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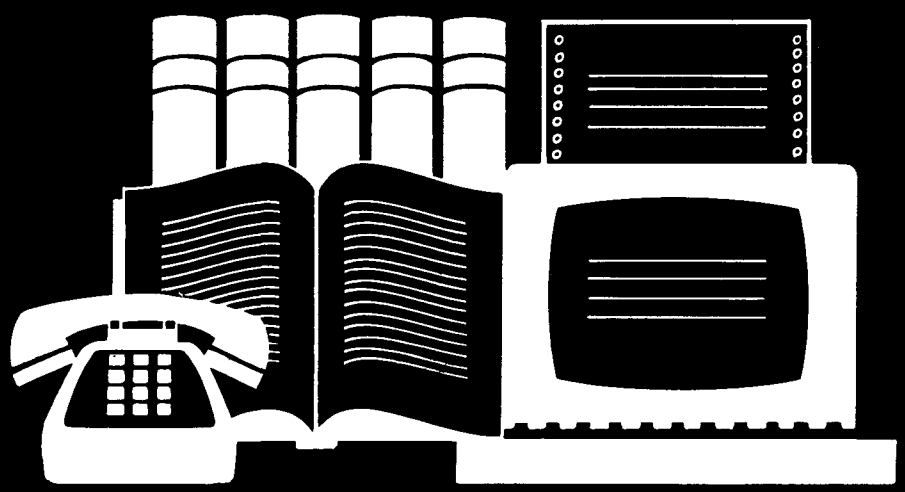
EPA

Hazardous Waste Collection

Database Thesaurus



Attachment 10

HAZARDOUS WASTE COLLECTION DATABASE

THESAURUS

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U.S. ENVIRONMENTAL PROTECTION AGENCY

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TABLE OF CONTENTS

	PAGE
ACKNOWLEDGEMENTS	i
INTRODUCTION	iii
HIERARCHICAL DISPLAY	1
Overview of the Major Subject Headings	3
Guide to the Format	5
ALPHABETICAL DISPLAY	21
Guide to the Format	23

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The Hazardous Waste Collection Database Thesaurus has been produced to provide an index to terminology dealing with hazardous waste and to facilitate the use of the Hazardous Waste Collection Database.

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INTRODUCTION

The Environmental Protection Agency's (EPA) Hazardous Waste Collection is a collection of EPA reports, policy, and guidance directives from the EPA's Office of Solid Waste and Emergency Response (OSWER), commercial books, legislation, regulations, and reports from selected Government Agencies, such as the General Accounting Office, concerning the subject of hazardous waste.

Each item in the Collection corresponds to a record in the Hazardous Waste Collection Database. This Thesaurus lists some 300 subject terms used to classify the documents in the Collection. It is hoped that by using this Thesaurus of controlled terms, the searcher of the database will formulate more effective searches and retrieve more pertinent records.

The Thesaurus is divided into two parts: the Hierarchical and the Alphabetical Display. The Hierarchical Display is used to familiarize oneself with the terms within broad subject areas. If one is looking for a particular, specific term, it is much quicker to consult the Alphabetical Display. The Hierarchical Display consists of groupings, by subject, of terms that are listed alphabetically in the Alphabetical Display. It starts with very broad terms such as "Superfund" or "Control Methods" and displays their narrower terms.

The Alphabetical Display lists the terms alphabetically and in many cases provides for an accompanying definition. Also, beneath each listed term is found other terms and their relationship to the listed term: "broader", "narrower", or "related".

The terms and their accompanying definitions have not been subject to peer review. This Thesaurus is meant as an aid to individuals searching only the Hazardous Waste Collection Database. These terms and their definitions in no way reflect the official views or policy of the U.S. Environmental Protection Agency.

HIERARCHICAL DISPLAY

OVERVIEW OF THE MAJOR SUBJECT HEADINGS

Listed below are the nine major subject areas and their respective second tier terms. Each of the 300 keywords in the Alphabetical Display falls within one of these nine major subject headings: Assessment, Legal Aspects, Emergency Preparedness, Control Methods, Superfund, Management, Government, Hazardous Substances, and Waste Types. A more detailed breakdown follows the Overview.

ASSESSMENT

Analysis
Ecological Risk
Economic Assessment
Generators
Human Health Risk
Methodology
Monitoring

LEGAL ASPECTS

Enforcement
Legislation
Liability
Regulations

EMERGENCY PREPAREDNESS

Community Awareness
Emergency Response

CONTROL METHODS

Alternative Technologies
Conventional Treatment
Equipment
In-situ
Ocean Dumping
Waste Minimization

SUPERFUND

CERCLIS
Cleanup
Mixed Funding
National Contingency Planning
National Priorities List
Record of Decision (ROD)
Superfund Innovative Technology Evaluation (SITE)

MANAGEMENT

Contracts
Information Sources
Policy
Training

GOVERNMENT

International
Local
State

HAZARDOUS SUBSTANCES

Carcinogens
Inorganic Chemicals
Mutagens
Organic Chemicals
Pesticides

WASTE TYPES

Emissions
Infectious Wastes
Leachates
Liquid Wastes
Solid Wastes

GUIDE TO THE FORMAT

Shown below is a sample entry from the Hierarchical Display.

1-------->**CONTROL METHODS**

2--->**ALTERNATIVE TECHNOLOGIES**

Best Demonstrated Available Treatment (BDAT)
Biological Treatment

Aeration
Aerated Lagoons
Aerobic Biodegradation
Anaerobic Biodegradation
Stabilizing Ponds
Trickling Filters

Chemical Treatment

Chlorinolysis
Dechlorination
Hydrolysis
Neutralization
Precipitation
Reduction/Oxidation
Ozonation
UV/Ozonation

(1) **Main Heading** - This represents the broadest level of terms. While these terms can be used as keywords, they are usually too general. There are nine main headings in this thesaurus.

(2) **Second Tier Term** - From this point on, the further indented a term is, the more specific the term. Each term encompasses every term that lies to the right of it in the hierarchy.

ASSESSMENT

ANALYSIS

- Corrosivity
- EP Toxicity
- Gas Chromatography
- Ignitability
- Incompatability
- Reactivity

ECOLOGICAL RISK

- Contamination
- EIS
- Indian Lands
- Natural Resources
  - **Environmental Media**
    - Air
    - Soil
      - Aquifer
    - Water
      - Drinking Water
      - Groundwater
      - Oceans
      - Surface Water
- Restoration

ECONOMIC ASSESSMENT

- Audits
- Costs
- Economic Impact
- Fee Systems
- Taxes

ASSESSMENT

GENERATORS

Energy

- Geothermal
- Radioactivity
- Utilities

Federal Facilities

Industry

- Batteries
- Construction
- Detergents
- Electroplating
- Mining
- Transformers

Municipalities

- Households
- Sewage

Sites

- Abandoned Sites
- Off-site
- On-site
- Uncontrolled Sites

Small Quantity Generators

HUMAN HEALTH RISK

Health Effects Assessment (HEAS)
Health and Environmental Effects Document (HEEDS)
Health and Environmental Effects Profile (HEEPS)
Worker Protection

MONITORING

Inspection
Migration
Sensing Techniques

- Bioassay

ASSESSMENT

METHODOLOGY

- Data
- Design
- Models
- Quality Assurance
- Sampling

LEGAL ASPECTS

ENFORCEMENT

Consent Decree
Illegal Actions
Litigation

Civil Judicial Action
Criminal Judicial Action

Mediation
Negotiations
Settlements

De Minimis

LEGISLATION

CERCLA

Post-Closure Liability Fund

Clean Air Act
Clean Water Act

311(K) Fund

Funds
Hazardous and Solid Waste Amendments (HSWA)

Section 3008(h)

OSHA
RCRA

Interim Prohibition
Subtitle C
Subtitle D
Subtitle I
LUST Trust Fund

SARA

Right-to-Know

TSCA

LEGAL ASPECTS

LIABILITY

Claims
Cost Recovery
Indeminification
Insurance

Private Insurance

Non-binding Preliminary Allocation of Responsibility (NBAR)
Penalties
Potentially Responsible Parties (PRP)
Responsible Parties

REGULATIONS

Alternative Concentration Limits (ACL)
California List
Compliance
Exemptions
Facility Standards
Financial Responsibility Requirements
Hazardous Substance Lists

Appendix VIII Constituents
Delisting

Interim Status
Location Standards
Loss of Interim Status
Minimum Technological Requirements
Non-compliance
Recordkeeping Requirements
Reporting Requirements

EMERGENCY PREPAREDNESS

COMMUNITY AWARENESS

- Material Safety Data Sheets (MSDS)
- Notification
- Confidentiality

EMERGENCY RESPONSE

- Emergency Response Plans
- Environmental Response Team
- Releases
  - Fires

CONTROL METHODS

ALTERNATIVE TECHNOLOGIES

Best Demonstrated Available Treatment (BDAT)
Biological Treatment

Aeration
- Aerated Lagoons

Aerobic Biodegradation
Anaerobic Biodegradation
Stabilization Ponds
Trickling Filters

