A MODEL PAH COMPOUND IN WATER HAS BEGUN. ACQUISITION OF LITERATURE ON THE BIOACCUMULATION AND TOXICITY OF TRACE ELEMENTS RELEASED IN AQUEOUS EFFLUENTS FROM COAL CONVERSION PPOCESSES HAS BEEN COMPLETED. IN THE ENGINEERING EVALUATIONS OF NUCLEAR PROCESS HEAT FOR COAL CONVERSION, PRELIMINARY DESIGN OF A PLANT FOR STEAM GASIFYING COAL WITH VHTR HEAT HAS BEEN COMPLETED. (ERA CITATION 01: 012322).

MJ COAL, COAL-GASIFICATION, COAL-LIQUEFACTION, SOLVENT-REFINED-COAL, SYNTHANE-PROCESS, SYNTHOIL-PROCESS.

MN FEASIBILITY-STUDIES, HTGR-TYPE-REACTORS, ORNL, PROCESS-HEAT-REACTORS, RESEARCH-PROGRAMS, CARBONIZATION, CHEMICAL-COMPOSITION, FLOWSHEETS, HYDROGENATION, RESIDUES, ADDITIVES, AGE-DEPENDENCE, AGGLOMERATION, ASHES, CHEMICAL-ANALYSIS, EMISSION-SPECTROSCOPY, MIXTURES, OILS, PARTICLE-SIZE, SEDIMENTATION, SEPARATION-PROCESSES, SRC-PROCESS, SULFUR, TOLUENE, VAPOR-PRESSURE, VISCOSITY, ADSORPTION, CATALYSTS, COBALT-OXIDES, COED-PROCESS, ELECTRON-MICROSCOPY, HETEROCYCLIC-COMPOUNDS, MOLYBDENUM-OXIDES, NITROGEN, PETROLOGY, POROSITY, REMOVAL, SMALL-ANGLE-SCATTERING, SORPTIVE-PROPERTIES, SURFACE-PROPERTIES, THIOPHENE, X-RADIATION, CHEMICAL-EFFLUENTS, ANTHRACENE.

ID ERDA-010000, NTISERDA.
AN N ORNL-5120.

<915>

AU OGATA M. MIYAKE Y.
YR 70.
TI OFFENSIVE ODOR SUBSTANCE IN THE EVIL SMELLING FISH FROM THE SEA POLLUTED BY PETROLEUM AND PETROCHEMICAL INDUSTRIAL WASTE PART 1 IDENTIFICATION OF OFFENSIVE ODOR SUBSTANCE.
SO ACTA MED OKAYAMA. 24 (4). 471-481.
DE TOLUENE.
AN B 53051862.

<916>

AU OGATA, KOICHI. KAWAI, FUSAKO. FUKAYA, MASAHIRO. TANI, YOSHIKI.
IN DEP. AGRIC. CHEM. KYOTO UNIV. KYOTO. JAPAN.
YR 75.
TI MICROBIAL DEGRADATION OF SYNTHETIC POLYMERS. I. ISOLATION OF POLYETHYLENE GLYCOLS-ASSIMILABLE BACTERIA.
SO HAKKO KOGAKU ZASSHI. 53. P757- 61. 1975.
LG EN.
DE POLYETHYLENE GLYCOL DEGRDN BACTERIA.
AN C 08401002111.

<917>

AU OGATA, MASANA. MIYAKE, YOSHIO. KIRA, SHOHEI. MATSUNAGA, KAZUYOSHI . IMANAKA, MASAAKI.
IN MED. SCH. OKAYAMA UNIV. OKAYAMA. JAPAN.
YR 77.
TI TRANSFER TO FISH OF PETROLEUM PARAFFINS AND ORGANIC SULFUR COMPOUNDS .
SO WATER RES. 11. P333-8. 1977.
LG EN.
DE EEL PETROLEUM PARAFFIN SULFUR COMPD. FISH PETROLEUM PARAFFIN SULFUR COMPD. WATER POLLUTION PETROLEUM FISH.
AN C 08625184196.

<918>

AU OHMORI S. IKEDA M. OGATA M.
YR 75.
TI THE METABOLISM AND ACCUMULATION OF PETROLEUM COMPONENTS IN FISH THE SIDE CHAIN OXIDATION OF P NITRO TOLUENE AND P NITRO BENZYL ALCOHOL

IN LIVER HOMOGENATES OF THE RAT AND EEL.
SO PHYSIOL CHEM PHYS. 7 (5). (RECD 1976) 477-480.
DE TOLUENE.
AN B 61061232.

<919>
AU OHMORI T. IKAI T. MINODA Y. YAMADA K.
YR 73.
TI UTILIZATION OF POLY PHENYL AND POLY PHENYL RELATED COMPOUNDS BY MICROORGANISMS PART 1.
SO AGRIC BIOL CHEM. 37 (7). 1599- 1605.
DE BACTERIA FUNGI BI PHENYL BENZOYL BUTYRIC-ACID BENZOIC-ACID PRODUCTION DDT STRUCTURAL SIMILARITY ENVIRONMENTAL POLLUTION BIO DEGRADATION SOIL LEAVES RIVER WATER ENRICHMENT CULTURE JAPAN.
AN B 59031158.

<920>
AU OHTA Y. RIBBONS D W.
YR 76.
TI BACTERIAL METABOLISM OF RESORCINYLIC COMPOUNDS FURIFICATION AND PROPERTIES OF ORCINOL HYDROXYLASE AND RESORCINOL HYDROXYLASE FROM PSEUDOMONAS-PUTIDA ORC.
SO EUR J BIOCHEM. 61 (1). 259-269.
DE FLAVO PROTEINS FAD MOLECULAR WEIGHT NADPH OXYGEN SEROLOGY AMINO- ACID COMPOSITION REGULATION.
AN B 61068798.

<921>
AU OLIVE W E JR. COBB H D. ATHERTON R M.
YR 76.
TI BIOLOGICAL TREATMENT OF CRESYLIC-ACID LADEN WASTE WATER.
SO SHARPLEY, J. MILES AND ARTHUR M. KAPLAN (ED.). PROCEEDINGS OF THE THIRD INTERNATIONAL BIODEGRADATION SYMPOSIUM. KINGSTON, RHODE ISLAND, USA, AUGUST 17-23, 1975. XIV+1138P. ILLUS. APPLIED SCIENCE PUBLISHERS LTD: LONDON, ENGLAND. ISBN 0-85334-679-8. (RECD 1977) 381-388.
DE PSEUDOMONADS POLLUTION TEMPERATURE.
AN B 78019876.

<922>
AU OLIVIERI R. BACCHIN P. ROBERTIELLO A. ODDO N. DEGEN L. TONOLO A.
YR 76.
TI MICROBIAL DEGRADATION OF OIL SPILLS ENHANCED BY A SLOW RELEASE FERTILIZER.
SO APPL ENVIRON MICROBIOL. 31 (5). 629-634.
DE BACTERIA MICROORGANISMS SARIR CRUDE OIL PARAFFIN SUPPORTED FERTILIZER MAGNESIUM AMMONIUM PHOSPHATE.
AN B 62036795.

<923>
AU OMORI T. JIGAMI Y. MINODA Y.
YR 74.
TI MICROBIAL OXIDATION OF ALPHA METHYL STYRENE AND BETA METHYL STYRENE.
SO AGRIC BIOL CHEM. 38 (2). 409-415.
DE BACTERIA.
AN B 58056990.

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AU OMORI T. YAMADA K.
YR 70.
TI STUDIES ON THE UTILIZATION OF HYDRO CARBONS BY MICROORGANISMS PART 17 METABOLISM OF P XYLENE AND RELATED COMPOUNDS.
SO AGR BIOL CHEM. 34 (5). 664-669.
DE PSEUDOMONAS-AERUGINOSA.
AN B 51125985.

<925>
AU OMORI T. YAMADA K.
YR 70.
TI STUDIES ON THE UTILIZATION OF HYDRO CARBONS BY MICROORGANISMS PART 16 DETECTION OF METABOLIC INTERMEDIATES OF XYLENE AND PSEUDO CUMENE.
SO AGR BIOL CHEM. 34 (5). 659-663.
DE PSEUDOMONAS-AERUGINOSA.
AN B 51125984.

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AU OMORI T. YAMADA K.
YR 69.
TI STUDIES ON THE UTILIZATION OF HYDRO CARBONS BY MICROORGANISM XIII OXIDATION OF M XYLENE AND PSEUDO CUMENE BY PSEUDOMONAS-AERUGINOSA.
SO AGR BIOL CHEM. 33 (7). 979-985.
DE SOIL SAMPLES MONO-CYCLIC AROMATIC COMPOUNDS.
AN B 51021304.

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AU OMORI, TOSHIO. JIGAMI, YOSHIFUMI.

MINODA, YASUJI.
IN FAC. AGRIC. UNIV. TOKYO. TOKYO. JAPAN.
YR 75.
TI ISOLATION, IDENTIFICATION, AND SUBSTRATE ASSIMILATION SPECIFICITY OF SOME AROMATIC HYDROCARBON UTILIZING BACTERIA.
SO AGRIC. BIOL. CHEM. 39. P1775-9. 1975.
LG EN.
DE AROM HYDROCARBON METAB BACTERIA. PSEUDOMONAS AROM HYDROCARBON METAB. ISOPROPYLBENZENE METAB BACTERIA. METHYLSTYRENE METAB BACTERIA. ISOBUTYLBENZENE METAB BACTERIA.
AN C 08323190206.

<928>
AU OSTERROHT C.
YR 74.
TI DEVELOPMENT OF A METHOD FOR THE EXTRACTION AND DETERMINATION OF NONPOLAR DISSOLVED ORGANIC SUBSTANCES IN SEA WATER.
SO J CHROMATOGR. 101 (2). (RECD 1975) 289-298.
DE DDT DDE LINDANE ALDRIN 2 CHLORO BI PHENYL PHENANTHRENE PRISTANE HEXA DECANE GAS CHROMATOGRAPHY POLLUTION.
AN B 59052090.

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AU OTTINGER, R. S. BLUMENTHAL, J. L. DAL PORTO, D. F. GRUBER, G. I. SANTY, M. J.
IN TRW SYSTEMS GROUP, REDONDO BEACH, CALIF. 354 595.
YR 73. 316P.
TI RECOMMENDED METHODS OF REDUCTION, NEUTRALIZATION, RECOVERY, OR DISPOSAL OF HAZARDOUS WASTE. VOLUME X. INDUSTRIAL AND MUNICIPAL DISPOSAL CANDIDATE WASTE STREAM CONSTITUENT PROFILE REPORTS. ORGANIC COMPOUNDS.
NT FINAL REPT.
AV PAPER COPY ALSO AVAILABLE FROM NTIS $72.00/SET OF 16 REPORTS AS PB- 224 579-SET.
PR PC$7.00/MF$1.45.
AB THIS VOLUME CONTAINS SUMMARY INFORMATION AND EVALUATION OF WASTE MANAGEMENT METHODS IN THE FORM OF PROFILE REPORTS FOR ORGANIC COMPOUNDS. THESE PROFILE REPORTS WERE PREPARED FOR EITHER A PARTICULAR HAZARDOUS WASTE STREAM CONSTITUENT OR A GROUP OF RELATED CONSTITUENTS. EACH PROFILE REPORT CONTAINS A DISCUSSION OF THE WASTE STREAM CONSTITUENTS THEIR TOXICOLOGY AND OTHER ASSOCIATED HAZARDS, THE DEFINITION OF ADEQUATE MANAGEMENT FOR THE WASTE MATERIAL, AN EVALUATION OF THE CURRENT WASTE MANAGEMENT PRACTICES WITH REGARD TO THEIR ADEQUACY, AND RECOMMENDATION AS TO THE MOST APPROPRIATE PROCESSING METHODS AVAILABLE AND WHETHER THE WASTE MATERIAL SHOULD BE CONSIDERED AS A CANDIDATE FOR NATIONAL DISPOSAL, INDUSTRIAL DISPOSAL, OR MUNICIPAL DISPOSAL.
MJ WATER-DISPOSAL, ORGANIC- COMPOUNDS, POLLUTION, HAZARDOUS- MATERIALS, MATERIALS-HANDLING, ORGANIC-COMPOUNDS, ORGANIC-COMPOUNDS, HAZARDOUS-MATERIALS.
MN INDUSTRIAL-WASTE-TREATMENT, SOLID-WASTE-DISPOSAL, LIQUID-WASTE-DISPOSAL, ALDEHYDES, KETONES, ORGANIC-ACIDS, ESTERS, NITRILES, NITROGEN-ORGANIC-COMPOUNDS, ANILINES, ALIPHATIC-HYDROCARBONS, CARBOXYLIC-ACIDS, ALCOHOLS, GLYCOLS, AMINES, AROMATIC-HYDROCARBONS, PETROLEUM-INDUSTRY, RECYCLING, RECLAMATION, MANAGEMENT-PLANNING, PROFILES, TOXICOLOGY, DRUG-INDUSTRY, CHEMICAL-INDUSTRY, BENZYL-CHLORIDE, PHENOLS, THIOLS, CRESOLS, HORMONES, CARBON-DISULFIDE, BENZENESULFONIC-ACIDS.
ID NATIONAL-DISPOSAL-SITES, NERC.
AN N PB-224 589/2.

<930>
AU OTTINGER, R. S. BLUMENTHAL, J. L. DAL PORTO, D. F. GRUBER, G. I. SANTY, M. J.
IN TRW SYSTEMS GROUP, REDONDO BEACH, CALIF. 354 595.
YR 73. 79P.
TI RECOMMENDED METHODS OF REDUCTION, NEUTRALIZATION, RECOVERY, OR DISPOSAL OF HAZARDOUS WASTE. VOLUME VIII. NATIONAL DISPOSAL SITE CANDIDATE WASTE STREAM CONSTITUENT PROFILE REPORTS. MISCELLANEOUS INORGANIC AND ORGANIC COMPOUNDS.
NT FINAL REPT.
AV PAPER COPY ALSO AVAILABLE FROM NTIS $72.00/SET OF 16 REPORTS AS PB- 224 579-SET.
PR PC$3.75/MF$1.45.
AB THIS VOLUME CONTAINS SUMMARY INFORMATION AND EVALUATION OF WASTE MANAGEMENT METHODS IN THE FORM OF PROFILE REPORTS FOR MISCELLANEOUS

INORGANIC AND ORGANIC COMPOUNDS. THESE PROFILE REPORTS WERE PREPARED FOR EITHER A PARTICULAR HAZARDOUS WASTE STREAM CONSTITUENT OR A GROUP OF RELATED CONSTITUENTS. EACH PROFILE REPORT CONTAINS A DISCUSSION OF THE GENERAL CHARACTERISTICS OF THE WASTE STREAM CONSTITUENTS, THEIR TOXICOLOGY AND OTHER ASSOCIATED HAZARDS, THE DEFINITION OF ADEQUATE MANAGEMENT FOR THE WASTE MATERIAL, AN EVALUATION OF THE CURRENT WASTE MANAGEMENT PRACTICES WITH REGARD TO THEIR ADEQUACY, AND RECOMMENDATION AS TO THE MOST APPROPRIATE PROCESSING METHODS AVAILABLE AND WHETHER THE WASTE MATERIAL SHOULD BE CONSIDERED AS A CANDIDATE FOR NATIONAL DISPOSAL, INDUSTRIAL DISPOSAL, OR MUNICIPAL DISPOSAL.

MJ WASTE-DISPOSAL, HAZARDOUS-MATERIALS, POLLUTION, HAZARDOUS-MATERIALS, MATERIALS-HANDLING, HAZARDOUS-MATERIALS.

MN ANTIMONY-INORGANIC-COMPOUNDS, CYANIDES, ELECTROLYTES, FLUORINE, CHLORINE, METAL-CARBONYLS, NICKEL-ORGANIC-COMPOUNDS, PERCHLORIC-ACID, ACROLEINS, ORGANIC-SULFATES, CHLORINE-AROMATIC-COMPOUNDS, ORGANIC- SULFATES, PROFILES, TOXICOLOGY, LOCAL-GOVERNMENT, STATE-GOVERNMENT, NATIONAL-GOVERNMENT, REGULATIONS, INDUSTRIAL-WASTES, MANAGEMENT-PLANNING, CHROMIUM-INORGANIC-COMPOUNDS, ACTIVATED-CARBON, BIODETERIORATION, ION-EXCHANGING, INCINERATORS, INJECTION-WELLS.

ID NATIONAL-DISPOSAL-SITES, PHENOL-PENTACHLORO, DIMETHYL-SULFATE, NERC.

AN N PB-224 587/6.

<931>

AU OTTINGER, R. S. BLUMENTHAL, J. L. DAL PORTO, D. F. GRUBER, G. I. SANTY, M. J.

IN TRW SYSTEMS GROUP, REDONDO BEACH, CALIF. 354 595.

YR 73. 146P.

TI RECOMMENDED METHODS OF REDUCTION, NEUTRALIZATION, RECOVERY, OR DISPOSAL OF HAZARDOUS WASTE. VOLUME V. NATIONAL DISPOSAL SITE CANDIDATE WASTE STREAM CONSTITUENT PROFILE REPORTS. PESTICIDES AND CYANIDE COMPOUNDS.

NT FINAL REPT.

AV PAPER COPY ALSO AVAILABLE FROM NTIS $72.00/SET OF 16 REPORTS AS PB- 224 579-SET.

PR PC$4.50/MF$1.45.

AB THIS VOLUME CONTAINS SUMMARY INFORMATION AND EVALUATION OF WASTE MANAGEMENT METHODS IN THE FORM OF PROFILE REPORTS FOR PESTICIDES AND INORGANIC CYANIDES. THESE PROFILE REPORTS WERE PREPARED FOR EITHER A PARTICULAR HAZARDOUS WASTE STREAM CONSTITUENT OR A GROUP OF RELATED CONSTITUENTS. EACH PROFILE REPORT CONTAINS A DISCUSSION OF THE GENERAL CHARACTERISTICS OF THE WASTE STREAM CONSTITUENTS, THEIR TOXICOLOGY AND OTHER ASSOCIATED HAZARDS, THE DEFINITION OF ADEQUATE MANAGEMENT FOR THE WASTE MATERIAL, AN EVALUATION OF THE CURRENT WASTE MANAGEMENT PRACTICES WITH REGARD TO THEIR ADEQUACY, AND RECOMMENDATION AS TO THE MOST APPROPRIATE PROCESSING METHODS AVAILABLE AND WHETHER THE WASTE MATERIAL SHOULD BE CONSIDERED AS A CANDIDATE FOR NATIONAL DISPOSAL, INDUSTRIAL DISPOSAL, OR MUNICIPAL DISPOSAL.

MJ WASTE-DISPOSAL, HAZARDOUS-MATERIALS, POLLUTION, HAZARDOUS-MATERIALS, MATERIALS-HANDLING, HAZARDOUS-MATERIALS, PESTICIDES, HAZARDOUS-MATERIALS, CYANIDES, HAZARDOUS-MATERIALS.

MN PROFILES, SOLID-WASTE-DISPOSAL, LIQUID-WASTE-DISPOSAL, CHLORINE-ORGANIC-COMPOUNDS, TOXICOLOGY, MANAGEMENT-PLANNING, INDUSTRIAL-WASTE-TREATMENT, INCINERATORS, INJECTION-WELLS, SANITARY-LANDFILLS, PHYSICAL-PROPERTIES, DDT, ALDRIN, CHLORDANE, DIELDRIN, ENDRIN.

ID NATIONAL-DISPOSAL-SITES, PARATHION, HEPTACHLOR, NERC.

AN N PB-224 584/3.

<932>

AU OZEROV, A. I. ZHUBANIYAZOV, K. N. BAZHINA, N. A.

IN USSR.

YR 73.

TI AUTOMATION OF PURIFICATION OF CYANIDE-CONTAINING EFFLUENTS OF CONCENTRATION PLANTS.

SO TR. N.-I. I PROEKT. IN-T PO OBOGASHCH. RUD. TSVET. MET. KAZMEKHANOBR . P117-23. 1973.

LG RS.

DE CYANIDE REMOVAL WASTEWATER.

AN C 08326209213.

<933>
AU PAKHOMOVA, A. D. BERENDEEVA, V. L.
IN USSR.
YR 76.
TI QUANTITATIVE ANALYSIS FOR BENZENE AND PHENOL IN WASTE WATER BY GLC.
SO KHIM. TEKHNOL. (KIEV). P57. 1976.
LG RS.
DE BENZENE DETN WASTEWATER CHROMATOG. PHENOL DETN WASTEWATER CHROMATOG.
AN C 08502010001.

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AU PAKHOMOVA, A. D. BERENDEEVA, V. L.
IN INST. KOLLOIDN. KHIM. KHIM. VODY. KIEV. USSR.
YR 74.
TI DETERMINATION OF PHENOL AND P-CHLOROPHENOL IMPURITIES IN WATER BY GAS-LIQUID CHROMATOGRAPHY.
SO UKR. KHIM. ZH. (RUSS. ED.). 40. P1211-12. 1974.
LG RS.
DE CHLOROPHENOL DETN AQ SOLN. PHENOL DETN AQ SOLN. GAS CHROMATOG CHLOROPHENOL PHENOL. WATER ANALYSIS CHLOROPHENOL PHENOL.
AN C 08206038269.

<935>
AU PAKHOMOVA, A. D. BERENDEEVA, V. L.
IN INST. KOLLOIDN. KHIM. KHIM. VODY. KIEV. USSR.
YR 74.
TI IDENTIFICATION OF STYRENE IN WASTE WATERS.
SO KHIM. TEKHNOL. (KIEV). P12-13. 1974.
LG RS.
DE STYRENE DETN WASTEWATER. CHROMATOG DETN STYRENE WASTEWATER.
AN C 08124158428.

<936>
AU PAKHOMOVA, A. D. BERENDEEVA, V. L. KALINICHENKO, L. A.
IN INST. KOLLOIDN. KHIM. KHIM. VODY. KIEV. USSR.
YR 77.
TI IDENTIFICATION OF STYRENE IN WASTE WATERS.
SO KHIM. TEKHNOL. (KIEV). P58. 1977.
LG RS.
DE STYRENE REMOVAL RUBBER MANUF WASTEWATER.
AN C 08720156582.

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AU PANOVA, V. A. NIKOLAEVA, Z. V.
IN USSR.
YR 69.
TI SEPARATE GAS-LIQUID CHROMATOGRAPHIC DETERMINATION OF MONOHYDRIC PHENOLS IN WASTE WATERS.
SO OCHISTKA PROIZVOD. STOCHNYKH VOD. NO. 4. P184-90. 1969.
LG RS.
DE PHENOLS GAS LIQ CHROMATOG. GAS LIQ CHROMATOG PHENOLS. CHROMATOG PHENOLS WASTE WATERS.
AN C 07226136141.

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AU PANTANI, F. LEGITTIMO, P. RACANELLI, E.
IN IST. CHIM. ANAL. UNIV. FIRENZE. FLORENCE. ITALY.
YR 74.
TI DETERMINATION OF CYANIDES WITH PARTICULAR REGARD TO WASTE WATER.
SO RASS. CHIM. 26. P3-7. 1974.
LG IT.
DE CYANIDE DETN WASTEWATER. WASTEWATER ANALYSIS CYANIDE.
AN C 08126175802.

<939>
AU PATTERSON, J. W. MINEAR, R. A.
IN ILLINOIS INST. FOR ENVIRONMENTAL QUALITY, CHICAGO.
YR 71. 271P*.
TI WASTEWATER TREATMENT TECHNOLOGY.
NT FINAL REPT.
PR PC$3.00/MF$0.95.
AB THE DOCUMENT IS A STATE-OF-THE- ART SURVEY OF INDUSTRIAL WASTE TREATMENT LITERATURE PERTAINING TO 22 MATERIALS FREQUENTLY FOUND IN INDUSTRIAL WASTES: ARSENIC, BARIUM, BORON, CADMIUM, HEXAVALENT AND TRIVALENT CHROMIUM, COPPER, CYANIDE, FLUORIDES, SOLUBLE AND TOTAL IRON, LEAD, MANGANESE, NICKEL, OILY WASTES, PH CONTROL, PHENOLS, SELENIUM, SILVER, TOTAL DISSOLVED SOLIDS, CHLORIDE, AND ZINC. INFORMATION ON EXISTING METHODS OF TREATMENT, LEVELS OF TREATMENT ATTAINABLE, AND ASSOCIATED COSTS IS PRESENTED. IDENTIFICATION OF THE IMPACT WHICH SPECIFIC TREATMENT PROCESSES MIGHT HAVE UPON EFFLUENT DISCHARGE LEVELS HAS BEEN ATTEMPTED. (AUTHOR).
MJ WATER-POLLUTION, INDUSTRIAL- WASTES, INDUSTRIAL-WASTE-TREATMENT, REVIEWS.

MN ARSENIC, BARIUM, BORON, CADMIUM, CHROMIUM, COPPER, CYANIDES, FLUORIDES, IRON, LEAD, MANGANESE, NICKEL, OILS, PH-CONTROL, PHENOLS, SELENIUM, SILVER, CHLORIDES, ZINC, COST-ESTIMATES.
ID WATER-POLLUTION-CONTROL, OIL-POLLUTION-REMOVAL, SOLO.
AN N PB-204 521.

<940>
AU PAVLENKO, S. M.
IN MOSK. NAUCH.-ISSLED. INST. GIG. IM. ERISMANA. MOSCOW. USSR.
YR 69.
TI SANITARY-TOXICOLOGICAL MATERIALS FOR THE HYGIENIC BASIS OF THE MAXIMUM PERMISSIBLE CONCENTRATION OF BENZENE IN RESERVOIR WATERS.
SO PROM. ZAGRYAZNENIYA VODOEMOV. NO. 9. P201-10. 1969.
LG RS.
DE BENZENE RESERVOIR WATERS. RESERVOIR WATERS BENZENE.
AN C 07204015638.

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AU PAVLETIC, ZLATKO. MUNJKO, IGNAC. STILINOVIC, BOZIDAR. DZINGOV, ARISTOTEL.
IN INST. BOT. UNIV. ZAGREB. ZAGREB. YUGOSLAVIA.
YR 72.
TI SURVIVAL OF ACTINOMYCETES AT HIGHER PHENOL CONCENTRATIONS.
SO ACTA BOT. CROAT. 31. P123-7. 1972.
LG CR.
DE PHENOL BACTERIA SENSITIVITY. ACTINOMYCETE PHENOL.
AN C 07807038505.

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AU PAWLACZYK-SZPILOWA M. MOSKAL M. WERETELNIK J.
YR 72.
TI THE USEFULNESS OF BIOLOGICAL TESTS FOR DETERMINING THE TOXICITY OF SOME CHEMICAL COMPOUNDS IN WATERS.
SO ACTA HYDROBIOL. 14 (2). 115-127.
DE PARAMECIUM-CAUDATUM COPPER SULFATE LEAD ACETATE PHENOL ARQUARD ARESIN ANILINE POTASSIUM PER MANGANATE.
AN B 60028810.

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AU PAWLOWSKY U. HOWELL J A.
YR 73.
TI MIXED CULTURE BIO OXIDATION OF PHENOL PART 2 STEADY-STATE EXPERIMENTS IN CONTINUOUS CULTURE.
SO BIOTECHNOL BIOENG. 15 (5). 897- 903.
DE MICROORGANISMS WASTE TREATMENT WALL GROWTH.
AN B 57051911.

<944>
AU PAWLOWSKY U. HOWELL J A.
YR 73.
TI MIXED CULTURE BIO OXIDATION OF PHENOL PART 1 DETERMINATION OF KINETIC PARAMETERS.
SO BIOTECHNOL BIOENG. 15 (5). 889- 896.
DE MICROORGANISMS WASTE TREATMENT ACTIVATED SLUDGE.
AN B 57051910.

<945>
AU PAWLOWSKY U. HOWELL J A. CHI C T.
YR 73.
TI MIXED CULTURE BIO OXIDATION OF PHENOL PART 3 EXISTENCE OF MULTIPLE STEADY-STATES IN CONTINUOUS CULTURE WITH WALL GROWTH.
SO BIOTECHNOL BIOENG. 15 (5). 905- 916.
DE MICROORGANISMS WASTE TREATMENT MULTIPLE STEADY-STATES INHIBITORY SUBSTRATE.
AN B 57051912.

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AU PAWLOWSKY, URIVALD.
IN STATE UNIVERSITY OF NEW YORK AT BUFFALO (0656) PH.D. 1972, 245PP.
YR 72.
TI BIOLOGICAL OXIDATION OF PHENOL BY A MIXED CULTURE OF MICROORGANISMS.
SO DAI V33(08), SEC B, P3628.
DE ENGINEERING, CHEMICAL (0542).
AN D ADG73-05159.

<947>
AU PAYNE J F.
IN ENVIRONMENT CANADA, ST JOHN'S NEWFOUNDLAND, CANADA A1C 1A1.
YR 76.
TI FIELD EVALUATION OF BENZOPYRENE HYDROXYLASE INDUCTION AS A MONITOR FOR MARINE PETROLEUM POLLUTION.
SO SCIENCE. 191. 4230. P945-6. 5 MAR 7S.
LG EN.
MJ BENZOPYRENE-HYDROXYLASE: BI. WATER-POLLUTANTS: AN.
MN ANIMAL. PETROLEUM: AN.

AN M 76129800.

<948>

AU PAYNE, J F. PENROSE, W R.
IN CANADA DEPT. OF THE ENVIRONMENT, FISHERIES AND MARINE SERVICE, BIOLOGICAL STATION, WATER ST. E. ST. JOHN'S, NEWF. A1C 5X1, CAN.
YR 75.
TI INDUCTION OF ARYL HYDROCARBON (BENZO (A) PYRENE) HYDROXYLASE IN FISH BY PETROLEUM.
SO BULLETIN OF ENVIRONMENTAL CONTAMINATION AND TOXICOLOGY, 14(1): 112-116, JULY 1975.
LG EN.
AB NONE.
ID ARYL HYDROCARBON HYDROXYLASES, NEWFOUNDLAND, ST. JOHN.
DE CANADA, CONTAMINATION, FISH, HYDROCARBONS, LAKES, PETROLEUM, WATER POLLUTION.
AN P 7505657.

<949>

AU PEARSON, EDWARD F.
IN CF AND I STEEL CORP. PUEBLO, COLO. RESEARCH LAB. ADA, OKLA.
YR 74. 312P.
TI RESEARCH STUDY OF COAL PREPARATION PLANT AND BY-PRODUCT COKE PLANT EFFLUENTS.
NT FINAL REPT.
PR PC$9.75/MF$2.25.
AB SOURCE STREAM CHARACTERIZATIONS AND BENCH/PILOT TREATABILITY STUDIES WERE PERFORMED ON WASTE WATER FROM AN INTEGRATED COAL WASHERY/BY-PRODUCT COKING OPERATION AT AN IRON AND STEEL PLANT. MAJOR PARAMETERS OF INTEREST WERE PHENOLICS, CYANIDE, AMMONIA, AND SUSPENDED SOLIDS. THE FEASIBLE TREATMENT SCHEMES IDENTIFIED AMONG NINE PROCEDURES TESTED WERE: BIOLOGICAL ACTIVATED SLUDGE AND CARBON ADSORPTION (FOR PHENOLICS AND CYANIDE); STEAM STRIPPING/ACID ADSORPTION (FOR AMMONIA); AND NEUTRALIZATION/POLYELECTROLYTE ADDITION/CENTRIFUGATION (FOR COAL SUSPENSIONS). IN ADDITION, A NEW FULL-SCALE DESIGN FOR THE COAL PREPARATION PLANT WAS PRODUCED. PORTIONS OF THIS DOCUMENT ARE NOT FULLY LEGIBLE.
MJ WATER-POLLUTION-CONTROL, IRON-AND-STEEL-INDUSTRY, COKING, INDUSTRIAL-WASTE-TREATMENT, SOLID-WASTE-DISPOSAL, COAL-PREPARATION.
MN EFFLUENTS, PILOT-PLANTS, CAPITALIZED-COSTS, PHENOLS, CYANIDES, AMMONIA, DESIGN-CRITERIA, CLEANING, ACTIVATED-CARBON-TREATMENT, WATER-ANALYSIS, COST-ESTIMATES, CHEMICAL-REMOVAL-WATER-TREATMENT, ION-EXCHANGERS, COLUMNS-PROCESS-ENGINEERING, PROCESS-CHARTING, FILTRATION, ADSORPTION, ACTIVATED-SLUDGE-PROCESS, CENTRIFUGING.
ID BIOLOGICAL-INDUSTRIAL-WASTE-TREATMENT, WATER-POLLUTION-SAMPLING, NTISEPAORD.
AN N PB-252 950/1SL.

<950>

AU PEDERSEN M G. HERSHBERGER W K. JUCHAU M R.
YR 74.
TI METABOLISM OF 3,4-BENZPYRENE IN RAINBOW TROUT (SALMO GAIRDNERI).
SO BULL ENVIRON CONTAM TOXICOL. 12. 4. P481-6. OCT 74.
LG EN.
MJ BENZOPYRENES: ME.
MN ANIMAL. GILLS: EN. IN-VITRO. METHYLCHOLANTHRENE: PD. NITROGEN.
AN M 75055543.

<951>

AU PEDERSEN M G. HERSHBERGER W K. ZACHARIAH P K. JUCHAU M R.
YR 76.
TI HEPATIC BIO TRANSFORMATION OF ENVIRONMENTAL XENOBIOTICS IN 6 STRAINS OF RAINBOW TROUT SALMO-GAIRDNERI.
SO J FISH RES BOARD CAN. 33 (4). 666-675.
DE 3 METHYL CHOLANTHRENE METAB-DRUG ANILINE BENZO A PYRENE HYDROXYLATION P NITRO BENZOIC-ACID REDUCTION NITRO REDUCTASE ARYL HYDRO CARBON HYDROXYLASE ENZYME KINETICS SPECTRAL PROPERTIES GENE EXPRESSION.
AN B 62034749.

<952>

AU PELLERIN F. BAYLOCQ D.
YR 71.
TI POTENTIOMETRIC DETERMINATION OF THE ORGANIC BASES IN AQUEOUS CONCENTRATED SALINE ON PHENOL SOLUTIONS.
SO PROD PROBL PHARM. 26 (5). 359.
DE ABSTRACT QUININE QUINIDINE

PHOTOMETRY.
AN B 71070519.

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AU PELLERIN F. BAYLOCQ-QUINAULT D.
YR 75.
TI TITRATION OF ORGANIC BASES IN AQUEOUS PHENOL AND CONCENTRATED SALINE SOLUTIONS.
SO ANN PHARM FR. 33 (10). (RECD 1976) 479-486.
DE ALKALOIDS ANESTHETICS PHENOTHIAZINES SPASMOLYTICS POTENTIOMETRY.
AN B 76069463.

