905F87100

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

REPLY TO THE ATTENTION OF:

16 JUN 1987

MEMORANDUM

SUBJECT: RCRA Region V Policy on Ground Water Restoration at Solid Waste Management Units

FROM: Basil G. Constantelos, Director
Waste Management Division

TO: Waste Management Division Staff

This memorandum sets forth the Region V policy establishing ground water protection standards for facilities seeking a permit having non-RCRA-regulated Solid Waste Management Units (SWMUs), or facilities not seeking a permit that have either RCRA-regulated or non-RCRA-regulated SWMUs.

As you are aware, 40 CFR 264.101 requires that owners or operators of facilities seeking permits for the treatment, storage or disposal of hazardous waste must institute corrective action as necessary to protect human health and the environment for all releases of hazardous waste or constituents from any SWMU, regardless of the time at which the waste was placed in such unit. SWMUs that received hazardous waste after July 26, 1982 (regulated units), must comply with the Corrective Action Program of §264.100.

However, for SWMUs that are not regulated units, the regulations do not specify to what levels contaminated ground water should be decontaminated. In the absence of comprehensive standards for setting the levels of hazardous constituents in the ground water at these SWMUs, the goal of corrective action is to reduce the concentration of any hazardous constituent in ground water to the health-based level of that constituent, or the Maximum Concentration Limit (MCL) used for drinking water protection (§264.94 Table 1) if one exists, or an Alternate Concentration Limit (ACL) established by the Regional Administrator. These standards should be used for all ground water that is a current or potential source of drinking water. Where the ground water can not be considered a potential source of drinking water -- e.g., because it has a natural level of more than 10,000 ppm total dissolved solids (TDS) -- it is not necessary to meet these health-based standards. These standards should not be waived

cc: Frank Covington
Henry Longest, WH-548
Gene Lucero, WH-527
Marcia Williams, WH-562
William Sanders, ESD
Robert Schaefer, OPA
Robert Springer, PMU
Charles Sutton, MD
Roger Field, DRC
Liz Mazanti, OPA
State Division Directors

merely because there are no current or projected plans or intentions to use the aquifer as a source of drinking water. In addition, ground water should not be considered "undrinkable" solely because of contamination caused by the facility which is subject to corrective action. In this case, cleanup targets should be set at the health-based standards described above.

In general, the goal of corrective action should be to achieve cleanup levels as soon as practicable. However, in determining the timing of cleanup, the permit writer may consider such factors as the availability of treatment and disposal capacity, the financial status of the facility owner/operator and his ability to pay, and the imminence of threats to human health and the environment.

These standards should be employed in the following circumstances:

1) The Corrective Action part of the HSWA portion of the RCRA permit,

2) Requests for Applicable or Relevant and Appropriate requirements (ARARs) from Superfund (CERCLA),

3) For standards that will be included in Section 3008(h) Corrective Action Administrative Orders, and

4) Any other requests the U.S. EPA may respond to from other government agencies.

If you have any questions regarding this matter, please contact Richard Rupert or Carol Witt of my staff, at FTS 886-1960 or FTS 886-6146, for assistance in implementing this policy.

cc: Frank Covington
Henry Longest, WH-548
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CORRECTIVE ACTION ORDER WORKSHOP

Discussion of Regional Issues and Specific Cases

Information Sources:

a) IRIS - Integrated Risk Information System
Updated by U.S. EPA Reference Dose Work Group and Carcinogen Review Group.
Accessible through E-Mail by typing >IRIS with a personal computer with communications software (Cross-Talk), word processors (Lexitron), computer terminals.

Services: Chemical Files
List of 205 Chemicals
File Revision History
Background Information
Glossary
Users Guide

Report: Oral/Inhalation reference dose
Risk estimate for carcinogenicity
Drinking water health advisories
Risk management summaries
Supplemental data
Synonyms

Contact: EMail user support FTS 382-5639
IRIS coordinator FTS 382-7315

b) PHRED - Public Health Risk Evaluation Database
Chemical specific information.
Superfund Public Health Evaluation Manual
Available on personal computer hard drive, or on disk.