Chemical Treatment

Chlorinolysis
Dechlorination
Hydrolysis
Neutralization
Precipitation
Reduction/Oxidation
- Ozonation
  - UV/Ozonation

Mobile Treatment
Physical Treatment

Activated Carbon Adsorption
Air Stripping
Distillation
Evaporation
Extraction
- Soil Flushing/Soil Washing
- Supercritical Extraction

Filtration
- Belt Filter Press
- Chamber Pressure Filters
- Granular Media Filtration
- Vacuum Filtration

Flocculation
Ion Exchange
Mechanical Aeration
Membrane Separation
- Electrodialysis
- Reverse Osmosis

Phase Separation
- Centrification
- Dissolved Air Flotation

CONTROL METHODS

Physical Treatment, cont'd

Sedimentation
Slurry Trenching
Steam Stripping

Stabilization/Solidification

Cementing
Polymerization
Pozzolanic Process
Sorption
Surface Encapsulation

Thermal Treatment

Calcination
Incineration
- Boilers
- Circulation Bed Combustion
- Fluidized Bed Incineration

CONVENTIONAL TREATMENT

Land Treatment
Landfills

Capping
Open Landfills

Liners
Storage

Containers
- Drums
- Corrosion
- Storage Tanks
  - Underground Storage Tanks

Surface Impoundments
Transportation

Manifest

Underground Injection

Capping

CONTROL METHODS

EQUIPMENT

- Repair
- Retro-Fit

IN-SITU

OCEAN DUMPING

WASTE MINIMIZATION

- Materials Recovery
- Recycling
- Source Reduction

SUPERFUND

CERCLIS

CLEANUP

Remedial Actions

Data Quality Objectives (DQO)

Removal Actions
Remedial Investigation/Feasibility Study (RI/FS)

MIXED FUNDING

NATIONAL CONTINGENCY PLAN

NATIONAL PRIORITIES LIST

Mitre Model

RECORDS OF DECISION (ROD)

SUPERFUND INNOVATIVE TECHNOLOGY EVALUATION (SITE)

MANAGEMENT

CONTRACTS

INFORMATION SOURCES

- Bibliographies
- Case Studies
- Databases
- Directories
- Inventories
- Technology Transfer Documents

POLICY

- Directives
- Guidance
- Regions
  - Region 1
  - Region 2
  - Region 3
  - Region 4
  - Region 5
  - Region 6
  - Region 7
  - Region 8
  - Region 9
  - Region 10

TRAINING

GOVERNMENT

INTERNATIONAL

LOCAL

STATE

HAZARDOUS SUBSTANCES

CARCINOGENS

Asbestos*
Dioxins*
Phenol
Polychlorinated Biphenyls (PCB)

INORGANIC CHEMICALS

Acids*
Asbestos*
Metals
Solvents*

MUTAGENS

ORGANIC CHEMICALS

Acids*
Dioxins
Fuels
Oils
Solvents*

PESTICIDES

* These terms fall under numerous categories.

WASTE TYPES

EMISSIONS

INFECTIOUS WASTES

LEACHATES

LIQUID WASTES

- Slurry

SOLID WASTES

- Dusts
- Sludge

ALPHABETICAL DISPLAY

GUIDE TO THE FORMAT

Shown below is a sample entry from the Alphabetical Display.

1------> **Remedial Action** - Those solutions, either proposed or
2----------> actually undertaken, for the permanent cleanup at
a Superfund site. Use for Remedial Designs,
Remedial Response.

3----------> BT - **Cleanup**
4----------> NT - **Data Quality Objectives (DQO)**
5----------> RT - **Removal Action**

Remedial Designs

6----------> use **Remedial Action**

(1) **Keyword**

(2) **Definition**

(3) **BT** - "Broader Term". Indicates that the keyword following BT is the more general concept under which the listed keyword would fall. The user might choose to search using the broader keyword for a more comprehensive search.

(4) **NT** - "Narrower Term". Indicates that the keyword following NT is a more specific concept under the listed keyword. The user may choose to search using the narrower keyword for a more refined search.

(5) **RT** - "Related Term". The keyword following RT is a concept closely related to the listed keyword other than the NT or BT relationships. The searcher may wish to search on the related keyword for a more comprehensive search.

(6) **Use** - Directs the user from a term not recognized as a keyword to a used keyword. The searcher would never search on the non-recognized term, rather he/she should search on the synonym or newer keyword which follows the phrase "use...".

A List

use **Technology Transfer Documents**

Abandoned Sites – A hazardous site, facility or generator whose use has been permanently discontinued or which is in a state of disrepair such that it cannot be used for its intended purpose.

BT - **Sites**

Acids - Compounds, either organic or inorganic, that have certain similar properties, one being a pH of less than 7.0.

BT - **Inorganic Chemicals**
BT - **Organic Chemicals**
NT - **Phenol**

Activated Carbon Adsorption - A physical treatment technology whereby soluble substances are collected on the surface of activated carbon by surface attraction phenomena.

BT - **Physical Treatment**

Activated Sludge

use **Aerobic Biodegradation**

Advanced Electric Reactor - Type of pyrolysis. Uses radiation instead of combustion, convection or conduction. Destruction of hazardous waste achieved by pure heat in a vessel and hydrogen. Use for High Temperature Fluid Wall.

BT - **Pyrolysis**

Aerated Lagoons - Natural or artificial wastewater pond or basin in which mechanical or diffused air is used to supplement natural oxygen supply.

BT - **Aeration**

Aerated Ponds

use **Aerated Lagoons**

Aeration - Biological treatment where oxygen is circulated through a substance such as wastewater.

BT - **Biological Treatment**
NT - **Aerated Lagoons**
RT - **Aerobic Biodegradation**
RT - **Anaerobic Biodegradation**

Aerobic Biodegradation - Biological treatment where microorganisms metabolize biodegradable organics in aqueous waste in anoxygen environment. Includes activated sludge process.

BT - **Biological Treatment**
RT - **Anaerobic Biodegradation**
RT - **Aeration**

Air

BT - **Environmental Media**

Air Stripping - System which provides for mass transfer of volatile organic contaminants from a liquid phase to a gas phase. A type of physical treatment.

BT - **Physical Treatment**

Alternate Concentration Limits

use **Alternative Concentration Limits (ACL)**

Alternative Concentration Limits (ACL) - EPA regional administrator can permit higher levels of hazardous substances if it will not pose a present or potential threat to human health or the environment.

BT - **Regulations**

Alternative Technologies - Any unit operations and the related equipment that permanently alters the composition of hazardous waste through biological, physical, thermal, chemical treatment or through a stabilization/solidification process to significantly reduce the toxicity.

BT - **Control Methods**
NT - **Best Demonstrated Available Treatment (BDAT)**
NT - **Biological Treatment**
NT - **Chemical Treatment**
NT - **Mobile Treatment**
NT - **Physical Treatment**
NT - **Solidification/Stabilization**
NT - **Thermal Treatment**
RT - **Conventional Treatment**
RT - **Superfund Innovative Technology Evaluation Programs (SITE)**
RT - **Waste Minimization**

Anaerobic Biodegradation - Biological treatment where microorganisms metabolize biodegradable organics in aqueous waste in an oxygen deficient environment.

BT - **Biological Treatment**
RT - **Aerobic Biodegradation**
RT - **Aeration**

Analysis - The testing of substances to determine their chemical composition or hazardous characteristics. Use for testing.

BT - **Assessment**
NT - **Corrosivity**
NT - **EP Toxicity**
NT - **Gas Chromatography**
NT - **Ignitability**
NT - **Incompatibility**
NT - **Reactivity**
RT - **Methodology**
RT - **Monitoring**

Appendix VIII Constituents - As listed in 40 CFR 261. These chemicals when found present in a substance are criteria used for placing it on one of the Hazardous Substance Lists. Includes Principal Organic Constituents.

BT - **Hazardous Substance Lists**

Aquifer - Underground bed or layer of earth, gravel, or porous stone containing water.

BT - **Soil**

Asbestos - Fibrous magnesium silicate. Highly carcinogenic.

BT - **Inorganic Chemicals**
BT - **Carcinogens**

Assessment - The quantative and qualitative study of hazardous waste and its sources. May include its effects on the environment, including the human population.

NT - **Analysis**
NT - **Ecological Risk**
NT - **Economic Assessment**
NT - **Generators**
NT - **Human Health Risk**
NT - **Methodology**
NT - **Monitoring**

Audits

BT - **Economic Assessment**

Available Technologies

use **Alternative Technologies**

B List

use **Technology Transfer Documents**

Batteries

BT - **Industry**

Belt Filter Press - Filtration process where a press continuously squeezes sludge through a series of rollers which apply increasing pressure and shear force on the sludge.