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AU PEPELYAEV, YU. V. TERESHCHENKO, A. P. FILIPPOVA, L. K.
IN USSR.
YR 68.
TI GAS-CHROMATOGRAPHIC DETERMINATION OF VOLATILE ORGANIC ACIDS IN AQUEOUS SOLUTIONS.
SO MATER. RAB. SOVESHCH. VOP. KRUGOVOROTA VESHCHESTV SAMKNUTOI SIST. OSN. ZHIZNEDEYATEL. NIZSHIKH ORGANIZMOV, 5TH. P37-9. 1968.
LG RS.
DE ORG ACIDS AQ GAS CHROMATOG. ACIDS ORG AQ GAS CHROMATOG. GAS CHROMATOG ORG ACIDS AQ. CHROMATOG GAS ORG ACIDS AQ GAS. ACETIC ACID AQ GAS CHROMATOG. BUTYRIC ACID AQ GAS CHROMATOG. VALERIC ACID AQ GAS CHROMATOG. ISOVALERIC ACID AQ GAS CHROMATOG.
AN C 07208038651.

<955>
AU PETERSEN, M. R.
IN BATTELLE PACIFIC NORTHWEST LABS. RICHLAND, WASH. AND DEVELOPMENT ADMINISTRATION. 9500022.
YR 75. 10P.
TI ORGANIC CONSTITUENTS IN PROCESS STREAMS OF A SOLVENT-REFINING COAL PLANT. PROGRESS REPORT.
PR PC$3.50/MF$3.00.
AB THE MOST IMPORTANT OBSERVATION IS THAT THE SAME MAJOR ORGANIC COMPONENTS ARE PRESENT IN ALL THE SAMPLES INVESTIGATED: PROCESS ''NAPHTHA'', PROCESS SOLVENT, EXTRACTS OF SOLVENT-REFINED COAL, MINERAL RESIDUE AND EFFLUENT WATER. HOWEVER, THE DISTRIBUTION OF THE ORGANIC COMPOUNDS CHANGES WITH THE TYPE OF SAMPLE. THE COMPOUNDS WHICH HAVE BEEN IDENTIFIED ARE NOT NECESSARILY THOSE EVENTUALLY ESCAPING INTO THE ENVIRONMENT. THIS INITIAL INVESTIGATION CONSISTED OF LOOKING AT THE PROCESS STREAMS TO DETERMINE POTENTIAL POLLUTANTS AND DEVELOP TECHNIQUES FOR ISOLATING THE ORGANIC CONSTITUENTS. THE NEXT STEP IS TO SAMPLE ACTUAL EFFLUENTS COMING FROM THE PLANT. THESE INCLUDE THE PROCESS WATER AFTER TREATMENT, THE GASEOUS EMISSIONS AND ANY PARTICULATES. P AND M IS AWARE OF THE POTENTIAL CARCINOGENIC NATURE OF THE VARIOUS PROCESS STREAMS AND HAVE TAKEN STEPS TO INSURE THAT PLANT PERSONNEL ARE PROTECTED AND THAT SOUND INDUSTRIAL HYGIENE PRACTICES ARE FOLLOWED. MANY OF THE COMPOUNDS WHICH HAVE BEEN IDENTIFIED ARE TOXIC, ESPECIALLY THE PHENOLS AND QUINOLINES. THE PLANT DESIGN CRITERIA SHOULD RESULT IN VERY LOW CONCENTRATIONS OF ORGANIC COMPOUNDS, MAINLY PHENOLS, IN THE LIQUID EFFLUENT AND OUR ANALYSIS OF EFFLUENT WATER FROM THE BIOLOGICAL DIGESTER WILL SHOW THE ACTUAL CONCENTRATIONS. WE HAVE IDENTIFIED ONLY ONE REPORTED CARCINOGENIC COMPOUND (DIBENZOTHIOPHENE) THUS FAR. HOWEVER, WE ARE DEVELOPING TECHNIQUES TO ANALYZE FOR OTHER MINOR CONSTITUENTS OF CONCERN INCLUDING BENZO (A) PYRENE, A KNOWN CARCINOGEN. THE ORGANIC COMPOUNDS IDENTIFIED IN THE SAMPLES FROM THE SOLVENT-REFINED COAL PLANT AT FORT LEWIS, WASHINGTON, ARE LISTED. (ERA CITATION 01: 015607).
MJ COAL-PREPARATION-PLANTS, ORGANIC-COMPOUNDS.
MN AROMATICS, CARCINOGENS, CHEMICAL-ANALYSIS, ENVIRONMENTAL-EFFECTS, GAS-CHROMATOGRAPHY, PHENOLS, PILOT-PLANTS, SOLVENT-REFINED-COAL, TOXICITY, WASTE-WATER.
ID ERDA-013000, ERDA-400102, ERDA-010900, NTISERDA.
AN N BNWL-B-470.

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AU PFUDERER, PETER. JANZEN, SHERRY. RAINEY, W. T. JR.
IN BIOL. DIV. OAK RIDGE NATL. LAB. OAK RIDGE. TENN.
YR 75.
TI IDENTIFICATION OF PHTHALIC ACID ESTERS IN THE TISSUES OF CYPRINODONT FISH AND THEIR ACTIVITY AS HEART

RATE DEPRESSORS.
SO ENVIRON. RES. 9. P215-23. 1975.
LG EN.
DE PHTHALATE ESTER GOLDFISH HEART. OCTYL PHTHALATE FISH. BU BENZYL PHTHALATE FISH. LIVER FISH PHTHALATE ESTER.
AN C 08321173367.

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AU PHILPOT, R M. BEND, J R. JAMES, M O.
IN NATIONAL INST. OF ENVIRONMENTAL HEALTH SCIENCES, P.O. BO 12233, RESEARCH TRIANGLE PARK, NC 27709.
YR 76.
TI METABOLISM OF BENZO(A)PYRENE AND OTHER XENOBIOTICS BY MICROSOMAL MIXED-FUNCTION OXIDASES IN MARINE SPECIES.
SO SOURCES, EFFECTS & SINKS OF HYDROCARBONS IN THE AQUATIC ENVIRONMENT. (N.P.): AMERICAN INSTITUTE OF BIOLOGICAL SCIENCES, (1976?). PP. 184-199.
LG EN.
AB NONE.
ID BENZO(A)PYRENE, MIXED-FUNCTION OXIDASE ACTIVITIES, SHEEPSHEAD, FLOUNDER, STINGRAY, SKATES, SHARKS.
DE DIGESTIVE SYSTEM, FISH, HYDROCARBONS, ENZYMES, WATER POLLUTION, MARINE ENVIRONMENTS, METABOLISM, MARINE ORGANISMS.
AN P 7703414.

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AU PINCHUGOV, V. N. KHLEBNIKOV, O. P. ZHARKOVA, N. A.
IN KARAGAND. METALL. KOMB. KARAGANDA. USSR.
YR 76.
TI CHROMATOGRAPHIC DETERMINATION OF NAPHTHALENE CONTENT IN WASTE WATERS
SO KOKS KHIM. P44-6. 1976.
LG RS.
DE NAPHTHALENE DETN WASTEWATER CHROMATOG.
AN C 08706043751.

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AU PIPER R G. SMITH C E.
YR 73.
TI FACTORS INFLUENCING FORMALIN TOXICITY IN TROUT.
SO PROG FISH-CULT. 35 (2). 78-81.
DE MONTANA SALMO-GAIRDNERI TREATMENT ECTO PARASITE CONTROL HATCHERIES.
AN B 56042290.

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AU PLEKHANOV, S. E. CHERNYSHEV, V. I. BUDRIN, K. S. TIMOFEEVA, T. A.
IN USSR.
YR 73.
TI EFFECTS OF WASTE WATERS, PHENOL, AND COPPER SULFATE ON THE MOVEMENT VELOCITY OF CELL PROTOPLASM OF CHARACEAE ALGAE.
SO BIOFIZ. ASPEKTY ZAGRYAZNENIYA BIOSFERY. P117-18. 1973.
LG RS.
DE WASTE WATER CHARACEAE ALGAE. PHENOL CHARACEAE ALGAE. COPPER SULFATE CHARACEAE ALGAE. CHARACEAE ALGAE PROTOPLASM WATER POLLUTION.
AN C 08301001799.

<961>
AU PODZOROVA, E. A. PLOTNIKOVA, V. P. BYCHKOV, N. V. KASPEROVICH, A. I.
IN USSR.
YR 75.
TI RADIATION-CHEMICAL OXIDATION OF AQUEOUS PHENOL SOLUTIONS.
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LG RS.
DE RADIOLYTIC OXIDN PHENOL AQ SOLN.
AN C 08516114634.

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YR 68.
TI OXIDATION OF BENZ (A) PYRENE BY MICROORGANISMS IN DEPENDENCE ON ITS CONCENTRATION IN THE MEDIUM.
TR OKISLENIE BENZ (A) PIRENA MIKROORGANIZMAMI V ZAVISIMOSTI OT EGO KONTSENTRATSII V SREDE.
SO DOKL AKAD NAUK SSSR. 179. 6. P1460-2. 21 APR 68.
LG RS.
MJ BENZOPYRENES: ME.
MN BACILLUS-MEGATERIUM.
AN M 70163852.

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AU POGLAZOVA M N. KHESINA A Y. FEDOSEEVA G E. MEISEL M N. SHABAD A L M.

YR 72.
TI THE MICROBIAL DEGRADATION OF BENZ A PYRENE IN WASTE WATERS.
SO DOKL BIOL SCI (ENGL TRANSL DOKL AKAD NAUK SSSR SER BIOL). 204 (1- 6). (RECD 1973) 346-348.
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AN B 73065800.

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AU POGLAZOVA, M. N. FEDOSEEVA, G. E. KHESINA, A. YA. MEISEL, M. N. SHABAD, L. M.
IN INST. MIKROBIOL. MOSCOW. USSR.
YR 71.
TI BENZO(A)PYRENE METABOLISM BY MICROFLORA OF VARIOUSSOILS AND SEPARATE SPECIES OF MICROORGANISMS.
SO DOKL. AKAD. NAUK SSSR. 198. P1211-13 (MICROBIOL). 1971.
LG RS.
DE BENZOPYRENE METAB SOIL BACTERIA. BACILLUS BENZOPYRENE METAB. PSEUDOMONAS BENZOPYRENE METAB.
AN C 07513085617.

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AU POGLAZOVA, M. N. MEISEL, M. N.
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YR 71.
TI LOCALIZATION OF BENZ(A)PYRENE IN BACTERIAL CELLS.
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LG RS.
DE BENZPYRENE ACCUMULATION BACTERIA. LIPOPROTEIN MEMBRANE BENZPYRENE ACCUMULATION. MESOSOME BENZPYRENE ACCUMULATION.
AN C 07619108593.

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AU POHL R J. BEND J R. DEVEREUX T R. FOUTS J R.
YR 73.
TI HEPATIC CHEMICAL AND DRUG METABOLIZING ENZYMES IN COASTAL MAINE USA MARINE SPECIES.
SO BULL MT DESERT ISL BIOL LAB. 13. (RECD 1974) 94-98.
DE CANCER-BOREALIS HOMARUS- AMERICANUS MYXINE-GLUTINOSA SQUALUS- ACANTHIAS RAJA-ERINACEA RAJA- OCELLATA RAJA-RADIATA ANGUILLA- ROSTRATA FUNDULUS-HETEROCLITUS PSEUDOPLEURONECTES-AMERICANUS HEMITRIPTERUS-AMERICANUS SCOMBER-SCOMBRUS WATER POLLUTION ANILINE HYDROXYLASE D BENZPHETAMINE DEMETHYLASE BENZ PYRENE HYDROXYLASE N N DI METHYL ANILINE BENZ PYRENE 7 ETHOXY COUMARIN.
AN B 75021298.

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AU POHL R J. JAMES M O. FOUTS J R. BEND J R.
YR 76.
TI XENOBIOTIC METABOLISM IN MARINE FISH TREATED WITH 2 3 7 8 TETRA CHLORO DI BENZO-P-DIOXIN 3 METHYL CHOLANTHRENE OR 1 2 3 4 DI BENZ ANTHRACENE.
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DE ABSTRACT RAJA-ERINACEA PSEUDOPLEURONECTES-AMERICANUS ARCHASARGUS-PROBATOCEPHALUS CARCINOGENS HEPATIC MICROSOMAL BENZO A PYRENE HYDROXYLASE BENZPHETAMINE N DEMETHYLASE ANILINE HYDROXYLASE 7 ETHOXY COUMARIN O DEETHYLASE EPOXIDE HYDRASE GLUTATHIONE 5 TRANSFERASE CYTOCHROME P-450.
AN B 77000734.

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AU POHLAND, F. G. GHOSH, S.
IN SCH. CIV. ENG. GEORGIA INST. TECHNOL. ATLANTA. GA.
YR 71.
TI ANAEROBIC STABILIZATION OF ORGANIC WASTES. TWO-PHASE CONCEPT.
SO ENVIRON. LETT. 1. P255-66. 1971.
LG EN.
DE ORG WASTE ANAEROBIC STABILIZATION. ACID BACTERIA ANAEROBIC STABILIZATION. METHANE BACTERIA ANAEROBIC STABILIZATION. DIGESTION ANAEROBIC ORGS REACTORS.
AN C 07524143792.

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AU POLISSOIS G. TESSIER A. CAMPBELL P.
YR 72.
TI INFLUENCE OF PHENOLS SUPPLIED BY REFINERIES OF THE MONTREAL REGION ON THE QUALITY OF ST-LAWRENCE RIVER WATER.
SO ACFAS (ASSOC CAN FR AV SCI). 39. (RECD 1973) 143.
DE ABSTRACT CANADA POLLUTION WASTES.
AN B 74041945.

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IN RIZH. POLITEKH. INST. RIGA. USSR.
YR 77.
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LG RS.
DE XYLENE OXIDN WATER EFFECT.
AN C 08721167629.

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IN KHAR'K. OTD. VSES. NAUCHNO- ISSLED. INST. "VODGEO". KHARKOV. USSR.
YR 74.
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SO VODOSNABZH. KANALIZ. GIDROTEKH. SOORUZH. 17. P67-70. 1974.
LG RS.
DE ACRYLONITRILE DETN WASTEWATER POLAROG.
AN C 08206034803.

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AU PONOMAREV, YU. P. MESHKOVA, O. V. RYZHOVA, L. I. DMITRIEVA, V. N.
IN USSR.
YR 74.
TI DETERMINATION OF STYRENE AND METHYL METHACRYLATE IN WASTE WATER BY POLAROGRAPHY WITH THE USE OF EXTRACTION.
SO FIZ.-KHIM. METODY OCHISTKI ANAL. STOCHNYKH VOD PROM. PREDPR. P99-104. 1974.
LG RS.
AV SHKORBATOVA, T. L.
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AN C 08604021536.

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AU POP, VICTOR I. IONESCU-HOMORICEANU, SERBAN I.
IN ROM.
YR 75.
TI THE BIOLOGICAL TREATMENT OF WASTE WATERS IN OIL REFINERIES. IV. DEGRADATION OF THE PHENOLIC COMPOUNDS AND MERCAPTANS.
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LG RO.
DE OIL REFINERY WASTEWATER ACTIVATED SLUDGE. PHENOL DEGRDN OIL REFINERY WASTEWATER. MERCAPTAN DEGRDN OIL REFINERY WASTEWATER.
AN C 08318151780.

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AU PORTMANN, J. E.
IN FISH. LAB. MINIST. AGRIC. FISH. FOOD. BURNHAM-ON-CROUCH. ENGL.
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TI PERSISTENT ORGANIC RESIDUES.
SO DISCHARGE SEWAGE SEA OUTFALLS, PROC. INT. SYMP. P123-30. 1975.
LG EN.
AV GAMESON, A. L. H.
DE REVIEW ORG RESIDUES WASTEWATER. CHLORO ORG WASTEWATER REVIEW. PHENOL WASTEWATER REVIEW. PESTICIDE RESIDUE WASTEWATER REVIEW. DETERGENT RESIDUE WASTEWATER REVIEW. POLLUTION ENVIRONMENT WASTEWATER REVIEW. WATER NATURAL POLLUTION REVIEW. SAFETY ORG RESIDUE WASTEWATER REVIEW .
AN C 08418126299.

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AU POVERENNYI, A. M. SEMIN, YU. A. SAENKO, A. S. SYNZYNYS, B. I.
IN INST. MED. RADIOL. ACAD. MED. SCI. OBNINSK. USSR.
YR 75.
TI POSSIBLE MECHANISMS OF LETHAL AND MUTAGENIC ACTION OF FORMALDEHYDE.
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LG EN.
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AN C 08217106897.

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AU PRAKASAM T B. DONDERO N C.
YR 70.
TI AEROBIC HETEROTROPHIC BACTERIAL POPULATIONS OF SEWAGE AND ACTIVATED SLUDGE. V. ANALYSIS OF POPULATION STRUCTURE AND ACTIVITY.
SO APPL MICROBIOL. 19. 4. P671-80. APR 70.
LG EN.
MJ BACTERIA: CL.
MN ADAPTATION-PHYSIOLOGICAL. BACTERIA: GD, ME. MANDELIC-ACIDS: ME. PHENYLACETATES: ME.
AN M 70201783.

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AU PRICE, PHILIP. MARTINSEN, D. P. UPHAM, R. A. SWOFFORD, H. S. JR. BUTTRILL, S. E. JR.
IN DEP. CHEM. UNIV. MINNESOTA. MINNEAPOLIS. MINN.
YR 75.
TI CHEMICAL IONIZATION MASS SPECTROMETRIC DETERMINATION OF ORGANIC COMPOUNDS IN SOLUTION AT THE PART PER MILLION LEVEL.
SO ANAL. CHEM. 47. P190-1. 1975.
LG EN.
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AN C 08210067908.

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AU PRISTAVU, N.
IN DEP. PLANT PHYSIOL. INST. BIOL. SCI. BUCHAREST. ROM.
YR 75.
TI ACTION OF P-BENZOQUINONE ON THE RADIOACTIVE CARBON METABOLISM IN CHLORELLA PYRENOIDOSA.
SO PROC. INT. CONGR. PHOTOSYNTH. 3RD. 2. P1541-6. 1975.
LG EN.
AV AVRON, MORDHAY.
DE BENZOQUINONE CARBON METAB CHLORELLA. ALGAE CARBON METAB BENZOQUINONE . PHOTOSYNTHESIS CHLORELLA BENZOQUINONE.
AN C 08403013015.

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AU PRIVALOV, V. E. LAZORIN, S. N. KORNIENKO, V. M.
IN FOREIGN TECHNOLOGY DIV WRIGHT-PATTERSON AFB OHIO. 141600.
YR 72. 19P.
TI THE CONTEMPORARY STATE OF DECONTAMINATING WASTE WATER.
NT EDITED MACHINE TRANS. OF KOKS I KHIMIYA (USSR) N5 P33-38 1969, BY CHARLES T. OSTERTAG, JR.
PR PC$3.00/MF$0.95.
AB A REVIEW IS MADE OF WATER POLLUTION FROM THE COKE-CHEMICAL INDUSTRY IN THE USSR. THIS IS BASED ON A STUDY BY THE WORLD HEALTH ORGANIZATION. A DISCUSSION IS PRESENTED ON THE PURIFICATION OF CONCENTRATED PHENOL WASTE WATERS USING ACTIVATED SILT. PERFORMANCE DATA ARE PRESENTED FOR PILOT PLANT RESULTS. IT IS STATED THAT WASTE WATERS CAN BE PURIFIED OF PHENOLS AND THIOCYAMATES IN ONE STAGE.
MJ WATER-POLLUTION, WASTES- INDUSTRIAL, PHENOLS, WATER- POLLUTION, THIOCYANATES, WATER- POLLUTION.
MN CHEMICAL-INDUSTRY, CONTROL, USSR, PILOT-PLANTS, MICROORGANISMS, PH.
ID COKE-INDUSTRY, WATER-POLLUTION-CONTROL, INDUSTRIAL-WASTE-TREATMENT, BIOLOGICAL-INDUSTRIAL-WASTE-TREATMENT, ACTIVATED-SLUDGE-PROCESS, TRANSLATIONS.
AN N AD-747 514.

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AU PROKOP'EVA, M. F. SILKINA, T. V.
IN TASHK. OTD. VSES. NAUCHNO- ISSLED. INST. "VODGEO". TASHKENT. USSR.
YR 75.
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LG RS.
DE FURAN DERIV DETN WASTEWATER.
AN C 08312102810.

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IN USSR.
YR 71.
TI OXIDATION OF QUINONES WITH AIR IN AQUEOUS ALKALINE MEDIUM.
SO OKISLENIE UGLEVODORODOV PROIZVOD. BITUMOV. NO. 9. P24-32. 1971.
LG RS.
DE QUINONE CONDENSED OXIDN. ANTHRAQUINONE OXIDN. FLUORENONE OXIDN. PHENANTHRENEQUINONE OXIDN. PYRENEQUINONE OXIDN. FLUORANTHENEQUINONE OXIDN. ACENAPHTHENEQUINONE OXIDN.
AN C 07901005154.

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AU PRUDEN B B. FERQUSON D R.
YR 73.
TI REMOVAL OF PHENOL IN WASTE WATER BY WET AIR OXIDATION.
SO WATER POLLUT RES CAN. 8. (RECD 1974) 148-167.
DE INCOMPLETE COMBUSTION TAR FORMATION UNMIXED REACTOR.
AN B 75066458.

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AU PRUDEN, B. B. LE, H.
IN DEP. CHEM. ENG. UNIV. OTTAWA. OTTAWA. ONT.
YR 76.
TI WET AIR OXIDATION OF SOLUBLE COMPONENTS IN WASTE WATER.
SO CAN. J. CHEM. ENG. 54. P319-25. 1976.
LG EN.
DE WASTEWATER WET AIR OXIDN. PHENOL WET AIR OXIDN. NITRILOTRIACETIC ACID WET AIR OXIDN.
AN C 08526197648.

<984>
AU PURRE, T. RAUDSEPP, H. SHMAGIN, YA. G. METSIK, L.
IN USSR.
YR 75.
TI SYSTEM FOR EXTRACTION OF WATER-SOLUBLE PHENOLS FROM DISTILLATES OF COKING OF HIGH SHALE TAR FRACTIONS.
SO TR. NIISLANTSEV. P160-71. 1975.
LG RS.
DE SHALE OIL COKING DISTILLATE. PHENOL EXTN COKING DISTILLATE.
AN C 08418124238.

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AU FUSEY, PETER.
IN UNIV. OF PITTSBURGH. PITTSBURGH. PA.
YR 69.
TI STUDY OF THE RATE OF DECAY OF CONCENTRATION FLUCTUATIONS IN THE CRITICAL REGION OF A PHENOL-WATER MIXTURE, USING A PHOTON CORRELATION METHOD.
PG 109 PP.
LG EN.
AV 70-4270.
DE PHOTON CORRELATION SPECTROMETER. SPECTROMETER PHOTON CORRELATION. PHENOL WATER MIXT CONCN FLUCTUATIONS.
AN C 07402007174.

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IN TELEDYNE ANAL. INSTRUM. SAN GABRIEL. CALIF.
YR 75.
TI CONTINUOUS ANALYSIS OF PHENOL IN WASTE WATER BY ULTRAVIOLET SPECTROPHOTOMETRY.
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LG EN.
DE UV MONITORING PHENOL WASTEWATER.
AN C 08426184518.

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AU PUZIKOVA N B. MARKIN V N.
YR 75.
TI EFFECT OF ANILINE AND ANILINE HYDRO CHLORIDE ON THE LARVAE OF CHIRONOMUS-DORSALIS.
SO TR SARAT OTD GOS NAUCHNO-ISSLED INST OZERN RECHN RYBN KHOZ. 13. 104- 109 (FROM REF ZH BIOL, 1976, 1U457).
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AN B 76066199.

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AU RADAEVA, L. A. KVYATKOVSKII, A. N. KUDINOV, B. V.
IN USSR.
YR 72.
TI RECOVERY OF CYANIDE FROM CYANIDE-CONTAINING WASTES OF BENEFICIATION PLANTS WITH BY-PRODUCT EXTRACTION OF NOBLE AND NONFERROUS METALS AND RETURN OF THE PURIFIED WATER TO CIRCULATION.
SO TR. NAUCHNO-ISSLED. PROEKTN. INST. OBOGASHCH. RUD TSVETN. MET. NO. 9, . P43-6. 1972.
LG RS.
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AN C 08126175715.

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IN S.I.P. ENG. HOUSTON, TEX. USA.
YR 77.
TI FATE OF CYANIDE AND RELATED COMPOUNDS IN AEROBIC MICROBIAL SYSTEMS PART 2 MICROBIAL DEGRADATION.
SO WATER RES. 11 (6). 485-492.
LG EN.
DE BACILLUS-MEGATERIUM.
AN B 65033167.

<990>
AU RALSTON J R. VELA G R.
YR 74.
TI A MEDIUM FOR DETECTING PHENOL DEGRADING BACTERIA.
SO J APPL BACTERIOL. 37 (3). 347-351.
AN B 59031153.

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AU RALSTON J R. VELA G R.
YR 74.
TI STIMULATION OF PHENOL DEGRADATION BY FACTORS IN INDUSTRIAL WASTE WATER.
SO TEX REP BIOL MED. 32 (2). 615-616.
DE ABSTRACT BIO DEGRADATION MINERAL SALT MEDIUM AMINO-ACIDS TEMPERATURE.
AN B 75024718.

<992>
AU RAO B V. BHAT J V.
YR 72.
TI STABILIZATION OF WASTE WATER CONTAINING PHENOLS WITH YEAST-ENRICHED ACTIVATED SLUDGE.
SO BIOCHEM J. 128. 1. P38P. JUN 72.
LG EN.
MJ MONILIALES.
MN CANDIDA.
AN M 73040201.

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AU RAO, A. V. ISWARAN, V.
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YR 73.
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LG EN.
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AN C 08105021624.

<994>
AU RAYMOND, DEBORAH D.
IN RUTGERS STATE UNIV. NEW BRUNSWICK. N. J.
YR 74.
TI METABOLISM OF METHYLNAPHTHALENES AND OTHER RELATED AROMATIC HYDROCARBONS BY MARINE BACTERIA.
PG 135 PP.
LG EN.
AV XEROX UNIV. MICROFILMS, ANN ARBOR, MICH. ORDER NO. 75-8431.
DE METHYLNAPHTHALENE METAB MARINE BACTERIA. NAPHTHALENE METAB MARINE BACTERIA. HYDROCARBON METAB MARINE BACTERIA.
AN C 08305039988.

<995>
AU REHM, HANS J.
IN INST. LEBENSMITTELCHEM. TECH. HOCHSCH. MUENCHEN. MUNICH. GER.
YR 69.
TI INHIBITING ACTION OF SODIUM O-PHENYLPHENATE (SOPP) AND BIPHENYL ON SPECIFIC REACTIONS OF THE METABOLISM OF MICROORGANISMS.
SO PROC. INT. CITRUS SYMP. 1ST. 3. P1325-31. 1969.
LG EN.
AV CHAPMAN, HOMER D.
DE PHENYLPHENATE FUNGI METAB. GLYCOLYSIS FUNGI PHENYLPHENATE. CITRIC ACID FUNGI PHENYLPHENATE. BIPHENYL FUNGI ADENOSINE TRANSAMINASE.
AN C 07405020719.

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AU REICHENBACH-KLINKE H-H.
YR 69.
TI INVESTIGATIONS ON ENZYMES IN FISH PART 1 ENZYME ACTIVITY IN DEPENDENCE OF PH TEMPERATURE AND WATER COMPOSITION.
SO ARCH FISCHEREIWISS. 20 (2-3). 169-177.
DE SALMO-GAIRDNERI COREGONUS- LAVARETUS STOMACH HEMORRHAGIC SEPTICEMIA TRYPSIN CHYMOTRYPSIN ALPHA AMYLASE DETERGENT PHENOL POLLUTION CUPRAVIT.
AN B 52118580.

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AU REICHERT J K.
YR 68.
TI CARCINOGENS IN WATER AND SOIL. XXIV. THE ELIMINATION OF POLYCYCLIC AROMATIC COMPOUNDS IN THE PREPARATION OF DRINKING WATER WITH C102: IDENTIFICATION OF HITHERTO UNKNOWN DERIVATES OF BENZOPYRENE AND C1022 .
TR KANZEROGENE SUBSTANZEN IN WASSER UND BODEN. XXIV. DIE ENTFERNUNG POLYZYKLISCHER AROMATEN BEI DER TRINKWASSERAUFBEREITUNG DURCH C102: IDENTIFIZIERUNG BISHER UNBEKANNTER BENZPYREN-C102-FOLGEPRODUKTE.
SO ARCH HYG BAKTERIOL. 152. 3. P277- 9. JUN 68.
LG GE.
MJ BENZOPYRENES: AN.
MN CHEMISTRY.
AN M 69118478.

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AU REID, GEORGE W. STREEBIN, LEALE E.
IN OKLAHOMA UNIV. NORMAN. SCHOOL OF CIVIL ENGINEERING AND ENVIRONMENTAL SCIENCE.
YR 72. 209P*.
TI EVALUATION OF WASTE WATERS FROM PETROLEUM AND COAL PROCESSING.
NT ENVIRONMENTAL PROTECTION TECHNOLOGY SERIES.
AV 72-001.
PR PC$5.25/MF$0.95.
AB THE REPORT PRESENTS AN EVALUATION ON POLLUTION PROBLEMS, ABATEMENT PROCEDURES AND CONTROL TECHNIQUES RELEVANT TO THE PETROLEUM AND COAL INDUSTRIES. PETROLEUM WASTES ARE DISCUSSED UNDER THREE BROAD SECTIONS: DRILLING-PRODUCTION, TRANSPORTATION AND STORAGE, AND REFINING. WITHIN EACH SECTION, PETROLEUM WASTES ARE IDENTIFIED AS TO THEIR SOURCE, VOLUME, AND COMPOSITION, AND WASTE TREATMENT METHODS ARE DISCUSSED. THE RESULTS OF A FIELD STUDY OF THREE SMALL REFINERIES ARE ALSO REPORTED. COAL MINING, COAL PROCESSING, AND COAL UTILIZATION, THE WASTES ASSOCIATED WITH EACH, AND THE CORRESPONDING CONTROL MEASURES ARE PRESENTED. ACID MINE DRAINAGE, THE MOST SIGNIFICANT POLLUTION PROBLEM FROM COAL MINING, AND POSSIBLE CONTROL MEASURES ARE DISCUSSED. THE MAJOR POLLUTION PROBLEMS ASSOCIATED WITH COAL PROCESSING ORIGINATE FROM COAL CLEANING, THE COKING PROCESS, AND REFUSE DISPOSAL. THE PRODUCTION OF COKE BY CARBONIZATION OF COAL AND ITS POLLUTANTS ARE REVIEWED.
MJ PETROLEUM-INDUSTRY, WATER-POLLUTION, COAL-PREPARATION, WATER-POLLUTION, WATER-POLLUTION, INDUSTRIAL-WASTES, REFINERIES, INDUSTRIAL-WASTE-TREATMENT.
MN DRILLING, PETROLEUM- TRANSPORTATION, OIL-STORAGE, COAL- MINES, COKE, BRINES, INJECTION- WELLS, TANKER-SHIPS, WASTE-DISPOSAL, COST-ESTIMATES, PHENOLS, FLOTATION.
ID MINE-ACID-DRAINAGE, LIQUID-WASTE-DISPOSAL, OIL-POLLUTION, OIL-WASTES, WATER-POLLUTION-CONTROL, BIOLOGICAL-INDUSTRIAL-WASTE-TREATMENT.
AN N PB-214 610/8.

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AU REINER A M.
YR 72.
TI METABOLISM OF AROMATIC COMPOUNDS IN BACTERIA PURIFICATION AND PROPERTIES OF THE CATECHOL FORMING ENZYME 3 5 CYCLO HEXADIENE-1 2-DIOL-1-CARBOXYLIC-ACID NAD OXIDO REDUCTASE DECARBOXYLATING.
SO J BIOL CHEM. 247 (16). 4960-4965.
DE ALCALIGENES-EUTROPHUS CHROMATOGRAPHY ELECTROPHORESIS.
AN B 55021826.

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AU REINER A M.
YR 71.
TI METABOLISM OF BENZOIC ACID BY BACTERIA: 3,5-CYCLOHEXADIENE-1,2-DIOL-1-CARBOXYLIC ACID IS AN INTERMEDIATE IN THE FORMATION OF CATECHOL.
SO J BACTERIOL. 108. 1. P89-94. OCT 71.
LG EN.
MJ ALCALIGENES: ME. BENZOATES: ME.
MN ALCALIGENES: EN. AZOTOBACTER: EN. CARBOXYLIC-ACIDS: BI, ME. CHEMISTRY. OXIDOREDUCTASES: ME. PSEUDOMONAS: EN.
AN M 72049373.

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AU REINER A M. HEGEMAN G D.
YR 71.
TI METABOLISM OF BENZOIC ACID BY BACTERIA. ACCUMULATION OF (-)-3,5-CYCLOHEXADIENE-1,2-DIOL-1-CARBOXYLIC ACID BY MUTANT STRAIN OF ALCALIGENES EUTROPHUS.
SO BIOCHEMISTRY. 10. 13. P2530-6. 22 JUN 71.
LG EN.
MJ ALCALIGENES: ME.
MN CATECHOLS: BI. HYDROCARBONS-HALOGENATED: ME. OXYGEN-ISOTOPES. SPECTROPHOTOMETRY. ULTRAVIOLET-RAYS.
AN M 71251014.

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AU REPKINA, V. I.
IN NAUCHNO-ISSLED. INST. KHIM. POLIM. MATER. TAMBOV. USSR.
YR 70.
TI OXIDATION OF AQUEOUS SOLUTIONS OF PHENOL BY ATMOSPHERIC OXYGEN DURING AUTOCLAVING.
SO SIN. ISSLED. EFF. KHIM. POLIM. MATER. NO. 4. P367-70. 1970.
LG RS.
DE PHENOL OXIDN AIR AUTOCLAVE. PAPER

CHROMATOG PHENOL OXIDN PRODUCT.
PHOTOMETRY PHENOL OXIDN PRODUCT.
AN C 07702009397.

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AU REPKINA, V. I. LOKTYUSHKINA, M. B. TUROVSKAYA, R. V. LATYSHEVA, L. M. VELKOTRUB, M. N.
IN NAUCHNO-ISSLED. INST. KHIM. POLIM. MATER. TAMBOV. USSR.
YR 73.
TI DETERMINATION OF BENZOTHIAZOLE IN CAPTAX, ALTAX, AND WASTE WATERS.
SO ZAVOD. LAB. 39. P792-4. 1973.
LG RS.
DE BENZOTHIAZOLE DETN. CAPTAX ANALYSIS BENZOTHIAZOLE. ALTAX ANALYSIS BENZOTHIAZOLE. WASTE WATER ANALYSIS BENZOTHIAZOLE. WATER WASTE ANALYSIS BENZOTHIAZOLE. VULCANIZATION ACCELERATOR ANALYSIS BENZOTHIAZOLE. ACCELERATOR VULCANIZATION ANALYSIS BENZOTHIAZOLE.
AN C 07920121638.