Various Information on 364 chemicals, select 5 fields:

CAS Registry Number	Oral wTc
Molecular Weight	Oral sTc
Water Solubility	Inhalation ED10
Vapor Pressure	Inhalation aTc
Henrys Law	WQC Aqua. organisms + DW
KOC	WQC Drinking Water Only
Log Kow	Drinking Water MCL
Fish BCF	Drinking Water MCLG
Half Life-Soil	Clean Air Act NAAQS
Half Life-Air	DW HAs - One-day
Half Life-Sur. Water	DW HAs - Ten-day
Oral MED	HA Longer-term 10 kg
Oral RVe	HA Longer-term 70 kg
Oral wTn	HA Lifetime
Inhalation MED	Ref. Concentration-Pot. Carcin
Inhalation aTn	
Oral ED10	

Contact: Dr. Craig Zamuda FTS 382-2182

c) Dialog - Dialog Information Retrieval Service.
On-Line database system, personal computer.
220 databases available, 110 million records
Located Palo Alto, CA

*Chemname - 1,572,000 chemical substances, CAS Registry Number, molecular formula, synonyms, searchable by tradename.

*Chemical Exposure - 1974-present, 11,300 records, comprehensive database of chemicals that have been identified in both humans and animals. Body burden information, exposure, etc.

CA Search - 1967-present, 6,840,000 records, contains bibliographic data, keyword phrases, and index entries.

*Enviroline - 1971-present, 115,500 records, produced by the Environment Information Center, covers the world's environmental information.

*Medline - 1966-present, 4,687,000 records, U.S. National Library of Medicine, major source of biomedical literature.

*Pollution Abstracts - 1970-present, leading resource for references to environmentally related literature on pollution, its source, and its control.

SciSearch - 1974-present, multidisciplinary index to the literature of science and technology.

Contact: U.S. EPA Library, Region V: 353-2022
Chicago Dialog Office contact: (312)726-9206

d) QSAR - Quantitative Structure Activity Relationships
A structure-activity based chemical modeling and information system - Montana State University.
(406)994-4481
Accessible chemical name CAS number or Smiles string.

*Ecotox option generates a series of exposure assessment and characteristic displays for the chemical specified in the QSAR structure option:

Exposure Assessment
Biodegradation Half-Life
*Henry's Law Constant and Environmental Partitioning
Aquatic Toxicity
Phytotoxicity
*Genetic/Mutagenic Assessment
Aquire

INTEGRATED RISK INFORMATION SYSTEM: Chemical Files

Methylene Chloride; CAS No. 75-09-2 (Revised 11/16/1986)

USE AND INTERPRETATION OF THE DATA IN IRIS

Health risk assessment information on chemicals is included in IRIS only after a comprehensive review of chronic toxicity data by work groups composed of U.S. EPA scientists from several Agency Program Offices. The summaries presented in Sections I and II represent a consensus reached in those reviews. The conceptual bases of these risk assessments are described in Appendices A & B in Service Code 4. The other sections are supplementary information which may be useful in particular risk management situations, but have not yet undergone comprehensive U.S. EPA review. The risk management numbers (Section V) may not be based on the most current risk assessment, or may be based on a current, but unreviewed, risk assessment, and may take into account factors other than health effects (e.g., treatment technology). When considering the use of risk management numbers for a particular situation, note the date of their development, the date of the most recent risk assessment, and whether technological factors were considered. For a more detailed description of procedures used in these assessments and the development of risk management numbers, see Appendix E in Service Code 4.

STATUS OF DATA FOR Methylene Chloride

I.	Chronic Systemic Toxicity: Noncarcinogenic Health Effects	
	A. Oral RfD:	available
	B. Inhalation RfD:	none
II.	Risk Estimates for Carcinogens:	under review
III.	Drinking Water Health Advisories:	none
IV.	Risk Management Summaries:	available
V.	Supplementary Data:	none

I. CHRONIC SYSTEMIC TOXICITY: NONCARCINOGENIC HEALTH EFFECTS

INTERPRETATION OF CHRONIC SYSTEMIC TOXICITY DATA

The Reference Dose (RfD) is based on the assumption that thresholds may exist for certain toxic effects such as cellular necrosis, but may not exist for other toxic effects such as carcinogenicity. The RfD is considered to be the level unlikely to cause significant adverse health effects associated with a threshold mechanism of action in humans exposed for a lifetime. RfDs can also be derived for the noncarcinogenic health effects of compounds which are also carcinogens. Therefore, it is essential to refer to section II, and other sources as well, for risk assessment information pertaining to the carcinogenicity of this compound. Please refer to the Background Document on the RfD (Appendix A) in Service Code 4 for an elaboration of these concepts.