BT - **Filtration**

Best Demonstrated Available Treatment (BDAT) - Ranking of hazardous waste alternative technologies for each specific waste. Ranking is based on factors such as availability and performance.

BT - **Alternative Technologies**

Bibliographies

BT - **Information Sources**

Bioassay - Use of living organisms to measure the effect of a substance on the environment.

BT - **Sensing Techniques**

Biological Treatment - Alternative technology proces whereby the organic components of hazardous waste are biologically decomposed or altered under controlled conditions to a state which is either non-toxic or less toxic than its pretreatment state. Includes composting.

BT - **Alternative Technologies**
NT - **Aeration**
NT - **Aerobic Biodegredation**
NT - **Anaerobic Biodegradation**
NT - **Stabilization Ponds**
NT - **Trickling Filters**

Boilers - Vessels where hazardous waste is used as supplementary fuel to coal or oil.

BT - **Incineration**

Burial

use **Landfills**

Burning

use **Incineration**

C List

use **Technology Transfer Documents**

Calcination - Process of heating waste material to high temperatures without fusing. Often used with high-level radioactive waste.

BT - **Thermal Treatment**

California List - List of liquid hazardous wastes containing certain metals, cyanides, PCBs, corrosives, etc. List subsequently incorporated into the provisions of the Hazardous and Solid Waste Amendments.

BT - **Regulations**

Capping - The covering of a landfill, injection well, etc., after operations have ceased.

BT - **Landfills**
BT - **Underground Injection**

Carcinogens - Chemicals which cause cancer. Includes polycyclic aromatic hydrocarbons.

BT - **Hazardous Substances**
NT - **Asbestos**
NT - **Dioxins**
NT - **Polychlorinated Biphenyls (PCB)**
NT - **Phenol**

Case Studies

BT - **Information Sources**

Cement Kiln Dust

use **Pozzolanic Process**

Cementing - Wastes are stirred with the water and mixed directly with cement. Suspended particles are incorporated into hardened concrete.

BT - **Stabilization/Solidification**

Centrification - Components of the hazardous waste are separated mechanically by the application of centrifugal force to a rapidly rotating mixture in a confined vessel.

BT - **Phase Separation**

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act.

BT - **Legislation**
RT - **Post-Closure Liability Fund**
RT - **Non-binding Preliminary Allocation of Responsibility (NBAR)**
RT - **SARA**
RT - **Superfund**
RT - **CERCLIS**

CERCLIS - Comprehensive Emergency Response, Compensation and Liability Information System. EPA database which tracks Superfund cleanup actions.

BT - **Superfund**
RT - **CERCLA**
RT - **Databases**

Chamber Pressure Filters - Filtration technique where a group of cloth covered plates compresses the waste with the filtrate exiting through the cloth.

BT - **Filtration**

Chemical Treatment - Alternative technology processes and related equipment which alter the chemical structure of the hazardous constituents so that the resulting material is less hazardous than the original waste.

BT - **Alternative Technologies**
NT - **Chlorinolysis**
NT - **Dechlorination**
NT - **Hydrolysis**
NT - **Neutralization**
NT - **Precipitation**
NT - **Reduction/Oxidation**

Chlorinolysis - Chemical treatment process where excess chlorine is added to waste at high temperatures rendering it less hazardous.

BT - **Chemical Treatment**
RT - **Dechlorination**

Circulating Bed Combustion - Variation of fluidized bed technology which does not employ a fixed bed depth.

BT - **Incineration**
RT - **Fluidized Bed Incineration**

Civil Judicial Action - Legal action brought about by the EPA to enforce or protect the private rights of citizens concerning the environment. In general, all types of legal action other than criminal proceedings.

BT - **Litigation**
RT - **Criminal Judicial Action**

Claims

BT - **Liability**

Clean Air Act

BT - **Legislation**

Clean Water Act

BT - **Legislation**
NT - **311(K) Fund**

Cleanup - Process of restoring a hazardous waste site under the Superfund program.

BT - **Superfund**
NT - **Remedial Actions**
NT - **Removal Actions**
NT - **Remedial Investigation/Feasibility Study (RI/FS)**
RT - **Restoration**

Commercial

use **Industry**

Community Awareness - The disclosure of the dangers of hazardous chemicals to workers and community at large; also the participation of community groups in the preparation of emergency plans.

BT - **Emergency Preparedness**
NT - **Material Safety Data Sheets (MSDS)**
NT - **Notification**
NT - **Right-to-Know**

Compliance

BT - **Regulations**
RT - **Non-compliance**

Composting

use **Biological Treatment**

Confidentiality - Withholding of precise chemical information considered proprietary by chemcial companies.

BT - **Notification**

Consent Decree - Agreement by defendant to cease activities asserted as illegal by EPA. Upon approval of agreement by the court, the EPA action against the defendant is dropped.

BT - **Enforcement**

Construction - Erection of both residential and nonresidential buildings. Source of hazardous waste.

BT - **Industry**

Containers - Any package, can, barrel, or containing device other than tanks or drums, used to enclose a hazardous waste.

BT - **Storage**
NT - **Drums**
NT - **Corrosion**
NT - **Storage Tanks**

Contamination

BT - **Ecological Risk**

Contingency Plan

use **National Contingency Plan**

Contracts - Agreements in which one party performs a service in exchange for financial renumeration or a return service.

BT - **Management**

Control Methods - Means by which the toxicity of hazardous waste is lessened or its impact minimized through either containment and storage (Conventional Treatment), treated (see Alternative Technologies) or minimized at the source of generation (Waste Minimization).

NT - **Alternative Technologies**
NT - **Conventional Treatment**
NT - **Equipment**
NT - **In-situ**
NT - **Ocean Dumping**
NT - **Waste Minimization**

Conventional Treatment - Removal or containment of hazardous waste to regulated land treatment sites. Waste is neither treated nor destroyed. Continued maintenance is required to monitor potential contamination of surrounding environment. Solution is not permanent.

BT - **Control Methods**
NT - **Land Treatment**
NT - **Landfills**
NT - **Liners**
NT - **Storage**
NT - **Surface Impoundments**
NT - **Transportation**
NT - **Underground Injection**
RT - **Alternative Technologies**
RT - **Waste Minimization**

Corrective Actions

use **Removal Actions or Remedial Actions**

Corrosion - The gradual wearing away of storage tanks. Can lead to leakage and contamination.

BT - **Containers**
BT - **Drums**
BT - **Storage Tanks**

Corrosivity - Characteristic of a hazardous waste whereby it dissolves metals or burns the skin.

BT - **Analysis**
RT - **EP Toxicity**
RT - **Ignitability**
RT - **Reactivity**

Cost Recovery - Process by which EPA documents and attempts to recover maximum practical amount of money due from responsible parties for Superfund financed cleanups.

BT - **Liability**
RT - **Responsible Parties**
RT - **Settlements**

Costs

BT - **Economic Assessment**
RT - **Mixed Funding**

Criminal Judicial Action - Legal action brought by EPA against those parties charged with violating criminal laws.

BT - **Litigation**
RT - **Civil Judicial Action**

Data

BT - **Methodology**
RT - **Data Quality Objectives (DQO)**

Data Quality Objectives (DQO) - Quantitative and qualitative statements outlining the decisionmaking process and data required to support EPA remedial actions decisions.

BT - **Remedial Actions**
RT - **Methodology**
RT - **Data**

Databases

BT - **Information Sources**
RT - **CERCLIS**

DeMinimis - Type of settlement where parties that contribute very small amounts of hazardous wastes to a site will settle with the EPA for small or "de minimis" amounts.

BT - **Settlements**

Dechlorination - Chemical treatment process where chlorine is chemically removed from chlorinated organic compounds such as PCBs and dioxins.

BT - **Chemical Treatment**
RT - **Chlorinolysis**

Delisting - Process of excluding a waste from regulation as hazardous.

BT - **Hazardous Substance Lists**
RT - **Exemptions**

Design

BT - **Methodology**

Detergents

BT - **Industry**

Dioxins - Family of compounds with common triple ring structure of two benzene rings interconnected with a pair of oxygen atoms.

BT - **Organic Chemicals**
BT - **Carcinogens**

Directives - Special series of policy and guidance documents which provide interpretation, suggestions, or recommendations consistent with legislation. Guidance materials do not supercede legislation.

BT - **Policy**

Directories

BT - **Information Sources**

Disposal

use **Conventional Treatment**

Dissolved Air Flotation - A physical treatment technique whereby air is dissolved under high pressure. As the pressure is dropped, waste accumulates at the air-water surface and the waste is skimmed off.

BT - **Phase Separation**

Distillation - A physical treatment technique that separates components of a liquid mixture by partially vaporizing the mixture.

BT - **Physical Treatment**

Drinking Water

BT - **Water**

Drums

BT - **Containers**
NT - **Corrosion**

Dumps

use **Landfills** or **Ocean Dumping**

Dusts

BT - **Solid Wastes**

Ecological Risk - Discussion of the risk or damage to organic matter (plant and animal life) as well as inorganic matter (air, water, soil, etc.).