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AU REYNOLDS J H. MIDDLEBROOKS E J. PORCELLA D B. GRENNEY W J.
YR 75.
TI EFFECTS OF TEMPERATURE ON OIL REFINERY WASTE TOXICITY.
SO J WATER POLLUT CONTROL FED. 47 (11). 2674-2693.
DE SELENASTRUM-CAPRICORNUTUM GREEN ALGA PHENOL AQUATIC FOOD CHAIN LAGOON TREATMENT.
AN B 62005480.

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AU REYNOLDS, JAMES H. MIDDLEBROOKS, E. JOE. PORCELLA, DONALD B. GRENNEY, WILLIAM J.
IN UTAH WATER RESEARCH LAB. LOGAN. TECHNOLOGY, WASHINGTON, D.C. 405 725.
YR 74. 119P*.
TI A CONTINUOUS FLOW KINETIC MODEL TO PREDICT THE EFFECTS OF TEMPERATURE ON THE TOXICITY OF WASTE TO ALGAE.
PR PC$5.25/MF$2.25.
AB MANY INDUSTRIES, SUCH AS PULP AND PAPER MILLS, TANNERIES, AND OIL REFINERIES, DISCHARGE TOXIC WASTES AT EXTREMELY HIGH TEMPERATURES. THE TEMPERATURE OF AN OIL REFINERY WASTE MAY RANGE FROM 22C TO 41C. THESE HIGH TEMPERATURES COULD HAVE A SIGNIFICANT EFFECT ON THE TOXICITY OF A GIVEN WASTE. THEREFORE, IT IS NECESSARY TO DEVELOP RELATIONSHIPS WHICH WILL EVALUATE AND PREDICT THE EFFECTS OF INCREASED TEMPERATURE ON THE TOXICITY OF VARIOUS WASTES. EQUATIONS HAVE BEEN DEVELOPED UTILIZING CONTINUOUS FLOW STIRRED TANK REACTOR KINETICS AND ENZYME INHIBITION KINETICS TO DESCRIBE THE EFFECTS OF TEMPERATURE ON TOXICITY TO MICROORGANISMS. THESE EQUATIONS WERE TESTED BY SEMICONTINUOUS AND CONTINUOUS FLOW EXPERIMENTS WITH PHENOL AND THE ALGAE SELENASTRUM CAPRICORNUTUM. COMPARISON OF THE COMPETITIVE INHIBITION CONSTANTS, KI, FOR S. CAPRICORNUTUM EXPOSED TO PHENOL AT 20C, 24C, AND 28C, INDICATES THAT PHENOL TOXICITY INCREASES WITH AN INCREASE IN TEMPERATURE ACCORDING TO THE ARRHENIUS FUNCTION.
MJ WATER-POLLUTION, ALGAE.
MN ENZYMES, HEAT, TEMPERATURE, PHENOLS, INDUSTRIAL-WASTES, TOXICITY, AQUATIC-PLANTS, MATHEMATICAL-MODELS, INDICATOR- SPECIES, CYANOPHYTA.
ID WATER-POLLUTION-EFFECTS-PLANTS, THERMAL-POLLUTION, SELENASTRUM-CAPRICORNUTUM, BIOINDICATORS, NTISDIOWRT.
AN N PB-239 194/4SL.

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AU REYNOLDS, JAMES H. MIDDLEBROOKS, E. JOE. PORCELLA, DONALD B.
IN UTAH WATER RESEARCH LAB. LOGAN. TECHNOLOGY, WASHINGTON, D.C.
YR 73. 44P*.
TI A CONTINUOUS FLOW KINETIC MODEL TO PREDICT THE EFFECTS OF TEMPERATURE ON THE TOXICITY OF OIL REFINERY WASTE TO ALGAE.
NT RESEARCH REPT.
PR PC$3.75/MF$2.25.
AB THE TEMPERATURE OF AN OIL REFINERY WASTE MAY RANGE FROM 22C (71F) TO 41C (106F). THESE HIGH TEMPERATURES COULD HAVE A SIGNIFICANT EFFECT ON THE TOXICITY OF A GIVEN WASTE. IT IS THEREFORE NECESSARY TO DEVELOP RELATIONSHIPS WHICH WILL EVALUATE AND PREDICT THE EFFECTS OF INCREASED TEMPERATURE ON THE TOXICITY OF VARIOUS WASTES. EQUATIONS HAVE BEEN DEVELOPED UTILIZING CONTINUOUS FLOW STIRRED TANK REACTOR (CHEMOSTAT) KINETICS AND ENZYME INHIBITION KINETICS TO DESCRIBE THE EFFECTS OF TEMPERATURE ON TOXICITY TO

MICROORGANISMS. THESE EQUATIONS WERE TESTED BY SEMICONTINUOUS AND CONTINUOUS FLOW EXPERIMENTS WITH PHENOL AND THE ALGAE SELENASTRUM CAPRICORNUTUM. THE DATA OBTAINED WERE FITTED TO COMPETITIVE, UNCOMPETITIVE, AND NONCOMPETITIVE INHIBITOR MODELS. THE RESULTS INDICATED THAT PHENOL EXERTS A COMPETITIVE INHIBITION EFFECT ON THE GROWTH OF S. CAPRICORNUTUM.
MJ TOXICOLOGY, ALGAE, PHENOLS.
MN INDUSTRIAL-WASTES, MICROORGANISMS, INDICATOR-SPECIES, PETROLEUM-REFINING, MATHEMATICAL-MODELS, WATER-POLLUTION, TABLES-DATA, BIOASSAY, KINETICS.
ID WATER-POLLUTION-EFFECTS-PLANTS, SELENASTRUM-CAPRICORNUTUM, THERMAL-POLLUTION, BIOINDICATORS, NTISDIOWRT.
AN N PB-237 699/4SL.

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AU RIBBONS D W. HARRISON J E. WADZINSKI A M.
YR 70.
TI METABOLISM OF SINGLE CARBON COMPOUNDS.
SO ANNU REV MICROBIOL. 24. P135-58. 1970.
LG EN.
MJ BACTERIA: ME.
MN ALCOHOL-METHYL: ME. EN. MICROSCOPY-ELECTRON. OXYGENASES: ME. TRANSFERASES: ME.
AN M 71181836.

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AU RIBBONS D W. HARRISON J E. WADZINSKI A M.
YR 70.
TI METABOLISM OF SINGLE CARBON COMPOUNDS.
SO ANNU REV MICROBIOL. 24. P135-58. 1970.
LG EN.
MJ BACTERIA: ME.
MN ALCOHOL-METHYL: ME. EN. MICROSCOPY-ELECTRON. OXYGENASES: ME. TRANSFERASES: ME.
AN M 71181836.

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AU RISEMAN, JOHN H.
IN ORION RES. INC. CAMBRIDGE. MASS.
YR 72.
TI ELECTRODE TECHNIQUES FOR MEASURING CYANIDE IN WASTE WATERS.
SO AMER. LAB. 4. P63-4,66-7. 1972.
LG EN.
DE CYANIDE DETN WATER. WATER ANALYSIS CYANIDE.
AN C 07822140030.

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AU RISTANOVIC, BOSILJKA. MUNTANJOLA-CVETKOVIC, M. MUNJKO, IGNJAC.
IN MAR. BIOL. STN. KOTOR INST. BIOL. RES. BELGRADE. YUGOSLAVIA.
YR 75.
TI PHENOL-DEGRADING FUNGI FROM SOUTH ADRIATIC SEA AND LAKE SKADAR.
SO EUR. J. APPL. MICROBIOL. 1. P313-22. 1975.
LG EN.
DE PHENOL DEGRDN FUNGI. SEAWATER PHENOL DEGRDN FUNGI. LAKE PHENOL DEGRDN FUNGI.
AN C 08511074689.

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AU ROBBINS, PHILLIPS W.
IN MASSACHUSETTS INST. OF THE TECH. CAMBRIDGE. SEA GRANT PROJECT OFFICE.
YR 71. 59P.
TI STUDENT PROJECTS ON THE OXIDATION BY MARINE BACTERIA OF AROMATIC COMPOUNDS FOUND IN OIL.
NT REPORT ON EXPERIMENTAL BIOCHEMISTRY.
PR PC$3.00 MF$0.95.
AB THE STUDENT PROJECT REPORTS CONTAINED IN THE SEA GRANT REPORT WERE SELECTED FOR THEIR QUALITY AND RESULTS RELATIVE TO THE TIMELY SUBJECT OF BIODEGRADATION OF HYDRO-CARBONS BY MARINE BACTERIA, AND ARE: CATECHOL 2, 3 OXYGENASE; OXIDATION OF NAPHTHALENE BY A MARINE BACTERIUM; THE METABOLISM OF QUINOLINE AND RELATED COMPOUNDS BY MARINE BACTERIA; AND THE EVIDENCE FOR THE EXISTENCE OF PROTOCATECHUATE 3, 4-OXYGENASE IN MARINE YEAST ISOLATED WITH PARAHYDROXYLBENZOIC ACID. (OSG ABSTRACT).
MJ OILS, BIODETERIORATION, AROMATIC-COMPOUNDS, BIODETERIORATION, NAPHTHALENE, BIODETERIORATION, PHENOLS, BIODETERIORATION, WATER-POLLUTION, OILS.
MN MARINE-BIOLOGY, OXIDATION, ENZYMES, QUINOLINES, YEASTS, AQUATIC-MICROBIOLOGY.
ID OIL-POLLUTION, OXYGENASE-CATECHOL-2-3, OXYGENASE-

PROTOCATECHUATE.
AN N COM-71-00878.

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AU RODGERS, B. R. WESTMORELAND, P. R.
IN OAK RIDGE NATIONAL LAB. TENN. ADMINISTRATION. 4832000.
YR 76. 31P.
TI AGGLOMERATION AND SEPARATION OF MICRON-SIZED PARTICLES FROM COAL LIQUEFACTION STREAMS.
NT 81. NATIONAL MEETING OF THE AMERICAN INSTITUTE OF CHEMICAL ENGINEERS, KANSAS CITY, MISSOURI, UNITED STATES OF AMERICA (USA), 11 APR 1976.
PR PC$4.00/MF$3.00.
AB OPTICAL MICROSCOPY WAS USED TO SHOW AGGLOMERATION OF SOLIDS PRODUCED BY SOLVENTS SUCH AS TOLUENE IN COAL CONVERSION LIQUIDS. SETTLING AND FILTRATION RATES WERE INCREASED SUBSTANTIALLY AFTER AGGLOMERATION. RESULTS OF LABORATORY EXPERIMENTS DEMONSTRATED THAT A 50 PERCENT OVERFLOW OF CLARIFIED SPECIFICATION PRODUCT WAS OBTAINED AFTER SETTLING FOR 1 HR. AND THAT FILTRATION RATES WERE INCREASED BY A FACTOR OF 4. PROCESS-DERIVED SOLVENT WAS ALSO BENEFICIAL IN INCREASING SETTLING AND FILTRATION RATES. HOWEVER, THE LARGEST INCREASES IN FILTRATION RATES WERE REALIZED BY A COMBINED SETTLING-FILTRATION OPERATION. GROUND COAL WAS FOUND TO BE AN ECONOMICAL SUBSTITUTE FOR DIATOMACEOUS EARTH AS A PRECOAT MATERIAL FOR FILTRATION OF COAL CONVERSION STREAMS. FILTRATION RATES WERE INCREASED SLIGHTLY BY THE GROUND COAL PRECOAT UNDER STANDARD OPERATING CONDITIONS, BUT MAJOR RATE INCREASES WERE REALIZED BY MAINTAINING ULTRATHIN FILTER CAKES AT THE TOP OF THE COAL PRECOAT. COAL PRECOAT, WHICH MAY BE COLLECTED WITH THE SOLIDS IN A COMMERCIAL PROCESS, ENHANCED THE VALUE OF THE SOLIDS AS A GASIFIER FEED TO PRODUCE HYDROGEN OR METHANE. GROUND COAL CAN ALSO BE ADDED TO THE LIQUID STREAM TO SERVE AS A ''BODY FEED'' AND PRODUCE INCREASED FILTRATION RATES. THE COAL BODY FEED WOULD ALSO PROVIDE AN ADJUSTABLE PARAMETER FOR CONTROLLING THE AMOUNT OF HYDROCARBON FED TO THE GASIFIER. SOME RECENT ADVANCES USING ADDITIVES IN THE PARTS-PER-MILLION RANGE TO INCREASE SETTLING AND FILTRATION RATES ARE DISCUSSED. FUTURE RESEARCH DIRECTIONS ARE OUTLINED BRIEFLY. (ERA CITATION 01: 018475).
MJ COAL-LIQUEFACTION, COAL-LIQUIDS.
MN PARTICLES, AGGLOMERATION, COAL, CRUSHING, ECONOMICS, FILTRATION, OPTICAL-MICROSCOPY, ORGANIC-SOLVENTS, PARTICLE-SIZE, PURIFICATION, SEPARATION-PROCESSES, SOLIDS, SOLVENT-EXTRACTION, SOLVENT-REFINED-COAL, TOLUENE.
ID ERDA-010405, MEETINGS, PLANNING, NTISERDA.
AN N CONF-760402-6.

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AU ROGOZHIN, G. I.
IN USSR.
YR 71.
TI OXIDATION OF DIMETHYLAMINE BY OZONE IN AQUEOUS SOLUTIONS.
SO TR. VSES. NAUCH.-ISSLED. INST. VODOSNABZH. KANALIZ. GIDROTEKH. SOORUZH. INZH. GIDROGEOL. 33. P54-8. 1971.
LG RS.
DE OXIDN DIMETHYLAMINE OZONE.
AN C 07720130380.

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AU ROMANENKO V I. KUZNETSOV S I.
YR 76.
TI THE USE OF LABELED CARBON-14 PHENOL FOR DETERMINING ITS CONTENT AND THE RATE OF ITS UTILIZATION BY THE MICRO FLORA OF WATER BODIES.
SO MIKROBIOLOGIYA. 45 (1). 166-168.
DE RESERVOIRS RUSSIAN-SFSR USSR ENZYMATIC REACTIONS.
AN B 62048386.

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AU ROSFJORD, R E. CHEREMISINOFF, P N. TRATTNER, R B.
IN NEW JERSEY INST. OF TECHNOLOGY, NEWARK, NJ 07102.
YR 76.
TI PHENOLS: A WATER POLLUTION CONTROL ASSESSMENT.
SO WATER & SEWAGE WORKS, 123(3): 96-99, MAR. 1976.
LG EN.
AB NONE.
ID PHENOLS.
DE WASTEWATER TREATMENT, AROMATIC COMPOUNDS, WATER POLLUTION CONTROL.
AN P 7604266.

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AU ROSSI S S. ANDERSON J W. WARD G S.
YR 76.
TI TOXICITY OF WATER SOLUBLE FRACTIONS OF 4 TEST OILS FOR THE POLYCHAETOUS ANNELIDS NEANTHES- ARENACEODENTATA AND CAPITELLA- CAPITATA.
SO ENVIRON POLLUT. 10 (1). 9-18.
DE FISH CRUSTACEAN SOUTH LOUISIANA USA KUWAIT VENEZUELA NAPHTHALENE CONCENTRATION.
AN B 61058078.

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AU ROUBAL, WILLIAM T. COLLIER, TRACY K. MALINS, DONALD C.
IN NORTHWEST ALASKA FISH. CENT. NATL. MAR. FISH. SERV. SEATTLE. WASH.
YR 77.
TI ACCUMULATION AND METABOLISM OF CARBON-14 LABELED BENZENE, NAPHTHALENE, AND ANTHRACENE BY YOUNG COHO SALMON (ONCORHYNCHUS KISUTCH).
SO ARCH. ENVIRON. CONTAM. TOXICOL. 5. P513-29. 1977.
LG EN.
DE SALMON BENZENE NAPHTHALENE ANTHRACENE.
AN C 38721162343.

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AU ROYER, JAMES L. TWICHELL, JAMES E. MUIR, STEPHEN M.
IN DIV. LAB. SERV. STATE ILLINOIS ENVIRON. PROT. AGENCY. CHAMPAIGN. ILL.
YR 73.
TI AUTOMATED COLORIMETRIC METHOD FOR TOTAL CYANIDE IN WATER AND WASTE WATER.
SO ANAL. LETT. 6. P619-27. 1973.
LG EN.
DE CYANIDE DETN WATER. WATER ANALYSIS CYANIDE. WASTE WATER ANALYSIS CYANIDE.
AN C 07916096498.

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AU RUCHHOFT, C. C. . MOORE, W. A. . TERHOEVEN, G. E. . MIDDLETON, F. M. KRIEGER, H. L.
IN ENVIRONMENTAL HEALTH CENTER, CINCINNATI, OHIO.
YR 49. 21P.
TI TENTATIVE ANALYTICAL METHODS FOR CADMIUM, CHROMIUM, AND CYANIDE IN WATER.
PR PC$3.25/MF$0.95.
AB CONTENTS: COLLECTION, PRESERVATION, AND PREPARATION OF SAMPLES; QUALITATIVE PROCEDURE; QUANTITATIVE PROCEDURE; PYRIDINE- BENZIDINE METHOD; MODIFIED LIEBIG METHOD; MODIFIED LIEBIG METHOD USING AN INTERNAL INDICATOR; PRUSSIAN BLUE METHOD; LITERATURE ON CYANIDE DETERMINATION.
MJ WATER-ANALYSIS, WATER-POLLUTION, CADMIUM, WATER-ANALYSIS, CHROMIUM, WATER-ANALYSIS, CYANIDES, WATER-ANALYSIS.
MN OHIO-RIVER, POTABLE-WATER, CHEMICAL-ANALYSIS.
ID WATER-POLLUTION-DETECTION, EPAL.
AN N PB-215 059.

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AU RUDLING, L. SOLYOM, P.
IN SWEDISH WATER AND AIR POLLUTION RESEARCH LAB. STOCKHOLM SWEDEN.
YR 74.
TI THE INVESTIGATION OF BIODEGRADABILITY OF BRANCHED NONYL PHENOL ETHOXYLATES.
SO WATER RESEARCH, 8(2): 115-119, FEB. 1974.
LG EN.
AB NONE.
ID NONYL PHENOL ETHOXYLATES.
DE ACTIVATED SLUDGE, BIODEGRADATION, CHEMICAL POLLUTANTS, ESTERS.
AN P 7500266.

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AU RUESINK R G. SMITH L L JR.
YR 75.
TI THE RELATIONSHIP OF THE 96 HOUR MEDIAN LETHAL CONCENTRATION TO THE LETHAL THRESHOLD CONCENTRATION OF HEXAVALENT CHROMIUM PHENOL AND SODIUM PENTA CHLORO PHENATE FOR FATHEAD MINNOWS PIMEPHALES-PROMELAS.
SO TRANS AM FISH SOC. 104 (3). 567-570.
DE HERBICIDE TEMPERATURE EFFECT.
AN B 61040590.

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AU RUMMEL, W.
IN INST. WASSERWIRTSCH. BERLIN. GER.
YR 69.
TI CONTROL AND TREATMENT OF ORGANIC POLLUTION IN WATER.
SO WISS. Z. UNIV. ROSTOCK, MATH.-NATURWISS. REIHE. 18. P847-58. 1969.
LG GE.

DE ADSORPTION ORG POLLUTANT. OXIDN ORG POLLUTANT. PHENOLS DEGRDN SEWAGE . ALDEHYDE DEGRDN SEWAGE. OLEFIN DEGRDN SEWAGE. INDOLE DEGRDN SEWAGE . HUMIC SUBSTANCE DEGRDN SEWAGE. CYANIDE DEGRDN SEWAGE. HYDROCARBON DEGRDN SEWAGE. DYE DEGRDN SEWAGE.
AN C 07516101095.

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AU RYBAK, I. I.
IN USSR.
YR 74.
TI SEPARATION OF WATER-PHENOL MIXTURES BY REVERSE OSMOSIS.
SO NEFTEPERERAB. NEFTEKHIM. (MOSCOW). P41-6. 1974.
LG RS.
DE PHENOL SEPN WASTEWATER REVERSE OSMOSIS.
AN C 08114082034.

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AU RYZHKOV, L. P.
IN GOS. NAUCHNO-ISSLED. INST. OZERN. RECHN. RYBN. KHOZ. PETROZAVODSK. USSR.
YR 70.
TI GAS METABOLISM (OF FRY) STUDIED DURING TOXICOLOGICAL INVESTIGATIONS.
SO VOP. VOD. TOKSIKOL. P47-52. 1970.
LG RS.
AV TOPACHEVSKII, A. V.
DE FISH RESPIRATION MALACHITE GREEN. SALMON GAS METAB FORMALIN. TROUT GAS METAB FORMALIN.
AN C 07513085831.

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AU SACHER, REUVEN MORDECHAI.
IN UNIVERSITY OF CALIFORNIA, RIVERSIDE (0032) PH.D. 1967 215PP.
YR 67.
TI METABOLISM, STRUCTURE-ACTIVITY RELATIONSHIPS AND MODE OF ACTION OF NAPHTHALENE-BASED SYNERGISTS.
SO DAI V29(01), SEC B, P0233.
DE ENTOMOLOGY (0353).
AN D ADG68-09763.

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AU SADANA, AJIT JAICHAND.
IN DELAWARE UNIV. NEWARK. DEPT. OF CHEMICAL ENGINEERING. WATER RESEARCH AND TECHNOLOGY, WASHINGTON, D.C.
YR 75. 207P.
TI INVOLVEMENT OF FREE RADICALS IN THE CATALYTIC OXIDATION OF PHENOL IN AQUEOUS SOLUTION.
NT DOCTORAL THESIS.
PR PC A10/MF A01.
AB AQUEOUS-PHASE CATALYTIC OXIDATION OF PHENOL OVER SUPPORTED COPPER OXIDE WAS STUDIED FROM 369 TO 452 DEGREES K AND 14.7 TO 250 PSIG OXYGEN PRESSURE IN BATCHWISE MODE. THE REACTION INVOLVES AN INDUCTION PERIOD AND A STEADY-STATE ACTIVITY REGIME. THE INITIAL RATE IS FIRST ORDER IN PHENOL AND IN OXYGEN; THE STEADY-STATE RATE IS FIRST ORDER IN PHENOL AND ONE-HALF ORDER IN OXYGEN. FREE RADICAL INVOLVEMENT IN THE HETEROGENEOUSLY CATALYZED OXIDATION OF PHENOL WAS ESTABLISHED. REACTION NETWORKS ARE SIMILAR FOR THE HETEROGENEOUSLY AND HOMOGENEOUSLY CATALYZED OXIDATION OF PHENOL AS FAR AS QUINONES. INTERMEDIATES SUCH AS ORGANIC ACIDS, WHICH ARE OBSERVED IN HOMOGENEOUS OXIDATION, WERE NOT OBSERVED IN THE HETEROGENEOUSLY CATALYZED OXIDATION. AQUEOUS-PHASE HETEROGENEOUSLY CATALYZED OXIDATION REMOVES ORGANIC CARBON, INITIALLY CHARGED AS PHENOL, FROM SOLUTION EFFICIENTLY AT MODERATE TEMPERATURES AND PRESSURES. THE LESS SEVERE CONDITIONS REQUIRED FOR AQUEOUS-PHASE CATALYTIC OXIDATION OF ORGANICS MAKE IT APPEAR MUCH MORE ECONOMICAL THAN NON-CATALYZED WET AIR OXIDATION. (KATZER-DELAWARE).
MJ CATALYSTS, PHENOLS, OXIDATION, WATER-POLLUTION-CONTROL, INDUSTRIAL-WASTES.
MN CHEMICAL-REACTION, REACTION-KINETICS, CHEMICAL-INDUSTRY, ORGANIC-COMPOUNDS, PETROLEUM-INDUSTRY, SUBSTITUTES, COST-ANALYSIS, EXPERIMENTAL-DESIGN, LABORATORY-EQUIPMENT, INHIBITORS, PH, TABLES-DATA.
ID FREE-RADICALS, HETEROGENEOUS-REACTIONS, HOMOGENEOUS-REACTIONS, PROCEDURES, NTISDIOWRT.
AN N PB-267 810/0SL.

<1027>
AU SAGARDIA F. RIGAU J J. MARTINEZ-LAHOZ A. FUENTES F. LOPEZ C. FLORES W.
IN DEPARTMENT OF MICROBIOLOGY, UNIVERSITY OF PUERTO RICO, SCHOOL OF MEDICINE, RIO PIEDRAS, PUERTO RICO 00936.
YR 75.

TI DEGRADATION OF BENZOTHIOPHENE AND RELATED COMPOUNDS BY A SOIL PSEUDOMONAS IN AN OIL-AQUEOUS ENVIRONMENT.
SO APPL MICROBIOL. 29. 6. P722-5. JUN 75.
LG EN.
MJ PSEUDOMONAS-AERUGINOSA: ME.
MN BIODEGRADATION. HYDROXYMERCURIBENZOATES: PD.
AN M 75223527.

<1028>
AU SAKAI, KAORU.
IN HITACHI, LTD. TOKYO. JAPAN.
YR 72.
TI POLLUTION-MEASURING EQUIPMENT AND ITS SOFTWARE. IV. WATER POLLUTION MEASUREMENT. 1.
SO KEISO. 15. P64-8. 1972.
LG JA.
DE REVIEW WATER POLLUTION MEASURING APP. PHENOLS DETN WATER REVIEW. ION SELECTIVE ELECTRODE REVIEW. ELEC COND MEASURING APP REVIEW.
AN C 07716105342.

<1029>
AU SAKIYA Y. UMEZAWA N. HANANO M.
YR 74.
TI KINETICS ON UPTAKE OF DRUGS IN GOLDFISH PART 1 EFFECT OF PH CHANGE IN WATER PHASE AND ADDITION OF POLY ETHYLENE GLYCOL 6000 AND UREA ON UPTAKE OF SALICYLIC-ACID.
SO YAKUGAKU ZASSHI. 94 (9). 1123- 1130.
DE METABOLISM.
AN B 59027264.

<1030>
AU SAL'NIKOVA, L. S. KATOLIKOVA, S. N. SHAMSUTDINOVA, F. G.
IN USSR.
YR 70.
TI DETERMINATION OF THE COMPOSITION OF WASTE WATERS OF CRESOL PRODUCTION BY THE OXIDATIVE DECARBOXYLATION OF M-TOLUIC ACID.
SO TR. NAUCH.-ISSLED. INST. NEFTEKHIM. PROIZVOD. NO. 2. P126-9. 1970.
LG RS.
DE CRESOL PRODN WASTE WATERS. TOLUIC ACIDS WASTES CRESOL PRODN. PHENOL CRESOL PRODN WASTE WWATERS. BOD CRESOL WASTES.
AN C 07414067441.

<1031>
AU SAL'NIKOVA, L. SH. YARULLINA, R. K. SHAMSUTDINOVA, F. G.
IN USSR.
YR 77.
TI OZONIZATION AS A METHOD FOR THE DETOXICATION OF UNDERGROUND WATERS POLLUTED WITH WASTES FROM THE PETROCHEMICAL INDUSTRY.
SO NEFTEPERERAB. NEFTEKHIM. (MOSCOW). P32-3. 1977.
LG RS.
DE WELL WATER PURIFN OZONIZATION. PHENOL REMOVAL WELL WATER. PETROLEUM PRODUCT REMOVAL WELL WATER.
AN C 08704028793.

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AU SALA-TREPAT, J. M. MURRAY, K. WILLIAMS, P. A.
IN DEP. BIOCHEM. SOIL SCI. UNIV. COLL. NORTH WALES. BANGOR/CAERNS. WALES .
YR 71.
TI PHYSIOLOGICAL SIGNIFICANCE OF THE TWO DIVERGENT METABOLIC STEPS IN THE META CLEAVAGE OF CATECHOLS BY PSEUDOMONAS PUTIDA.
SO BIOCHEM. J. 124. P20P-21P. 1971.
LG EN.
DE PSEUDOMONAS CATECHOL ENZYME. OXYGENASE CATECHOL BACTERIA.
AN C 07601001686.

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AU SAMPSON K L. FINNERTY W R.
YR 74.
TI REGULATION OF FATTY ACID BIOSYNTHESIS IN THE HYDROCARBON OXIDIZING MICROORGANISM, ACINETOBACTER SP.
SO ARCH MICROBIOL. 99. 3. P203-20. 1974.
LG EN.
MJ ALCALIGENES: ME. ME.
MN ACETATES. CHROMATOGRAPHY-THIN-LAYER. OXIDATION-REDUCTION. SILICIC-ACID.
AN M 75053669.

<1034>
AU SANBORN H R. MALINS D C.
YR 77.
TI TOXICITY AND METABOLISM OF NAPHTHALENE A STUDY WITH MARINE LARVAL INVERTEBRATES.
SO PROC SOC EXP BIOL MED. 154 (2). 151-155.
DE CANCER-MAGISTER PANDALUS- PLATYCEROS

BOVINE SERUM ALBUMIN CARBON-14 DEPURATION.
AN B 64048065.

<1035>
AU SAPUNKOVA, G. S. SELYANINA, S. G.
IN USSR.
YR 69.
TI USE OF HIGH-FREQUENCY CONDUCTOMETRY IN THE ANALYSIS OF PHENOL AND ACETONE PRODUCTION PRODUCTS.
SO MATER. NAUCH.-TEKH. KONF. KAZAN. ZAVODA ORG. SIN. P111-16. 1969.
LG RS.
AV GUSEV, V. I.
DE PHENOL DETN. ACETONE DETN. WATER ANALYSIS PHENOL. RESIN ANALYSIS PHENOL. HIGH FREQUENCY CONDUCTOMETRY PHENOL ACETONE. CONDUCTOMETRY PHENOL ACETONE DETN.
AN C 07602010093.

<1036>
AU SAPUNKOVA, G. S. STRELYUKHINA, L. M. AKHMETSHINA, F. YA.
IN USSR.
YR 69.
TI COLORIMETRIC DETERMINATION OF AROMATIC HYDROCARBONS IN CHEMICALLY POLLUTED INDUSTRIAL WATER IN THE PRESENCE OF PHENOL.
SO MATER. NAUCH.-TEKH. KONF. KAZAN. ZAVODA ORG. SIN. P117-20. 1969.
LG RS.
AV GUSEV, V. I.
DE AROMS WASTE WATER SPECTROMETRIC. PHENOL AROMATIC WASTE WATER. SODIUM CARBONATE PHENOL INTERFERENCE.
AN C 07522132741.

<1037>
AU SARIASLANI S. HARPER D B. HIGGINS I J.
YR 74.
TI MICROBIAL DEGRADATION OF HYDRO CARBONS CATABOLISM OF 1 PHENYL ALKANES BY NOCARDIA-SALMONICOLOR.
SO BIOCHEM J. 140 (1). 31-45.
DE 1 PHENYLDODECANE ISO CITRATE LYASE ACTIVITY 4 PHENYL BUTYRATE PHENYL ACETATE CINNAMATE 3 4 DI HYDROXYPHENYL ACETATE CATECHOL PROTO CATECHUATE 1 PHENYLNONANE RING CLEAVAGE ENZYME ACTIVITY RESPIROMETRY DIAUXIE.
AN B 58027683.

<1038>
AU SAXENA, JITENDRA. KOZUCHOWSKI, JACK. BASU, DIPAK K.
IN CENT. CHEM. HAZARD ASSESSMENT. SYRACUSE RES. CORP. SYRACUSE. N. Y.
YR 77.
TI MONITORING OF POLYNUCLEAR AROMATIC HYDROCARBONS IN WATER. I. EXTRACTION AND RECOVERY OF BENZO(A)PYRENE WITH POROUS POLYURETHANE FOAM.
SO ENVIRON. SCI. TECHNOL. 11. P682- 5. 1977.
LG EN.
DE BENZOPYRENE REMOVAL WATER POLYURETHANE.
AN C 08711079154.

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AU SCACCINI CICATELLI M.
YR 71.
TI BENZO-3 4 PYRENE POLLUTION IN SOME AREAS OF THE ADRIATIC.
SO REV INT OCEANOGR MED. 24. 181-182.
DE ABSTRACT PLANKTON.
AN B 72057965.

<1040>
AU SCACCINI, A. SCACCINI CICATELLI, M. MARANI, F. LEONARDI, V.
IN UNIV. OF PARMA, ISTITUTO DI ANATOMIA DEGLI ANIMALI DOMESTICI, IT.
YR 70.
TI DOSAGGIE SPETTROFOTOFLUORIMETRICI ED OSSERVAZIONI MEDIANTE MICROSCOPIA A FLUORESCENZA DEL BENZO 3-4 PIERENE SU ORGANI E TESSUTI DI CARRASSIUS AURATUS.
SO BOLOGNA. UNIVERSITA. ISTITUTO ZOOLOGICO. LABORATORIO DI BIOLOGIA MARINA E PESCA-FANO. NOTE, 3(6): 105, 107-141, 1970.
LG XX.
AB NONE.
ID HISTOLOGY, BENZO 3-4 PYRENE, *CARASSIUS AURATUS.
DE METABOLISM, HYDROCARBONS, FISHES.
AN P 7006934.

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AU SCASSELLATI SFORZOLINI, G. SAVINO, A. MONARCA, S.
IN IST. IG. UNIV. PERUGIA. PERUGIA. ITALY.
YR 74.
TI DECONTAMINATION OF POLLUTED WATERS BY POLYNUCLEAR AROMATIC HYDROCARBONS, (PAH). II. ACTION OF CHLORINE AND OZONE ON PAH IN

DRINKING WATER AND IN RIVER WATER.
SO IG. MOD. 66. P595-619. 1974.
LG IT.
DE OZONE EFFECT DRINKING WATER. CHLORINE EFFECT DRINKING WATER. BENZOFLUORANTHENE OZONE DRINKING WATER.
AN C 08116096270.

<1042>
AU SCHEIER A. GOMINGER D.
IN ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA, DIVISION OF LIMNOLOGY AND ECOLOGY, PHILADELPHIA, PENN.
YR 76.
TI A PRELIMINARY STUDY OF THE TOXIC EFFECTS OF IRRADIATED VS. NON-IRRADIATED WATER SOLUBLE FRACTIONS OF NO. 2 FUEL OIL.
SO BULL ENVIRON CONTAM TOXICOL. 16. 5. P595-603. NOV 76.
LG EN.
MJ FUEL-OILS: TO.
MN ANIMAL. SHRIMP. UNITED-STATES-GOVERNMENT-SUPPORTED-NON-NIH: (NON-NIH-SUP).
AN M 77045979. 7703.

<1043>
AU SCHLIPKOETER, HANS W. GRUENSPAN, M.
IN INST. HYG. UNIV. DUESSELDORF. DUESSELDORF. GER.
YR 69.
TI INFRARED SPECTROPHOTOMETRIC INVESTIGATION OF THE MICROBIAL DEGRADATION OF PARAFFINS SUCH AS HEPTADECANE.
SO ARCH. HYG. BAKTERIOL. 153. P538- 43. 1969.
LG GE.
DE PSEUDOMONAS PARAFFINS. PARAFFINS PSEUDOMONAS. SPECTROSCOPY PARAFFINS
AN C 07319095644.