A. REFERENCE DOSE (RfD) FOR ORAL EXPOSURE

Chemical: Methylene Chloride
CAS No.: 75-09-2 Preparation Date: 06/13/86

1. REFERENCE DOSE SUMMARY TABLE

Critical Effect	Experimental Doses *	UF	MF	RfD
Liver toxicity 2-year rat drinking water bioassay National Coffee Association (1982)	NOAEL: 5.85 and 6.47 mg/kg/day for males and females, respectively LOAEL: 52.58 and 58.32 mg/kg/day for males and females, respectively	100	1	6E-2 mg/kg/day

* Dose Conversion Factors & Assumptions: none

2. PRINCIPAL AND SUPPORTING STUDIES

National Coffee Association. 24-Month chronic toxicity and oncogenicity study of methylene chloride in rats. Final Report. Prepared by Hazleton Laboratories America, Inc., Vienna, VA, August 11, 1982.

The chosen study appears to have been very well conducted, with 85 rats/sex at each of four dose groups. A high-dose recovery group of 25 rats/sex, as well as two control groups of 85 and 50 rats/sex, was also tested. Many effects were monitored.

The supporting data base is limited. A NOAEL of 87 mg/cu. m was reported in one inhalation study (Haun et al., 1972). [The equivalent oral dose is about 28 mg/kg bw/day (i.e., 87 mg/cu. m x 0.5 x 0.223 cu. m/day/0.35 kg; these exposure values are for rats).]

3. UNCERTAINTY AND MODIFYING FACTORS

UF = 100. (10a x 10h) The 100-fold factor accounts for both the expected intra- and interspecies variability to the toxicity of this chemical in lieu of specific data.

MF = 1

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4. ADDITIONAL COMMENTS

None.

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5. CONFIDENCE IN THE RfD

Study: High Data Base: Medium RfD: Medium

The study is given a high confidence rating because a large number of animals of both sexes were tested in four dose groups, with a large number of controls. Many effects were monitored and a dose-related increase in severity was observed. The data base is rated medium to low because only a few studies support the NOAEL. Medium confidence in the RfD follows.

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6. DOCUMENTATION AND REVIEW

U.S. EPA. Drinking Water Criteria Document for Methylene Chloride. Office of Drinking Water, Washington, DC. (1985)(Draft)

The ADI has been reviewed by the U.S. EPA's ADI (RfD) Work Group.

Agency RfD Work Group Review: 06/24/85, 07/08/85, 11/06/85

Verification Date: 11/06/85

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7. U.S. EPA CONTACTS

Primary: K. Khanna FTS/382-7588 or 202/382-7588
Office of Drinking Water

Secondary: M.L. Dourson FTS/684-7544 or 513/569-7544
Office of Research and Development

B. REFERENCE DOSE (RfD) FOR INHALATION EXPOSURE

Chemical: Methylene Chloride
CAS No.: 75-09-2

Information is not available at this time.

II. RISK ESTIMATES FOR CARCINOGENS

Chemical: Methylene Chloride
CAS No.: 75-09-2

This chemical is among those substances evaluated by the U.S. EPA for evidence of human carcinogenic potential. This does not imply that this chemical is necessarily a carcinogen. The evaluation for this chemical is under review by an inter-office Agency work group. A risk assessment summary will be included on IRIS when the review has been completed.

III. DRINKING WATER HEALTH ADVISORIES

Chemical: Methylene Chloride
CAS No.: 75-09-2

Information is not available at this time.