BT - **Assessment**
NT - **Contamination**
NT - **EIS**
NT - **Indian Lands**
NT - **Natural Resources**
NT - **Restoration**

Economic Assessment - Estimating the monetary value of a program, procedure or event, and/or the monetary value of the effects of such a procedure, program, or event.

BT - **Assessment**
NT - **Audits**
NT - **Costs**
NT - **Economic Impact**
NT - **Fee Systems**
NT - **Taxes**

Economic Impact - Includes the social and/or economic impact of a particular decision or action.

BT - **Economic Assessment**
RT - **Liability**

EIS - Environmental Impact Statement. Provides information concerning the positive and negative effects on the environment of major projects or legislative proposals.

BT - **Ecological Risk**

Electrodialysis - A physical treatment process whereby heat energy is applied to a solution, slurry, or suspended solid mixture to vaporize part of the mixture while concentrating the semisolid components.

BT - **Membrane Separation**

Electroplating - Production of a thin coat of metal on a surface. Source of hazardous waste.

BT - **Industry**

Emergency Preparedness - Right-to-Know provision of Title 3 of SARA mandates preparation of emergency measures for hazardous spills.

NT - **Community Awareness**
NT - **Emergency Response**
RT - **Right-to-Know**

Emergency Response - Action(s) taken to contain the release of hazardous substances in the environment.

BT - **Emergency Preparedness**
NT - **Emergency Response Plans**
NT - **Environmental Response Team**
NT - **Releases**
NT - **Removal Actions**

Emergency Response Plans - Those plans developed at State or local level which detail procedures and responses to hazardous spills and releases in local communities.

BT - **Emergency Response**

Emissions - Gaseous waste materials discharged into the environment.

BT - **Waste Types**

Energy

BT - **Generators**
NT - **Geothermal**
NT - **Radioactivity**
NT - **Utilities**

Enforcement - The means employed to force violators or potential violators of the law to obey the laws or make restitution for the transgression of those laws.

BT - **Legal Aspects**
NT - **Consent Decree**
NT - **Illegal Actions**
NT - **Litigation**
NT - **Mediation**
NT - **Negotiations**
NT - **Settlements**
RT - **Section 3008(h)**

Environmental Media

BT - **Natural Resources**
NT - **Air**
NT - **Soil**
NT - **Water**

Environmental Response Team - Group of hazardous waste experts who provide multidisciplinary assistance to EPA's other hazardous waste experts.

BT - **Emergency Response**

EP Toxicity - Characteristic of a hazardous waste whereby an extract of the waste contains high concentrations of heavy metals or specific pesticides.

BT - **Analysis**
RT - **Corrosivity**
RT - **Ignitability**
RT - **Reactivity**

Equipment

BT - **Control Methods**
NT - **Repair**
NT - **Retro-fit**

Evaporation - A physical treatment process whereby heat energy is applied to a solution, slurry, or suspended solid mixture to vaporize part of the mixture while concentrating the semisolid components.

BT - **Physical Treatment**

Exemptions

BT - **Regulations**
RT - **Delisting**

Extraction - Physical treatment process where dissolved or absorbed substances are transferred from a liquid or solid phase of a solvent.

BT - **Physical Treatment**
NT - **Soil Washing/Soil Flushing**
NT - **Supercritical Extraction**

Facility Standards

BT - **Regulations**
RT - **Location Standards**

Feasibility Study

use **Remedial Investigation/Feasibility Study**

Federal Facilities - Federal buildings or programs which are a source of hazardous waste.

BT - **Generators**

Fee Systems - Method for funding hazardous waste disposal where "user" is assessed a fee for use of disposal program.

BT - **Economic Assessment**

Filtration - A physical treatment process where suspended solids are removed from a fluid by passage through a porous media with a force of gravity.

BT - **Physical Treatment**
NT - **Granular Media Filtration**
NT - **Belt Filter Press**
NT - **Chamber Pressure Filters**
NT - **Vacuum Filtration**

Financial Responsibility Requirements - Owners and operators are to prove adequate funding is available either through insurance or trust funds for their closure or post-closure plans.

BT - **Regulations**

Fires - The combustion of a release of hazardous materials.

BT - **Releases**

Fixation

use **Stabilization/Solidification**

Flocculation - Physical treatment process where small suspended particles are transformed into larger more settled ones by the addition of a chemical, typically alum, lime, or polyelectrolytes.

BT - **Physical Treatment**

Fluidized Bed Incinerator - Type of incineration. Using refractory-lined vessels containing a bed of graded, inert granular material.

BT - **Incineration**
RT - **Circulating Bed Combustion**

Fly Ash

use **Pozzolanic Process**

Fuels - Includes motor fuels, gasoline, etc.

BT - **Organic Chemicals**

Funds - Sources of money for hazardous waste cleanup and control, raised through taxes and authorized by legislation.

BT - **Legislation**
NT - **311(K) Fund**
NT - **LUST Trust Fund**
NT - **Post-Closure Liability Fund**
RT - **Superfund**
RT - **Taxes**

Garbage

use **Municipalities**

Gas Chromatography - Method for separating and anlyzing complex mixtures of volatile organic and inorganic compounds.

BT - **Analysis**

Gasoline

use **Fuels**

Generators - Producers of hazardous waste. May be further defined by industry, quantity, or source.

BT - **Assessment**
NT - **Energy**
NT - **Federal Facilities**
NT - **Industry**
NT - **Municipalities**
NT - **Sites**
NT - **Small Quantity Generators**
RT - **Waste Types**

Geothermal

BT - **Energy**

Government - Reserved for items of very general nature. Use international, local, or State for issues addressed at such levels; otherwise, items are assumed to address issues, policies, programs, etc., at the national level.

NT - **International**
NT - **Local**
NT - **State**
RT - **Legislation**
RT - **Regulations**

Granular Media Filtration - Use of gravity to remove solids from a fluid by passage of the fluid through a bed of granular material. A physical treatment technique.

BT - **Filtration**

Groundwater - Fresh water below the earth's surface.

BT - **Water**

Guidance - Documents or portions of documents which provide interpretation, suggestions, or recommendations consistent with legislation. Guidance materials do not supercede legislation.

BT - **Policy**

Hazard Ranking System

use **Mitre Model**

Hazardous and Solid Waste Amendments (HSWA) - Amendments to RCRA. Use for RCRA Amendments.

BT - **Legislation**
BT - **RCRA**
NT - **Section 3008(H)**

Hazardous Substance Lists - Total of four lists of substances which meet requirements as hazardous as defined by 40 CFR sec. 261 subpart D. Use for Listed Hazardous Waste.

BT - **Regulations**
NT - **Appendix VIII Constituents**
NT - **Delisting**

Hazardous Substance Response Trust Fund

use **Superfund**

Hazardous Substances - Substances which adversely affect the life process.

NT - **Carcinogens**
NT - **Inorganic Chemicals**
NT - **Mutagens**
NT - **Organic Chemicals**
NT - **Pesticides**
RT - **Waste Types**

Hazardous Waste Trust Fund

use **Superfund**

Health and Environmental Effects Document (HEEDS) - Special type of document prepared to support listings under RCRA and provide health-related limits for emergency actions under CERCLA.

RT - **Health and Environmental Effects Document (HEEDS)**
RT - **Health and Environmental Effects Profile (HEEPS)**
RT - **Health Effects Assessment (HEAS)**
BT - **Human Health Risk**
RT - **Toxicological Profile**

Health and Environmental Effects Profile (HEEPS) - Special type of document prepared to support listings of hazardous constituents under Section 3001 of RCRA and provide health-related limits for emergency actions under Section 101 of CERCLA.

RT - **Health and Environmental Effects Document (HEEDS)**
RT - **Health Effects Assessment (HEAS)**
BT - **Human Health Risk**
RT - **Toxicological Profile**

Health Effects Assessment (HEAS) - Special type of document which summarizes and evaluates adverse health effects associated with a particular chemical.

RT - **Health and Environmental Effects Document (HEEDS)**
RT - **Health and Environmental Effects Profile (HEEPS)**
BT - **Human Health Risk**
RT - **Toxicological Profile**

Herbicides

use **Pesticides**

High Temperature Fluid Wall

use **Advance Electric Reactor**

Households

BT - **Municipalities**

Human Health Risk - Includes health risks to individuals as well as the public at large. For more general discussion of environmental risks use ecological risk.

BT - **Assessment**
NT - **Health and Environmental Effects Documents (HEEDS)**
NT - **Health and Environmental Effects Profile (HEEPS)**
NT - **Health Effects Assessment (HEAS)**
NT - **Toxicological Profile**
NT - **Worker Protection**

Hydrolysis - Chemical treatment process in which compounds react with water leading to the breakage of the chemical bonds. Accelerates the degradation of a variety of organic compounds.