<1044>
AU SCHLUETER, ALBERT.
IN CENTRAL STATE UNIV. WILBERFORCE, OHIO. DEPT. OF CHEMISTRY. ENVIRONMENTAL MONITORING AND SUPPORT LAB. CINCINNATI, OHIO.
YR 76. 29P.
TI APPLICABILITY OF THE CYANIDE ELECTRODE FOR MEASURING FREE AND TOTAL CYANIDE.
PR PC$4.00/MF$3.00.
AB THE ORION MODEL 94-06 CYANIDE ELECTRODE WAS EVALUATED TO DETERMINE ITS APPLICABILITY TO WATER AND WASTEWATERS. THE CALIBRATION CURVE WAS NERNSTIAN OVER THE CONCENTRATION RANGE OF 0.26 TO 26 PPM, AND THE SLOPE OF THE CURVE WAS 59 MV PER DECADE CHANGE. THIS WORK CONSISTED IN STUDYING THE RESPONSE OF THE CYANIDE ELECTRODE TO CYANIDE WHEN THIS ION WAS PRESENT IN SOLUTION IN BOTH FREE AND COMPLEX FORMS. THE RESULTS SHOW CONCLUSIVELY THAT THE ELECTRODE RESPONDS ONLY TO FREE CYANIDE IN SOLUTION AND NOT AT ALL TO THAT COMPLEXED TO METALS.
MJ CYANIDES, ELECTRODES, WATER-ANALYSIS.
MN PH-METERS, WATER-POLLUTION, MONITORING, CONCENTRATION-COMPOSITION, IONS, INDUSTRIAL-WASTES, SURFACE-WATERS, LABORATORY-TESTS, FIELD-TESTS, DISTILLATION, HYDROLYSIS, METAL-COMPLEXES.
ID WATER-POLLUTION-DETECTION, MONITORS, ION-SELECTIVE-ELECTRODES, NTISEPAORD.
AN N PB-255 852/6SL.

<1045>
AU SCHMIDT, C. E. SHARKEY, A. G. JR. FRIEDEL, R. A.
IN BUREAU OF MINES, PITTSBURGH, PA. PITTSBURGH ENERGY RESEARCH CENTER.
YR 74. 11P.
TI MASS SPECTROMETRIC ANALYSIS OF PRODUCT WATER FROM COAL GASIFICATION.
NT TECHNICAL PROGRESS REPT. 1973.
PR PC$3.25/MF$2.25.
AB CONDENSATE WATERS FROM THE BUREAU OF MINES SYNTHANE PROCESS FOR COAL GASIFICATION HAVE BEEN INVESTIGATED BY MASS SPECTROMETRIC METHODS TO DETERMINE THE ORGANIC CONTAMINANTS. WATERS FROM THE GASIFICATION OF SIX COALS WERE EXTRACTED WITH METHYLENE CHLORIDE, YIELDING 0.6 TO 2.4 WEIGHT-PERCENT EXTRACTABLE MATERIAL. USING HIGH- RESOLUTION MASS SPECTROMETRY (HRMS), COMBINED GAS CHROMATOGRAPHY-MASS SPECTROMETRY (GS-MS), AND LOW- VOLTAGE MASS SPECTROMETRY, 60 TO 80 PERCENT OF THE EXTRACT WAS FOUND TO BE PHENOLIC. ABOUT 20 ORGANIC CONTAMINANTS HAVE BEEN IDENTIFIED AND ARE PRESENT IN THE CONDENSATE WATERS FROM EACH COAL GASIFIED. THE RELATIVE DISTRIBUTION OF CONTAMINANTS IN THE CONDENSATE WATER WAS NEARLY THE SAME FOR THE SIX

COALS GASIFIED UNDER VARIOUS CONDITIONS; PHENOLIC COMPOUNDS WERE THE MOST ABUNDANT IN ALL CASES.
MJ INDUSTRIAL-WATER, WATER-ANALYSIS.
MN COAL-GASIFICATION, MASS-SPECTROSCOPY. PHENOLS, WATER-QUALITY.
ID SYNTHANE-PROCESS, NTISDIBM.
AN N PB-240 835/9SL.

<1046>
AU SCHMITZ, WOLFGANG. KOELLE, WALTER.
IN LANDESSTELLE GEWAESSERKD WASSERWIRTSCH. PLANUNG BADEN-WURTTEMBERG. KARLSRUHE. GER.
YR 75.
TI BIOGENIC AND NONBIOGENIC ORGANIC POLLUTANTS.
SO SCHWEIZ. Z. HYDROL. 37. P85-98. 1975.
LG GE.
DE RIVER WATER POLLUTANT RHINE. HYDROCARBON POLLUTANT RIVER RHINE. NITROGEN COMPD POLLUTANT RIVER RHINE. ORG COMPD POLLUTANT RIVER RHINE . ETHER POLLUTANT RIVER RHINE. ALC POLLUTANT RIVER RHINE. PHENOL POLLUTANT RIVER RHINE. ESTER POLLUTANT RIVER RHINE.
AN C 08604021665.

<1047>
AU SCHNEIDER J.
YR 72.
TI LOWER FUNGI AS TEST ORGANISMS OF POLLUTANTS IN SEA AND BRACKISH WATER THE EFFECTS OF HEAVY METAL COMPOUNDS AND PHENOL ON THRAUSTOCHYTRIUM-STRIATUM.
SO MAR BIOL (BERL). 16 (3). (RECD 1973) 214-225.
DE TOXICITY.
AN B 56010545.

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AU SCHNEIDER, H. GMUENDER, F. FIECHTER, A.
IN INST. MICROBIOL. SWISS FED. INST. TECHNOL. ZURICH. SWITZ.
YR 77.
TI N-ALKANE OXIDATION BY CANDIDA TROPICALIS. II. INDUCTION AND REPRESSION OF CATALASE BY SUBSTRATE-SHIFTS IN A CHEMOSTAT.
SO EUR. J. APPL. MICROBIOL. 3. P283- 8. 1977.
LG EN.
DE CANDIDA CATALASE GLUCOSE HEXADECANE.
AN C 08713098587.

<1049>
AU SCHUBERT J S.
YR 70.
TI FORMULATION OF CELL GROWTH INHIBITION BY CHEMICALS AND ENVIRONMENTAL AGENTS.
SO J GEN MICROBIOL. 64. 1. P37-40. NOV 70.
LG EN.
MJ BACTERIA: DE, GD.
MN ACETALDEHYDE: PD. MATHEMATICS.
AN M 71190666.

<1050>
AU SCHULTZ T W. DUMONT J N.
IN OAK RIDGE GRAD. SCH. BIOMED. SERV. UNIV. TENN. OAK RIDGE, TENN. 37830, USA.
YR 77.
TI CYTO TOXICITY OF SYNTHETIC FUEL PRODUCTS ON TETRAHYMENA-PYRIFORMIS PART 1 PHENOL.
SO J PROTOZOOL. 24 (1). 164-172.
LG EN.
DE BEHAVIOR CYTOLOGY RESPIRATION GROWTH MOTILITY COAL CONVERSION SCRUB WATER POTENTIAL ENVIRONMENTAL CONTAMINANT.
AN B 65018318.

<1051>
AU SCHWARTZ, FREDERICK P. WASIK, STANLEY P.
IN NATIONAL BUREAU OF STANDARDS, WASHINGTON, D.C. INST. FOR MATERIALS RESEARCH. 401 937.
YR 75. 6P.
TI FLUORESCENCE MEASUREMENTS OF BENZENE, NAPHTHALENE, ANTHRACENE, PYRENE, FLUORANTHENE, AND BENZO(E)PYRENE IN WATER.
NT FINAL REPT. PUB. IN ANALYTICAL CHEMISTRY, V48 N3 P524-528 MAR 76.
PR PC$3.50/MF$2.25.
AB FLUORESCENCE SPECTRA, QUANTUM YIELDS, AND CONCENTRATION DEPENDENCIES ARE REPORTED FOR FIVE REPRESENTATIVE POLYCYCLIC AROMATIC HYDROCARBONS (PAH) IN WATER TO ASCERTAIN THE APPLICABILITY OF MEASURING PAH IN AQUEOUS SYSTEMS BY SPECTROFLUORIMETRY. THE FLUORESCENCE QUANTUM YIELDS OF BENZENE, NAPHTHALENE, ANTHRACENE, PYRENE, FLUORANTHENE, AND BENZO(E)PYRENE IN WATER ARE, RESPECTIVELY, 5.3 + OR - 0.5 X 10 TO

THE -3RD POWER, 0.16 + OR - 0.02, 0.25 + OR -0.02, 0.69 + OR - 0.06, 0.20 + OR - 0.01, AND APPROXIMATELY 0.3 + OR - 0.1. WITH THE EXCEPTION OF PYRENE, OXYGEN QUENCHING OF THE FLUORESCENCE IN WATER IS AT MOST 30%. THE FLUORESCENCE CONCENTRATION DEPENDENCE WAS MEASURED BY PHOTON COUNTING THE FLUORESCENCE INTENSITY RELATIVE TO THE EXCITATION LIGHT INTENSITY. ALL THE PAH FLUORESCENCES EXHIBITED A LINEAR DEPENDENCY ON THE CONCENTRATION. FOR A FLUORESCENCE SIGNAL-TO-NOISE RATIO OF 1, THE DETECTION LIMITS ARE AS FOLLOWS: NAPHTHALENE, 0.03 MICROGRAMS/L. ANTHRACENE, 0.03 MICROGRAMS/L. PYRENE, 0.15 MICROGRAMS/L. FLUORANTHENE, 0.17 MICROGRAMS/L. AND BENZO(E)PYRENE, 0.10 MICROGRAMS/L.

MJ EMISSION-SPECTRA, BENZENE, NAPTHALENE, ANTHRACENE, PYRENES.
MN FLUORINE-AROMATIC-COMPOUNDS, POLYCYCLIC-AROMATIC-HYDROCARBONS, SOLUTIONS, POLYCYCLIC-COMPOUNDS, CONCENTRATION-COMPOSITION, QUANTUM-EFFICIENCY, CARCINOGENS.
ID REPRINTS, FLUORANTHENES, BENZOPYRENES, NTISCOMNBS.
AN N PB-252 797/6SL.

<1052>
AU SCHWARZ, F P. WASIK, S P.
IN USDC, NATIONAL BUREAU OF STANDARDS, INST. FOR MATERIALS RESEARCH, CONNECTICUT AVE. AT VANNESS ST. NW, WASH. DC 20234.
YR 76.
TI FLUORESCENCE MEASUREMENTS OF BENZENE, NAPHTHALENE, ANTHRACENE, PYRENE, FLUORANTHENE, AND BENZO (E) PYRENE IN WATER.
SO ANALYTICAL CHEMISTRY, 48(3): 524-528, MAR. 1976.
LG EN.
AB NONE.
ID SPECTROFLUORIMETRY.
DE ABSORPTION SPECTROSCOPY, AROMATIC COMPOUNDS, LUMINESCENCE, HYDROCARBONS, WATER POLLUTION.
AN P 7603235.

<1053>
AU SCHWARZ, FREDERICK P.
IN NATIONAL BUREAU OF STANDARDS, WASHINGTON, D.C. 240 800.
YR 77. 5P.
TI DETERMINATION OF TEMPERATURE DEPENDENCE OF SOLUBILITIES OF POLYCYCLIC AROMATIC HYDROCARBONS IN AQUEOUS SOLUTIONS BY A FLUORESCENCE METHOD.
NT FINAL REPT.
AV PUB. IN J. CHEM. ENG. DATA, V22 N3 P273-277 JUL 77.
PR NOT AVAILABLE NTIS.
AB THE FLUORESCENCE INTENSITIES OF SATURATED AQUEOUS POLYCYCLIC AROMATIC HYDROCARBON (PAH) SOLUTIONS EQUILIBRATED AT TEMPERATURES BETWEEN 281 AND 303 K ARE PROPORTIONAL TO THE PAH CONCENTRATION. THE FLUORESCENCE MEASUREMENTS ARE PUT ON AN ABSOLUTE SOLUBILITY SCALE BY UV ABSORPTION MEASUREMENTS AT 298.2 K. THIS METHOD WAS APPLIED TO THE DETERMINATION OF THE SOLUBILITIES OF NAPHTHALENE, 1-METHYLNAPHTHALENE, 1-ETHYLNAPHTHALENE, PHENANTHRENE, ANTHRACENE, PYRENE, AND BENZ(E)PYRENE IN WATER AND IN 0.5 MOL/L SODIUM CHLORIDE SOLUTION. ENTHALPIES OF SOLUTION OF THE PAH WERE CALCULATED.
MJ HEAT-OF-SOLUTION, AROMATIC-POLYCYCLIC-HYDROCARBONS, SOLUBILITY.
MN FLUORESCENCE, ENTHALPY, TEMPERATURE, NAPHTHALENE, ANTHRACENE, PHENANTHRENE, PYRENES.
ID REPRINTS, NAPTHALENE-METHYL, NAPTHALENE-ETHYL, BENZ-EPYRENE, NTISCOMNBS.
AN N PB-271 169/5ST.

<1054>
AU SCHWARZ, FREDERICK P. WASIK, STANLEY P.
IN NATIONAL BUREAU OF STANDARDS, WASHINGTON, D.C. 401 937.
YR 76. 7P.
TI FLUORESCENCE MEASUREMENTS OF CARCINOGENIC AND POLYCYCLIC AROMATIC HYDROCARBONS IN WATER.
NT FINAL REPT. PUB. IN PROCEEDINGS OF INTERNATIONAL CONFERENCE ON ENVIRONMENTAL SENSING AND ASSESSMENT, LAS VEGAS, NEV. SEP 14-19, 1975, PAPER IN INTERNATIONAL CONFERENCE ON ENVIRONMENTAL SENSING AND ASSESSMENT, V2 SESSION 30-2, P1-5 1976.
PR PC$3.50/MF$2.25.
AB THE APPLICATION OF SPECTROFLUORIMETRY TO THE MEASUREMENT AND IDENTIFICATION OF POLYCYCLIC AROMATIC HYDROCARBONS

(PAH) IN AQUEOUS SOLUTIONS WAS INVESTIGATED. AT NAPERIAN ABSORBANCES < OR = TO 0.05, THE FLUORESCENCE INTENSITIES OF SOLUTIONS CONTAINING NAPHTHALENE, ANTHRACENE, PYRENE, AND FLUORANTHENE IN WATER ARE A SUPERPOSITION OF THE COMPONENT FLUORESCENCE SPECTRA. AT THE HIGHER PAH OPTICAL DENSITIES OF THE MG/L LEVEL AND WHEN VIEWED PERPENDICULAR TO THE EXCITATION LIGHT, THE FLUORESCENCE SPECTRA VARY UNPREDICTABLY WITH THE CONCENTRATION. THE PAH FLUORESCENCE INTENSITY IS UNAFFECTED BY THE PRESENCE OF SODIUM CHLORIDE AT SEA WATER CONCENTRATIONS AND BY THE PRESENCE OF MG/L CONCENTRATIONS OF IRON, ZINC, COBALT, OR NICKEL CATIONS IN THE WATER.

MJ AROMATIC-POLYCYCLIC- HYDROCARBONS, CARCINOGENS, WATER- ANALYSIS.

MN SOLUTIONS, FLUORESCENCE, EXPERIMENTAL-DESIGN, CONCENTRATION-COMPOSITION, MEETINGS.

ID FLUOROMETRIC-ANALYSIS, WATER-POLLUTION-DETECTION, NTISCOMNBS.

AN N PB-252 734/9SL.

<1055>

AU SCHWARZ, J. R. WALKER, J. D. COLWELL, R. R.

IN DEP. MICROBIOL. UNIV. MARYLAND. COLLEGE PARK. MD.

YR 75.

TI DEEP-SEA BACTERIA. GROWTH AND UTILIZATION OF N-HEXADECANE AT IN SITU TEMPERATURE AND PRESSURE.

SO CAN. J. MICROBIOL. 21. P682-7. 1975.

LG EN.

DE HEXADECANE BACTERIA PRESSURE.

AN C 08305040008.

<1056>

AU SCOTT C C L. FINNERTY W R.

YR 76.

TI A COMPARATIVE ANALYSIS OF THE ULTRASTRUCTURE OF HYDRO CARBON OXIDIZING MICROORGANISMS.

SO J GEN MICROBIOL. 94 (2). 342-350.

DE BACTERIA FUNGI GROWTH INTRA CELLULAR ELECTRON TRANSPARENT INCLUSIONS MEMBRANE POLY-BETA HYDROXY BUTYRIC-ACID.

AN B 63027435.

<1057>

AU SCOTT, C. D. HANCHER, C. W. HOLLADAY, D. W. DINSMORE, G. B.

IN OAK RIDGE NATIONAL LAB. TENN. 4832000.

YR 75. 16P.

TI TAPERED FLUIDIZED-BED BIOREACTOR FOR TREATMENT OF AQUEOUS EFFLUENTS FROM COAL CONVERSION PROCESSES.

PR PC$3.50/MF$2.25.

AB A BIOREACTOR SYSTEM BASED ON A TAPERED FLUIDIZED BED IS UNDER DEVELOPMENT FOR THE MICROBIOLOGICAL DEGRADATION OF HAZARDOUS ORGANIC COMPOUNDS EXPECTED IN AQUEOUS EFFLUENT WASTE STREAMS FROM COAL CONVERSION PROCESSES. THE CONCEPT WILL BE USED WITH FLUIDIZED PARTICLES HAVING ADHERING MICROORGANISMS. THE USE OF A FLUIDIZED REACTION MEDIUM ALLEVIATES OPERATIONAL PROBLEMS ASSOCIATED WITH BIOMASS BUILDUP AND ALLOWS EASY REMOVAL OR ADDITION OF THE ACTIVE MATERIALS. THE TAPERED REACTOR TENDS TO STABILIZE THE FLUIDIZED BED WHILE ALLOWING A MUCH WIDER RANGE OF OPERATING CONDITIONS. PRELIMINARY EXPERIMENTAL RESULTS FROM A STUDY MADE WITH A 3-IN. -DIAM TAPERED FLUIDIZED-BED REACTOR THAT CONTAINED ADHERING PSEUDOMONAS BACTERIA AND OPERATED AEROBICALLY INDICATE THAT THE PHENOL CONTENT OF A FEED STREAM CAN BE REDUCED TO LESS THAN 25 PPB. THIS CONCEPT IS COMPATIBLE WITH MULTISTAGE OPERATION, AND SCALE-UP IS CONSIDERED PRACTICAL.

MJ CHEMICAL-REACTORS, DESIGN, BIODEGRADATION, FLUIDIZED-BED.

MN EQUIPMENT, PSEUDOMONAS, WASTE-PROCESSING.

ID ERDA-010800WATER-POLLUTION- CONTROL, INDUSTRIAL-WASTE- TREATMENT, BACTERIA, PHENOLS, NTISERDA.

AN N CONF-751215-2.

<1058>

AU SDIKA, A. CABRIDENC, R.

IN SERV. EAU-BIOL.-FERMENT. INST. RECH. CHIM. APPL. VERT-LE-PETIT. FR.

YR 76.

TI ANALYTICAL STUDIES ON THE ORGANIC MICROPOLLUTION OF WATER.

SO J. FR. HYDROL. 7. P95-100. 1976.

LG FR.

DE ORG POLLUTANT DETN WATER. PHENOL DETN WATER. CHLORINATED HYDROCARBON DETN WATER. INDOLE DETN WATER. MERCURY ORG DETN WATER. AMINE DETN WATER. ESTROGEN DETN WATER. NITROSOAMINE DETN WATER.

AN C 08706043997.

<1059>

AU SEE C L. BUIKEMA A L JR. CAIRNS J JR.
YR 74.
TI THE EFFECTS OF SELECTED TOXICANTS ON SURVIVAL OF DUGESIA- TIGRINA TURBELLARIA.
SO ASB (ASSOC SOUTHEAST BIOL) BULL. 21 (2). 82.
DE ABSTRACT MERCURY CHROMIUM COPPER ZINC NICKEL LEAD CHLORDANE ALKYL BENZENESULFONATE PHENOL CYANIDE WATER POLLUTANTS.
AN B 75074552.

<1060>

AU SEIBER, J. N. CROSBY, D. G. FOUDA, H. SODERQUIST, C. J.
IN DEP. ENVIRON. TOXICOL. UNIV. CALIFORNIA. DAVIS. CALIF.
YR 72.
TI ETHER DERIVATIVES FOR THE DETERMINATION OF PHENOLS AND PHENOL-GENERATING PESTICIDES BY ELECTRON-CAPTURE GAS CHROMATOGRAPHY.
SO J. CHROMATOGR. 73. P89-97. 1972.
LG EN.
DE GAS CHROMATOG PHENOL PESTICIDE. ETHER DERIVATIZATION GAS CHROMATOG. WATER PESTICIDE GAS CHROMATOG.
AN C 07807039084.

<1061>

AU SEILER J P.
YR 75.
TI TOXICOLOGY AND GENETIC EFFECTS OF BENZIMIDAZOLE COMPOUNDS.
SO MUTAT RES. 32 (2). (RECD 1976) 151-168.
DE BACTERIA FUNGUS HUMAN ANTI MITOTIC ACTIVITY.
AN B 62014033.

<1062>

AU SEKI H.
YR 75.
TI THERMAL STRESS FOR HEXA DECANE DECOMPOSITION IN SEA WATER OF A NATURAL ENVIRONMENT.
SO MER (TOKYO). 13 (2). 53-57.
DE MICROORGANISMS JAPAN WATER POLLUTION SELF PURIFICATION.
AN B 61045651.

<1063>

AU SEKI H.
YR 74.
TI HEXA DECANE DECOMPOSITION IN THE EUTROPHIC BAY OF SHIMODA JAPAN AT SUMMER STAGNATION PERIOD.
SO MER (TOKYO). 12 (4). (RECD 1975) 186-191.
DE BACTERIA TOKYO BAY WATER POLLUTION SELF PURIFICATION.
AN B 61045643.

<1064>

AU SEKI H.
IN OCEAN RESEARCH INSTITUTE, UNIVERSITY OF TOKYO, MINAMI-DAI 1- 15-1, NAKANO-KU, TOKYO, JAPAN.
YR 76.
TI METHOD FOR ESTIMATING THE DECOMPOSITION OF HEXADECANE IN THE MARINE ENVIRONMENT.
SO APPL ENVIRON MICROBIOL. 31. 3. P439-41. MAR 76.
LG EN.
MJ ALKANES: ME.
MN BACTERIA: IP. JAPAN.
AN M 76230255. 7610.

<1065>

AU SEMENOVA L M.
YR 72.
TI TOXIC EFFECT OF PHENOL ON ZOO PLANKTON IN TANKS.
SO BIOL VNUTR VOD INF BYULL. (15). 21-25.
DE CLADOCERA ROTIFER CRUSTACEA DECOMPOSING MICROORGANISMS.
AN B 57030449.

<1066>

AU SEMOV, V. ANDREEVA, L.
YR 72. 7P.
TI MICROBIAL DEGRADATION OF PHENOLS IN THE PURIFICATION OF PHENOLIC WASTE WATERS WITH ACTIVATED SLUDGE.
AV TRANSLATED FROM TR. NAUCHNOIZSLED. INST. VODOSNABDYAYANE, KANALIZ. SANIT. TEKH.
PR PC$3.50/MF$2.25.
AB LABORATORY INVESTIGATIONS ON THE PURIFICATION OF PHENOL WASTE WATERS IN THE COKE CHEMICAL PLANT IN KREMIKOVZI, TOGETHER WITH DOMESTIC SEWAGE HAVE BEEN CARRIED OUT. IN THE PROCESS OF THE GRADUAL CHARGING OF THE ACTIVATED SLUDGE TANKS WITH PHENOL WATER THE CAPABILITY OF MICROORGANISMS OF ACTIVATED SLUDGE

TO DEGRADATE THE DIFFERENT PHENOL COMPONENTS AS MONOVALENT OR BIVALENT PHENOLS HAS BEEN INVESTIGATED. IT HAS BEEN ESTABLISHED THAT THE MOST EASILY DEGRADATED BIOLOGICALLY WERE THE PHENOL AND THE PYROCATECHOL. THE O- CRESOL AND THE RESORCINOL WERE COMPARATIVELY LESS ACCESSIBLE TO BE DECOMPOSED BY MICROORGANISMS BUT THE QUINOL WAS DECOMPOSED WITH DIFFICULTY OR NOT ALL.

MJ PHENOLS, DECOMPOSITION.

MN MICROORGANISMS, PURIFICATION.

ID ERDA-400300, ERDA-520200, INDUSTRIAL-WASTE-TREATMENT, WATER-POLLUTION-CONTROL, NTISERDA.

AN N ORNL-TR-2983.

<1067>

AU SEN GUPTA, MRS. P. MONDAL, A. MITRA, S. N.

IN CENT. FOOD LAB. CALCUTTA. INDIA.

YR 72.

TI SEPARATION AND QUANTITATIVE ESTIMATION OF DIMETHYLAMINE AND TRIMETHYLAMINE IN FISH BY PAPER CHROMATOGRAPHY.

SO J. INST. CHEM. CALCUTTA. 44. P49-50. 1972.

LG EN.

DE METHYLAMINE FISH CHROMATOG.

AN C 07713086695.

<1068>

AU SESTOKAS, J. CUKERZIS, J.

IN INST. ZOOL. PARAZITOL. VILNIUS. USSR.

YR 73.

TI EFFECT OF PHENOL ON CRAYFISH.

SO BIOL. ISSLED. VNUTR. VODOEMAKH PRIBALTIKI, TR. NAUCHN. KONF. IZUCH. VNUTR. VODOEMOV PRIBALTIKI, 15TH. P120-1. 1973.

LG RS.

AV PETROVICH, P. G. ZHUKOV, P. I. KOKHNENKO, S. V.

DE PHENOL TOXICITY CRAYFISH. WATER OXYGEN PHENOL CRAYFISH.

AN C 08319158655.

<1069>

AU SFORZOLINI, G. S. SAVINO, A. MONARCA, S.

YR 74. 19P.

TI DECONTAMINATION OF WATER CONTAMINATED WITH POLYCYCLIC AROMATIC HYDROCARBONS (PAH). II. ACTION OF CHLORINE AND OZONE ON PAH DISSOLVED IN DRINKING AND RIVER WATER.

AV TRANSLATION.

PR PC$3.50/MF$2.25.

AB EFFECTS OF CHLORINE AND OZONE ON POLYCYCLIC AROMATIC HYDROCARBONS (PAH) IN DRINKING WATER AND RIVER WATER WERE STUDIED. REACTIONS BETWEEN OXIDIZING AGENTS AND OTHER CHEMICAL SUBSTANCES IN THE TWO KINDS OF WATER WERE ALSO STUDIED. OZONE-ENRICHED AIR IN A CONCENTRATION OF 0.40 MG/L EXERTED A STRONGER EFFECT ON THE PAH THAN CHLORINE IN WATER IN A CONCENTRATION OF 2 MG/L. THE HYDROCARBON MOST SENSITIVE TO THE ACTION OF OXIDIZING AGENTS WAS 3,4-BENZOPYRENE; THE LEAST SENSITIVE WAS 3,4-BENZOFLUORANTHENE. THE VARIABILITY OF RESULTS OF INDIVIDUAL TESTS WAS HIGH IN RIVER WATER AND IN DE-IONIZED WATER, LOW OR ZERO IN DOUBLY DISTILLED WATER AND IN DRINKING WATER. WITH PYRENE AND 3,4-BENZOPYRENE DISSOLVED IN DOUBLY DISTILLED WATER AND IN DE-IONIZED WATER, IN TREATMENTS WITH CHLORINE THERE WERE OBSERVED SPECTROPHOTOMETRICALLY NEW PEAKS IN THE UV AND IN THE LOW VISIBLE.

MJ DRINKING-WATER, DECONTAMINATION, SURFACE-WATERS, DECONTAMINATION, OZONE, CHEMICAL-REACTIONS, HYDROCARBONS, CHEMICAL-REACTIONS.

MN AROMATICS, BENZOPYRENE, CHLORINE, OXIDATION, PYRENE.

ID ERDA-520200, TRANSLATIONS, AROMATIC-POLYCYCLIC-HYDROCARBONS, CHLORINATION, OZONIZATION, NTISERDA.

AN N ORNL-TR-2961.

<1070>

AU SFORZOLINI, G. S. SAVINO, A. MONARCA, S. LOLLINI, M. N.

YR 74. 19P.

TI DECONTAMINATION OF WATER CONTAMINATED WITH POLYCYCLIC AROMATIC HYDROCARBONS (PAH). I. ACTION OF CHLORINE AND OZONE ON PAH DISSOLVED IN DOUBLY DISTILLED AND IN DE-IONIZED WATER.

AV TRANSLATED BY MARTHA GERRARD FROM.

PR PC$3.50/MF$2.25.

AB THE ACTION OF CHLORINE AND OZONE ON SOME POLYNUCLEAR AROMATIC HYDROCARBONS (PAH) DISSOLVED IN BIDISTILLED WATER AND IN DEIONIZED WATER WAS STUDIED AS A PART OF A LARGER STUDY ON THE DECONTAMINATION OF POLLUTED WATERS BY CARCINOGENIC

HYDROCARBONS. THE PAH EXAMINED ARE: PYRENE; 1,2-BENZANTHRACENE; 3,4-BENZAPYRENE; 3,4-BENZAFLUORANTHANE; 11,12-BENZAFLUORANTHENE. THE CHLORIDE--WATER WAS USED WITH A CL SUB 2 CONCENTRATION OF 2 + OR - 0.25 MG/1 AND THE OZONE-ENRICHED AIR IN A O SUB 3 CONCENTRATION OF 0.40 + OR - 0.05 MG/1, BOTH FOR A CONTACT PERIOD OF 30 MIN. ALL THE PAH UNDER STUDY WERE EXPOSED TO THE OXIDIZING ACTION OF CL SUB 2 AND O SUB 3 .THE 3,4-BENZAPYRENE WAS THE MOST SENSITIVE TO THE ACTION OF THE OXIDIZING AGENTS AND REGULARLY SHOWED A DECREASE OF 100 PERCENT OF ITS ORIGINAL CONTENT. THE ACTION EXERTED BY O SUB 3 (AT A CONCENTRATION 5 TIMES LOWER THAN THAT OF CL SUB 2) WAS STRONGER THAN THAT EXERTED BY THE CL SUB 3 FOR THE SAME CONTACT PERIOD AND WAS MORE COMPLETE AS IS INDICATED BY THE ABSENCE OF NEW COMPOUNDS. ON THE CONTRARY THE REACTION OF CL SUB 2 WITH PYRENE AND 3,4-BENZAPYRENE PRODUCED CHLORINE DERIVATES. IN DEIONIZED WATER AND WHEN TREATED WITH CL SUB 2, THE PERCENTAGE DECREASE OBSERVED VARIED IN EACH TEST. THE STANDARD DEVIATIONS AND CONFIDENCE INTERVALS OF THE AVERAGE VALUES WERE ALWAYS RATHER LARGE FOR ALL HYDROCARBONS WITH THE EXCEPTION OF 3,4-BENZAPYRENE. RESULTS INDICATE THE PRESENCE OF TRACES OF MINERAL ELEMENTS IN THE WATER, INTERFERRING IN THE REACTIONS BETWEEN CL SUB 2 AND THE HYDROCARBONS BUT NOT BETWEEN O SUB 3 AND THE HYDROCARBONS.

MJ BENZOPYRENE, REMOVAL, BENZANTHRACENE, REMOVAL, AROMATICS, REMOVAL, ORGANIC-FLUORINE-COMPOUNDS, REMOVAL.

MN CHEMICAL-REACTIONS, CHLORINE, ORGANIC-CHLORINE-COMPOUNDS, OZONE, PURIFICATION, WATER, WATER-POLLUTION.

ID ERDA-400105, ERDA-520200, WATER-POLLUTION-CONTROL, AROMATIC-POLYCYCLIC-HYDROCARBONS, OZONIZATION, CHLORINATION, NTISERDA .

AN N ORNL-TR-2960.

<1071>

AU SHABAD L M. IL'NITSKII A P.

YR 76.

TI RESULTS OF DISCUSSIONS ON THE HYGIENIC STANDARDIZATION OF CARCINOGENIC SUBSTANCES.

SO GIG SANIT. (5). 91-93.

DE HUMAN ANIMAL BENZO PYRENE N NITROSO COMPOUNDS AFLA TOXINS CARCINOGENS AIR WATER SOIL POLLUTION FOOD CONTAMINATION MAXIMUM ALLOWABLE CONCENTRATION.

AN B 63052531.

<1072>

AU SHABAD L M. IL'NITSKII A P.

YR 75.

TI POSSIBILITY OF ESTABLISHING THE PERMISSIBLE LEVEL OF BENZO A PYRENE IN SOIL.

SO GIG SANIT. (4). 88-91.

DE HUMAN FOOD PLANTS ANIMALS WATER CARCINOGEN DUST MAXIMUM ALLOWABLE CONCENTRATION.

AN B 61052350.

<1073>

AU SHABAD, L. M.

IN DEP. CARCINOG. AGENTS. INST. EXP. CLIN. ONCOL. MOSCOW. USSR.

YR 75.

TI CIRCULATION OF CARCINOGENIC SUBSTANCES IN THE ENVIRONMENT. FROM LABORATORY EXPERIMENTS TO FIELD INVESTIGATIONS.

SO GANN MONOGR. CANCER RES. 17. P179-87. 1975.

LG EN.

DE CARCINOGENIC POLYCYCLIC AROM HYDROCARBON. BENZOPYRENE AIR POLLUTION. SOIL POLLUTION POLYCYCLIC HYDROCARBON. WATER POLLUTION POLYCYCLIC HYDROCARBON.

AN C 08420140038.

<1074>

AU SHABAD, L. M. IL'NITSKII, A. P.

IN USSR.

YR 72.

TI CONTAMINATION OF RESERVOIRS BY CARCINOGENIC HYDROCARBONS.

SO VOP. PROFIL. ZAGRYAZNENIYA VHNESH. SREDY, CHASTNOSTI VODOEMOV, KANTSEROGEN. VESHCHESTV. P5-13. 1972.

LG RS.

DE BENZOPYRENE POLLUTION WATER. NITROSAMINE POLLUTION WATER. WATER POLLUTION BENZOPYRENE NITROSAMINE.

AN C 07902009557.

<1075>
AU SHABAD, L. M. IL'NITSKII, A. P.
IN INST. EKSP. KLIN. ONKOL. MOSCOW. USSR.
YR 72.
TI POLLUTION OF RESERVOIRS WITH CARCINOGENIC HYDROCARBONS AND SUBSEQUENT FATE OF THESE SUBSTANCES.
SO VESTN. AKAD. MED. NAUK SSSR. 27. P35-42. 1972.
LG RS.
DE CARCINOGEN RESERVOIR WATER. BENZOPYRENE RESERVOIR WATER.
AN C 07703015314.

<1076>
AU SHAH, MUKUND JETHALAL.
IN THE GEORGE WASHINGTON UNIVERSITY (0075) PH.D. 1970 178PP.
YR 70.
TI CHROMATOGRAPHIC AND SPECTROSCOPIC STUDIES OF THE OXIDATION PRODUCTS OF PARA- PHENYLENEDIAMINE AND RESORCINOL.
SO DAI V31(04), SEC B, P1841.
DE CHEMISTRY, ORGANIC (0490).
AN D ADG70-19580.