IV. RISK MANAGEMENT SUMMARIES

Chemical: Methylene Chloride
CAS No.: 75-09-2 Preparation Date: 10/16/86

INTERPRETATION OF RISK MANAGEMENT DATA

EPA risk assessments may be continuously updated as new data are published and as assessment methodologies evolve. Risk management (RM) decisions are frequently not updated at the same time. Carefully read the dates for the risk management actions (in this section) and the verification dates for the risk assessments (in sections I & II), as this may explain apparent inconsistencies. Also note that some risk management decisions consider factors not related to health risk, such as technical or economic feasibility. Such considerations are indicated in the table below (Considers Econ/Tech Feasibility). Please direct any questions you may have concerning the use of risk assessment information in making a risk management decision to the contact listed in Part B of this section (Risk Management Rationale). Users are strongly urged to read the background information on each RM action in Appendix E in Service Code 4.

A. RISK MANAGEMENT ACTIONS

Risk Management Action	Status Date	Risk Management Value	Considers Econ/Tech Feasibility	Reference
Reportable Quantity (RQ)	Final 1985	1000 lbs.	no	50 FR 13456 04/04/85
Water Quality Criteria (WQC):				
a. Human Health	Final 1980	0.19 ppb	no	45 FR 79318 11/13/80
b. Aquatic Toxicity				
1) Freshwater	Final 1980	Acute 11,000 ug/l Chronic none	no	ibid.
2) Marine	Final 1980	Acute 12,000 ug/l Chronic 6,400 ug/l	no	ibid.
Clean Air Act (CAA) Regulatory Decision:				
Nat. Emissions Standards for Hazardous Air Pollutants (NESHAP)	Current 1985	Under development	no	FR 10/17/85
Hazardous Waste Constituent (App. VIII)	Final 1985	Listed	no	40 CFR Part 261 App. VIII

B. RISK MANAGEMENT RATIONALE

RQ

The final adjusted RQ of 1000 pounds is based upon a chronic toxicity score of 10. This substance has recently been identified for assessment of carcinogenicity, and the RQ will be reevaluated when that assessment is completed.

Contact: RCRA/Superfund Hotline
800-424-9346 or 382-3000 (202 area/FTS)

WQC

Contact: Office of Water Regulations and Standards
202-382-5400 or FTS-382-5400

a. Human health: Methylene chloride is classified as a carcinogen, and under the assumption of no threshold for a carcinogen, the recommended WQC is zero. However, if zero cannot be obtained and exposure is via ingestion of water and aquatic organisms, 0.19 ug/l is associated with an upper-bound excess lifetime risk of 1.0E-6 [other risk levels to consider: 1.0E-5 (1.9 ug/l) and 1.0E-7 (0.019 ug/l)]. If exposure is only via ingestion of aquatic organisms, the WQC associated with an upper-bound excess lifetime risk of 1.0E-6 is 15.7 ug/l. The criteria are based on halomethanes as a class.

b. Aquatic toxicity: Water quality criteria for the protection of aquatic life are derived from a minimum data base of acute and chronic tests on a variety of aquatic organisms. The "(LEL)" after the value indicates that the minimum data were not available and the concentration given is not a criteria value but the lowest effect level found in the literature. The values are based on halomethanes as a class - no specific chemicals are cited.

V. SUPPLEMENTARY DATA

Chemical: Methylene Chloride
CAS No.: 75-09-2

Information is not available at this time.

Synonyms: Methane, dichloro- (8CI9CI); Aerothene MM; Chlorure de methylene (French); Dichlormethan, uvasol; Dichloromethane; DCM; Freon 30; Methane dichloride; Methylene bichloride; Methylene chloride (ACN); Methylene dichloride; Metylenu chlorek (Polish); Narkotil; NCI-C50102; R 30; Solaesthin; Solmethine; WLN: G1G; 1,1-Dichloromethane.