BT - **Chemical Treatment**

Hyperfiltration

use **Membrane Separation**

Ignitability - Characteristic of hazardous waste whereby it is easily combustible or flammable.

BT - **Analysis**
RT - **Corrosivity**
RT - **EP Toxicity**
RT - **Reactivity**

Illegal Actions

BT - **Enforcement**

Immobilization

use **Stabilization/Solidification**

In-Situ - Treatment of contaminated soils applied without the excavation of the materials to be treated.

BT - **Control Methods**

Incineration - Controlled process that uses combustion to convert a waste to a less bulky, less toxic material in an oxygenated environment.

BT - **Circulating Bed Combustion**
BT - **Thermal Treatment**
NT - **Boilers**
NT - **Fluidized Bed Incineration**
NT - **Industrial Kilns**
NT - **Infrared Incineration**
NT - **Liquid Injection Incineration**
NT - **Microwave Discharge**
NT - **Molten Salt Incineration**

Incompatability

BT - **Analysis**

Indemnification - Securing against loss or damage.

BT - **Liability**

Indian Lands

BT - **Ecological Risk**

Industrial Kilns - Vessels constructed of steel casings and lined with refractory brick in which hazardous waste is burned as fuel. Includes cement, lime, aggregated, and clay kilns.

BT - **Incineration**
NT - **Rotary Kilns**

Industry - Private generators of hazardous waste. Use for commercial.

BT - **Generators**
NT - **Batteries**
NT - **Construction**
NT - **Detergents**
NT - **Electroplating**
NT - **Mining**
NT - **Transformers**

Infectious Wastes

BT - **Waste Types**

Information Sources - Sources of information pertaining to hazardous waste.

BT - **Management**
NT - **Bibliographies**
NT - **Case Studies**
NT - **Databases**
NT - **Directories**
NT - **Inventories**
NT - **Technology Transfer Documents**

Infrared Incineration - Process to destroy hazardous waste which uses infrared energy as the auxilary heat source.

BT - **Incineration**

Injection Wells

use **Underground Injection**

Innovative Technologies

use **Alternative Technologies**

Inorganic Chemicals - Non-carbon chemical compounds.

BT - **Hazardous Substances**
NT - **Acids**
NT - **Asbestos**
NT - **Metals**
NT - **Solvents**
RT - **Organic Chemicals**

Inspection

BT - **Monitoring**

Insurance

BT - **Liability**
NT - **Private Insurance**

Interim Prohibition - Section 9003(g) of RCRA. Prohibits the installation of underground storage tanks for storing hazardous substances unless certain requirements are met.

BT - **RCRA**

Interim Status - Status of hazardous waste disposal facility until a permit to operate the facility under RCRA guidelines is granted or denied.

BT - **Regulation**
RT - **Loss of Interim Status (LOIS)**
RT - **Permits**
RT - **RCRA**

International - Includes items which discuss the United States and other nations, or those which just discuss nations other than the United States.

BT - **Government**

Inventories - Lists of particular items.

BT - **Information Sources**

Ion Exchange - A physical treatment technique where toxic ions in a solution are exchanged for nontoxic ions to form a solid resin.

BT - **Physical Treatment**

Land Treatment - Mean waste management in which wastes are deposited and worked into the soil where natural processes degrade and demobilize the hazardous constituents within the soil.

BT - **Conventional Treatment**

Landfills - Disposal facilities where hazardous waste is placed in containers, or in bulk form, covered with soils and left indefinitely.

BT - **Conventional Treatment**
NT - **Capping**
NT - **Open Landfills**

Lawsuits

use **Litigation**

Leachates - Materials that pollute water as it seeps through solid waste.

BT - **Waste Types**

Leaching - Process by which hazardous chemicals are dissolved or carried away by water or moved into a lower layer of soil.

BT - **Migration**

Legal Aspects - The legislation and resultant regulations, funds, enforcement procedures, and liability.

NT - **Enforcement**
NT - **Legislation**
NT - **Liability**
NT - **Regulations**

Legislation - Laws, amendments, and particular funds created by the laws.

BT - **Legal Aspects**
NT - **CERCLA**
NT - **Clean Air Act**
NT - **Clean Water Act**
NT - **Funds**
NT - **Hazardous and Solid Waste Amendments (HSWA)**
NT - **OSHA**
NT - **RCRA**
NT - **SARA**
NT - **TSCA**
RT - **Government**

Liability - Economic responsibility for costs involved in cleanup of a site.

BT - **Legal Aspects**
NT - **Claims**
NT - **Cost Recovery**
NT - **Indemnification**
NT - **Insurance**
NT - **Non-binding Preliminary Allocation of Responsibility (NBAR)**
NT - **Penalties**
NT - **Potentially Responsible Parties (PRP)**
NT - **Responsible Parties**
RT - **Economic Impact**
RT - **Mixed Funding**

Liners - Materials used to prevent the migration of hazardous waste to the surrounding environment.

BT - **Conventional Treatment**

Liquid Injection Incineration - Process which uses series of atomizing devices to introduce finely divided droplets of waste mixed with air into a refractory-lined combustion chamber.

BT - **Incineration**

Liquid Wastes

NT - **Waste Types**
NT - **Slurry**

Listed Hazardous Waste

use **Hazardous Substance Lists**

Litigation - Use for lawsuits.

BT - **Enforcement**
NT - **Civil Judicial Action**
NT - **Criminal Judicial Action**

Local - Includes Government agencies, programs, laws, etc., below the State level such as municipal or county.

BT - **Government**

Location Standards

BT - **Regulations**
RT - **Facility Standards**

Loss of Interim Status (LOIS) - The interim status of hazardous waste facilities is automatically revoked if certain requirements set forth by RCRA are not met.

BT - **Regulations**
RT - **Interim Status**
RT - **Permits**
RT - **RCRA**

LUST Trust Fund - Created by Subtitle I of the HSWA for Federal response to the problem of leaking undergorund storage tanks.

BT - **Funds**
BT - **Subtitle I**

Management - The supervision of programs, policies, regulations, etc., and the tools used in such supervision.

NT - **Contracts**
NT - **Information Sources**
NT - **Policy**
NT - **Training**

Manifest - Invoice of cargo for a shipment of hazardous waste. Regulations require every shipment of hazardous waste to have a manifest with copies submitted to State and regional offices.

BT - **Transportation**

Material Safety Data Sheets (MSDS) - Document(s) which delineate physical properties, exposure limits, emergency procedures, etc., for specific hazardous chemicals.

BT - **Community Awareness**
RT - **Training**

Materials Recovery - Reclamation of useful constituent fractions within a waste material or the removal of contaminants from a waste source that allows it to be reused.

BT - **Waste Minimization**

Mechanical Aeration - A physical treatment process where clean air is put in contact with contaminated soil in order to transfer the volatile organics from the soil to the air stream. Subsequent treatment of the air stream must then be applied.

BT - **Physical Treatment**

Mediation - The process of the settling of a dispute by a third party.

BT - **Enforcement**
RT - **Negotiations**
RT - **Settlements**

Membrane Separation - Separation of solutes or contaminants from liquids through the use of semipermeable membranes. The membranes selectively reject contaminants. Includes ultrafiltration and hyperfiltration. A physical treatment process.

BT - **Physical Treatment**
NT - **Electrodialysis**
NT - **Reverse Osmosis**

Metals - Includes trace metals and heavy metals.

BT - **Inorganic Chemicals**

Methodology - Procedures used, or the evaluation of procedures.

BT - **Assessment**
NT - **Data**
NT - **Design**
NT - **Models**
NT - **Quality Assurance**
NT - **Sampling**
RT - **Analysis**
RT - **Data Quality Objectives (DQO)**
RT - **Monitoring**

Microwave Discharge - Process to destroy hazardous waste which uses microwave discharge as the auxiliary heat source.

BT - **Incineration**

Migration - Uncontrolled movement of hazardous waste through the environment.

BT - **Monitoring**
NT - **Leaching**

Minimum Technological Requirements - Minimum standards required for the operation of a hazardous waste facility as defined by section 3004(o) of RCRA.

BT - **Regulations**
RT - **RCRA**

Mining

BT - **Industry**

Mitre Model - Developed by Mitre Corporation in 1981. Calculates score for potential Superfund sites. Those with high enough scores are placed on the National Priorities List.

BT - **Models**
BT - **National Priorities List**

Mixed Funding - Monies from both Superfund and the responsible parties are used to pay for cleanup at Superfund sites.

BT - **Superfund**
RT - **Costs**
RT - **Liability**

Mobile Treatment - Modular equipment and the corresponding processes that can be brought to a hazardous waste site and transported to a number of sites. Generally, the equipment is smaller than conventional equipment used in permanent structures.

BT - **Alternative Technologies**

Models

BT - **Methodology**
RT - **Mitre Model**

Molten Salt Incineration - Waste material is injected beneath a bed of molten salt for incineration.