<1077>
AU SHARMA, PREM KISHORE. PRASAD, BADRI.
IN PHYS. DEP. UNIV. ALLAHABAD. ALLAHABAD. INDIA.
YR 69.
TI SONOCHEMICAL OXIDATION OF AQUEOUS HYDROQUINONE SOLUTION.
SO J. PRAKT. CHEM. 311. P881-3. 1969.
LG EN.
DE KINETICS SONOCHEM OXIDN HYDROQUINONES. SONOCHEM OXIDN HYDROQUINONES KINETICS. OXIDN SONOCHEM KINETICS HYDROQUINONES. HYDROQUINONES KINETICS SONOCHEM OXIDN. BENZOQUINONES HYDROQUINONES OXIDN.
AN C 07213066162.

<1078>
AU SHEFTEL V O. TSAM Z S. KALINICHENKO L T.
YR 74.
TI HYGIENIC EVALUATION OF EPOXY COMPOSITIONS INTENDED FOR USE IN WATER SUPPLY.
SO GIG SANIT. (12). (RECD 1975) 81- 82.
DE RAT MOUSE EPI CHLOROHYDRIN POLY ETHYLENE POLY AMINE DI PHENYLOL PROPANE DI BUTYL PHTHALATE ACETONE MAXIMUM ALLOWABLE CONCENTRATION.
AN B 60046384.

<1079>
AU SHELYUG, M. YA. KOSTOVETSKII, YA. I. VROCHINSKII, K. K. LOSHAKOV, YU. T. LAKIZA, P. I. YAROSHEVSKII, B. N. KALYUZHNAYA, L. D. ZHOLDAKOVA, Z. I. CHERNICHENKO, I. A.
IN KIEV. USSR.
YR 71.
TI HYGIENIC PROBLEMS OF STANDARDIZING CHEMICAL SUBSTANCES IN THE ENVIRONMENT.
SO TR. S'EZDA GIG. UKR. SSR, 8TH. P59-62. 1971.
LG RS.
AV MEDVED, L. I.
DE REVIEW SOIL WATER TOXICITY STD. PESTICIDE SOIL WATER REVIEW. PHENOL SOIL WATER REVIEW. ECOL TOXIC CHEM ACCUMULATION REVIEW. FOOD TOXICANT ENVIRONMENT REVIEW.
AN C 07706038670.

<1080>
AU SHEVLYAGIN, V. N. SLYUSARENKO, P. K.
IN USSR.
YR 73.
TI EXTRACTION OF PHENOL FROM AQUEOUS SOLUTIONS WITH ANTHRACENE OIL.
SO SB. NAUCHN. TR. MAGNITOGORSK. GORNOMETALL. INST. NO. 122. P54-6. 1973 .
LG RS.
DE PHENOL EXTN ANTHRACENE OIL.
AN C 08122141678.

<1081>
AU SHEVLYAGIN, V. N. SLYUSARENKO, P. K.
IN USSR.
YR 72.
TI EXTRACTION OF PHENOL FROM AQUEOUS SOLUTIONS WITH ANTHRACENE OIL.
SO SB. NAUCH. TR. MAGNITOGORSK. GORNOMET. INST. NO. 104. P3-8. 1972.
LG RS.
DE PHENOL REMOVAL WASTE WATER. ANTHRACENE EXTN PHENOL.
AN C 07824151248.

<1082>
AU SHIBAEVA, L. V. METELITSA, D. I. DENISOV, E. T.

IN FILIAL INST. KHIM. FIZ. CHERNOGOLOVKA. USSR.
YR 69.
TI OXIDATION OF PHENOL BY MOLECULAR OXYGEN IN AQUEOUS SOLUTIONS. II. ROLE OF HYDROGEN PEROXIDE IN THE OXYGEN OXIDATION OF PHENOL.
SO KINET. KATAL. 10. P1239-43. 1969.
LG RS.
DE PHENOL OXIDN KINETICS. OXIDN KINETICS PHENOL. KINETICS OXIDN PHENOL.
AN C 07215078223.

<1083>
AU SHIBAEVA, L. V. METELITSA, D. I. DENISOV, E. T.
IN FILIAL INST. KHIM. FIZ. CHERNOGOLOVKA. USSR.
YR 69.
TI OXIDATION OF PHENOL BY MOLECULAR OXYGEN IN AQUEOUS SOLUTIONS. I. KINETICS OF THE OXYGEN OXIDATION OF PHENOL.
SO KINET. KATAL. 10. P1020-5. 1969.
LG RS.
DE PHENOLS O OXIDN KINETICS. KINETICS O OXIDN PHENOLS.
AN C 07205021143.

<1084>
AU SHIMIZU T. FUKETA Y. TAGUCHI H.
YR 69.
TI MICROBIAL TREATMENT OF INDUSTRIAL WASTES CONTAINING CYANIDE PART 5 KINETIC STUDIES ON CYANIDE DEGRADATION REACTION BY FUSARIUM-SOLANI.
SO J FERMENT TECHNOL. 47 (10). 644-650.
AN B 51045383.

<1085>
AU SHIMIZU T. TAGUCHI H.
YR 70.
TI MICROBIAL TREATMENT OF INDUSTRIAL WASTE CONTAINING CYANIDE PART 6 ADAPTIVE FORMATION OF CYANIDE DEGRADING ENZYME OF FUSARIUM-SOLANI.
SO J FERMENT TECHNOL. 48 (5). 277- 282.
DE KINETIC MODEL.
AN B 52139189.

<1086>
AU SHIMIZU T. TAGUCHI H.
YR 69.
TI MICROBIAL TREATMENT OF INDUSTRIAL WASTES CONTAINING CYANIDE PART 4 PURIFICATION AND SOME PROPERTIES OF CYANIDE DEGRADING ENZYME OF FUSARIUM-SOLANI.
SO J FERMENT TECHNOL. 47 (10). 639-643.
AN B 51068726.

<1087>
AU SHINOZUKA, FUJIKO.
IN THE UNIVERSITY OF CONNECTICUT (0056) PH.D. 1962 156PP.
YR 62.
TI THE MICRODETERMINATION OF CYANIDE, ESPECIALLY BY VOLTAMMETRIC AND AMPEROMETRIC TECHNIQUES.
SO DAI V23(05) P1503.
DE CHEMISTRY, ANALYTICAL (0486).
AN D ADG62-04396.

<1088>
AU SHIRINKINA, M. I.
IN PERM. POLITEKH. INST. PERM. USSR.
YR 73.
TI 3,4-BENZOPYRENE POLLUTION OF WASTE WATERS FROM THE 23RD-PARTY- CONGRESS PERM PETROLEUM REFINERY.
SO NAUCHN. TR. PERMSK. POLITEKH. INST. 141. P18-20. 1973.
LG RS.
DE BENZOPYRENE PETROLEUM WASTEWATER.
AN C 08306047771.

<1089>
AU SHKODICH, P. E. TIKHOMIROV, YU. P.
IN GOR'K. MED. INST. GORKI. USSR.
YR 73.
TI SOME ORGANIC SYNTHESIS INDUSTRIES AS SOURCES OF RESERVOIR POLLUTION BY CARCINOGENIC HYDROCARBONS.
SO VOPR. GIG. VODOSNABZH. SANIT. OKHR. VODOEMOV, MATER. RESP. NAUCHNO-PRAKT. KONF. P68. 1973.
LG RS.
AV AKULOV, K. I.
DE BENZOPYRENE PETROLEUM PYROLYSIS WASTEWATER. COKE PETROLEUM WASTEWATER BENZOPYRENE. CARCINOGEN WASTEWATER PETROLEUM PYROLYSIS. WATER POLLUTION PETROLEUM PYROLYSIS.
AN C 08606033753.

<1090>
AU SHMAL'GAUZEN O I.
TI EFFECT OF PHENOL ON DEVELOPMENT OF THE PRO LARVAE OF ACIPENSERID FISH PART 2 THE DIGESTIVE SYSTEM.

SO SOV J DEV BIOL (ENGL TRANSL ONTOGENEZ). 3 (5). 1972 (1973) 407-413.
DE ACIPENSER-GULDENSTADTI COLCHICUS POISONING FAT METABOLISM.
AN B 74100223.

<1091>
AU SHMAL'GAUZEN O I.
TI EFFECT OF PHENOL ON DEVELOPMENT OF PROLARVAE OF ACIPENSERID FISH PART 3 PIGMENTATION OF THE SKIN STRUCTURE OF THE EYES.
SO SOV J DEV BIOL (ENGL TRANSL ONTOGENEZ). 4 (1). 1973 (1974) 28-35.
DE STURGEON MELANIN FORMATION INHIBITION PATHOLOGICAL RETINAL CHANGES.
AN B 74043746.

<1092>
AU SHMAL'GAUZEN O I.
YR 71.
TI EFFECT OF PHENOL ON PRE LARVAL DEVELOPMENT OF STURGEONS PART 1 EXTERNAL STRUCTURE AND BEHAVIOR.
SO ONTOGENEZ. 2 (6). 603-610.
DE ACIPENSER-GULDENSTADTI-COLCHICUS ACIPENSER-STELLATUS SENSE ORGAN SKELETON MUSCLE DIGESTIVE SYSTEM MALFORMATION DEVELOPMENT DELAY PIGMENTATION FAT METABOLISM.
AN B 53065543.

<1093>
AU SHMIDT, L. I.
IN NAUCH.-ISSLED. PROEKT. INST. POLIM. PLASTMASS. LENINGRAD. USSR.
YR 70.
TI LIQUID-PHASE OXIDATION OF WASTE-WATER PHENOL AT HIGH TEMPERATURES AND PRESSURES.
SO ZH. PRIKL. KHIM. (LENINGRAD). 43. P2123-5. 1970.
LG RS.
DE OXIDN PHENOL WASTE WATERS. PHENOL WASTE WATERS OXIDN. ACETIC ACID OXIDN WASTE WATERS.
AN C 07408034413.

<1094>
AU SHPON'KO, R. I. NIKITINA, N. I. NETTE, I. T.
IN USSR.
YR 69.
TI FORMATION AND USE OF KETO ACIDS BY MYCOBACTERIUM LACTICOLUM 80 ON A MEDIUM WITH N-DECANE.
SO VESTN. MOSK. UNIV. BIOL. POCHVOVED. 24. P106-9. 1969.
LG RS.
DE MYCOBACTERIUM DECANE FERMN. DECANE FERMN MYCOBACTERIUM. GROWTH FACTORS BACTERIA. BACTERIA GROWTH FACTORS.
AN C 07201001022.

<1095>
AU SHTEIN, A. L. DURNOVA, M. S. TRONDINA, G. I.
IN USSR.
YR 76.
TI STUDY OF NAPHTHALENE, AMMONIA, AND PYRIDINE EQUILIBRIUM AT LOW CONCENTRATIONS BETWEEN WATER AND AIR.
SO ZH. PRIKL. KHIM. (LENINGRAD). 49. P650-1. 1976.
LG RS.
DE NAPHTHALENE REMOVAL AIR. AMMONIA REMOVAL AIR. PYRIDINE REMOVAL AIR. COKE AIR PURIFN. WATER AIR EQUIL POLLUTANT.
AN C 08508051133.

<1096>
AU SHUKLA O P.
YR 70.
TI SPECIFICITY IN THE MICROBIAL DECOMPOSITION OF PYRIDINE DERIVATIVES.
SO PROC ABSTR SOC BIOL CHEM (INDIA). 29. 29-30.
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AN C 08420140326.

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AU SIDDIQI, I. WAGNER, K -H.
IN JUSTUS LIEBIG-UNIVERSITAET GIESSEN, INSTITUT FUER ERNAEHRUNGSWISSENSCHAFT II, GER.
YR 72.
TI EINE UNIVERSALE METHODE ZUR BESTIMMUNG VON 3,4-BENZPYREN UND 3,4-BENZFLUORANTHEN-AUSGEWERTET AN REGENWASSER, SICKERWASSER UND WEIZENPROBEN.
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AN P 7006934.

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AU SIELICKI M. FOCHT D D.
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MJ BACTERIA: ME.
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AU SILVO, OLAVI E. J.
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YR 74.
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AU SIMONOV V A. NEKHOROSHEVA E V. ZAVOROVSKAYA N A.
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DE REVIEW WASTE WATER AIR CARBOXYLIC ACIDS ALDEHYDES ALPHA METHYL STYRENE LINDANE DI BUTYL PHTHALATE TOLUENE DI ISO CYANATE CARBON TETRA CHLORIDE DI CHLORO ETHANE EXHAUST GASES OIL.
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AN C 08622160897.

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AN C 07414067425.

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LG EN.
MJ INDUSTRIAL-WASTE.
MN COPPER. HYDROGEN-ION- CONCENTRATION: (PH).
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LG RS.
MJ BACTERIA: ME.
MN ACRYLATES: PD. DICARBOXYLIC- ACIDS: BI. HYDROXYPROGESTERONE: BI, (20-HYDROXYPROGESTERONE). MUTATION. OXIDATION-REDUCTION. (PENICILLIN). PYRIDINES: ME. XYLENES: ME, (XYLENE).
AN M 75170672.

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MJ ALKANES: ME.
MN CHLORAMPHENICOL: PD. PICOLINE: ME.
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ACETATE BIODEGRDN WASTEWATER. METHACRYLATE BIODEGRDN WASTEWATER. ETHYLAMINE BIODEGRDN WASTEWATER.
AN C 08212076801.

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IN INST. CERCET. CHIM-FARM. BUCHAREST. ROM.
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LG EN.
MJ ARTHROBACTER: ME. SOIL-MICROBIOLOGY.
MN ARTHROBACTER: EN. OXYGENASES: ME.
AN M 76070927.

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AU SMITH R V. ROSAZZA J P. ENGEL K O. HUMPHREY D W.
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LG EN.
MJ CHROMATOGRAPHY.
MN CHROMATOGRAPHY-GAS. PHENOLS: AN. UNITED-STATES-GOVERNMENT-SUPPORTED-NON-NIH: (NON-NIH-SUP).
AN M 75211571.

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AN C 08017095412.

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AN C 08421147468.

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IN ILLINOIS UNIV URBANA. 175750.
YR 74. 83P.
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AV 1.
PR PC$4.00/MF$1.45.
AB PREVIOUS RESEARCH REPORTS ON WATER AND WASTEWATER TREATMENT SYSTEMS FOR THE U.S. AIR FORCE HAVE SHOWN THE APPLICABILITY OF THE ADSORPTION PROCESS. IN THIS REPORT MAJOR EMPHASIS IS PLACED ON THE USE OF SYNTHETIC RESINS AS ADSORBENTS AND ON THEIR PERFORMANCE RELATIVE TO ACTIVATED CARBON. A REVIEW OF THE LITERATURE RELATIVE TO THE USE OF RESINS HAS SHOWN THAT MANY DIFFERENT TYPES OF RESINS ARE AVAILABLE, AND THAT THE CHOICE OF ONE FOR A PARTICULAR APPLICATION DEPENDS GREATLY ON THE COMPOUNDS TO BE ADSORBED. FOR WATERS CONTAINING HIGH CONCENTRATIONS OF DETERGENTS, OR WATERS CONTAINING A HETEROGENEOUS MIXTURE OF ORGANIC COMPOUNDS, SUCH AS DOMESTIC WASTEWATER OR EFFLUENT FROM A SECONDARY BIOLOGICAL PLANT TREATING DOMESTIC SEWAGE, THE WEAK BASE RESIN SEEMS TO FUNCTION BEST. EXPERIMENTAL RESEARCH VERIFIED THIS CONCLUSION; HOWEVER, THE ADSORPTION CAPACITY OF THE RESIN AND THE NUMBER OF SPECIES WHICH COULD BE ADSORBED BY THE RESINS GENERALLY APPEARED TO BE LESS THAN THAT FOR ACTIVATED CARBON. (MODIFIED AUTHOR ABSTRACT).
MJ SEWAGE-TREATMENT, ADSORPTION, ION-EXCHANGE.
MN POLYMERS, ACTIVATED-CARBON, PHENOLS, PESTICIDES.
ID BENZENE-SULFONATES, PERFORMANCE-EVALUATION, COMPARISON, NTISDODAF.
AN N AD-781 196/1.

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AN C 08718145372.

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IN OSREDEK BADAW.-ROZWOJOWY KAUCZUKOW TWORZYW WINYLOWYCH. OSWIECIM. POL.
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CHROMATOG.
AN C 08712090279.

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LG EN.
AB NONE.
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AN P 7401344.

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LG EN.
MJ ALCALIGENES: ME. ME.
MN ALCALIGENES: CY. CALIFORNIA. CULTURE-MEDIA. MICROSCOPY-ELECTRON-SCANNING. SEAWATER: AN.
AN M 72193459.

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YR 69.
TI SEPARATION FROM THE SOIL AND SELECTION OF PHENOL-DESTROYING MICROORGANISMS.
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LG RS.
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AN C 07410045376.

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AU SOTO C. HELLEBUST J A. HUTCHINSON T C.
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LG EN.
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AN B 65041927.

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YR 75.
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AN B 77022807.

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YR 75.
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SO CAN J BOT. 53 (2). 109-117.
DE MARINE FRESH WATER POLLUTION INHIBITION.
AN B 60010809.

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LG EN.
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AN C 08303023116.

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YR 73.
TI DETERMINATION OF AMINES AND PHENOLS.
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LG RS.
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AN C 07914083201.

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YR 71. 76P.
TI FEASIBILITY STUDIES OF APPLICATIONS OF CATALYTIC OXIDATION IN WASTEWATER.
AV 1702 ECI-11/71.
PR PC$-GPO/MF$0.95-NTIS.
AB THE RECENT DISCOVERY OF THE SYNERGISTIC EFFECTS OF CERTAIN CATALYSTS AND ULTRASOUND (SONOCATALYSIS) PROMPTED RESEARCH INVESTIGATING THE FEASIBILITY OF USING SONOCATALYSIS FOR ADVANCED WASTEWATER TREATMENT. SONOCATALYTIC OXIDATION, SONOCATALYTIC OZONATION, AND CATALYTIC OZONATION WERE TESTED INDIVIDUALLY ON TREATMENT PLANT EFFLUENT, AND MECHANISTIC STUDIES OF SONOCATALYSIS WERE CONDUCTED CONCURRENTLY USING SYNTHETIC WASTES. INSONATION, ACTIVATED RANEY-NICKEL CATALYST, AND AIR FLOW PRODUCED VERY LARGE REMOVALS OF COD, OXYGEN DEMAND INDEX (ODI), AND COLIFORMS FROM TREATED WASTE-WATERS. SYNTHETIC WASTES OF PHENOL AND ORTHOCHLORONITRO BENZENE (OCNB) WERE PREPARED AND THE SONOCATALYTIC OZONATION STUDIED. (AUTHOR).
MJ SEWAGE-TREATMENT, ULTRASONIC-RADIATION, INDUSTRIAL-WASTE-TREATMENT, ULTRASONIC-RADIATION, CATALYSTS, ULTRASONIC-RADIATION, PHENOLS, SEWAGE-TREATMENT.
MN OZONIZATION, OXIDATION, CHLORINE-AROMATIC-COMPOUNDS, NITRO-COMPOUNDS, NICKEL, COLIFORM-BACTERIA.
ID SONOCHEMISTRY, TERTIARY-SEWAGE-TREATMENT, RANEY-NICKEL-CATALYSTS, BENZENE-CHLORO-NITRO, WATER-POLLUTION-CONTROL, CHEMICAL-OXYGEN-DEMAND .
AN N PB-208 348.

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AU SPACKMAN, W. DAVIS, A. WALKER, P. L. LOVELL, H. L. ESSENHIGH, R. H.
IN PENNSYLVANIA STATE UNIV. UNIVERSITY PARK. COAL RESEARCH SECTION. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION. 9502206.
YR 77. 68P.
TI CHARACTERISTICS OF AMERICAN COALS IN RELATION TO THEIR CONVERSION INTO CLEAN ENERGY FUELS. QUARTERLY TECHNICAL PROGRESS REPORT, OCTOBER--DECEMBER 1976.
PR PC A04/MF A01.
AB UNDER FACET I, 49 COAL SAMPLES HAVE BEEN ADDED TO THE PENN STATE/ERDA SAMPLE BANK. SIXTY-SIX CHARACTERIZED COAL SAMPLES AND 734 SETS OF ANALYTICAL DATA WERE PROVIDED UPON REQUEST TO OTHER AGENCIES. FACET IV-A RESEARCH ON

REACTOR DEVELOPMENT AND OPERATION HAS LED TO THE CONSTRUCTION OF A COLD MODEL FOR THE FLOW OF GASES THROUGH THE COMBUSTION POT. FLOW ANALYSES INDICATE THAT EVEN WITH RELATIVELY SLOW FLOWS THE MAINSTREAM FLOW IS TURBULENT. METHANOL AND WATER DENSITIES OF A SERIES OF CHAR SAMPLES, STUDIED UNDER FACET IV-B, WERE FOUND TO BE QUITE SIMILAR. DEPOSITION OF CARBON ON CHARS FROM THE CRACKING OF METHANE RESULTS IN A REDUCTION OF CHAR SURFACE AREA AND OPEN PORE VOLUME. SIDERITE AND CALCITE CATALYZE THE CRACKING OF METHANE AT 900 EXP 0 C. NO CATALYTIC ACTIVITY IS EVIDENCED FOR DOLOMITE, PYRITE, ILLITE, QUARTZ, RUTILE, OR KAOLINITE IN THIS REACTION. FROM A COMPARISON OF REFRACTORY AND WATER-COOLED BOTTOM BLOCKS, UNDER FACET V-A, IT WAS FOUND THAT EVEN SIGNIFICANT CHANGES IN THE FURNACE BOTTOM TEMPERATURE CAN ONLY CAUSE MODERATE CHANGES IN PLANE-FLAME FURNACE COMBUSTION PERFORMANCE. (ERA CITATION 02: 050589).
MJ ANTHRACITE, CHARS, COAL, COAL-GASIFICATION, METHANE, COAL-PREPARATION .
MN CALCITE, OXYGEN, SIDERITE, CATALYTIC-EFFECTS, CHEMICAL-ANALYSIS, CHEMISORPTION, COMBUSTION, DENSITY, DESORPTION, INFORMATION-SYSTEMS, MICROSCOPY, POROSITY, PYROLYSIS, SAMPLING.
ID ERDA-010404, ERDA-010600, ERDA-010406, ERDA-014000, AIR-POLLUTION-ABATEMENT, NTISERDA.
AN N FE-2030-6.

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TI ION EXCHANGE-CIRCULATION EQUIPMENT AND CONCENTRATION TREATMENT.
SO OBERFLAECHE. P520-2, 524; 1971, (1), 20, 22, 24. 1970.
LG GE.
DE CYANIDE REMOVAL RINSE WATER. CHROMATE REMOVAL RINSE WATER. ION EXCHANGE RINSE WATER.
AN C 07908045414.

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YR 74.
TI ASSIMILATION OF HYDRO CARBONS BY BACTERIAL CULTURES OF MYCOCOCCUS-SP AND PSEUDOMONAS-SP.
SO PRIKL BIOKHIM MIKROBIOL. 10 (2). 187-195.
DE CANDIDA-TROPICALIS RADIO LABELED OCTA DECANE ISOTOPE ACCUMULATION CELL COMPONENTS METABOLITES.
AN B 59014207.

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AU SPRAGUE, JOHN B. DRURY, DONALD E.
IN FISHERIES RESEARCH BOARD OF CANADA BIOLOGICAL STATION. ST. ANDREWS, NB.
YR 69.
TI AVOIDANCE REACTIONS OF SALMONID FISH TO REPRESENTATIVE POLLUTANTS.
SO SEE CIT. NO. P70-04127,PP. 169- 186, 1969.
LG EN.
AB NONE.
ID SPONTANEOUS AVOIDANCE.
DE FISHES, CHLORINE, PHENOL, DETERGENTS, PULP WASTES.
AN P 7004136.

<1145>
AU STAFFORD D A. CALLELY A G.
YR 73.
TI THE ROLE OF MICROORGANISMS IN WASTE TIP LAGOON SYSTEMS PURIFYING COKE OVEN EFFLUENTS.
SO J APPL BACTERIOL. 36 (1). 77-87.
DE BACTERIA PHENOL DEGRADATION.
AN B 57011010.

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AU STARKEY, R J, JR.
IN GENERAL ELECTRIC CO. RE-ENTRY & ENVIRONMENTAL SYSTEMS DIV. ENVIRONMENTAL SCIENCES LAB. PHILADELPHIA, PA.
YR 71.
TI PHENOL ANALYSIS -- SOME ANALYTICAL CONSIDERATIONS.
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AB NONE.
ID ANALYSIS EQUIPMENT AND METHODS, TASTE.
DE WATER POLLUTANTS, POTABLE WATER, INSTRUMENTS, PHENOL, ODORS.
AN P 7006934.

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AU STARKEY, ROLAND J. JR. SHULL, JAMES J. ORR, ELAINE D.
IN RE-ENTRY ENVIRON. SYST. DIV. GEN. ELECTR. CO. PHILADELPHIA. PA.
YR 71.
TI GENERAL ELECTRIC PHENOL ANALYSIS EQUIPMENT.
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LG EN.
AV FORBES, F. W.
DE PHENOLS DETN WATER. WATER ANAL PHENOLS. EXTN PHENOLS DIETHYL ETHER. FUEL CELL DRINKING WATER.
AN C 97520121230.

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IN INST. BIOKHIM. FIZIOL. MIKROORG. PUSHCHINO-ON-OKA. USSR.
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TI MICROBIOLOGICAL OXIDATION OF 1,5-DIMETHYLNAPHTHALENE.
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DE NAPHTHALENE DIMETHYL DERIV OXIDN BACTERIA.
AN C 08019106843.

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YR 75.
TI THE INFLUENCE OF ACROLEIN AND HYDROCRYLE ON THE DEVELOPMENT DYNAMICS OF AQUATIC BACTERIA.
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DE PSEUDOMONAS ACHROMOBACTER ALCALIGENES TOXICITY STREAM POLLUTION.
AN B 63030370.

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YR 77.
TI FRACTIONATION AND SUB CELLULAR LOCALIZATION OF MARKER ENZYMES IN RAINBOW TROUT LIVER.
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DE LYSOSOMES MITOCHONDRIA MICROSOMES ACID PHOSPHATASE ALKALINE PHOSPHATASE 5 NUCLEOTIDASE GLUCOSE 6 PHOSPHATASE BENZO PYRENE HYDROXYLASE GLUCURONYL TRANSFERASE.
AN B 64062258.

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IN ROM.
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TI METHOD FOR ACRYLONITRILE AND ACETONITRILE DETERMINATION IN RESIDUAL WATERS.
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LG RO.
DE ACRYLONITRILE DETN WATER. ACETONITRILE DETN WATER. WATER ANALYSIS ACRYLONITRILE ACETONITRILE.
AN C 08008040770.

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YR 77.
TI SEX DIFFERENCES IN HEPATIC MICROSOMAL CYTOCHROME P-450 IN SPAWNING TROUT.
SO FED PROC. 36 (3). 941.
DE ABSTRACT RAINBOW TROUT SALMO-GAIRDNERI BROOK TROUT SALVELINUS-FONTINALIS MIXED FUNCTION OXIDASE AMINOPYRINE DEMETHYLASE BENZO A PYRENE HYDROXYLASE STEROID METABOLISM EPR.
AN B 77038801.

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TI GENE AND GROWTH DYNAMICS OF CHLORELLA UNDER CONTINUOUS CULTURE DURING PHENOL STRESS.
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AN C 08025141471.

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IN OAK RIDGE NATIONAL LAB. TENN.
YR 71. 15P.
TI PHENOL POLLUTION OF WATER- A BIBLIOGRAPHY.
PR PC$3.00 MF$0.95.
AB FOR ABSTRACT, SEE NSA 26 01, NUMBER 01730.
MJ PHENOLS, WATER-POLLUTION.
AN N ORNL-TM-3431.

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TI EFFECT OF SUBTOXIC CONCENTRATIONS OF PHENOL ON THE QUANTITY AND QUALITY OF THE PROGENY OF LEBISTES RETICULATUS.
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AN C 07219097851.

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IN USSR.
YR 72.
TI LIQUID-PHASE OXIDATION OF PHENOL, METHANOL, AND FORMALDEHYDE SUITABLE FOR PURIFYING WASTE WATERS.
SO KHIM. PROM. (MOSCOW). 48. P430- 1. 1972.
LG RS.
DE PHENOL LIQ PHASE OXIDN. METHANOL LIQ PHASE OXIDN. FORMALDEHYDE LIQ PHASE OXIDN. OXIDN FORMALDEHYDE METHANOL PHENOL.
AN C 07714092575.

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SO J. GEN. MICROBIOL. 99. P119-25. 1977.
LG EN.
DE CYCLOHEXANE METAB NOCARDIA.
AN C 08711080995.

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YR 76.
TI MICROBIAL DECOMPOSITION OF PHENOLS IN THE VOLGA AND ITS RESERVOIRS.
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AN B 77067618.

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TI PHENOL AND THIO CYANATE DECOMPOSING BACTERIA AS A FACTOR IN THE NATURAL PURIFICATION OF THE DNIEPER RESERVOIRS.
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DE USSR POLLUTION.
AN B 72057772.

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YR 76.
TI EFFECT OF PHENOLS ON SOME SPECIES OF ALGAE.
SO GIDROBIOL ZH. 12 (6). (RECD 1977) 53-57.
DE NITELLA TOXICITY OXYGEN UPTAKE SULFONES O AMINO PHENOL BETA NAPHTHOL THYMOL GUAIACOL QUINOL DI METHYL ESTER VERATROLE O CRESOL PYRO CATECHINS BIOLOGICAL DEPRESSANTS.
AN B 64034839.

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AU STOM D I. BOBOVSKAYA L P. TIMOFEEVA S S. KALMYCHKOV G V. KOZHOVA O M.
YR 74.
TI INFLUENCE OF PHENOLS AND THEIR OXIDATION PRODUCTS ON AQUATIC PLANTS AND THEIR CONTENT OF SULFHYDRYL GROUPS.
SO DOKL BIOCHEM (ENGL TRANSL DOKL AKAD NAUK SSSR SER BIOKHIM). 216 (1- 6). 233-236.
DE NITELLA-SP DUNALIELLA-SP CHARA- SP ELODEA-CANADENSIS CHLOROPLASTS OXIDATION OXYGEN UPTAKE PROTOPLASM

MOVEMENT TOXICITY.
AN B 75045190.

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YR 76.
TI COMBINED ACTION OF POLY PHENOLS QUINONES REDUCERS AND CERTAIN OTHER COMPOUNDS ON AQUATIC PLANTS.
SO POL ARCH HYDROBIOL. 23 (3). (RECD 1977) 401-408.
DE NITELLA ELODEA DUNALIELLA RESORCINOL PYRO CATECHOL HYDRO QUINONE THIOLS SODIUM DI ETHYL DI THIO CARBAMATE CYSTEINE GLUTATHIONE ASCORBIC-ACID SACCHAROSE ATP INDUSTRIAL WASTES OXIDATION PRODUCTS.
AN B 64010757.

<1163>
AU STOM, D. I. RATOVSKII, G. V. TIMOFEEVA, S. S. SUSLOV, S. N.
IN USSR.
YR 76.
TI REASONS FOR THE HIGHER TOXICITY OF QUINONE ORTHOISOMERS PRESENT IN INDUSTRIAL EFFLUENTS.
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DE TOXICITY QUINONE WASTEWATER.
AN C 08726206025.

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IN USSR.
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TI CHROMATOGRAPHIC DETECTION OF O- AND P-QUINONES WHEN THEY ARE BOTH PRESENT IN WATER.
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AN C 08608046976.

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AU STONE, RALPH. SMALLWOOD, HERBERT.
IN STONE (RALPH) AND CO. INC. LOS ANGELES, CALIF.
YR 73. 368P.
TI INTERMEDIA ASPECTS OF AIR AND WATER POLLUTION CONTROL.
AV 600-73-003.
PR PC-GPO/MF$1.45-NTIS.
AB MAJOR AIR AND WATER POLLUTANT CONTROL STRATEGIES ARE IDENTIFIED WHICH ARE OF CURRENT NATIONAL CONCERN. EMPHASIS IS ON ARTIFICIAL TRANSFER BETWEEN AIR OR WATER. NATURAL TRANSFERS ARE NOT TREATED IN DEPTH AND LAND IS CONSIDERED ONLY AS A MEANS FOR RESIDUE DISPOSAL. DISCUSSIONS INCLUDE DANGERS OF INTERMEDIA TRANSFER FROM LAND TO AIR OR WATER. CONTROL METHODS FOR EACH INTERMEDIA POLLUTANT ARE DISCUSSED; COMPARATIVE COSTS AND EXPECTED UNIT PROCESS EFFICIENCIES ARE GIVEN. RESIDUE DISPOSAL METHODS AND PROBLEMS ARE PRESENTED. INSTITUTIONAL FACTORS, REGULATIONS AND STRATEGIES FOR POLLUTION CONTROL ARE SUMMARIZED AND DISCUSSED. SUMMARY DATA ARE DEVELOPED FOR MAJOR POLLUTANTS AND RESIDUES DISCHARGED NATIONALLY AND IN THE CALIFORNIA SOUTH COAST REGION, ALONG WITH PRODUCT/POLLUTANT RATIOS FOR INDUSTRIES REPRESENTED BY THE STANDARD INDUSTRIAL CLASSIFICATION CODE AND OTHER PUBLIC ECONOMIC SECTORS. THE FRAMEWORK FOR A MATHEMATICAL MODEL IS DEVELOPED FOR THE PREDICTION OF THE EFFECTS OF CHANGE IN ANY OF THE ELEMENTS OF THE PRODUCTION-CONSUMPTION-POLLUTION-REGULATION NETWORK. (MODIFIED AUTHOR ABSTRACT).
MJ AIR-POLLUTION, CONTAMINANTS, WATER-POLLUTION, CONTAMINANTS.
MN EMISSION, TOXICITY, SULFUR- OXIDES, NITROGEN-OXIDES, METALS, PARTICLES, PHOSPHORUS, CARBON- MONOXIDE, HYDROCARBONS, FLUORIDES, HYDROGEN-CHLORIDE, ARSENIC, HYDROGEN- CYANIDE, AMMONIA, ETHYLENE, PESTICIDES, SURFACTANTS, LAW- JURISPRUDENCE, ECONOMICS, EDUCATION, STATISTICAL-DATA, MATHEMATICAL- MODELS, INDUSTRIAL-WASTE-TREATMENT, SEWAGE-TREATMENT, STRATEGY.
ID AIR-POLLUTION-CONTROL, WATER-POLLUTION-CONTROL, THERMAL-POLLUTION, PATH-OF-POLLUTANTS, EPAORM.
AN N PB-224 812/8.