CAS	WQC Drinking Water Only	DW MCLs (mg/l)	DW MCLG (mg/l)	Ref Dose (ug/l)
Acetone				
67641				
Benzene				
71432	0 (0.67 ug/l)		0	0.35
Benzo(a)pyrene				
50328	0 (3.1 ng/l)			
Benzo(k)fluoranthene				
207089	0 (3.1 ng/l)			
Carbon Disulfide				
75150				
Chloroform				
67663		0.1 h/		
Chrysene				
218019				
Dibutyl Phthalate				
84742	44 mg/l			
1,3-Dichlorobenzene				
541731	470 ug/l			NA
1,1-Dichloroethane				
75343	Insufficient data			
Dichloromethane				
75092	see Halomethanes			5
Fluorene				
86737				
Naphthalene				
91203	Insufficient data			
Phenanthrene				
85018	0 (3.1 ng/l)			
Phenol				
108952	3.5 mg/l			
Pyrene				
129000				
Toluene				
108883	15 mg/l			NA
1,1,1-Trichloroethane				
71556	19 mg/l		0.2	22000
Vinyl Chloride				
75014	0 (2.0 ug/l)		0	0.015
Xylene (mixed)				
1330207				NA

CAS	WQC Drinking Water Only	DW MCLs (mg/l)	DW MCLG (mg/l)	Ref Dose (ug/l)
Arsenic and Compounds				
7440382	(25 ng/l)	0.05		0.0022
Barium and Compounds				
7440393		1.0		NA
Cadmium and Compounds				
7440439	10 ug/l	0.01		NA
2,4-Dichlorophenoxyacetic Acid (2,4-D)				
94757		0.1		NA
Endrin				
72208	1 ug/l	0.0002		NA
Fluorides				
7782414		1.4-2.4		
gamma-HCCH (Lindane)				
58899	0 (17.4 ng/l)	0.004		0.0265
Lead and Compounds (Inorganic)				
7439921	50 ug/l	0.05		0.031
Manganese and Compounds				
7439965	10 ug/l	0.002		
Mercury and Compounds (Alkyl)				
20	10 ug/l	0.002 mg/l		NA
Mercury and Compounds (Inorganic)				
7439976	10 ug/l	0.002 mg/l		NA
Methoxychlor				
72435		0.1		NA
Nitrate				
14797558				NA
Selenium and Compounds				
7782492	10 ug/l	0.01		
Silver and Compounds				
7440224	50 ug/l	0.05		
Toxaphene				
8001352	0 (26 ng/l)	0.005		0.031
2,4,5-Trichlorophenoxyacetic Acid				
93765				
Tritium				
57		20,000 pCi/l		

```
        Chemical and Physical Properties Worksheet
CAS    :        75-99-0
NAME   : Propanoic acid, 2,2-dichloro-

SMILES: O=C(O)C(Cl)(Cl)C

      #    Property     Value and Units    Source   Method Error
    ------+-------------------------------+--------+--------------------+
      1    Mol Wgt.      142.00 g/mol      Calc.
      2    Parachor      248.00            Calc.      ????
      3    Mol Ref.       27.30            Calc.    Av. % Error = 5
      4    Mol Vol.      119.00 cm^3/g.m   Calc.      ????
      5    LogP            1.47            CLogP
      6    Melt Pt.
      7    Boil Pt.      188.00 C @760mm   Meas
      8    V.Press.        0.44  mm. Hg    Calc.    Av. % Error = 39.0
      9    Ht. Vpr.     4103.00 cal/mol    Calc.    Av. % Error = 1.85
     10    pKa             1.39 @ 25 C.    Calc.
     11    SOL. H2O.      13.70  Gm/L       Calc.      ????
     12    S. Area
    ------+-------------------------------+--------+--------------------+

Property C)hanged or D)etailed. Connectivity I)ndices or Q)uit:
```

a. Significance

These twelve chemical properties are helpful in assessing the environmental fate and transport of a chemical. The definition of each property and its significance is given in Table 1.

TABLE 1

PHYSICOCHEMICAL PROPERTIES

Property	Significance
<u>Molecular weight</u> - The sum of the atomic weights of the atoms in a molecule (Hawley, 1981).	Factor in determining diffusion and passage through interstitial space. Also a possible factor in biological transport (Oliver and Nilmi, 1985).

```
+-----------------------------------------------------------------------+
I CAS # :        75-99-0                                                I
I Name  :Propanoic acid, 2,2-dichloro-                                  I
I                                                                       I
I Smiles:O=C(O)C(Cl)(Cl)C                                               I
I                                                                       I
+-----------------------------------------------------------------------+
Henrys law Constant and Environmental Partitioning

Log10 (Henrys Constant)  =      -5.21  atm-m**3/mole

 Lyman et al. 1982. would conclude that a chemical
 with these properties will volatilize slowly from
 open water.  See page 15-15.

            NEELY 100 Day Partitioning Pattern
        ------------------------------------
              Air          =      0.15 %
              Water        =     99.20 %
              Ground       =      0.34 %
              Hydrosoil    =      0.32 %
```

a. Henry's Law Constant

This display gives an estimate of Henry's Law Constant given as the logarithm of Henry's Law Constant.