BT - **Incineration**

Monitoring - Periodic or continuous review of a program, facility, or the environment.

BT - **Assessment**
NT - **Inspection**
NT - **Migration**
NT - **Sensing Techniques**
NT - **Analysis**
RT - **Methodology**

Municipalities

BT - **Generators**
NT - **Households**
NT - **Sewage**

Mutagens

BT - **Hazardous Substances**

National Contingency Plan - Establishes basic Government procedures for coordinating State and Federal response at Superfund sites. Use for National Oil and Hazardous Substances Contingency Plan.

BT - **Superfund**

National Priorities List - List of the most hazardous sites under the Superfund program.

BT - **Superfund**
NT - **Mitre Model**

Natural Resources - Land, fish, wildlife, biota, air, water, and other resources belonging to, managed by, or held in trust by the United States.

BT - **Ecological Risk**
NT - **Environmental Media**

Negotiations - The submitting and consideration of offers until an acceptable offer is made and accepted.

BT - **Enforcement**
RT - **Mediation**
RT - **Settlements**

Neutralization- Chemical treatment process in which the interaction of an acid or base with another solution results in solution or mixture with a ph of between 5 and 9.

BT - **Chemical Treatment**

Non-Binding Preliminary Allocation of Responsibility (NBAR) - Part of CERCLA legislation; allows EPA to allocate percentage of total cost of response among potentially responsible parties at the hazardous waste facility.

BT - **Liability**
RT - **CERCLA**
RT - **Potentially Responsible Parties (PRP)**
RT - **Responsible Parties**

Non-compliance

BT - **Regulations**
RT - **Compliance**

Notification - As required by Right-to-Know Provision, Title 3 of SARA, companies must alert residents of the release of a hazardous substance.

BT - **Community Awareness**
NT - **Confidentiality**

Nuclear

use **Radioactivity**

Ocean Dumping - Disposal of hazardous waste at sea, subject to the Marine Protection, Research, and Sanctuaries Act.

BT - **Control Methods**

Oceans

BT - **Water**

Off-site - Treatment, regulation, production, etc., of hazardous waste other than at the site of its generation.

BT - **Sites**

Oils - Nonspecific term applied to several groups of organic mixtures. Includes petroleum oils and lubricants.

BT - **Organic Compounds**

On-site - Treatment, regulation, production, etc., of hazardous waste on the property of the generator of the hazardous waste.

BT - **Sites**

Open Landfills - Any facility or site where hazardous waste is disposed of which is not a sanitary landfill meeting the criteria promulgated under section 4004 of RCRA.

BT - **Landfills**

Organic Chemicals - Chemical compounds of carbon, excluding carbon monoxide, carbon dioxide, carbolic acid, metallic carbides, metallic carbonates, and ammonium carbonate. Includes VOC, "volatile organic compounds."

BT - **Hazardous Substances**
NT - **Acids**
NT - **Dioxins**
NT - **Fuels**
NT - **Oils**
NT - **Polychlorinated Biphenyls (PCB)**
NT - **Solvents**
RT - **Inorganic Chemicals**

OSHA - Occupational Safety and Health Act

BT - **Legislation**

Oxidation

use **Reduction/Oxidation**

Ozonation - Chemical treatment process where the oxidation of the compound is achieved with ozone as the oxidizing agent.

NT - **Reduction/Oxidation**
NT - **UV/Ozonation**

Penalties - Includes both civil and criminal penalties.

BT - **Liability**

Permits - Compliance of a hazardous waste facility with requirements of RCRA.

BT - **Regulations**
RT - **Loss of Interim Status (LOIS)**
RT - **Interim Status**

Pesticides - Chemical agents used to kill both plant and animal life that interferes with agricultural productivity. Includes herbicides.

BT - **Hazardous Substances**

Phenol - Carbolic acid.

BT - **Acids**
BT - **Carcinogens**

Physical Treatment - Processes which separate the waste stream by either applying physical forces or changing the physical form of the waste. In either case, the chemical structure of the waste stays the same.

BT - **Alternative Technologies**
NT - **Activated Carbon Adsorption**
NT - **Air Stripping**
NT - **Distillation**
NT - **Evaporation**
NT - **Extraction**
NT - **Filtration**
NT - **Flocculation**
NT - **Ion Exchange**
NT - **Mechanical Aeration**
NT - **Membrane Separation**
NT - **Phase Separation**
NT - **Sedimentation**
NT - **Slurry Trenching**
NT - **Steam Stripping**

Plasma Arc - Type of pyrolsis where hazardous waste is passed through a plasma or electrical arc generated by electrodes. The waste substances are reduced to elemental constituents.

BT - **Pyrolysis**

Policy - The general principles by which the Government is guided in its management of public affairs. May also include the intended audience of the policy.

BT - **Management**
NT - **Directives**
NT - **Guidance**
NT - **Regions**

Pollution Fund

use **311(K) Fund**

Polychlorinated Biphenyls (PCB) - Any of several organic compounds used in plastics manufacturing or transformers that are toxic and persistent environmental pollutants.

BT - **Carcinogens**
BT - **Organic Chemicals**

Polycyclic Aromatic Hydrocarbons

use **Carcinogens**

Polymerization - Process which uses catalysts to convert a lower order polymer of a particular compound to a larger order chemical multiple with different properties for in-place stabilization/solidification.

BT - **Stabilization/Solidification**

Post-Closure Liability Fund - Originally authorized by CERCLA to pay cost of monitoring and maintenance of hazardous waste site. Repealed by SARA.

BT - **CERCLA**
BT - **Funds**
BT - **SARA**

Potentially Responsible Parties (PRP) - Parties identified by EPA which may be responsible for the hazardous waste at an uncontrolled hazardous waste site.

BT - **Liability**
RT - **Non-binding Preliminary Allocation of Responsibility (NBAR)**
RT - **Responsible Parties**

Pozzolanic Process - Method of solidification/stabilization in which waste is mixed with fine grained silicious materials such as fly ash or cement kiln dust to produce a solid.

BT - **Stabilization/Solidification**

Precipitation - A chemical process in which dissolved chemical species in solution are transformed into solid phases for removal.

BT - **Chemical Treatment**

Principal Organic Hazardous Constituents

use **Appendix VIII Constituents**

Private Insurance

BT - **Insurance**

Public Health

use **Human Health Risk**

Pyrolysis - Thermal decomposition of hazardous materials in an oxygen deficient atmosphere.

BT - **Thermal Treatment**
NT - **Advanced Electric Reactor**
NT - **Plasma Arc**

Quality Assurance

BT - **Methodology**

Radioactivity - Emission of alpha, beta, or gamma rays either naturally or as the result of human manipulation. Use for nuclear.

BT - **Energy**

RCRA - Resource Conservation and Recovery Act

BT - **Legislation**
NT - **Hazardous and Solid Waste Amendments (HSWA)**
NT - **Interim Prohibition**
NT - **Subtitle C**
NT - **Subtitle D**
NT - **Subtitle I**
RT - **Interim Status**
RT - **Loss of Interim Status (LOTS)**
ST - **Minimum Technological Requirements**

RCRA Amendments

use **Hazardous and Solid Waste Amendments (HSWA)**

Reactivity - Characteristic of hazardous waste whereby it is unstable or rapidly undergoes a chemical reaction with other materials.

BT - **Analysis**
RT - **Corrosivity**
RT - **EP Toxicity**
RT - **Ignitability**

Record of Decision (ROD) - Compiled for each site on the National Priorities List. Delineates contamination, cleanup, and liability issues for each site.

BT - **Superfund**
RT - **Remedial Investigation/Feasibility Study (RI/FS)**

Recordkeeping Requirements - Those requirements set forth in the Code of Federal Regulations for the transportation, collection, and disposal of hazardous waste.

BT - **Regulations**
RT - **Reporting Requirements**

Recycling - The use or reuse of a waste as an effective substitute for a commercial product or as an ingredient of feedstock in an industrial process.

BT - **Waste Minimization**

Reduction

use **Reduction/Oxidation**

Reduction/Oxidation - A chemical treatment process where the oxidized state of one reactant is raised while that of another is lowered. This process destroys or lessens the toxicity of many organics and heavy metals. Use for oxidation or reduction.

BT - **Chemical Treatment**
NT - **Ozonation**

Region 1 - Includes States of Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, and Connecticut.

BT - **Regions**

Region 2 - Includes States of New York and New Jersey; Puerto Rico and the Virgin Islands.

BT - **Regions**

Region 3 - Includes States of Pennsylvania, Maryland, Delaware, West Virginia, Virginia; and the District of Columbia.

BT - **Regions**

Region 4 - Includes States of Kentucky, Tennessee, North Carolina, South Carolina, Georgia, Alabama, Florida, and Mississippi.

BT - **Regions**

Region 5 - Includes States of Minnesota, Wisconsin, Michigan, Illinois, and Ohio.

BT - **Regions**

Region 6 - Includes States of New Mexico, Texas, Oklahoma, Arkansas, and Louisiana.