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AU STOVEKEN, JOHN. SPROSTON, THOMAS.
IN VERMONT UNIV. BURLINGTON. WATER RESOURCES RESEARCH CENTER. OF WATER RESOURCE RESEARCH, WASHINGTON, D.C. 109 950.

YR 74. 8P.
TI OZONE AND CHLORINE DEGRADATION OF WASTEWATER POLLUTANTS.
NT COMPLETION REPT. 1 JUL 73-30 JUN 74.
PR PC$3.25/MF$2.25.
AB AN ATTEMPT WAS MADE TO COMPARE THE EFFECTIVENESS OF CHLORINATION AND OZONATION ON THE REMOVAL OF A VARIETY OF ORGANIC COMPOUNDS FROM SOLUTIONS. BOTH OZONE AND CHLORINE CONCENTRATIONS WERE MEASURED USING THE ORTHOTOLIDINE-MANGANESE SULFATE (OTM) METHOD; CONCENTRATIONS WERE MEASURED SPECTROPHOTOMETRICALLY, AND THIN-LAYER AND GAS-LIQUID CHROMATOGRAPHY WERE USED TO EVALUATE OXIDATION PRODUCTS AND CONCENTRATIONS. BOTH CHLORINE AND OZONE ARE EFFECTIVE BUT VARY GREATLY IN THEIR ACTIVITY AND SPECIFIC REACTIONS. CHLORINE AT 3 TIMES CONC. WAS NOT EFFECTIVE AGAINST AMINO ACID PROLINE, P. DIOXANE, DIPHENYLAMINE, GUANIDINE, N-HEXANE, PHENOL, AND PYRIDINE. OZONE WAS VERY DESTRUCTIVE TO THE FATTY ACIDS LEVULINIC, LINOLEIC AND OLEIC ACIDS. THIS EXPLAINS A PART OF OZONE GERMICIDAL ACTIVITY.
MJ WATER-POLLUTION-CONTROL, CHLORINATION, OZONIZATION, ORGANIC-WASTES.
MN COMPARISON, SEWAGE-TREATMENT, INDUSTRIAL-WASTE-TREATMENT, ORGANIC-COMPOUNDS.
ID NTISDIOWRT.
AN N PB-238 365/1SL.

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AU STRAFELDA, FRANTISEK.
IN DEP. INSTRUM. ANAL. CHEM.- TECHNOL. HOCHSCH. PRAGUE. CZECH.
YR 70.
TI AUTOMATIC ANALYSIS FOR PHENOL IN WASTE WATERS.
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AN C 07420102845.

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AU STRELOV V. SAUER M. JOHANIDES V.
YR 74.
TI BIOLOGICAL OXIDATION OF CRESOL BY MEANS OF PURE AND MIXED BACTERIAL CULTURES.
TR BIOLOSKA OKSIDACIJA KREZOLA S POMOCU CISTIH I MJESOVITIH BAKTERIJSKIH KULTURA.
SO ARH HIG RADA TOKSIKOL. 25. 2. P275-84. 1974.
MJ CRESOLS: IP. WASTE-DISPOSAL- FLUID: AN.
MN BIODEGRADATION. WATER- MICROBIOLOGY.
AN M 75027898.

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AU STRUHSAKER J W. ELDRIDGE M B. ECHEVERRIA T.
YR 74.
TI EFFECTS OF BENZENE A WATER SOLUBLE COMPONENT OF CRUDE OIL ON EGGS AND LARVAE OF PACIFIC HERRING AND NORTHERN ANCHOVY.
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DE ENGRAULIS-MORDAX CLUPEA-PALLASI DEVELOPMENT HATCHING SURVIVAL BEHAVIOR GROWTH RESPIRATION WATER POLLUTION.
AN B 75066718.

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AU STRUHSAKER, JEANNETTE W.
IN NATL. MAR. FISH. SERV. NOAA. TIBURON. CALIF.
YR 77.
TI EFFECTS OF BENZENE (A TOXIC COMPONENT OF PETROLEUM) ON SPAWNING PACIFIC HERRING, CLUPEA HARENGUS PALLASI.
SO FISH. BULL. 75. P43-9. 1977.
LG EN.
DE BENZENE DISTRIBUTION OVARY EGG HERRING. EMBRYO TOXICITY FISH BENZENE . BEHAVIOR BENZENE HERRING. WATER POLLUTION BENZENE FISH. REPRODN HERRING BENZENE.
AN C 08701000813.

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AU STRUHSAKER, JEANNETTE W. ELDRIDGE, MAXWELL B. ECHEVERRIA, TINA.
IN SOUTHWEST FISH. CENT. NATL. MAR. FISH. SERV. TIBURON. CALIF.
YR 74.
TI EFFECTS OF BENZENE (A WATER- SOLUBLE COMPONENT OF CRUDE OIL) ON EGGS AND

LARVAE OF PACIFIC HERRING AND NORTHERN ANCHOVY.
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LG EN.
AV VERNBERG, F. JOHN; VERNBERG, WINONA B.
DE BENZENE TOXICITY HERRING ANCHOVY. EGG LARVAE FISH BENZENE.
AN C 08313109384.

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AU SUESS M J.
YR 76.
TI THE ENVIRONMENTAL LOAD AND CYCLE OF POLY CYCLIC AROMATIC HYDRO CARBONS.
SO SCI TOTAL ENVIRON. 6 (3). 239-250.
DE HUMAN ANIMALS MICROORGANISMS PHYTO PLANKTON ALGAE PLANTS 3 4 BENZ PYRENE CARCINOGENS POLLUTION.
AN B 63041615.

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AU SUESS M J.
YR 72.
TI LABORATORY EXPERIMENTATION WITH 3 4 BENZ PYRENE IN AQUEOUS SYSTEMS AND THE ENVIRONMENTAL CONSEQUENCES.
SO ZENTRALBL BAKTERIOL PARASITENKD INFEKTIONSKR HYG ERSTE ABT ORIG REIHE B HYG PRAEV MED. 155 (5-6). 541-546.
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AN B 55061852.

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YR 71.
TI ANALYSIS OF HEAVY METALS AND CYANIDES IN WASTE WATER AND THE MEASUREMENT OF BIOCHEMICAL OXYGEN DEMAND (BOD).
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LG JA.
DE ANAL HEAVY METALS WASTE WATER. CYANIDE DETN WASTE WATER.
AN C 07612063018.

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AU TAKAHASHI, JOJI. UEMURA, NAMIO. UEDA, KIYOMOTO.
IN DEP. BIOCHEM. ENG. TOKYO KYOIKU UNIV. TOKYO. JAPAN.
YR 70.
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LG EN.
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AN C 07319095639.

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AU TAKAHASHI, SEIZO.
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YR 72.
TI POLLUTION CONTROL TECHNOLOGY. TREATMENT UNIT FOR PHENOLIC WASTE WATERS. PHENEX PROCESS.
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LG JA.
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AN C 07622131161.

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AU TAMVELIUS, H. MOLDER, L.
IN USSR.
YR 69.
TI SELECTIVE EXTRACTION OF MONOHYDRIC PHENOLS FROM SHALE TAR WATERS. 2.
SO TR. TALLIN. POLITEKH. INST. SER. A. NO. 270. P131-6. 1969.
LG RS.
DE PHENOLS MONOHYDRIC SHALE TAR. BENZENE EXTN MONOHYDRIC PHENOLS. GASOLINE EXTN MONOHYDRIC PHENOLS. DIHYDRIC PHENOLS SHALE TAR WATERS.
AN C 07422114014.

<1178>
AU TAMVELIUS, H. MOLDER, L. LEETMAA, T.
IN USSR.
YR 69.
TI SELECTIVE EXTRACTION OF MONOATOMIC PHENOLS FROM SHALE TAR WATER. 1.
SO TR. TALLIN. POLITEKH. INST. SER. A. NO. 270. P117-30. 1969.
LG RS.
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AN C 07422114012.

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AU TANABE, MASATO. DEHN, ROBERT L. KUO, MAU H.
IN LIFE SCI. DIV. STANFORD RES. INST. MENLO PARK. CALIF.
YR 71.
TI MICROBIAL OXIDATION OF P-DIETHYLBENZENE.
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LG EN.
DE DIETHYLBENZENE MICROBIAL OXIDN PSEUDOMONAS.
AN C 07425136831.

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YR 74.
TI ANALYSIS OF CYANIDE IN WASTE WATERS.
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LG JA.
DE CYANIDE DETN WASTEWATER ELECTRODE.
AN C 08212076835.

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AU TAO, B. Y. DERSHOWITZ, D. J. TROIANO, R. A.
IN OAK RIDGE NATIONAL LAB. TENN. RIDGE, TENN. SCHOOL OF CHEMICAL ENGINEERING PRACTICE. RESEARCH AND DEVELOPMENT ADMINISTRATION. 4832000 9500153.
YR 76. 41P.
TI ADSORPTION OF POLYNUCLEAR AND MONOCYCLIC AROMATIC HYDROCARBONS ON SUSPENDED YEAST CELLS.
PR PC A03/MF A01.
AB THE ADSORPTION OF ANTHRACENE ON YEAST CELLS IN THE PRESENCE OF ANILINE, BENZENE, OR TOLUENE WAS EXAMINED IN WATER AT 5, 20, AND 35 EXP 0 C. THE CONCENTRATION OF ANTHRACENE VARIED FROM 10 TO 50 MU G/LITER AND THE CONCENTRATION OF MONOCYCLIC AROMATIC HYDROCARBONS FROM 10 TO 50 MG/LITER. THE YEAST CELL CONCENTRATION WAS CONSTANT AT 10 MG/LITER. EQUILIBRIUM WAS REACHED WITHIN ONE HOUR FOR ALL CASES. AN ENTHALPY OF ADSORPTION OF APPROXIMATELY 2.5 KCAL/MOLE WAS CALCULATED FOR ANTHRACENE. (ERA CITATION 02: 039680).
MJ ANTHRACENE, YEASTS.
MN ADSORPTION, ANILINE, BENZENE, MEDIUM-TEMPERATURE, SORPTIVE-PROPERTIES, TOLUENE.
ID ERDA-400105, ENTHALPY, AROMATIC-POLYCYCLIC-HYDROCARBONS, NTISERDA.
AN N ORNL/MIT-238.

<1182>
AU TARDIFF, R. G. DEINZER, M.
IN NATL. ENVIRON. RES. CENT. ENVIRON. PROT. AGENCY. CINCINNATI. OHIO.
YR 73.
TI TOXICITY OF ORGANIC COMPOUNDS IN DRINKING WATER.
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LG EN.
AV SNOEYINK, VERNON L.
DE WATER TOXICITY ORG COMPD. ETHANOL SYNERGISM WATER CONTAMINANT. POLLUTION WATER ORG COMPD.
AN C 08123146519.

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AU TAUBAEV, T. T. VASIGOV, T. VERBA, V. V. KUTLIEV, D. BURIEV, S.
IN INST. BOT. TASHKENT. USSR.
YR 73.
TI EFFECT OF CHLORELLA ON THE PURIFICATION OF WATERS POLLUTED BY PHENOL .
SO UZB. BIOL. ZH. 17. P43-4. 1973.
LG RS.
DE PHENOL BIODEGRDN WASTE WATER. CHLORELLA BIODEGRDN PHENOL.
AN C 08012063583.

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IN K. A. TIMIRYAZEV INST. PLANT PHYSIOL. MOSCOW. USSR.
YR 71.
TI INTERPRETATION OF AUTOSTIMULATION EFFECT OF CHLORELLA GROWTH.
SO FIZIOL. RAST. 18. P69-77. 1971.
LG RS.
DE INDOLE ACETATE ALGAE. HORMONES ALGAE GROWTH. CHLORELLA GROWTH INDOLE ACETATE.
AN C 07419095749.

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AU TAYLOR B F. CAMPBELL W L. CHINOY I.
YR 70.
TI ANAEROBIC DEGRADATION OF THE BENZENE

NUCLEUS BY A FACULTATIVELY ANAEROBIC MICROORGANISM.
SO J BACTERIOL. 102. 2. P430-7. MAY 70.
LG EN.
MJ BENZENE: ME.
MN BENZOATES: ME. CULTURE-MEDIA. PSEUDOMONAS: EN, GD, IP.
AN M 70202701.

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AU TEPLYAKOVA, E. V. TRUBKO, E. I. ILICHKINA, A. G.
IN USSR.
YR 74.
TI EFFECT OF SOME FURAN COMPOUNDS ON THE SANITARY CONDITIONS OF RESERVOIRS.
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AN C 08410064984.

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IN VEGYIP. MUVELETEK TANSZ. BUDAPESTI MUSZ. EGY. BUDAPEST. HUNG.
YR 70.
TI NEW LIQUID EXTRACTION METHOD FOR PHENOL REMOVAL FROM INDUSTRIAL WASTE WATER.
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LG HU.
DE PHENOL REMOVAL WASTE WATERS. KETONES PHENOL REMOVAL WASTE WATERS.
AN C 07402006274.

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AU THIELEMANN H.
YR 72.
TI IDENTIFICATION AND REMOVAL OF SUBSTANCES IMPARTING AN ODOR AND AFFECTING THE TASTE OF RIVER BANK FILTERED GROUND WATER.
SO MIKROCHIM ACTA. (1). 79-80.
DE PHENOLS CHLORINE OXIDE ACTIVATED CARBON HYDRO CARBONS.
AN B 54028398.

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AU THIELEMANN H.
YR 77.
TI PURIFICATION POSSIBILITIES OF WASTE WATER CONTAINING PHENOL AND EXPERIMENTAL LABORATORY TRIAL RESULTS ON THE OXIDATION OR ADSORPTION OF PHENOL TEST SOLUTIONS ON INDUSTRIAL ASHES ACCORDING TO THE AIR-ASH PROCEDURE USING ADDITIONAL CATALYSTS.
TR REINIGUNGSMOGLICHKEITEN PHENOLHALTIGER ABWASER UND EXPERIMENTELLE LABORVERSUCHSERGEBNISSE ZUR OXYDATION BZW. ADSORPTION VON PHENOLTESTLOSUNGEN AN INDUSTRIEASCHE NACH DEM LUFT-ASCHE-VERFAHREN UNTER VERWENDUNG ZUSATZLICHER KATALYSATOREN.
SO Z GESAMTE HYG. 23. 3. P155-8. MAR 77.
LG GE.
MJ INDUSTRIAL-WASTE: AN. WATER-POLLUTANTS-CHEMICAL: IP.
MN ADSORPTION. METHODS.
AN M 77197856. 7709.

<1190>
AU THIELEMANN H.
YR 76.
TI EXPERIMENTAL STUDIES ON THE POSSIBILITIES OF THIN-LAYER CHROMATOGRAPHY FOR THE SEPARATION AND IDENTIFICATION OF PHENOL COMPOUNDS IN WATER.
TR EXPERIMENTELLE UNTERSUCHUNGEN UBER MOGLICHKEITEN ZUR DUNNSCHICHTCHROMATOGRAPHISCHEN TRENNUNG UND IDENTIFIZIERUNG VON PHENOLKOMPONENTEN IN WASSERN.
SO Z GESAMTE HYG. 22. 3. P169-72. MAR 76.
LG GE.
MJ PHENOLS: AN.
MN CHROMATOGRAPHY-THIN-LAYER: MT.
AN M 77017690. 7701.

<1191>
AU THIELEMANN H.
YR 76.
TI THIN-LAYER CHROMATOGRAPHY FOR THE IDENTIFICATION OF QUINONE COMPOUNDS FORMED DURING THE TREATMENT OF DRINKING WATER WITH CHLORINE OR CHLORINE DIOXIDE AND 3,4-BENZPYRENE.
TR UBER EINE DUNNSCHICHTCHROMATOGRAPHISCHE IDENTIFIZIERUNGSMOGLICHKEIT DER BEI DER TRINKWASSERAUFBEREITUNG DURCH CHLOR BZW. CHLORDIOXID UND 3,4-BENZPYREN ENTSTEHENDEN CHINONVERBINDUNGEN.
SO Z GESAMTE HYG. 22. 3. P163-5. MAR

76.
LG GE.
MJ QUINONES: AN. WATER-SUPPLY.
MN CHLORINE.
AN M 77017688. 7701.

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AU THIELEMANN H.
YR 71.
TI PROBLEMS IN CHLORINE DIOXIDE TREATMENT OF DRINKING AND SURFACE WATERS POLLUTED WITH PHENOL.
TR ZUR PROBLEMATIK DER CHLORDIOXIDBEHANDLUNG PHENOLVERUNREINIGTER TRINK UND OBERFLACHENWASSER.
SO GESUND ING. 92. 10. P295-9. 10 OCT 71.
LG GE.
MJ CHLORINE.
MN CHROMATOGRAPHY-THIN-LAYER.
AN M 73015800.

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AU THIELEMANN H.
YR 70.
TI DETERMINATION OF TOXIC CYANIDE IONS IN THE WASTE WATER OF THE BIOLOGICAL PURIFYING PLANTS IN THE DISTRICT OF HALLE.
TR ZUR ERMITTLUNG TOXISCHER ZYANIDIONEN IM ABWASSER MECHANISCHER UND BIOLOGISHCER KLARANLAGEN DES BEZIRKES HALLE.
SO Z GESAMTE HYG. 16. 11. P835-7. NOV 70.
LG GE.
MJ CYANIDES: AN.
MN GERMANY-EAST.
AN M 71166029.

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AU THIELEMANN H.
YR 68.
TI WATER-HYGIENIC AND CHEMICAL STUDIES ON THE INCIDENCE AND IDENTIFICATION OF TASTE AFFECTING PHENOL COMPOUNDS IN BANK FILTERED SURFACE WATER AND GROUND WATER WITH SPECIAL REGARD TO THIN LAYER CHROMATOGRAPHIC TECHNIC OF EXAMINATION (HALLE-BEESEN WATER WORKS).
TR TRINKWASSERHYGIENISCHE BZW. CHEMISCHE UNTERSUCHUNGEN UBER VORKOMMEN UND IDENTIFIZIERUNG GESCHMACKSBEEINTRACHTIGENDER PHENOLVERBINDUNGEN IM UFERFILTRIERTEN OBERFLACHENWASSER UND GRUNDWASSER UNTER BERUCKSICHTIGUNG DUNNSCHICHTCHROMATOGRAPHISCHER UNTERSUCHUNGSMETHODIK (WASSERWERK HALLE-BEESEN).
SO Z GESAMTE HYG. 14. 12. P893-8. DEC 68.
LG GE.
MJ CHLORINE: AN. WATER-SUPPLY.
MN CHROMATOGRAPHY-THIN-LAYER.
AN M 69279072.

<1195>
AU THIELEMANN H.
YR 68.
TI ON THE ANALYTICAL VALUE OF THE SO-CALLED QUANTITATIVE BROMATOMETRIC DETERMINATION OF WATER VAPOR VOLATILE PHENOLS IN WASTE WATER OF SOME PURIFICATION PLANTS OF THE SEWAGE TREATMENT AREA OF HALLE AND SAALKREIS.
TR UBER DEN ANALYTISCHEN WERT DER SOGENANNTEN QUANTITATIVEN BROMATOMETRISCHEN BESTIMMUNG WASSERDAMPFFLUCHTIGER PHENOLE IM ABWASSER EINIGER KLARANLAGEN DES ABWASSERBEHANDLUNGSBEREICHES HALLE UND SAALKREIS.
SO Z GESAMTE HYG. 14. 7. P532-41. JUL 68.
LG GE.
MJ PHENOLS: AN.
MN GERMANY-EAST.
AN M 69157794.

<1196>
AU THIELEMANN, H.
IN HALBERSTADT. E. GER.
YR 73.
TI CONCENTRATION CHANGES IN PHENOL-CONTAINING STANDARDS DUE TO UV IRRADIATION.
SO MIKROCHIM. ACTA. P143-4. 1973.
LG GE.
DE PHENOL DECOMPN UV IRRADN WATER.
AN C 07922128983.

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AU THIELEMANN, H.
IN HALLE/SAALE. GER.
YR 72.
TI POSSIBLE PURIFICATION OF PHENOLIC WASTE WATERS AND EXPERIMENTAL LABORATORY RESEARCH RESULTS ON OXIDATION OR ADSORPTION OF PHENOLIC TEST SOLUTIONS ON INDUSTRIAL ASH ACCORDING TO THE AIR- ASH PROCEDURE

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LG GE.
DE PHENOLIC WASTE WATER PURIFN. CRESOL REMOVAL WASTE WATER. RESORCINOL REMOVAL WASTE WATER. FLUE DUST ASH PHENOLIC ACID. BOILER HOUSE ASH PHENOLIC ACID.
AN C 07704024546.

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AU THIELEMANN, H.
IN HALLE/SAALE. GER.
YR 71.
TI CHLORINE DIOXIDE TREATMENT OF DRINKING WATER (BANK FILTRATION) IN THE PRESENCE OF ORGANIC SUBSTANCES AND ESPECIALLY CONSIDERING PHENOL COMPOUNDS.
SO Z. WASSER ABWASSER FORSCH. 4. P42-8. 1971.
LG GE.
DE CHLORINE DIOXIDE WATER ORG. WATER TREATMENT CHLORINE DIOXIDE. ORG POLLUTANT WATER CHLORINE DIOXIDE.
AN C 07624144703.

<1199>
AU THIELEMANN, H.
YR 74. 6P.
TI IDENTIFICATION AND DETERMINATION OF 1,4-BENZOQUINONE IN WASTE WATERS FROM THE COAL-PROCESSING INDUSTRY.
PR PC$3.50/MF$2.25.
AB A NONBIODEGRADABLE AND TOXIC SUBSTANCE, (1,4-BENZOQUINONE) IN WASTE WATERS FROM THE COAL-PROCESSING INDUSTRY, CAN BE DETECTED BY THIN-LAYER CHROMATOGRAPHY WITH SOME TESTED SPRAY REAGENTS. THE MOST SENSITIVE REAGENT FOR DETECTION OF 1,4-BENZOQUINONE WAS FOUND TO BE A 2 PERCENT ETHANOL SOLUTION OF 4-AMINOANTIPYRINE (1-PHENYL-2,3-DIMETHYL-4-AMINOPYRAZOLONE-(5)). A METHOD FOR IDENTIFICATION OF 1,4-BENZOQUINONE OR A SEMIQUANTITATIVE DETERMINATION IS URGENTLY REQUIRED FOR TOXICOLOGICAL, HYDROBIOLOGICAL, AND CHEMICAL REASONS.
MJ BENZOQUINONES, THIN-LAYER-CHROMATOGRAPHY, COAL-INDUSTRY, WATER-POLLUTION.
MN AMMONIUM-COMPOUNDS, CHROMATOGRAPHY, CRESOLS, DRINKING- WATER, ETHANOL, HEALTH-HAZARDS, LUMINESCENCE, PHENOLS, POLYAMIDES, PYROCATECHOL, PYROGALLOL, REAGENTS, RESORCINOL, TOXICITY, BITUMINOUS- COAL.
ID ERDA-010800, ERDA-520200, ERDA-551100, WATER-ANALYSIS, WATER-POLLUTION-DETECTION, NTISERDA.
AN N ORNL-TR-2945.

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AU THIELEMANN, HORST.
IN HYG.-INST. MARTIN-LUTHER-UNIV. HALLE-WITTENBERG. HALLE/SAALE. E. GER.
YR 75.
TI BROMATOMETRIC DETERMINATION OF SIX ISOMERIC DIMETHYLPHENOLS (XYLENOLS) AND A TECHNICAL XYLENOL FRACTION ACCORDING TO A STANDARD ANALYTICAL METHOD.
SO Z. CHEM. 15. P73-4. 1975.
LG GE.
DE BROMATOMETRY XYLENOL DETN. BROMINATION XYLENOL DETN. XYLENOL DETN. TAR DISTILLATE ANALYSIS XYLENOL. WATER ANALYSIS XYLENOL.
AN C 08308071185.

<1201>
AU THOMPSON, J E. PITT, W W, JR. JOLLEY, R L.
IN OAK RIDGE NATIONAL LAB. OAK RIDGE TN 37830.
YR 77.
TI ORGANICS IN AQUEOUS PROCESS STREAMS OF A COAL CONVERSION BENCH- SCALE UNIT USING THE HYDROCARBONIZATION PROCESS: HPLC AND GC/MS ANALYSIS.
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LG EN.
AB NONE.
ID COAL HYDROCARBONIZATION, PHENOLS.
DE COAL, ORGANIC COMPOUNDS, AROMATIC COMPOUNDS, ULTRAVIOLET SPECTROSCOPY MASS SPECTROSCOPY, GAS CHROMATOGRAPHY, LIQUID CHROMATOGRAPHY.
AN P 7705266.

<1202>
AU THORNTON K. WILHM J.
YR 74.
TI THE EFFECTS OF PH PHENOL AND SODIUM CHLORIDE ON SURVIVAL AND CALORIC LIPID AND NITROGEN CONTENT OF A LABORATORY POPULATION OF CHIRONOMUS-ATTENUATUS.

SO HYDROBIDLOGIA. 45 (2-3). 261-280.
DE BACTERIA OIL POLLUTION CARBON-14.
AN B 59028855.

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AU THROOP W M. BOYLE W C.
YR 75.
TI PERPLEXING PHENOLS ALTERNATIVE METHODS FOR REMOVAL.
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AN B 76029359.

<1204>
AU TIMOFEEVA, S. S. STOM, D. I.
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YR 76.
TI SEPARATION OF POLYPHENOLS AND THEIR OXIDATION PRODUCTS IN WASTE WATERS BY THIN-LAYER CHROMATOGRAPHY.
SO ZH. ANAL. KHIM. 31. P198-200. 1976.
LG RS.
DE PHENOL THIN LAYER CHROMATOG WASTEWATER. PHENYLSULFONYL PHENOL CHROMATOG.
AN C 08510067638.

<1205>
AU TIN'YANOVA N Z. KVASNIKOV YE I.
YR 73.
TI OXIDATION OF NAPHTHALENE AND SALICYLIC-ACID BY BACTERIA FROM THE GENUS PSEUDOMONAS.
SO MIKROBIOL ZH (KYYIV). 35 (5). 550-553.
DE PSEUDOMONAS-AERUGINOSA PSEUDOMONAS-PUTIDA PSEUDOMONAS-BOREOPOLIS PSEUDOMONAS-FLUORESCENS GLUCOSE DEHYDROGENASE ACTIVITY TAWSON MINIMAL MEDIUM CARBON NUTRITION.
AN B 58021829.

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AU TKACHEVA, V. N. PROKOP'EVA, M. F. GALITSKAYA, N. B. STEBENEVA, I. G.
IN USSR.
YR 77.
TI CHROMATOGRAPHIC DETERMINATION OF FORMALDEHYDE IN WASTE WATERS.
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LG RS.
DE FORMALDEHYDE WASTEWATER GAS CHROMATOG.
AN C 08716122375.

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AU TOFT H P.
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AN B 75062360.

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AU TOMOYEDA, MIKIO. SHIMIZU, HIDEYO.
IN GIFU UNIV. KAGAMIHARA. JAPAN.
YR 70.
TI BIOCHEMICAL STUDIES ON ACETIC BACTERIA. VI. ACETIC ACID METABOLISM IN GLUCONOBACTER SUBOXYDANS.
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LG JA.
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AN C 07515095690.

<1209>
AU TOMOYEDA, MIKIO. SHIMIZU, HIDEYO. OHYA, MASAHIRO. HASEGAWA, MAKOTO
IN JAPAN.
YR 69.
TI BIOCHEMICAL STUDIES ON ACETIC ACID BACTERIA. 1. FUNDAMENTAL CULTURE CONDITIONS ON OVER-OXIDATION OF ACETIC ACID.
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LG JA.
DE ACETIC ACID DECOMPN ACETOBACTER.

ACETOBACTER ACETIC ACID DECOMPN.
AN C 07315074204.

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YR 74.
TI MICROBIAL METABOLISM OF ALICYCLIC HYDROCARBONS. GROWTH OF NOCARDIA PETROLEOPHILA (NCIB 9438) ON METHYLCYCLOHEXANE.
SO J. GEN. MICROBIOL. 81, PT. 2. P521-4. 1974.
LG EN.
DE NOCARDIA METHYLCYCLOHEXANE METAB. CYCLOHEXANE METAB NOCARDIA. ALICYCLIC HYDROCARBON METAB NOCARDIA.
AN C 08111060671.

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AU TORPY M F.
YR 77.
TI ELECTRO PLATING AND CYANIDE WASTES.
SO J WATER POLLUT CONTROL FED. 49 (6). 1182-1188.
DE REVIEW FISH TOXICITY TREATMENT.
AN B 78018960.

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AU TORPY M F. MIDDLEBROOKS E J.
YR 76.
TI PLATING AND CYANIDE WASTES.
SO J WATER POLLUT CONTROL FED. 48 (6). 1295-1299.
DE WATER POLLUTION WASTE TREATMENT HEAVY METALS.
AN B 76094188.

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IN INST. GEN. ANAL. CHEM. TECH. UNIV. BUDAPEST. BUDAPEST. HUNG.
YR 76.
TI NOVEL ELECTROANALYTICAL TECHNIQUES FOR POLLUTION ANALYSIS.
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DE CYANIDE DETN WATER. CHLORIDE DETN WATER. PHENOL DETN WATER. ELECTROANALYSIS POLLUTION.
AN C 08618126620.

<1214>
AU TRECCANI, V.
IN INST. AGRAR. TECH. MICROBIOL. UNIV. MILAN. MILAN. ITALY.
YR 74.
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AN B 61023172.

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YR 76.
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LG EN.
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AN C 08424169233.

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PR PC A10/MF A01.
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MJ MEETINGS, TOXICOLOGY, FISHES.
MN TOXICITY, AQUATIC-ANIMALS, GASES, SUPERSATURATION, COLLAGENS, METABOLISM, ORGANIC-COMPOUNDS, CHLORINE, CYANIDES, INORGANIC-SULFIDES, NITRITES, COPPER, WATER-QUALITY, ECOLOGY.
ID WATER-POLLUTION-EFFECTS-ANIMALS, KEPONE, NTISEPAORD.
AN N PB-273 500/9SL.

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IN INST. INZ. CHEM. POLITECH. LODZ. LODZ. POL.
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AN C 08318157549.

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AN B 75006428.

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AN B 77007298.

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YR 75. 329P.
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PR PC A15/MF A01.
AB THE PUBLICATION PRESENTS THE PROCEEDINGS OF A SYMPOSIUM WHICH DISCUSSED THE POTENTIAL OF STRUCTURE- ACTIVITY CORRELATIONS IN STUDIES OF TOXICITY AND BIOCONCENTRATION OF CHEMICALS WITH AQUATIC ORGANISMS. THE SYMPOSIUM CONSISTED OF FORMAL PAPERS ON THE APPLICATIONS OF STRUCTURE-ACTIVITY MODELS IN LABORATORY TESTING AS WELL AS MODELS CONCERNED WITH THE PROBLEMS OF MULTIPLE TOXICITY AND PERIODIC EXPOSURES.
MJ MEETINGS, TOXICITY.
MN MOLECULAR-STRUCTURE, ECOLOGY, DISTRIBUTION, EXPOSURE, MATHEMATICAL-MODELS, FISHES, PESTICIDES, TOXICOLOGY, SURFACTANTS, DAPHNIA, ACCUMULATION, DDT, AQUATIC-BIOLOGY, PHENOL, ORGANIC-COMPOUNDS, CHEMICAL-PROPERTIES.
ID TOXIC-SUBSTANCES, BIOACCUMULATION, ANALYTICAL- METHODS, WATER-POLLUTION-EFFECTS- ANIMALS, NTISEPAL.

AN N PB-275 670/8SL.

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YR 76.
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SO TEX J SCI. 27 (1). 197-206.
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AN B 62036798.

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AU VELDRE, I. A. NORMAN, KH. K. SALIEV, V. P.
YR 74. 5P.
TI CHARACTERISTICS OF THE TOXIC ACTION OF PROPYL PHENOL ISOMERS AND THEIR SAFE LEVELS IN WATER BODIES.
AV TRANSLATION.
PR PC$3.50/MF$2.25.
AB THRESHOLD CONCENTRATIONS (PERCEPTION THRESHOLD) OF PROPYL PHENOL ISOMERS FOR ORGANOLEPTIC PROPERTIES THAT ARE NOXIOUS ARE: OPP, 0.01 MG/LITER FOR ODOR, ODOR IN HEATING, AND CHLORINATION; PPP, 0.025 MG/LITER FOR ODOR, TASTE IN HEATING, AND CHLORINATION. THRESHOLD CONCENTRATIONS OF PROPYL PHENOL ISOMERS ACCORDING TO THE EFFECT ON PUBLIC HEALTH REGIMES OF RESERVOIRS MAY BE TAKEN AS 1 MG/LITER. THE COMBINED EVALUATION OF THE RESULTS OF EXPERIMENTS SUGGESTS THAT THE LIMITING INDEX OF NOXIOUS PROPERTIES OF PROPYL PHENOL ISOMERS IS THE ORGANOLEPTIC ONE. THE CONCENTRATIONS OF BOTH ISOMERS (OPP AND PPP) SHOULD BE LIMITED TO 0.01 MG/LITER IN RESERVOIRS.
MJ PHENOLS, TOXICITY, SHALE-TARS, TOXICITY.
MN ISOMERS, ORGANOLEPTIC- PROPERTIES, PUBLIC-HEALTH, USSR, WATER.
ID ERDA-041000, ERDA-560305, ERDA-520200, TRANSLATIONS, NTISERDA.
AN N ORNL-TR-2995.

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YR 72. 15P.
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NT TRANS. OF MONO. EKSPERIMENTALNOE OBOSNOVANIE PREDELNO DOPUSTIMYKH KONTSENTRATSII NEKOTORYKH SLANTSEVYKH FENOLOV V VODE VODOEMOV, TALLIN, 1972 P84-93. (PC A02/MF A01).
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AB THE REPORT DISCUSSES THE MAXIMUM CONCENTRATIONS OF PHENOLS THAT SHOULD BE ALLOWED IN OIL SHALE PROCESSING WATERS. IT REVIEWS MEDICAL STUDIES ON THESE PHENOLS WHICH LED TO THESE CONCENTRATION STANDARDS.
MJ PHENOLS, TOXICOLOGY, WATER-POLLUTION.
MN REVIEWS, STANDARDS, MAXIMUM-PERMISSIBLE-EXPOSURE, OIL-SHALE, TRANSLATIONS, USSR, CRESOLS.
ID OIL-SHALE-PROCESSING, NTISEPAISD.
AN N PB-258 921-T/SL.

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IN USSR.
YR 72.
TI EFFECT OF THE STRUCTURE AND PHYSICOCHEMICAL QUALITIES OF SOME PHENOLS ON THEIR BIOLOGICAL ACTIVITY.
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LG RS.
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AN C 07923133446.

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AU VELDRE, INGEBORG. KIRSO, U.
IN USSR.
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TI STABILITY OF 5-METHYLRESORCINOL IN AN AQUEOUS SOLUTION.
SO VOP. GIG. TR. PROF. PATOL. EST. SSR. NO. 2. P184-8. 1970.
LG RS.
DE ORCINOL DECOMPN TOXICITY. RESORCINOLS OXIDN TOXICITY. PHENOLS OXIDN TOXICITY.
AN C 07411051749.