Definition: the ratio of a chemical's concentration in air to its concentration in water, when those two phases are in contact and at equilibrium (Lyman, 1985, p.17).

Significance: indicates the propensity of a chemical to volatilize. Vaporization of organic chemicals form water bodies is an important transfer mechanism form water to air. Volatilzation rates are necessary to determine the amount of chemical that enters the atmosphere and the change of chemical concentration in water bodies. (Thomas, 1982, p.15-1).

Estimation model: see Thomas, 1982, p.15-11, equation 15-8.

b. Environmental Partitioning

This display uses an equilibrium model to estimate environmental exposure of the chemical. Compartments of the environment (air, water, ground and hydrosoil) are represented using a one kilometer square unit world concept as described by Neely and Mackey (1982). Relative concentrations of the chemical (indicated as percentages) are given for each compartment.

Definition: the relative disposition of a chemical partioned into various environmental compartments such as air, water, soil, etc.

The structural evaluation to determine potential carcinogenic functional groups (situation b above) is based on unpublished work by C. V. Basal, U.S. Environmental Protection Agency, Environmental Research Laboratory, Duluth, Minnesota.

```
I                                                                    I
I Smiles:O=C(O)C(Cl)(Cl)C                                            I
I                                                                    I
+--------------------------------------------------------------------+

                 Genetic/Mutagenic Assessment
-------------------------------------------------------------

 This Molecule has triggered the carcinogen flag in the QSAR Data Base.
 It is suspected to cause Cancer, and it can be found in :
 "Suspected Carcinogens, 2nd Edition".  U.S. Department of H.E.W.


 The following evaluation of this chemical is  based on structure, only.

This is a POLYCHLORINATED Compound which may be carcinogen
A review may be found in P.D.Lawlay.1976.

     This is Chlorinated, Brominated, or Iodinated,
  Alkane or Alkene of moderate length ( i.e. up to
  15 Carbons) and as such should be considered a
  possible Mutagen or Carcinogen. See  Sax, N. Irving, 1981.
Press the RETURN key:
```

Species Summary display.

2. Select the endpoint/effect of interest at the Endpoint/effect Summary display.

3. Choose the desired test from the Tests Summary display.

Now let's go through these steps using our example.

The Search option is invoked at the Chemical Summary.

o type S (return)

a. Species Summary

The Species Summary appears on the screen showing all the test species for the identified chemical.

```
AQUIRE -                          Species Summary                    - MARCH 1984
CAS:     75990 Chemical: 2,2-DICHLOROPROPIONIC ACID

 Line#   Species#    Latin                          Common
  1          2    LEPOMIS MACROCHIRUS              BLUEGILL
  2          4    SALMO GAIRDNERI                  RAINBOW TROUT,DONALDSON TROUT
  3          5    DAPHNIA MAGNA                    WATER FLEA
  4          8    DAPHNIA PULEX                    WATER FLEA
  5         11    CRANGON CRANGON                  COMMON SHRIMP
  6         12    CERASTODERMA EDULE               COCKLE
  7         14    RASBORA HETEROMORPHA             HARLEQUINFISH, RED RASBORA
  8         16    GAMBUSIA AFFINIS                 MOSQUITOFISH
  9         20    ICTALURUS PUNCTATUS              CHANNEL CATFISH
 10         30    LEPOMIS CYANELLUS                GREEN SUNFISH
 11         54    SIMOCEPHALUS SERRULATUS          WATER FLEA
 12        106    MICROPTERUS DOLOMIEUI            SMALLMOUTH BASS
 13        211    ALBURNUS ALBURNUS                BLEAK
 14        212    NITOCRA SPINIPES                 HARPACTICOID COPEPOD
 15        298    DUNALIELLA TERTIOLECTA           GREEN ALGAE

Options: C)ontinue  S)elect species  P)rior screen  Q)uit  RETURN to Chem. Summa
?
```

The Menu options for the Species Summary are:

Continue - scrolls to the next screen of the Species Summary if over 15 species are listed.