Region 7 - Includes States of Iowa, Nebraska, Kansas, and Missouri.

BT - **Regions**

Region 8 - Includes States of Montana, North Dakota, South Dakota, Wyoming, Utah, and Colorado.

BT - **Regions**

Region 9 - Includes States of California, Nevada, Arizona, Hawaii; and Guam.

BT - **Regions**

Region 10 - Includes States of Washington, Oregon, Idaho, and Alaska.

BT - **Regions**

Regions - EPA administrative unit.

BT - **Policy**
NT - **Region 1**
NT - **Region 2**
NT - **Region 3**
NT - **Region 4**
NT - **Region 5**
NT - **Region 6**
NT - **Region 7**
NT - **Region 3**
NT - **Region 9**
NT - **Region 10**

Regulations - Rules or orders issued by governmental departments to carry our the intent of the law. Use for standards.

BT - **Legal Aspects**
NT - **Alternative Concentration Limits (ACL)**
NT - **California List**
NT - **Compliance**
NT - **Exemptions**
NT - **Facility Standards**
NT - **Financial Responsibility Requirements**
NT - **Hazardous Substance Lists**
NT - **Interim Status**
NT - **Location Standards**
NT - **Loss of Interim Status (LOIS)**
NT - **Minimum Technological Requirements**
NT - **Non-compliance**
NT - **Permits**
NT - **Recordkeeping Requirements**
NT - **Reporting Requirements**
RT - **Government**

Releases - The unintentional spill or emission of hazardous materials into the environment.

BT - **Emergency Response**
NT - **Fires**

Remedial Actions - Those solutions, either proposed or actually undertaken for the permanent cleanup at a Superfund site. Use for Remedial Designs, Remedial Response.

BT - **Cleanup**
RT - **Removal Actions**
NT - **Data Quality Objectives (DQO)**

Remedial Designs

use **Remedial Actions**

Remedial Investigation/Feasibility Study (RI/FS) - Two studies conducted at all National Priority List sites. RI determines the type and extent of contamination. FS evaluates the cleanup alternatives.

BT - **Cleanup**
RT - **Record of Decision (ROD)**

Remedial Response

use **Remedial Actions**

Remedy Selection

use **Remedial Investigation/Feasibility Study (RI/FS)**

Removal Actions - Deal with cleanup at emergency Superfund sites. This cleanup solution is not necessarily permanent.

BT - **Cleanup**
RT - **Remedial Actions**
BT - **Emergency Response**

Repair

BT - **Equipment**

Reporting Requirements - Certain requirements for the reporting of a spill or unintentional release of hazardous waste into the environment.

BT - **Regulations**
RT - **Recordkeeping Requirements**

Resource Conservation and Recovery Act

use **RCRA**

Resource Recovery

use **Materials Recovery**

Responsible Parties - Parties identified by EPA which are responsible for hazardous wastes at a controlled hazardous waste site. Such parties are liable for costs incurred by the Government for removal or immediate action, etc.

BT - **Liability**
RT - **Cost Recovery**
RT - **Non-blinding Preliminary Allocation of Responsibility (NBAR)**
RT - **Potentially Responsible Parties (PRP)**

Restoration - Process of returning a damaged environment to its pre-damaged state, excludes Superfund program. Use for non-Superfund program cleanup.

BT - **Ecological Risk**
RT - **Cleanup**

Retro-fit - The addition of a new item, modification or removal of an existing item of equipment beyond that of regular maintenance.

NT - **Equipment**

Reverse Osmosis - A membrane separation technique which allows a solvent to be removed from a solution containing solutes by the application of a pressure driven membrane process.

BT - **Membrane Separation**

Right-to-Know - Title III of SARA, "Emergency Planning and Community Right-to-Know Act of 1986." Establishes regulatory program requiring disclosure of more information about the danger of hazardous chemicals to public; establishes emergency response plans.

NT - **SARA**
RT - **Community Awareness**
RT - **Emergency Preparedness**

Rotary Kilns - Kilns in which the combustion of the waste is enhanced through the rotation of the kiln on its axis.

BT - **Industrial Kilns**

SARA - Superfund Amendments and Reauthorization Act of 1986.

BT - **Legislation**
RT - **CERCLA**
NT - **Right-to-Know**
NT - **Post Closure Liability Fund**

Section 3008(H) - Part of the Hazardous and Solid Waste Amendments. Allows the EPA to take enforcement action to require corrective action or other responses necessary to protect human life whenever there has been a hazardous release in the environment.

BT - **Hazardous and Solid Waste Amendments (HSWA)**
RT - **Enforcement**

Sedimentation - A physical treatment process whereby solids are allowed to settle out of liquid hazardous waste.

BT - **Physical Treatment**

Sensing Techniques - Specific means by which monitoring of the environment is accomplished.

BT - **Monitoring**
NT - **Bioassay**

Settlements

BT - **Enforcement**
NT - **De Minimis**
RT - **Cost Recovery**
RT - **Mediation**
RT - **Negotiations**

Sewage - Human body wastes.

BT - **Municipalities**

Sites - The land or water area or facility where hazardous waste is either generated, stored, or treated, including adjacent land used in conjunction with such activities.

BT - **Generators**
NT - **Abandoned Sites**
NT - **Off-Site**
NT - **On-Site**
NT - **Uncontrolled Sites**

Sludge - The concentration of solids removed from sewage during wastewater treatment.

BT - **Solid Wastes**

Slurry - A watery mixture of insoluble matter that results from some pollution control techniques.

BT - **Liquid Wastes**

Slurry Trenching - A subsurface cut-off or wall of low permeability placed near a polluting waste source in order to capture or contain resulting contamination.

BT - **Physical Treatment**

Slurry Walls

use **Slurry Trenching**

Small Quantity Generators - Businesses that produce less than 1,000 kilograms or 2,200 pounds of hazardous waste in a month.

BT - **Generators**

Soil

BT - **Environmental Media**
NT - **Aquifer**

Soil Washing/Soil Flushing - Physical treatment process which extracts contaminants from a sludge-soil matrix using a liquid medium process. An extraction process specifically for soils.

BT - **Extraction**

Solid Wastes

BT - **Waste Types**
NT - **Dusts**
NT - **Sludge**

Solvent Extraction

use **Extraction**

Solvents - A substance which dissolves other materials, reducing them to molecular or ionic form.

BT - **Inorganic Chemicals**
BT - **Organic Chemicals**

Sorption - Method of solidification/stabilization in which hazard contaminants are bound up in pozzolan type matrices through either physical or chemical sorption.

BT - **Stabilization/Solidification**

Source Reduction - The reduction or elimination of waste generated at the source, usually within a process. Source reduction implies any action that reduces the amount from a process.

BT - **Waste Minimization**

Sources

use **Generators**

Stabilization Ponds - A large shallow basin for purifying industrial wastes which encourages the growth of bacteria and algae in converting organic materials to nontoxic organic substances.

BT - **Biological Treatment**

Stabilization/Solidification - Treatment to improve the structural stability and reduce the migration of waste. Often involves the conversion of a liquid waste to a solid waste. An alternative technology. Includes related equipment. Use for immobilization or fixation.

BT - **Alternative Technologies**
NT - **Cementing**
NT - **Polymerization**
NT - **Sorption**
NT - **Surface Incapsulation**

Standards

use **Regulations**

State - Includes interstate as well as intrastate items.

BT - **Government**

Steam Stripping - Physical treatment process in which hazardous organic constituents are removed by volatilization through the heating of wastewater to its boiling point and forcing the steam through the water.

BT - **Physical Treatment**

Storage

BT - **Conventional Treatment**
NT - **Containers**

Storage Tanks - Stationary devices constructed primarily of non-earthen materials designed to contain an accumulation of hazardous waste.

BT - **Containers**
NT - **Corrosion**
NT - **Underground Storage Tanks**

Subtitle C - Part of RCRA. Concerns the management of hazardous waste.

BT - **RCRA**

Subtitle D - Part of RCRA. Establishes a framework for coordinating Federal, State, and local government in the management of non-hazardous solid waste.

BT - **RCRA**

Subtitle I - Part of RCRA. Concerns the regulations of Underground Storage Tanks.

BT - **RCRA**
NT - **LUST Trust Fund**

Supercritical Extraction - Extraction process which is more efficient than traditional extraction. By applying extremely high temperatures and pressures, fluids reach their critical point beyond which their solvent properties are greatly altered.

BT - **Extraction**

Supercritical Water Oxidation - Process in which air mixed with aqueous wastes above the critical temperature and pressure of water oxidizes organic wastes to carbon monoxide and water.

BT - **Wet Oxidation**

Superfund - Created by CERCLA the Comprehensive Environmental Response, Compensation, and Liability Act. Includes Hazardous Waste Trust Fund, popularly known as Superfund, and the programs developed for cleaning up the worst existing hazardous waste sites.