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AU VERNETTI, J B.
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YR 75.
TI ANALYZER KEEPS CLOSE TABS ON PHENOL DISCHARGED FROM HERBICIDE PLANT.
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LG EN.
AB NONE.
ID HERBICIDE INDUSTRY, PORTLAND.
DE CHEMICAL INDUSTRY WASTES, EFFLUENTS, HERBICIDES, MONITORING METHODS, MONITORING SYSTEMS, OREGON.
AN P 7503443.

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AU VLASOVA, Z. G.
IN USSR.
YR 73.
TI POSSIBILITY OF BIOCHEMICAL REMOVAL OF COMPLEX CYANIDES FROM EFFLUENTS IN THE WINTER AS ILLUSTRATED BY THE EFFLUENTS OF THE ZOLOTUSHINSK CONCENTRATION PLANT.
SO TR. N.-I. I PROEKT. IN-T PO OBOGASHCH. RUD. TSVET. MET. KAZMEKHANOBR . P71-4. 1973.
LG RS.
DE CYANIDE REMOVAL WASTEWATER BIOL.
AN C 08326209208.

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AU VOLBORTH, A.
IN NORTH DAKOTA STATE UNIV. FARGO. RESEARCH AND DEVELOPMENT ADMINISTRATION. 9504362 1135000.
YR 76. 38P.
TI OXIDATION OF COAL.
PR PC A03/MF A01.
AB CERTAIN ORGANIC COMPOUNDS ARE OXIDIZED MORE READILY THAN OTHERS. THE EASE WITH WHICH AN ORGANIC SUBSTANCE WILL OXIDIZE DEPENDS ON THE FUNCTIONAL GROUPS PRESENT IN THE MOLECULE. OXIDATION OF COAL IS AFFECTED BY INCORPORATION OF OXYGEN FUNCTIONAL GROUPS, SUCH AS THE PEROXIDE, THE HYDROXYL, THE ALDEHYDE, THE CARBONYL, THE CARBOXYL, THE ETHER LINKAGE, AND THE METHOXYL GROUPS. ONCE OXYGEN HAS BEEN COMBINED WITH AN ORGANIC MOLECULE, FURTHER OXIDATION MAY OCCUR MORE READILY. COMPOUNDS WITH OXYGEN FUNCTIONAL GROUPS ATTACHED ARE MORE SUSCEPTIBLE TO FURTHER OXIDATION THAN THEIR PROGENITORS. FOR EXAMPLE, ALCOHOL AND ACETALDEHYDE OXIDIZE MORE READILY THAN ETHANE, PHENOL AND NAPHTHOL MORE EASILY THAN BENZENE AND NAPHTHALENE, AND BENZALDEHYDE MORE READILY THAN TOLUENE. SATURATED AND PURELY AROMATIC HYDROCARBONS ARE MORE DIFFICULT TO OXIDIZE THAN THEIR DERIVATIVES CONTAINING OXYGEN FUNCTIONAL GROUPS. THE FORMATION OF PEROXIDE APPEARS TO BE ONE OF THE INITIAL STEPS OF COAL OXIDATION; IT CAN LEAD THEN TO THE FORMATION OF OTHER OXYGEN FUNCTIONAL GROUPS. THE WEATHERING OF COAL INCREASES THE CONCENTRATION OF THE OXYGEN FUNCTIONAL GROUPS, AND SOME REDUCTION OF CARBON CONTENT RESULTS, TECHNOLOGICAL QUALITY OF COAL CHANGES, WATER CONTENT INCREASES, AND ALKALI-SOLUBLE PRODUCTS SIMILAR TO THE HUMIC ACIDS FORM, AS WELL AS WATER-SOLUBLE LOWER MOLECULAR WEIGHT ACIDS. IN THE EARLY STAGES OF OXIDATION OXYGEN IS BEING ADDED TO THE COAL BULK COMPOSITION AND WATER IS LOST, WHILE DURING THE LATER STAGES OF HUMIFICATION OF COAL, CO SUB 2, CO, AND H SUB 2 O EVOLVE. THE OXIDATION PROCEEDS ALONG THE PERIPHERY OF THE MACROMOLECULE CLUSTERS IN COAL AND AFFECTS THE C--C BONDS, RUPTURING THE AROMATIC RINGS. FURTHER OXIDATION REACTIONS ARE DESCRIBED. (ERA CITATION 02: 047200).
MJ COAL, OXIDATION.
MN CHEMICAL-REACTION-YIELD, CHEMICAL-REACTIONS, ORGANIC-OXYGEN-COMPOUNDS, WEATHERING.
ID ERDA-010600, ERDA-400300, NTISERDA.
AN N COO-2989-3.

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YR 71.
TI COMPARATIVE CHARACTERISTICS OF FISH RESISTANCE TO PHENOL IN EARLY STAGES OF DEVELOPMENT.
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LG EN.
AB NONE.
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AN P 7006934.

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IN USSR.
YR 73.

TI EFFECT OF PHENOL ON DEVELOPMENT OF FISH EMBRYOS.
SO TR. INST. BIOL. VNUTR. VOD, AKAD. NAUK SSSR. NO. 24. P67-71. 1973.
LG RS.
DE PHENOL TOXICITY DANIO EMBRYOS. FISH EMBRYO PHENOL TOXICITY.
AN C 08017091779.

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IN USSR.
YR 71.
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AN C 07814088404.

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AU VOROB'EVA L I. KOZYREVA L F. LISENKOVA L L.
YR 67.
TI EFFECT OF LIGHT ON METABOLISM OF PROPIONIC BACTERIA.
TR VLIIANIE SVETA NA OBMEN VESHCHESTV PROPIONOVOKISLYKH BAKTERII.
SO MIKROBIOLOGIIA. 36. 3. P410-5. MAY-JUN 67.
LG RS.
MJ LIGHT.
MN CYTOCHROMES: RE. OXIDATION-REDUCTION.
AN M 69159178.

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AU VORONIN A M. KOCHETKOV V. STAROVOITOV I I. SKRIABIN G K.
YR 77.
TI PLASMIDS PBS2 AND PBS3 CONTROLLING NAPHTHALENE OXIDATION BY BACTERIA OF THE GENUS PSEUDOMONAS.
TR PLAZMIDY PBS2 I PBS3, KONTROLIRUIUSHCHIE OKISLENIE NAFTALINA U BAKTERII RODA PSEUDOMONAS.
SO DOKL AKAD NAUK SSSR. 237. 5. P1205-8. 11 DEC 77.
LG RS.
MJ NAPHTHALENES: ME.
MN CATECHOLS: ME. GE.
AN M 78063824. 7804.

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AU WAIBEL M.
YR 76.
TI AIR AND WATER CONTAMINATION BY 3 4 BENZ PYRENE FROM ROAD ABRASION.
SO ZENTRALBL BAKTERIOL PARASITENKD INFEKTIONSKR HYG ERSTE ABT ORIG REIHE B HYG BETRIEBSHYG PRAEV MED. 163 (5-6). (RECD 1977) 458-469.
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AN B 64029623.

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YR 77.
TI SYNCHRONOUS FLUORESCENCE SPECTROSCOPY AND ITS APPLICATION TO INDIGENOUS AND PETROLEUM-DERIVED HYDROCARBONS IN LACUSTRINE SEDIMENTS.
SO ENVIRONMENTAL SCIENCE & TECHNOLOGY, 11(3): 272-276, MAR. 1977.
LG EN.
AB NONE.
ID LAKE WASHINGTON, SPECTROFLUOROMETRY, PERYLENE.
DE WASHINGTON STATE, LAKES, EMISSION SPECTROSCOPY, LUMINESCENCE, SEDIMENTS, HYDROCARBONS, PETROLEUM WASTES.
AN P 7704287.

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IN DEPARTMENT OF MICROBIOLOGY, UNIVERSITY OF MARYLAND, COLLEGE PARK, MARYLAND.
YR 76.
TI ENUMERATION OF PETROLEUM- DEGRADING MICROORGANISMS.
SO APPL ENVIRON MICROBIOL. 31. 2. P198-207. FEB 76.
LG EN.
MJ BACTERIA: IP.
MN AMPHOTERICIN-B: PD. COMPARATIVE-STUDY. MARYLAND. STREPTOMYCIN: PD. UNITED-STATES-GOVERNMENT-SUPPORTED-NON-NIH: (NON-NIH-SUP).
AN M 77064460. 7703.

<1253>

AU WALKER, J D. COLWELL, R R.
IN UNIV. OF MARYLAND, DEPT. OF MICROBIOLOGY, COLLEGE PARK, 20742.
YR 76.
TI MEASURING THE POTENTIAL ACTIVITY OF HYDROCARBON-DEGRADING BACTERIA.
SO APPLIED AND ENVIRONMENTAL MICROBIOLOGY, 31(2): 189-197, FEB. 1976.
LG EN.
AB NONE.
ID CYCLOHEXANE, C-14, NAPHTHALENE, HEXADECANE, TOLUENE.
DE RADIOISOTOPES, PETROLEUM, OIL POLLUTION CONTROL, MARINE ENVIRONMENTS, HYDROCARBONS, ESTUARIES, BIODEGRADATION, BACTERIA.
AN P 7604277.

<1254>

AU WALKER, J. D. AUSTIN, H. F. COLWELL, R. R.
IN MARYLAND UNIV COLLEGE PARK DEPT OF MICROBIOLOGY RESEARCH, ARLINGTON, VA. 407304.
YR 74. 13P.
TI UTILIZATION OF MIXED HYDROCARBON SUBSTRATE BY PETROLEUM-DEGRADING MICROORGANISMS.
AV PUB. IN JNL. OF GENERAL AND APPLIED MICROBIOLOGY, V21 P27-39 1975. 1, 20.
PR PC$3.25/MF$2.25.
AB THIS REPORT DESCRIBES THE FIRST COMPARATIVE STUDY OF PETROLEUM-DEGRADING YEASTS, FUNGI, AND BACTERIA, AND THEIR ABILITY TO DEGRADE TO MIXED HYDROCARBON SUBSTRATE. THE MIXED HYDROCARBON SUBSTRATE EMPLOYED CONTAINED ALIPHATIC, ALICYCLIC, AROMATIC, AND POLYNUCLEAR AROMATIC HYDROCARBONS. MOST OF THE BACTERIA AND ALL OF THE YEASTS AND FUNGI WERE ISOLATED FROM CHESAPEAKE BAY. NORMAL ALKANES WERE FOUND TO BE LESS SUSCEPTIBLE TO DEGRADATION BY BACTERIA AND YEASTS AS THE CARBON CHAIN LENGTH OF THE HYDROCARBON INCREASED FROM 10 TO 20. RESULTS OBTAINED FOR SOME OF THE FUNGI SHOWED THAT THERE WAS LITTLE CORRELATION BETWEEN CHAIN LENGTH OF NORMAL ALKANE AND SUSCEPTIBILITY TO BIODEGRADATION. CUMENE, NAPHTHALENE, PHENANTHRENE, PRISTANE, 1,2-BENZANTHRACENE, PERYLENE, AND PYRENE WERE FOUND TO BE DEGRADED BY MICROORGANISMS. IN GENERAL THE PATTERNS OBSERVED FOR HYDROCARBON UTILIZATION WERE SIMILAR FOR THE BACTERIA, YEASTS, AND FUNGI. HOWEVER, THE UTILIZATION OF HYDROCARBONS BY INDIVIDUAL ISOLATES VARIED SIGNIFICANTLY. SUCH INFORMATION MAY PROVE USEFUL IN ASSESSING THE HYDROCARBON-DEGRADING POTENTIAL OF MICROORGANISMS.
MJ MICROORGANISMS, BIODETERIORATION, PETROLEUM- PRODUCTS, OIL-POLLUTION, WATER- POLLUTION, CHESAPEAKE-BAY, ALKANES.
MN BACTERIA, YEASTS, FUNGI, AROMATIC-COMPOUNDS, REPRINTS.
ID NTISDODXR, NTISDODN.
AN N AD-A016 324/6SL.

<1255>

AU WALLWORK, J. F. BENTLEY, M. SYMONDS, D. C.
IN SOUTHAMPTON C.B.C WATERWORKS. SOUTHAMPTON. ENGL.
YR 69.
TI IDENTIFICATION OF PHENOLS IN THE RIVER TEST AND THEIR TREATMENT WITH CHLORINE DIOXIDE.
SO WATER TREAT. EXAM. 18. P203-19. 1969.
LG EN.
DE PHENOLS DETN RIVER WATERS. RIVER WATERS PHENOLS DETN. GAS LIQ CHROMATOG PHENOLS. CHROMATOG PHENOLS RIVER WATERS. CHLORINE DIOXIDE PHENOLS POTABLE WATER. POTABLE WATER CL DIOXIDE PHENOLS.
AN C 07210047250.

<1256>

AU WALSH, D. F. ARMSTRONG, J. G. BARTLEY, T. R. SALMAN, H. A. FRANK, P. A.
IN ENG. RES. CENT. BUR. RECLAMATION. DENVER. COLO.
YR 77.
TI RESIDUES OF EMULSIFIED XYLENE IN AQUATIC WEED CONTROL AND THEIR IMPACT ON RAINBOW TROUT.
PG 24 PP.
LG EN.
DE XYLENE HERBICIDE TOXICITY RAINBOW TROUT. SALMO XYLENE HERBICIDE TOXICITY. FISH XYLENE HERBICIDE TOXICITY.
AN C 08721162467.

<1257>

AU WARD D M. BROCK T D.
IN DEPARTMENT OF BACTERIOLOGY,

UNIVERSITY OF WISCONSIN, MADISON, WISCONSIN 53706.
YR 76.
TI ENVIRONMENTAL FACTORS INFLUENCING THE RATE OF HYDROCARBON OXIDATION IN TEMPERATE LAKES.
SO APPL ENVIRON MICROBIOL. 31. 5. P764-72. MAY,76.
LG EN.
MJ BACTERIA: ME.
MN ALKANES: ME. OXIDATION- REDUCTION. UNITED-STATES-GOVERNMENT-SUPPORTED-NIH: (NIH-SUP). WATER-POLLUTION-CHEMICAL.
AN M 76204528. 7609.

<1258>

AU WARD, DAVID M. BROCK, THOMAS D.
IN WISCONSIN UNIV. MADISON. WATER RESOURCES CENTER. RESEARCH AND TECHNOLOGY, WASHINGTON, D.C. WISCONSIN UNIV. MADISON. DEPT. OF BACTERIOLOGY.
YR 75. 112P.
TI ENVIRONMENTAL LIMITATIONS ON THE MICROBIAL DEGRADATION OF HYDROCARBONS IN TEMPERATE LAKES.
NT TECHNICAL REPT.
PR PC$5.25/MF$2.25.
AB NUTRITIONALLY VERSATILE HETEROTROPHIC BACTERIA INHABIT LAKES AND DEVELOP IN RESPONSE TO HYDROCARBON INTRODUCTION. HOWEVER, THE RESPONSE OF NATURALLY-OCCURRING OIL-DEGRADING MICROORGANISMS DEPENDS ON ENVIRONMENTAL CONDITIONS WITHIN A LAKE. THE RATE OF HYDROCARBON BIODEGRADATION VARIED SEASONALLY IN LAKE MENDOTA BECAUSE OF TEMPERATURE LIMITATION IN SPRING AND FALL AND NUTRIENT LIMITATION IN MID-SUMMER, AND WAS OPTIMAL FOR ONLY ONE MONTH DURING THE YEAR. NUTRIENT LIMITATION WAS ALSO OBSERVED IN LAKES OF VARYING NUTRIENT CONTENT IN VILAS COUNTY. RELATIONSHIPS BETWEEN HYDROCARBON OXIDATION RATES AND TEMPERATURE OR NUTRIENT LEVELS WERE SHOWN BY CORRELATION AND EXPERIMENTALLY. OPTIMUM CONDITIONS WERE ALSO ESTABLISHED. HEXADECANE OXIDATION WAS INHIBITED IN LAKE WATER AND SEDIMENT SAMPLES INCUBATED ANAEROBICALLY. ACETATE INHIBITION WAS INDIRECTLY CAUSED BY DEPLETION OF NITROGEN AND PHOSPHORUS BY ACETATE-OXIDIZING BACTERIA. GLUCOSE INHIBITION OCCURRED IN THE PRESENCE OF EXCESS NITROGEN AND PHOSPHORUS AND MAY RESULT FROM REGULATORY INTERFERENCE SUCH AS CATABOLITE REPRESSION.
MJ LAKE-MENDOTA, BIODETERIORATION, HYDROCARBONS, BACTERIA.
MN SEASONAL-VARIATIONS, TEMPERATURE, WISCONSIN, LAKES, GLUCOSE, NUTRIENTS, OXIDATION, NITROGEN, PHOSPHORUS, ORGANIC- COMPOUNDS, WATER-QUALITY, TAXONOMY, ACETATES.
ID OIL-POLLUTION-REMOVAL, WATER-POLLUTION-CONTROL, HETEROTROPHS, MICROBIAL-DEGRADATION, NTISDIOWRT.
AN N PB-244 094/9SL.

<1259>

AU WARNER J S.
YR 76.
TI DETERMINATION OF ALIPHATIC AND AROMATIC HYDRO CARBONS IN MARINE ORGANISMS.
SO ANAL CHEM. 48 (3). 578-583.
DE MUSSEL LOBSTER CLAM OYSTER FISH SHRIMP ABALONE CRAB STARFISH SEA-URCHIN BLOODWORM CAUSTIC DIGESTION ETHER EXTRACTION SILICA GEL CHROMATOGRAPHY GAS CHROMATOGRAPHY CHEMICAL IONIZATION MASS SPECTROMETRY.
AN B 62011380.

<1260>

AU WASIK, STANLEY P. TSANG, WING.
IN NATL. BUR. STAND. WASHINGTON. D. C.
YR 70.
TI DETERMINATION OF TRACE AMOUNTS OF CONTAMINANTS IN WATER BY ISOTOPE DILUTION GAS CHROMATOGRAPHY.
SO ANAL. CHEM. 42. P1649-51. 1970.
LG EN.
DE WATER ANAL BENZENE. BENZENE TRACES DETN WATER. ISOTOPE DILN BENZENE MICRODETN. GAS CHROMATOG BENZENE ISOTOPES. CHROMATOG GAS BENZENE ISOTOPES.
AN C 07402006271.

<1261>

AU WATANABE, IKUO. OKITA, TOSHIICHI.
IN INST. PUBLIC HEALTH. TOKYO. JAPAN.
YR 74.
TI IDENTIFICATION OF THE COMPOUNDS EVAPORATING FROM WASTE WATERS OF PETROCHEMICAL PLANTS.
SO TAIKI OSEN KENKYU. 9. P13-20. 1974.
LG JA.
DE PETROCHEM WASTEWATER ORG COMPD DETN. HYDROCARBON DETN PETROCHEM WASTEWATER. SULFIDE DETN PETROCHEM

WASTEWATER. CHLOROHYDROCARBON DETN PETROCHEM WASTEWATER. ETHER DETN PETROCHEM WASTEWATER. VOLATILE SUBSTANCE DETN WASTEWATER.
AN C 08504025114.

<1262>
AU WATSON G K. CAIN R B.
YR 75.
TI MICROBIAL METABOLISM OF THE PYRIDINE RING METABOLIC PATHWAYS OF PYRIDINE BIO DEGRADATION BY SOIL BACTERIA.
SO BIOCHEM J. 146 (1). 157-172.
DE BACILLUS-SP NOCARDIA-SP ENZYMES.
AN B 59066258.

<1263>
AU WATSON G K. CAIN R B.
YR 72.
TI METABOLISM OF PYRIDINE BY BACTERIA.
SO BIOCHEM J. 127. 2. P44P. APR 72.
LG EN.
MJ BACILLUS: ME.
MN CHROMATOGRAPHY-PAPER.
AN M 73015615.

<1264>
AU WATSON G K. HOUGHTON C. CAIN R B.
YR 74.
TI MICROBIAL METABOLISM OF THE PYRIDINE RING. THE HYDROXYLATION OF 4-HYDROXYPYRIDINE TO PYRIDINE-3,4-DIOL (3,4-DIHYDROXYPYRIDINE) BY 4-HYDROXYPYRIDINE-3-HYDROXYLASE.
SO BIOCHEM J. 140. 2. P265-76. MAY 74.
LG EN.
MJ AGROBACTERIUM: ME.
MN AMMONIUM-SULFATE. FAD: ME. HYDROXYLATION. RIBOFLAVIN: ME. ULTRASONICS.
AN M 75127332.

<1265>
AU WATSON G K. JONES N.
YR 77.
TI THE BIO DEGRADATION OF POLY ETHYLENE GLYCOLS BY SEWAGE BACTERIA.
SO WATER RES. 11 (1). 95-100.
DE ACINETOBACTER FLAVOBACTERIUM PSEUDOMONAS MINERAL SALTS MEDIUM.
AN B 63068452.

<1266>
AU WEAVER T L. DUGAN P R.
YR 72.
TI ENHANCEMENT OF BACTERIAL METHANE OXIDATION BY CLAY MINERALS.
SO NATURE (LOND). 237 (5357). 518.
DE NOTE AQUATIC ECOSYSTEM.
AN B 73028946.

<1267>
AU WEBB M. RUBER H. LEDUC G.
YR 76.
TI THE TOXICITY OF VARIOUS MINING FLOTATION REAGENTS TO RAINBOW TROUT SALMO-GAIRDNERI.
SO WATER RES. 10 (4). 303-306.
DE SODIUM ETHYL XANTHATE POTASSIUM AMYL XANTHATE XYLENOL POLY PROPYLENE GLYCOL SODIUM ISO PROPYL XANTHATE POTASSIUM ETHYL XANTHATE MEDIAN LETHAL CONCENTRATION.
AN B 62034743.

<1268>
AU WEDEMEYER, GARY.
IN WEST. FISH DIS. LAB. U. S. BUR. SPORT FISH. WILDL. SEATTLE. WASH.
YR 71.
TI STRESS OF FORMALIN TREATMENTS IN RAINBOW TROUT (SALMO GAIRDNERI) AND COHO SALMON (ONCORHYNCHUS KISUTCH).
SO J. FISH. RES. BD. CAN. 28. P1899-904. 1971.
LG EN.
DE FORMALIN FISH TOXICITY. TROUT FORMALIN TOXICITY. SALMON FORMALIN TOXICITY.
AN C 07621122583.

<1269>
AU WEDEMEYER, GARY. YASUTAKE, W. T.
IN WEST. FISH. DIS. LAB. BUR. SPORT FISH. WILDL. SEATTLE. WASH.
YR 74.
TI STRESS OF FORMALIN TREATMENT IN JUVENILE SPRING CHINOOK SALMON (ONCORHYNCHUS TSHAWYTSCHE) AND STEELHEAD TROUT (SALMO GAIRDNERI).
SO J. FISH. RES. BOARD CAN. 31. P179-84. 1974.
LG EN.
DE FORMALIN TOXICITY FISH. SALMO FORMALIN TOXICITY. ONCORHYNCHUS FORMALIN TOXICITY.
AN C 08215093773.

<1270>
AU WEIL, L. BERGER, H. QUENTIN, E.
IN INST. WASSERCHEM. CHEM. BALNEOL. TECH. UNIV. MUENCHEN. MUNICH. GER.
YR 76.

TI ELIMINATING LIPOPHILIC POLLUTANTS IN WATER TREATMENT.
SO DECHEMA-MONOGR. 80. P105-14. 1976.
LG GE.
DE POLYETHYLENE FLOCCULATION WATER PURIFN. PESTICIDE REMOVAL WATER. POLYCYCLIC HYDROCARBON REMOVAL WATER.
AN C 08622160979.

<1271>
AU WEIL, L. GREINER, G.
IN INST. WASSERCHEM. CHEM. BALNEOL. TECH. UNIV. MUENCHEN. MUNICH. GER.
YR 74.
TI PRINCIPLES OF THE ELIMINATION OF ORGANIC WATER POLLUTANTS WITH POLYETHYLENE.
SO VOM WASSER. 43. P247-57. 1974.
LG GE.
DE POLYETHYLENE FLOCCULATION WATER. VINYL ACYLAMIDE FLOCCULATION WATER. FLOCCULATION WATER POLYETHYLENE.
AN C 08310084622.

<1272>
AU WHITELEY F R. KIVES J J. HECHT H D.
YR 75.
TI CONTINUOUS ON-LINE DETERMINATION OF TOTAL CYANIDE IN INDUSTRIAL EFFLUENT STREAMS.
SO LANGWORTHY, VIRGIL W. (ED.). PROCEEDINGS OF THE THIRD ANNUAL POLLUTION CONTROL CONFERENCE OF THE WATER AND WASTEWATER EQUIPMENT MANUFACTURERS ASSOCIATION. INDUSTRY SOLUTIONS '75: AIR-WATER-NOISE-SOLID WASTE. APRIL 1-4, 1975. XI+915P. ILLUS. ANN ARBOR SCIENCE PUBLISHERS, INC. ANN ARBOR, MICH. U.S.A. ISBN 0-250-40114-2. 633-647.
DE WATER POLLUTION TOXICITY ANALYSIS.
AN B 76029382.

<1273>
AU WHITTLE K J. MACKIE P R.
YR 76.
TI HYDRO CARBONS IN MARINE ZOO PLANKTON AND FISH PART 2 FISH HYDRO CARBON LEVELS.
SO LOCKWOOD, A. P. M. (ED.). SOCIETY FOR EXPERIMENTAL BIOLOGY SEMINAR SERIES, VOL. 2. EFFECTS OF POLLUTANTS ON AQUATIC ORGANISMS. SEMINAR. LIVERPOOL, ENGLAND, APRIL 11, 1975. X+193P. ILLUS. CAMBRIDGE UNIVERSITY PRESS: NEW YORK, N.Y. USA; CAMBRIDGE, ENGLAND. ISBN 0-521-21103-4(CLOTH); ISBN 0-521-29044-9(PAPER). 85-105.
DE LIVER MUSCLE TOXICITY BEHAVIOR UPTAKE METABOLISM TAINTING DIET ALKANES PETROLEUM PRODUCTS BENZO A PYRENE.
AN B 77045235.

<1274>
AU WILDISH D J.
YR 74.
TI ARRESTANT EFFECT OF POLY OXY ETHYLENE ESTERS ON SWIMMING IN THE WINTER FLOUNDER.
SO WATER RES. 8 (8). 579-583.
DE PSEUDOPLEURONECTES-AMERICANUS WATER POLLUTION OIL DISPERSANT BEHAVIOR RESPONSES ENDOGENOUS TIDAL RHYTHM SUPPRESSION SWIMMING AMPLITUDE REDUCTION.
AN B 59028883.

<1275>
AU WILDISH, D J.
IN FISHERIES RESEARCH BOARD OF CANADA, BIOLOGICAL STATION, ST. ANDREWS, N.B.
YR 72.
TI ACUTE TOXICITY OF POLYOXYETHYLENE ESTERS AND POLYOXY ETHYLENE ETHERS TO S. SALAR AND G. OCEANICUS.
SO WATER RESEARCH. NEW YORK, 6(7): 759-762, JULY 1972.
LG EN.
AB NONE.
ID OIL DISPERSANTS, *GAMMARUS OCEANICUS, *SALMO SALAR, POLYOXYETHYLENE ESTERS, ETHERS.
DE TOXICITY, FISH, CRUSTACEANS, SURFACTANTS.
AN P 7300076.

<1276>
AU WILHM, JERRY.
IN OKLAHOMA WATER RESOURCES RESEARCH INST. STILLWATER.
YR 71. 48P.
TI COMPARISON OF ENERGY FLOW PARAMETERS OF MIDGE POPULATIONS IN BIOLOGICAL OXIDATION PONDS (EFFECT OF PHENOL ON OXYGEN UPTAKE RATE OF A LABORATORY POPULATION OF CHIRONOMUS ATTENUATUS WALK.) 1,2).
NT TECHNICAL RESEARCH COMPLETION REPT.
PR PC$3.00/MF$0.95.
AB A LABORATORY POPULATION OF FOURTH-INSTAR LARVAL FORMS OF

CHIRONOMUS ATTENUATUS WALKER RECEIVED A CONTINUOUS LIFE-LONG EXPOSURE OF 0, 3, 8, 11, 16 AND 22 PPM PHENOL. WATER TEMPERATURE, PH AND DISSOLVED OXYGEN CONCENTRATION WERE MONITORED. EXPOSED LARVAE WERE ANALYZED FOR OVEN-DRY WEIGHT, ASH-FREE WEIGHT, CALORIC CONTENT, AND OXYGEN UPTAKE. CALORIC CONTENT PER GRAM IN LARVAE INCREASED WITH INCREASING PHENOL CONTENT UP TO A MAXIMUM OF 5.869 CAL/G IN LARVAE EXPOSED TO 16 PPM PHENOLS. LINEAR EQUATIONS WERE FORMULATED TO RELATE ENERGY CONTENT TO PHENOL LEVEL AND ENERGY CONTENT AND DISTANCE DOWNSTREAM FROM AN OUTFALL. LARVAE WERE ALSO EXPOSED TO 6 DIFFERENT SALT CONCENTRATIONS BETWEEN 0 AND 342 MM/L FOR 4 DIFFERENT TIME PERIODS. CONCENTRATION OF SODIUM IN THE HAEMOLYMPH WAS SIMILAR IN LARVAE EXPOSED TO THE LOWER CONCENTRATIONS AND INCREASED PROGRESSIVELY AT THE THREE HIGHER CONCENTRATIONS, WHILE CHLORIDE LEVELS INCREASED STEADILY WITH INCREASING SALT CONCENTRATION.

MJ LAGOONS-PONDS, ECOLOGY, DIPTERA, ECOLOGY, WATER-POLLUTION, ECOLOGY, PHENOL, FRESH-WATER-BIOLOGY.

MN LARVAE, SODIUM-CHLORIDE, TEMPERATURE, INDUSTRIAL-WASTE-TREATMENT, BIOCHEMICAL-OXYGEN-DEMAND, TOXICITY, ENERGY.

ID CHIRONOMUS, OWRR.

AN N PB-204 524.

<1277>

AU WILHM, JERRY. THORNTON, KENT W.

IN OKLAHOMA WATER RESOURCES RESEARCH INST. STILLWATER.

YR 72. 19P.

TI THE EFFECTS OF PH, PHENOL, AND SODIUM CHLORIDE ON THE BIOENERGETICS OF LABORATORY POPULATIONS OF 'CHIRONOMUS ATTENUATUS'.

NT RESEARCH PROJECT TECHNICAL COMPLETION REPT.

PR PC$3.00/MF$0.95.

AB CONTINUOUS FLOW, LABORATORY MICROCOSMS WERE USED TO MEASURE THE EFFECTS OF PH, PHENOL, AND NACL ON THE SURVIVAL OF THE LIFE STAGES OF CHIRONOMUS ATTENUATUS, THE CALORIC CONTENT OF THIRD AND FOURTH INSTAR LARVAE AND ADULTS, THE LIPID AND PROTEIN-NITROGEN CONTENT OF FOURTH INSTAR LARVAE, AND THE INTERACTION AMONG THE VARIOUS RESPONSES. EACH EXPERIMENT CONSISTED OF 24 TREATMENT COMBINATIONS WITH A 3 X 4 X 2 FACTORIAL ARRANGEMENT IN A COMPLETELY RANDOMIZED DESIGN WITH TWO REPLICATIONS OF EACH TREATMENT. TREATMENT VARIABLES WERE PH AT 6.2, 7.2, AND 8.2; PHENOL AT 0, 10, 20, AND 30 MG/L; AND NACL AT 0 AND 600 MG/L. PH HAD A SIGNIFICANT EFFECT ON THE SURVIVAL OF ALL LIFE STAGES OF C. ATTENUATUS. INCREASING PHENOL LEVELS RESULTED IN A NEARBY LINEAR INCREASE IN CALORIC CONTENT. SODIUM CHLORIDE AFFECTED THE LIPID CONTENT OF FOURTH INSTAR LARVAE. THE LIPID CONTENT WAS HIGHER WITH NACL PRESENT IN THE MEDIA THAN WITHOUT NACL. INTERACTION HAD A SIGNIFICANT EFFECT ON ALL RESPONSES EXCEPT SURVIVAL OF THIRD AND FOURTH INSTAR LARVAE. (AUTHOR).

MJ DIPTERA, PETROLEUM-REFINING, WATER-POLLUTION, PETROLEUM.

MN ECOLOGY, METABOLISM, PHYSIOLOGY, PH, PHENOLS, LIPIDS, LAGOONS-PONDS, LIFE-CYCLES, EXPERIMENTAL-DATA.

ID CHIRONOMUS-ATTENUATUS, WATER-POLLUTION-EFFECTS-ANIMALS, BIOENERGETICS, OIL-POLLUTION.

AN N PB-214 479/8.

<1278>

AU WILLIAMSON, KENNETH J.

IN OREGON STATE UNIV. CORVALLIS. WATER RESOURCES RESEARCH INST. OREGON STATE UNIV. CORVALLIS. DEPT. OF CIVIL ENGINEERING. RESEARCH AND TECHNOLOGY, WASHINGTON, D.C.

YR 76. 48P.

TI A BIOASSAY TO ASSESS WASTEWATER TOXICITY TO AEROBIC BIOLOGICAL TREATMENT.

NT COMPLETION REPT. 1 JUL 75-30 JUN 76. PREPARED BY OREGON STATE UNIV. CORVALLIS. DEPT. OF CIVIL ENGINEERING.

PR PC A03/MF A01.

AB THE OBJECTIVE WAS TO DEVELOP A BIOASSAY FOR WASTEWATER TOXICITY THAT COULD BE USED AT SEWAGE TREATMENT PLANTS. NITROBACTER WAS USED AS THE TEST ORGANISM DUE TO THE SIMPLICITY OF QUANTIFYING SUBSTRATE REMOVAL RATES BY MEASURING NITRITE REMOVAL, A SENSITIVITY FOR MOST TOXICANTS GREATER THAN THAT OF HETEROTROPHIC ORGANISMS, AND A SLOW GROWTH RATE WHICH ENABLES THE USE OF BATCH-FED TESTS. A METHOD WAS DEVELOPED FOR PRESERVING THE NITROBACTER ORGANISMS BY FREEZE-

DRYING. SUBSTRATE REMOVAL RATES WERE MEASURED FOR BOTH FREEZE-DRIED AND NON-FREEZE-DRIED NITROBACTER IN THE PRESENCE OF A HEAVY METAL AND AN ORGANIC TOXICANT. ZINC AND 2,4,5-TRICHLOROPHENOL EXHIBITED TOXIC EFFECTS TO THE NITROBACTER AT CONCENTRATIONS COMPARABLE TO THOSE TOXIC TO ACTIVATED SLUDGE.
MJ TOXICITY, BIOASSAY, SEWAGE.
MN AEROBIC-PROCESSES, NITROBACTER, ACTIVATED-SLUDGE-PROCESS, METALS, ZINC, TOXICOLOGY, NITRITES, SEWAGE-TREATMENT, BACTERICIDES, PHENOLS, FREEZE-DRYING.
ID BIOINDICATORS, HEAVY-METALS, PHENOL-TRICHLORO, POISONING-CHEMICAL-REACTIONS, NTISDIOWRT.
AN N PB-261 394/1SL.