Select species - to select a species.

Prior - scrolls back to the previous screen if multiple species screens exist.

AGENDA
RCRA CORRECTIVE ACTION ORDER WORKSHOP

DAY 1

8:30 Introductory Remarks

9:00 Corrective Action Process

9:15 Overview of Administrative Options

- Enforcement options (§3008(h), §3013, §7003, §3008(a))
- Permitting options (§3004(u) and (v))
- Interaction with other programs (CERCLA/TSCA/CWA/CAA/State)

10:30 NPL Policy and Status of the Corrective Action Regulations

10:45 Applicability and Scope of §3008(h) Authorities

11:15 §3008(h) Order Procedures

12:00 Lunch

1:00 Summary of Authorities - Applications

1:30 Public Involvement

2:00 Development of a §3008(h) Corrective Action Order

- Administrative Record
- Model Order
  - -Structure/Components
  - -Unilateral Order language
- Negotiations
- Headquarters Review Team Process

4:00 Adjourn

DAY 2

8:30 Development of a Facility Strategy

9:45 Interim Measures

10:15 Use of the Corrective Action Plan (CAP) to Develop the Scope of Work

- RCRA Facility Investigation (RFI)
- Corrective Measures Study (CMS)
- Corrective Measures Implementation (CMI)

12:00 Lunch

1:00 Corrective Action Guidance Resources

1:30 Oversight During the Corrective Action Process

2:00 Discussion of Regional Issues and Specific Cases

4:00 Adjourn

RFI - Develop Scope of Work
do work plan

Interim measure -
Any action
initiated at any
time
protect against damage
to human health
and
environment

Clean - Up Targets -
Background or Health
Standard -
Resource Value
Timing
How soon cleaned up?
Allow utilization of
non-subtitle C facilities.
Concept of temporary
units.
How long is a unit a
temporary unit.

Anna Duncan
Matt Gillmund
Susan Gikefe
Jackie Tenusak

United States
Environmental Protection
Agency

Office of
Solid Waste and
Emergency Response

EPA

DIRECTIVE NUMBER: 9902.4

TITLE: RCRA CORRECTIVE ACTION INTERIM MEASURES

APPROVAL DATE: June 10, 1987

EFFECTIVE DATE: June 10, 1987

ORIGINATING OFFICE: OWPE

☒ **FINAL**

☐ **DRAFT**

LEVEL OF DRAFT

- ☐ A — Signed by AA or DAA
- ☒ B — Signed by Office Director
- ☐ C — Review & Comment

REFERENCE (other documents):

SWER OSWER OSWER
DIRECTIVE DIRECTIVE

United States Environmental Protection Agency
Washington, D.C. 20460

EPA OSWER Directive Initiation Request

1. Directive Number: 9902.4

2. Originator Information

Name of Contact Person	Mail Code	Office	Telephone Number
Mark Gilbertson & Anna Duncan	WH-527	OWPE/RCRA Enf. Div.	382-4849 & 382-4829

3. Title

RCRA Corrective Action Interim Measures

4. Summary of Directive *(Include brief statement of purpose)* The RCRA Corrective Action Interim Measures is intended to assist the Regions and States in determining the need for an interim measure and directing the work which must be performed as part of the corrective action program to mitigate or remove the exposure threat presented by releases.

5. Keywords

RCRA, corrective action, interim measures

6a. Does this Directive Supersede Previous Directive(s)? ☐ Yes ☒ No What directive *(number, title)*

b. Does It Supplement Previous Directive(s)? ☐ Yes ☒ No What Directive *(number, title)*

7. Draft Level

☐ A — Signed by AA/DAA ☒ B — Signed by Office Director ☐ C — For Review & Comment ☐ In Development

This Request Meets OSWER Directives System Format

8. Signature of Lead Office Directives Coordinator	Date
Carlene M. Williams	6/10/87
9. Name and Title of Approving Official	**Date**

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