NT - **CERCLIS**
NT - **Cleanup**
NT - **Mixed Funding**
NT - **National Contingency Plan**
NT - **National Priorities List**
NT - **Record of Decision (ROD)**
NT - **Superfund Innovative Technology Evaluation (SITE)**
RT - **CERCLA**
RT - **Funds**

Superfund Innovative Technology Evaluation (SITE) - Two programs to accelerate development and use of new alternative technologies for cleanup at Superfund sites.

BT - **Superfund**
RT - **Alternative Technologies**

Surface Encapsulation - Waste is pressed or bonded together and enclosed in a coating of inert materials.

BT - **Stabilization/Solidification**

Surface Impoundments - Facility or part of a facility which is a natural topographic depression, manmade excavation, or diked area formed primarily of earthen materials, though may be lined with manmade materials, designed to hold hazardous waste.

BT - **Conventional Treatment**

Surface Water

BT - **Water**

Taxes - Means of raising money for various funds.

BT - **Economic Assessment**
RT - **Funds**

Technology Transfer Documents - A set of key documents, identified by EPA's Office of Solid Waste and Emergency Response for the exchange of information on hazardous waste both within and outside of the EPA. Use for A List, B List, or C List.

BT - **Information Sources**

Testing

use **Analysis**

Thermal Destruction

use **Thermal Treatment**

Thermal Treatment - Alternative technology where high temperature is used as the principle means of destroying or detoxifying hazardous waste. Includes related equipment.

BT - **Alternative Technologies**
NT - **Calcination**
NT - **Incineration**
NT - **Pyrolysis**
NT - **Wet Oxidation**

Title III

use **Right-to-Know**

Toxic Substances

use **Hazardous Substances**

Toxicological Profile - Characterizes the toxicological and health effects information for a particular hazardous substance. Prepared by the Agency for Toxic Sustances and Disease Registry.

RT - **Health and Environmental Effects Document (HEEDS)**
RT - **Health and Environmental Effects Profile (HEEPS)**
RT - **Health Effects Assessment (HEAS)**
BT - **Human Health Risk**

Training - Includes the teaching or implementation of procedures for safe handling of hazardous waste materials.

BT - **Management**
RT - **Material Safety Data Sheets (MSDS)**
RT - **Worker Protection**

Transformers

BT - **Industry**

Transportation - The intentional movement of hazardous waste by any mode, including a pipeline. For transportation by a common or contract carrier, this also includes stoppage in transit. For the unintentional movement of hazardous waste, use migration.

BT - **Conventional Treatment**
NT - **Manifest**

Trickling Filters - Biological treatment device. Wastewater is trickled over a bed of stones covered with bacterial growth. The bacteria breaks down the organic waste into less toxic forms.

BT - **Biological Treatment**

TSCA - Toxic Substance Control Act.

BT - **Legislation**

Uncontrolled Sites - Sources of hazardous waste where the contamination is increasing or migrating. No removal procedures or remedial actions have been undertaken.

BT - **Sites**

Underground Injection - The disposal of liquid hazardous waste in deep wells drilled in land formations which ideally have no resource value and are non-permeable. Use for injection wells.

BT - **Conventional Treatment**
NT - **Capping**

Underground Storage Tanks - Stationary devices, typically constructed of non-earthen materials designed to contain an accumulation of hazardous waste, typically petroleum related products which are held underground.

Utilities

BT - **Energy**

UV/Ozonation - Chemical treatment process in which wastewater is simultaneously subject to ozone and ultraviolet radiation. The ultraviolet radiation enhances the oxidation power of ozone and increases the reaction rate.

BT - **Ozonation**

Vacuum Filtration - Type of filtration process in which a mechanically supported, cylindrical rotating drum, covered by a filter medium, employes a center vacuum to draw water into the drum while the solids are scrapped off of the filter.

BT - **Filtration**

VOC (Volatile Organic Compounds)

use **Organic Chemicals**

Waste Minimization - The reduction, to the fullest extent feasible, of the hazardous waste that is generated or subsequently treated, stored, or disposed of.

BT - **Control Methods**
NT - **Materials Recovery**
NT - **Recycling**
NT - **Source Reduction**
RT - **Alternative Technologies**
RT - **Conventional Treatment**

Waste Reduction

use **Waste Minimization**

Waste Types - Any solid, liquid or gaseous material, no longer used, that is either listed as hazardous under RCRA regulations or can be identified as hazardous by the characteristics of ignitability, corrosivity, reactivity or EP toxicity.

NT - **Emissions**
NT - **Infectious Wastes**
NT - **Leachates**
NT - **Liquid Wastes**
NT - **Solid Wastes**
RT - **Hazardous Substances**
RT - **Generators**

Water

BT - **Environmental Media**
NT - **Drinking Water**
NT - **Groundwater**
NT - **Oceans**
NT - **Surface Water**

Wet Air Oxidation - Thermal treatment which breaks down organic materials by oxidation in a high temperature and pressure aqueous environment and in the presence of compressed air.

BT - **Wet Oxidation**

Wet Oxidation - Thermal treatment of hazardous waste in which organic materials are broken down through the use of elevated temperatures and pressures in a water solution or suspension.

BT - **Thermal Treatment**
NT - **Supercritical Water Oxidation**
NT - **Wet Air Oxidation**

Worker Protection - Includes the risks encountered in the workplace. For procedures concerning the safe handling of hazardous waste, see Training.

BT - **Human Health Risk**
RT - **Training**

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ATTACHMENT 9

INSTALLATION INSTRUCTIONS FOR THE HAZARDOUS WASTE COLLECTION DATA BASE

Before you begin to install the Hazardous Waste Collection Database, be sure you have read Section 3.0 of this manual, "Equipment and Storage Requirements".

These installation instructions assume that you will always be loading the database using drive A of your personal computer.

If you have previously installed the database on your system, follow the instructions beginning with 4.1.

If you have never installed the database, start with the instructions numbered 4.2.

4.1 Deleting the Existing HAZARD.DBF File

If you have previously installed the Hazardous Waste Collection Database on your personal computer, you must first delete the existing database. (It will be replaced by a new one.)

At the DOS C prompt, type: (User input is in boldface type.)

C:\>**CD\DBASE <RETURN>**

followed by:

C:\DBASE>**DEL HAZARD.DBF <RETURN>**

Check to be sure that the file HAZARD.DBF has been deleted from your system by typing:

C:\DBASE>**DIR**

The screen will respond with a list of files contained in the dBASE directory. HAZARD.DBF should no longer be one of them. You cannot proceed to the next step until HAZARD.DBF has been deleted from your system.

Once you are sure that HAZARD.DBF has been removed from your system, follow the instructions as listed in step 4.2.

4.2 Installing the Database

Check to see if the HWC directory already exists on the hard drive of your system by typing: (Remember, in this manual user input is in boldface type.)

C:\>**CD <RETURN>**

followed by:

C:\>**DIR HWC <RETURN>**

If the system responds with the message "FILE NOT FOUND", proceed to step 4.2.1 to create the HWC directory.

If the HWC directory already exists, the system will respond by listing the files in the HWC directory. You will need to copy all of the files in the existing HWC directory to another directory in your system.

Once you have finished copying the files from the HWC directory to another directory, you must then delete the files from the HWC directory. Consult your operating system manual for assistance in copying and deleting files.

Should you choose to use it, there is a program on the installation disk which will automatically create a new directory and copy all existing files from the HWC directory into the newly created directory. Finally, it will delete all of the pre-existing files in the HWC directory. Directions for using this program are found in step 4.2.2.

4.2.1 Creating the HWC Directory

Insert the installation diskette in drive A and type:

C:\>**A:INSTALL <RETURN>**

The system will respond with a message:

If it says:

"Insert restore target diskette if appropriate strike any key when ready"

Type: **<RETURN>**

Proceed to section 4.2.3.

If it says:

"Insert backup diskette 01 in drive A:, proceed to strike any key when ready"

Insert backup diskette 01 and

Type: **<RETURN>**

Then, proceed to section 4.2.3.

4.2.2 Creating a New Directory

Insert the installation disk in drive A and type:

C:\>A: CREATE DIRECTORY NAME <RETURN>

Use any name, except HWC, that is eight characters or less to replace "directory name" in the command line above. Consult your operating system manual for more complete specifications on naming your directory.

When the screen prompts you with the question: "Are you sure (Y/N)?" -- Answer **Y** Next, follow the instructions as listed 4.2.3.

4.2.3 Restoring the Database

Follow the instructions as displayed on the screen to insert and restore all of the numbered disks.

4.2.4 Final Steps

After restoring all of the numbered disks the computer will display one of two messages:

If the screen displays:

"Batch File Missing"

You have completed installing the Hazardous Waste Collection Database.

If the screen displays:

"Insert disk with batch file and press any key when ready"

Then, insert the installation disk back into drive A and press any key. You have now completed installing the database.

To access the database consult Section 5.0, "Accessing the Menu".