<1279>
AU WILLIS, RAYMOND BRUCE.
IN IOWA STATE UNIVERSITY (0097) PH.D. 1973, 112PP.
YR 73.
TI HIGH-PRESSURE LIQUID CHROMATOGRAPHY OF PHENOLS AND METAL IONS.
SO DAI V34(07), SEC B, P3141.
DE CHEMISTRY, ANALYTICAL (0486).
AN D ADG74-00585.

<1280>
AU WILLOX, S. WEATHERBY, R. P. HOLDER, G. M.
IN DEP. PHARM. UNIV. SYDNEY. SYDNEY. AUST.
YR 76.
TI ANILINE METABOLISM IN TWO SPECIES OF ARACHNIDA: WATER-SOLUBLE METABOLITES.
SO XENOBIOTICA. 6. P565-73. 1976.
LG EN.
DE ANILINE METAB BOOPHILUS. NEPHILIA ANILINE METAB.
AN C 08617114922.

<1281>
AU WILLS R B.
YR 72.
TI GAS CHROMATOGRAPHIC RESPONSE TO INJECTIONS OF ACETIC ACID IN WATER.
SO J CHROMATOGR SCI. 10. 9. P582-3. SEP 72.
LG EN.
MJ ACETIC-ACIDS: AN.
MN CHEMISTRY-PHYSICAL.
AN M 73006384.

<1282>
AU WILSON S A. WEBER J H.
YR 77.
TI ESR ANALYSIS OF SEMI QUINONE FREE RADICALS OF AQUATIC AND SOIL FULVIC-ACID AND HUMIC-ACID.
SO ANAL LETT. 10 (1). 75-84.
DE OYSTER RIVER PODZOL SOIL P BENZO SEMI QUINONE REDUCING CAPABILITY.
AN B 64072070.

<1283>
AU WINTERS K. O'DONNELL R. BATTERTON J C. VAN BAALEN C.
YR 76.
TI WATER SOLUBLE COMPONENTS OF 4 FUEL OILS CHEMICAL CHARACTERIZATION AND EFFECTS ON GROWTH OF MICRO ALGAE.
SO MAR BIOL (BERL). 36 (3). 269-276.
DE AGMENELLUM-QUADRUPLICATUM THALASSIOSIRA-PSEUDONANA NAPHTHALENES BENZENES PHENOLS ANILINES INDOLES POLLUTION INHIBITORY EFFECT P TOLUIDINE BLUE-GREEN ALGAE GREEN ALGAE DIATOMS USA TOXICITY DAMAGE REDUCED PRIMARY PRODUCTION.
AN B 62068946.

<1284>
AU WINTERS, KENNETH. BATTERTON, JOHN C. VAN BAALEN, CHASE.
IN MAR. SCI. INST. UNIV. TEXAS. PORT ARANSAS. TEX.
YR 77.
TI PHENALEN-1-ONE: OCCURRENCE IN A FUEL OIL AND TOXICITY TO MICROALGAE.
SO ENVIRON. SCI. TECHNOL. 11. P270- 2. 1977.
LG EN.
DE PHENOLENEONE TOXICITY ALGAE LIGHT. FUEL OIL PHENALENEONE ISOLATION.
AN C 08621151154.

<1285>
AU WISLOCKI P G. WOOD A W. CHANG R L. LEVIN W. YAGI H. HERNANDEZ O. DANSETTE P M. JERINA D M. CONNEY A H.
YR 76.
TI MUTAGENICITY AND CYTO TOXICITY OF BENZO A PYRENE ARENE OXIDES PHENOLS QUINONES AND DI HYDRO DIOLS IN BACTERIAL AND MAMMALIAN CELLS.
SO CANCER RES. 36 (9). 3350-3357.
DE CHINESE HAMSTER V-79 CELLS SALMONELLA-TYPHIMURIUM TA-98 STRAIN TA-100 STRAIN TA-1538 STRAIN

CARCINOGENS.
AN B 63002990.

<1286>
AU WISSING F.
IN DEPARTMENTS OF BIOCHEMISTRY AND ELECTRON MICROSCOPY, THE ROYAL DENTAL COLLEGE, DK 8000 ARHUS C, DENMARK.
YR 75.
TI CYANIDE PRODUCTION FROM GLYCINE BY A HOMOGENATE FROM A PSEUDOMONAS SPECIES.
SO J BACTERIOL. 121. 2. P695-9. FEB 75.
LG EN.
MJ CYANIDES: BI.
MN BUFFERS. HYDROGEN-ION-CONCENTRATION. PHENAZINES: ME. SUBCELLULAR-FRACTIONS: UL.
AN M 75095466.

<1287>
AU WODZINSKI R S. LAROCCA D.
YR 77.
TI BACTERIAL GROWTH KINETICS ON DI PHENYL METHANE AND NAPHTHALENE HEPTA METHYL NONANE MIXTURES.
SO APPL ENVIRON MICROBIOL. 33 (3). 660-665.
DE PSEUDOMONAS-SPP HYDROGENOMONAS-SP.
AN B 64016619.

<1288>
AU WOLKOFF, A. W. LAROSE, R. H.
IN CANADA CENT. INLAND WATERS. BURLINGTON. ONT.
YR 75.
TI SENSITIVE MONITORING OF PHENOLS AFTER LIQUID CHROMATOGRAPHY. REPLY TO COMMENTS.
SO J. CHROMATOGR. 111. P472-3. 1975.
LG EN.
DE PHENOL DETN WATER. CREATE OXIDATIVE MONITOR PHENOL DETN.
AN C 08426184549.

<1289>
AU WOLKOFF, AARON W. LAROSE, RICHARD H.
IN CANADA CENT. INLAND WATERS. DEP. ENVIRON. BURLINGTON. ONT.
YR 74.
TI HIGHLY SENSITIVE TECHNIQUE FOR THE LIQUID CHROMATOGRAPHIC ANALYSIS OF PHENOLS AND OTHER ENVIRONMENTAL POLLUTANTS.
SO J. CHROMATOGR. 99. P731-43. 1974.
LG EN.
DE PHENOL DETN WATER. ENVIRONMENT PHENOL DETN. LIQ CHROMATOG PHENOL WATER.
AN C 08126175800.

<1290>
AU WOLVERTON B C. MCKOWN M M.
YR 76.
TI WATER-HYACINTHS FOR REMOVAL OF PHENOLS FROM POLLUTED WATERS.
SO AQUAT BOT. 2 (3). 191-201.
DE EICHHORNIA-CRASSIPES.
AN B 63017778.

<1291>
AU WOOLHISER, P. H. CLARK, D. P.
IN THIOKOL CHEMICAL CORP BRIGHAM CITY UTAH. 348850.
YR 73. 93P*.
TI CYANIDE WASTE TREATMENT UTILIZING CATALYTIC OXIDATION.
NT TECHNICAL REPT. 23 MAY-25 APR 73.
AV 1.
PR PC$3.75/MF$1.45.
AB ELECTROPLATING OPERATIONS AND COLOR PHOTOGRAPH PROCESSING ARE TWO MAJOR SOURCES OF LIQUID CYANIDE WASTES. TO MEET STATE EFFLUENT STANDARDS, A SYSTEM USING A PROPRIETARY COBALT-BASED CATALYST AND CHLORINE-PRODUCING ELECTROLYTIC CELLS WAS EVALUATED WITH ACTUAL PHOTOGRAPHIC AND ELECTROPLATING WASTE. A LITERATURE SEARCH AND LABORATORY EVALUATION WAS CONDUCTED TO DETERMINE PROCESSES THAT COULD BE USED TO SUPPLEMENT THE CATALYTIC OXIDATION SYSTEM. A PROTOTYPE CATALYTIC OXIDATION SYSTEM CAPABLE OF TREATING 1/4 GALLON PER MINUTE (GPM) OF 2,000 MG/1 TOTAL CYANIDE WASTE PRODUCED EFFLUENT STREAMS CONTAINING UNDETECTABLE AMOUNTS OF CYANIDE (UNDER 0.01 MG/1) WITH COPPER PLATING AND NICKEL STRIP FEEDS. TREATMENT OF PHOTOGRAPHIC WASTES PRODUCED AN 87 TO 94 PERCENT REDUCTION OF TOTAL CYANIDE. THE CATALYTIC OXIDATION SYSTEM HAS A STRONG POTENTIAL FOR DECREASING THE OPERATION COSTS OF CYANIDE DESTRUCTION SYSTEMS. SYSTEM DESIGNS ARE GIVEN FOR TWO FULL-SIZE CYANIDE WASTE TREATMENT SYSTEMS. (MODIFIED AUTHOR ABSTRACT).
MJ CYANIDES, WASTE-TREATMENT.
MN PROTOTYPES, ELECTROPLATING, WASTES-INDUSTRIAL, PHOTOGRAPHIC-

PROCESSING, CATALYSTS, OXIDATION, COBALT, REVIEWS, CYANATES, CHLORINE, COLORIMETRIC-ANALYSIS, CHEMICAL-ANALYSIS, ELECTROLYSIS, PRECIPITATION, CHLORINATION, DESIGN, CONTROL, WATER-POLLUTION, COST-ESTIMATES, FABRICATION.
ID PERFORMANCE-EVALUATION, ION-SELECTIVE-ELECTRODES, WATER-POLLUTION-CONTROL, INDUSTRIAL-WASTE-TREATMENT, AF.
AN N AD-769 293/2.

<1292>
AU WRONSKI, MIECZYSLAW. SMAL, ZBIGNIEW.
IN DEP. CHEM. TECHNOL. UNIV. LODZ. LODZ. POL.
YR 74.
TI THIOMERCURIMETRIC DETERMINATION OF ACRYLONITRILE IN WATER.
SO CHEM. ANAL. (WARSAW). 19. P633- 8. 1974.
LG PO.
DE SURFACE WATER ANALYSIS ACRYLONITRILE. ACRYLONITRILE DETN SURFACE WATER.
AN C 08126175988.

<1293>
AU WU, D -C. CHIANG, Y -M. CHANG, H -T. TAN, T -H. LI, Y -H. HUNG, T -C. CHU, P -C.
YR 74.
TI THE AQUATIC ENVIRONMENT AND ECOLOGY OF THE KAOHSIUNG HARBOR.
SO T'AI-WAN TA HSUEH. T'AI-PEI. NUNG HSUEH YUAN. SPECIAL PUBLICATION 5, DEC. 1974. 77PP.
LG CH.
AB NONE.
ID PHENOLS, KAOHSIUNG HARBOR.
DE COLIFORMS, ARSENIC, DO, TAIWAN, HARBORS, ENVIRONMENTAL DETERIORATION, PHYTOPLANKTON, OIL POLLUTION, NUTRIENTS, MERCURY.
AN P 7601437.

<1294>
AU WURM, HANS J.
IN EMSCHERGENOSS. ESSEN. GER.
YR 76.
TI EXTRACTION OF PHENOLS FROM COKING-PLANT EFFLUENTS.
SO CHEM.-ING.-TECH. 48. P840-5. 1976.
LG GE.
DE COKING WASTEWATER PHENOL EXTN.
AN C 08612078239.

<1295>
AU YANG R D. HUMPHREY A E.
IN DEPARTMENT OF CHEMICAL AND BIOCHEMICAL ENGINEERING, UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA, PENNSYLVANIA.
YR 75.
TI DYNAMIC AND STEADY STATE STUDIES OF PHENOL BIODEGRADATION IN PURE AND MIXED CULTURES.
SO BIOTECHNOL BIOENG. 17. 8. P1211- 35. AUG 75.
LG EN.
MJ PHENOLS.
MN COMPARATIVE-STUDY. WATER-POLLUTANTS-CHEMICAL.
AN M 78040734. 7803.

<1296>
AU YANYSHEVA N YA. KOSTOVETSKII YA I. FEDORENKO Z P.
YR 74.
TI STANDARDIZATION OF THE CONTENT OF BENZO A PYRENE IN WATER BODIES.
SO GIG SANIT. (7). 71-75.
DE MOUSE HUMAN CARCINOGEN STOMACH TUMORS POLLUTION.
AN B 59056263.

<1297>
AU YARUSHEK N E.
YR 73.
TI QUANTITY OF BACTERIA AND DESTRUCTION OF ORGANIC MATTER IN BOTTOM DEPOSITS OF THE SARATOV WATER STORAGE BASIN.
SO GIDROBIOL ZH. 9 (1). 83-85.
DE USSR MICROORGANISM COUNT SAPROPHYTE PHENOL DEGRADING BACTERIA DENITRIFYING BACTERIA SLIME OXYGEN.
AN B 58013161.

<1298>
AU YOCUM, FLOYD HENRY, II.
IN TULANE UNIVERSITY, SCHOOL OF ENGINEERING (0494) D.ENG. 1977, 285PP.
YR 77.
TI OXIDATION OF STYRENE WITH OZONE IN AQUEOUS SOLUTION.
SO DAI V38(03), SEC B, P1316.
DE ENGINEERING, CHEMICAL (0542).
AN D ADG77-19511.

<1299>
AU YOKOYAMA, KAZUO. SATO, SADAO. YOSHIYASU, IKUYO. IMAMURA, TAKASHI.
IN CENT. RES. LAB. MITSUBISHI ELECTR.

CORP. AMAGASAKI. JAPAN.
YR 74.
TI DEGRADATION OF ORGANIC SUBSTANCES IN WATER BY OZONE.
SO MITSUBISHI DENKI GIHO. 48. P1233- 8. 1974.
LG JA.
DE OZONE DEGRDN ORG SUBSTANCE WATER. POLYETHYLENE GLYCOL DEGRDN OZONE. CHLORINATED BIPHENYL DEGRDN OZONE.
AN C 08214089803.

<1300>
AU YOUNG L Y. MITCHELL R.
YR 73.
TI NEGATIVE CHEMOTAXIS OF MARINE BACTERIA TO TOXIC CHEMICALS.
SO APPL MICROBIOL. 25. 6. P972-5. JUN 73.
LG EN.
MJ CHEMOTAXIS: DE.
MN ALCOHOL-ETHYL: PD. CHLOROFORM: PD. DE, GD.
AN M 73212992.

<1301>
AU YOUNG, D R. DUNN, B P.
IN UNIV. OF BRITISH COLUMBIA, CANCER RESEARCH CENTRE, DEPT. OF ZOOLOGY, 2075 WESBROOK PL. VANCOUVER, B. C. V6T 1W5, CAN.
YR 76.
TI BASELINE LEVELS OF BENZO(A)PYRENE IN SOUTHERN CALIFORNIA MUSSELS.
SO MARINE POLLUTION BULLETIN, 7(12): 231-234, DEC. 1976.
LG EN.
AB NONE.
ID MUSSELS, BENZO(A)PYRENE.
DE WATER POLLUTANTS, PETROCHEMICALS, CARCINOGENS, AROMATIC COMPOUNDS, MUNICIPAL WASTEWATERS, CALIFORNIA COAST.
AN P 7702212.

<1302>
AU YOUNG, RODERICK W. PARR, O. D. DICKINSON, JEAN K.
IN VIRGINIA POLYTECHNIC INST. AND STATE UNIV. BLACKSBURG. WATER RESOURCES RESEARCH CENTER. WASHINGTON, D.C.
YR 75. 24P.
TI RESIDUE-REMOVAL METHODS FOR PESTICIDES AND INDUSTRIAL CHEMICALS FOUND IN AQUATIC ENVIRONMENTS.
PR PC$3.50/MF$2.25.
AB THIS RESEARCH EVALUATED VARIOUS METHODS THAT HAVE BEEN ADVANCED FOR SEPARATION OF POLYCHLOROBIPHENYLS FROM CHLORINATED PESTICIDES, TO SEE WHICH WERE EFFECTIVE IN DETECTING AND REMOVING THESE RESIDUES OFTEN PRESENT IN THE AQUATIC ENVIRONMENT. PRELIMINARY INVESTIGATIONS ALSO WERE MADE OF A NEW APPROACH, THE SILYLATION OF CARBAMATES. FINALLY, A GAS CHROMATOGRAPHIC (GLC) PROCEDURE FOR CHLOROPHACINONE (CPN) WAS DEVELOPED BY BROMINATING THE PARENT COMPOUND.
MJ WATER-POLLUTION-CONTROL, PESTICIDES, CHLORINE-AROMATIC- COMPOUNDS, WATER-ANALYSIS.
MN BIPHENYL, CHLORINE-AROMATIC-COMPOUNDS, CARBAMATES, GAS-CHROMATOGRAPHY, CHEMICAL-ANALYSIS, EXTRACTION, SEPARATION, INDUSTRIAL-WASTES, HAZARDOUS-MATERIALS, SILANES, SILICON-INORGANIC-COMPOUNDS, DDT, BROMINATION.
ID BIPHENYL-CHLORO, WATER-POLLUTION-DETECTION, INDAN-DIONE-P-CHLOROPHENYLPHENYLACETYL, AROCHLORS, POLYCHLORINATED-BIPHENYLS, NTISDIOWRT.
AN N PB-250 747/3SL.

<1303>
AU ZAMFIR G. NASTASE V.
IN HYGIENE AND PUBLIC HEALTH INSTITUTE--IASSY.
YR 75.
TI PROTECTION OF DRINKING WATER SOURCES AGAINST MODERN POLLUTANTS.
SO J HYG EPIDEMIOL MICROBIOL IMMUNOL (PRAHA). 19. 1. P5-9. 1975.
LG EN.
MJ WATER-POLLUTION-CHEMICAL: PC.
MN AMMONIA. NITRITES. AN.
AN M 75152253.

<1304>
AU ZDYBIEWSKA, M.
YR 68. 22P.
TI MICROBIOLOGICAL DEGRADATION OF PHENOL COMPOUNDS.
AV TRANSLATED FROM POSTEPY MIKROBIOL.
PR PC$3.50/MF$2.25.
AB REASONS FOR THE OCCURRENCE OF PHENOLS, ESPECIALLY IN WATER AND SEWAGE, ARE DISCUSSED. THESE COMPOUNDS DISTINCTLY AFFECT THE BIOCOENOSIS OF THE RECEIVER BOTH IN RESPECT TO HIGHER ORGANISMS, AS E.G. FISH, AS WELL AS TO MICROORGANISMS. THANKS TO ADAPTATION SOME MICROORGANISMS BECOME ABLE TO

DECOMPOSE PHENOLS. USUALLY THE BIOLOGICAL OXIDIZATION OF VARIOUS CYCLIC COMPOUNDS IS ACHIEVED BY FORMING PYROCATECHOL, WHICH IS THEN OXIDIZED TO SIMPLE ORGANIC ACIDS. THESE PROCESSES ARE DUE TO BACTERIA, ACTINOMYCETES, MOULDS AND YEAST. THEY ARE INFLUENCED BY SUCH PARAMETERS AS: PH, TEMPERATURE, NUTRITIVE SUBSTANCES AS WELL AS SUBSTANCES ASSOCIATED IN THE PHENOLS. THE SUITABLE CHOICE OF THESE PARAMETERS ENSURES PROPER EFFECTS IN PROCESSES OF BIOLOGICAL TREATMENT. 90 REFERENCES.

MJ PHENOLS, BIODEGRADATION.

MN ACTINOMYCES, BACTERIA, FUNGI, NUTRIENTS, PH, TEMPERATURE-DEPENDENCE, WATER, YEASTS.

ID ERDA-400301, ERDA-320500, ERDA-550200, TRANSLATIONS, WATER-POLLUTION-CONTROL, INDUSTRIAL-WASTES, WASTE-WATER-TREATMENT, SEWAGE-TREATMENT, NTISERDA.

AN N ORNL-TR-4037.

<1305>

AU ZEFF, JACK D. BARTON, RICHARD R. SMILEY, BOB. ALHADEFF, EZRA.

IN WESTGATE RESEARCH CORP MARINA DEL REY CALIF AND DEVELOPMENT COMMAND, WASHINGTON, D.C. 391630.

YR 74. 89P.

TI UV-OZONE WATER OXIDATION/STERILIZATION PROCESS.

NT FINAL REPT. 1 JUL 73-1 JUL 74.

PR PC$4.75/MF$2.25.

AB THE PURPOSE OF THIS PROGRAM WAS TO DETERMINE THE FEASIBILITY OF PURIFYING WATER USING THE COMBINATION OF OZONE AND ULTRAVIOLET RADIATION. IT WAS DISCOVERED FROM IN-HOUSE EFFORTS THAT THIS COMBINATION OF PURIFYING AGENTS WAS AN EFFECTIVE MEANS OF REMOVING BACTERIA AND ORGANIC CONTAMINANTS IN WATER. THE INITIAL OBJECTIVE OF THIS PROGRAM WAS TO DEFINE THE LEVELS OF OZONE AND UV RADIATION REQUIRED TO DESTROY PREDETERMINED CONCENTRATIONS OF MICROBIAL CONTAMINANTS AND ORGANIC SUBSTANCES IN WATER. THESE CONTAMINANTS WERE REPRESENTATIVE OF THOSE OFTEN FOUND IN WASTE WATER EFFLUENTS ENCOUNTERED BY THE ARMY AND NASA. THE STUDY WAS DIVIDED INTO TWO PARALLEL EFFORTS, A MICROBIOLOGICAL STUDY AND AN ORGANIC STUDY. THE MICROBIOLOGICAL INVESTIGATION HAS SHOWN THAT THE COMBINATION OF UV AND OZONE IS MORE EFFECTIVE IN DESTROYING E. COLI, STREPTOCOCCUS FAECALIS, KLEBSIELLA PNUMONIAE AND ACANTHAMOEBA CASTELLANII THAN UV OR OZONE ALONE. IN THE ORGANIC TESTS, THE TEST ORGANIC COMPOUNDS SELECTED WERE HYDROQUINONE, PYROGALLOL, XYLENOL, SODIUM ACETATE AND UREA.

MJ WATER-TREATMENT, OZONATION, ULTRAVIOLET-RADIATION, STERILIZATION.

MN IRRADIATION, BACTERIA, ORGANIC-COMPOUNDS, UREA, OXIDATION, PHENOLS.

ID CHEMICAL-REMOVAL-WATER- TREATMENT, MICROORGANISM-CONTROL- WATER, HYDROQUINONE, POTABLE-WATER, PYROGALLOLS, XYLENOLS, SODIUM-ACETATE, NTISDODA.

AN N AD/A-004 205/1SL.

<1306>

AU ZEFF, JACK D. SHUMAN, RAYMOND. ALHADEFF, EZRA S.

IN WESTGATE RESEARCH CORP MARINA DEL REY CALIF. 391630.

YR 75. 102P.

TI UV-OZONE WATER OXIDATION/STERILIZATION PROCESS.

NT ANNUAL REPT. 1 JUL 74-30 JUN 75.

PR PC$5.50/MF$2.25.

AB IN THE SECOND YEAR OF THE DEVELOPMENT OF THE UV-OZONE WATER/OXIDATION PROCESS, EFFORT WAS DIRECTED TO THE OXIDATION OF SPECIFIC INDIVIDUAL ORGANIC COMPOUNDS AND MIXTURES OF ORGANICS DISSOLVED IN WATER. ORGANIC COMPOUNDS OF INTEREST TO THE ARMY MEDICAL RESEARCH AND DEVELOPMENT COMMAND AND NASA WERE HYDROQUINONE, PYROGALLOL, XYLENOL, UREA, AND SODIUM ACETATE. OTHER COMPOUNDS ALSO EVALUATED WERE ETHANOL, GLYCEROL, GLYCINE, AND ACETIC ACID. PROCESS VARIABLES SUCH AS UV INTENSITY, OZONE CONCENTRATION, OZONE MASS FLOW, AGITATION, RESIDENCE TIME, TEMPERATURE, AND PH WERE EXAMINED ON A BATCH AND CONTINUOUS BASIS TO DETERMINE THEIR EFFECT ON OXIDATION EFFICIENCY AND THE POWER REQUIRED FOR GENERATING OZONE AND UV. ALL THE ABOVE VARIABLES, WITH THE EXCEPTION OF PH, AGITATION AND TEMPERATURE, HAVE A SIGNIFICANT EFFECT ON POWER DEMAND AND OXIDATION EFFICIENCY.

MJ WATER-RECLAMATION, WATER- TREATMENT.

MN OZONE, ULTRAVIOLET-RADIATION,

OXIDATION, EXPERIMENTAL-DESIGN, TEMPERATURE, OXIDATION, PH-FACTOR, DISINFECTION, PURIFICATION, WATER-SUPPLIES.
ID NTISDODXA.
AN N AD-A026 571/0SL.

<1307>
AU ZEITOUN, M. A. MCILHENNY, W. F. BISCAN, N. J. CULP, J. H. BEHRENS, H. C.
IN DOW CHEMICAL CO. FREEPORT, TEX. TEXAS DIV. ENVIRONMENTAL RESEARCH LAB. ADA, OKLA. 116 700.
YR 75. 214P*.
TI OPTIMIZING A PETROCHEMICAL WASTE BIO-OXIDATION SYSTEM THROUGH AUTOMATION.
NT FINAL REPT. 1973-74.
PR PC$7.75/MF$2.25.
AB SYSTEMS WERE DEVELOPED TO CONTROL THE CRITICAL PARAMETERS OF THE ACTIVATED SLUDGE PROCESS TO ACHIEVE RELIABLE, HIGH QUALITY EFFLUENT. THE WASTE WATER FROM A PETROCHEMICAL PLANT CONTAINED ETHYLENE GLYCOL AND WAS SOMETIMES SALINE. AN AUTOMATED SAMPLING SYSTEM, SAMPLING FEED AND HOMOGENIZED MIXED LIQUOR, MONITORED THE TOTAL CARBON IN BOTH SAMPLES. NUTRIENTS WERE ADDED IN PROPORTION TO THE TOTAL CARBON IN THE FEED, THUS MAINTAINING LOW RESIDUAL NUTRIENTS IN THE EFFLUENT. THE SLUDGE RECYCLE FLOW RATE WAS CONTROLLED BY A FOOD TO MICROORGANISMS SIGNAL, MEASURED AS THE RATIO OF TOTAL CARBON IN THE FEED TO THAT IN THE MIXED LIQUOR. TOXIC OR INHIBITORY EFFECTS OF THE FEED WERE MEASURED BY A BIOLOGICAL INHIBITOR DETECTOR, AN INSTRUMENT WHICH MEASURES THE OXYGEN UPTAKE OF STANDARD SOLUTIONS BEFORE AND AFTER EXPOSURE OF A BACTERIA SAMPLE TO A FEED SAMPLE AND CALCULATES AN ACTIVITY RATIO. THE USE OF THE INSTRUMENT AS AN UPSTREAM SENSING DEVICE WAS DEMONSTRATED AS TOXIC SUBSTANCES WERE ADDED TO THE FEED. THE DEVELOPED ON-LINE CONTROL SYSTEMS ARE APPLICABLE TO MUNICIPAL, INDUSTRIAL OR COMBINED TREATMENT PLANTS. A BIBLIOGRAPHY OF 63 REFERENCES IS INCLUDED.
MJ SEWAGE-TREATMENT, INDUSTRIAL-WASTE-TREATMENT, AUTOMATIC-CONTROL, ACTIVATED-SLUDGE-PROCESS.
MN CARBON, NUTRIENTS, OXIDATION, BIODETERIORATION, TOXICITY, DETECTORS, PILOT-PLANTS, BACTERIA, PH, OPTIMIZATION.
ID PETROCHEMICAL-INDUSTRY, BIOLOGICAL-INDUSTRIAL-WASTE-TREATMENT, NTISEPAORD.
AN N PB-247 160/5SL.

<1308>
AU ZHOLDAKOVA Z I. KOZITSKAYA V N.
YR 71.
TI CHARACTERISTICS OF PHENOLS IN PLACES WHERE BODIES OF OPEN WATER BLOOM.
SO HYDROBIOL J (ENGL TRANSL GIDROBIOL ZH). 7 (3). 71-73.
DE POLLUTION.
AN B 72080266.

<1309>
AU ZOBOVA, N. A. SOLENOVA, L. G. MAZMANIDI, N. D. IL'NITSKII, A. P.
IN INST. EKSP. KLIN. ONKOL. MOSCOW. USSR.
YR 76.
TI BENZO(A)PYRENE ACCUMULATION BY SOME BLACK SEA HYDROBIONTS UNDER EXPERIMENTAL CONDITIONS.
SO OKEANOLOGIYA (MOSCOW). 16. P464- 6. 1976.
LG RS.
DE BENZOPYRENE FISH MUSSEL.
AN C 08611066548.

<1310>
AU ZOGORSKI, JOHN S. FAUST, SAMUEL D.
IN RUTGERS--THE STATE UNIV. NEW BRUNSWICK, N.J. WATER RESOURCES RESEARCH INST.
YR 74. 96P.
TI REMOVAL OF PHENOLS FROM POLLUTED WATERS.
NT FINAL REPT.
PR PC$4.75/MF$2.25.
AB NINE GRANULAR ACTIVATED CARBONS WERE EVALUATED FOR THEIR EFFICIENCES TO REMOVE PHENOLIC COMPOUNDS FROM WATER. OF THESE, COLUMBIA LCK CARBON HAS SUPERIOR ADSORPTION CAPACITIES (. 177G 2,4-DICHLOROPHENOL PER GRAM CARBON) AND KINETICS OF ADSORPTION. CONSEQUENTLY, IT WAS CHOSEN FOR THE EQUILIBRIUM (ADSORPTION CAPACITY) KINETIC, AND COLUMN STUDIES. IN THE EQUILIBRIUM STUDIES 2,4-DICHLOROPHENOL AND 2,4-DINITROPHENOL WERE EMPLOYED AS MODEL COMPOUNDS TO EVALUATE SUCH VARIABLES AS (A) CONTACT TIME, (B) CARBON PARTICLE

SIZE, (C) PH VALUE, (D) TEMPERATURE, (E) PHENOL SOLUBILITY IN WATER, AND (F) COMPETITIVE ADSORPTION. THE EFFECT OF SEVERAL VARIABLES ON THE KINETICS (I. E. RATE) OF ADSORPTION OF 11 PHENOLIC COMPOUNDS ON COLUMBIA LCK CARBON WERE INVESTIGATED: (A) RATE OF STIRRER SPEED, (B) TYPE OF PHOSPHATE BUFFER, (C) TEMPERATURE, (D) PH VALUE, (E) COMPETITIVE ADSORPTION, (F) CARBON PARTICLE SIZE, (G) INITIAL PHENOL CONCENTRATION, (H) MOLECULAR SIZE OF THE PHENOL, AND (I) SUBSTITUTENT IN THE PARA POSITION ON THE PHENOL RING. SEVERAL EXPERIMENTS WERE PERFORMED WHERE PHENOLIC SOLUTIONS WERE PASSED THROUGH A FIXED BED OF CARBON.

MJ PHENOLS, ACTIVATED-CARBON-TREATMENT, WATER-TREATMENT.

MN KINETICS, ADSORPTION, PERFORMANCE-EVALUATION, CAPACITY, ACTIVATED-CARBON, SEWAGE-TREATMENT, INDUSTRIAL-WASTE-TREATMENT, PARTICLE- SIZE, TEMPERATURE, PH, FLOW-RATE, CONCENTRATION-COMPOSITION, COLUMNS-PROCESS-ENGINEERING, MOLECULAR-PROPERTIES.

ID WATER-POLLUTION-CONTROL, PHENOL-DICHLORO, PHENOL-DINITRO, CHEMICAL-STRUCTURE, NTISDIOWRT.

AN N PB-237 859/4SL.

<1311>

AU ZOULALIAN, V. BESSOU, F. TESSIER, A. CAMPBELL, P. G. VISSER, S. A. VILLENEUVE, J. P.

IN INST. NATL. RECH. SCI. UNIV. QUEBEC. QUEBEC. QUE.

YR 74.

TI DYNAMICS OF THE DEGRADATION OF PHENOL IN THE SAINT LAWRENCE RIVER.

SO PROC. INT. CONF. TRANSP. PERSISTENT CHEM. AQUAT. ECOSYST. PII, 53-8. 1974.

LG FR.

DE BIODEGRDN PHENOL RIVER WATER. OIL REFINERY EFFLUENT PHENOL BIODEGRN.

AN C 08308065111.

<1312>

AU ZUMBRUNN, J. P.

IN UNIV. PARIS. PARIS. FR.

YR 73.

TI DETERMINATION OF CYANIDES IN THE WASTE WATER FROM SURFACE TREATMENT.

SO SURFACES. P35-41; (79), 59-62; (80), 67-70. 1973.

LG FR.

DE CYANIDE DETN WASTE WATER. WASTE WATER ANALYSIS CYANIDE.

AN C 08012063572.

<1313>

AU ZUMBRUNN, J. P.

IN DEP. CHIM. SOC. AIR LIQ. AUBERVILLIERS. FR.

YR 73.

TI PURIFICATION OF WASTE WATER POLLUTED BY CYANIDES, SULFIDES, PHENOLS, ALDEHYDES, AND DERIVATIVES BY PEROXIDE PRODUCTS.

SO TRIB. CEBEDEAU (CENT. BELGE ETUDE DOC. EAUX AIR). 26. P332-41. 1973.

LG FR.

DE WASTE WATER OXIDN PURIFN. POLLUTANT OXIDN REMOVAL WATER. CYANIDE OXIDN REMOVAL WATER. SULFIDE OXIDN REMOVAL WATER. PHENOL OXIDN REMOVAL WATER. ALDEHYDE OXIDN REMOVAL WATER.

AN C 08004019176.

<1314>

AU ZYABBAROVA, S. A. KUKLINA, M. N.

IN LENINGR. SANIT.-GIG. MED. INST. LENINGRAD. USSR.

YR 73.

TI SOME ALIPHATIC AMINES IN THE PROBLEM OF THE SANITARY PROTECTION OF RESERVOIRS.

SO VOPR. GIG. VODOSNABZH. SANIT. OKHR. VODOEMOV, MATER. RESP. NAUCHNO-PRAKT. KONF. P64-5. 1973.

LG RS.

AV AKULOV, K. I.

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16. ABSTRACT

Advance fossil-fuel processing operations, including oil-shale retorting, coal gasification, coal liquifaction and tar-sands recovery, can result in chemically complex aqueous waste effluents. This bibliography compiles much of the recent literature (ca. 1970-1977) concerning effects of organic compounds in advanced fossil-fuel processing effluents when discharged into aquatic ecosystems, plus information available on analytical methods and treatment technologies for these organics. To compile the bibliography, nearly 500 organic compounds known to be constituents of fossil fuels and fossil-fuel processing effluents were crossed with a list of key words during a computerized search of six bibliographic data bases. The bibliography contains 1314 citations which are indexed by chemicals, key words, taxonomic categories and authors. This bibliography is intended especially for researchers working with advanced fossil-fuel processing effluents in aquatic environments, but may also be useful to those concerned with fossil-fuel processing effluents in terrestrial environments and to those working in pulp mill and pesticide research.

17. KEY WORDS AND DOCUMENT ANALYSIS

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