APPENDIX A

SOURCES OF INFORMATION AND RESPONSE ASSISTANCE

This Appendix provides a short bibliography of technical manuals and sources of response information. It includes basic chemical and emergency response reference documents, toll-free hotlines and other telephone information sources, and private organizations that offer emergency response assistance and information.

SOURCES OF INFORMATION AND RESPONSE ASSISTANCE

A. INTRODUCTION

Many reference texts and organizations can provide response personnel with technical data and physical assistance regarding both the hazards associated with an incident and methods to deal with them. Because of the variety of activities encountered in hazardous waste field operations, it is necessary to be aware of available resources, to determine their applicability to a project, and to know how to use them.

The information, which may include data on sites, topography, meteorology, physical/chemical properties of the material, applicable treatment methods, and available cleanup resources, can be provided by various agencies, maps, reference books, and manuals. It is advisable to get data from at least two sources and use the latest edition of any reference, especially when searching for hygienic standards or toxicological data.

Access to on-line computer files may be possible at the site if a telephone, portable terminal, and 120-volt outlet are available. Aerial photographs can also provide useful information when properly interpreted.

NOTE: References are not presented in any particular order.

B. BASIC REFERENCES

1. *A Compendium of Superfund Field Operations Methods* (U.S. EPA, 1987, EPA/540/P-87/001).

The compendium was developed by the U.S. EPA Office of Emergency and Remedial Response primarily to assist the manager as he/she conducts site investigations and assessments. It discusses recordkeeping, site safety, sampling, laboratories, geology, hydrology, quality assurance and a number of other important topics. The information is presented in an easy to understand format, but is not arranged for quick reference (an index is not included).

2. *CHRIS. Chemical Hazard Response Information System* developed by the U.S. Coast Guard. Access through the National Response Center, telephone (800) 424-8802.

CHRIS consists of four manuals, a regional contingency plan, a Hazard Assessment Computer System (HACS), and an organizational entity at Coast Guard Headquarters. Volume I (CG446-1) is designed to be used by the first responders at an incident. Volumes 2, 3, and 4 (CG446-2),CG-446-3, and CG-446-4, respectively) are intended for use by the On-Scene Coordinator's (OSC) office along with Regional and National Response Center. Main Coast Guard stations will usually have these manuals.

a. Volume *1: Condensed Guide to Chemical Hazards*

Volume 1 is intended for use by the first responders on the scene. of an incident. The chemicals involved must be known, however, before the appropriate information can be obtained from the manual. This volume also contains a list of questions needed to access Volume 3. All information in this volume can be found in Volume 2.

b. Volume 2: *Hazardous Substance Data Manual* (also available from the U.S. Government Printing Office, Washington, DC 20402, GPO stock number 050-012-00147-2)

Volume 2 is probably the most useful in responding to spills/waste sites. It contains information on

hazardous chemicals shipped in large volume by water and is intended to be used by port security personnel and others who may be first to arrive at the scene. The easily understood information regarding chemical, physical, and toxicological properties can help quickly determine the actions to be taken immediately to safeguard life, property, and the environment.

C. Volume 3: *Hazard Assessment Handbook*

Volume 3 describes methods of estimating the quantity of chemicals that may be released during an incident, their rate of dispersion, and the methods for predicting any potential toxicity, fire, and explosive hazards.

Volumes 2 and 3 are designed to be used together. The hazard assessment code in Volume 2 for each chemical is used in Volume 3 to select the appropriate procedures for estimating degree of hazard.

d. Volume 4: *Response Methods Handbook*

Volume 4 contains information on existing methods for handling spills of hazardous materials. The appendix lists manufacturers of equipment which may be useful. It also describes methods of spill containment (primarily oil). This volume is intended for use by Coast Guard OSCs with some training or experience in hazard response.

3. *Condensed Chemical Dictionary,* Gessner G. Hawley, Van Nostrand Reinhold Co., 135 W. 50th Street, New York, NY 10020.

This book, a compendium of technical data and descriptive information covering many thousands of chemicals and reactions, is designed for use in industrial situations and can be helpful in assessing a hazardous waste site or spill. However, information pertaining to environmental behavior of chemicals is limited and can be misleading. Three distinct types of information are presented:

a. Technical descriptions of compounds, raw materials, and processes.

b. Expanded definitions of chemical entities, phenomena, and terminology.

C. Description or identification of a wide range of trade-name products used in the chemical industry.

4. *Dangerous Properties of Industrial Materials,* edited by N. Irving Sax, Van Nostrand Reinhold, Co., 135 W**.** 50th Street, New York, NY 10020.

This book provides a single source of concise information on the hazards of nearly 13,000 common industrial and laboratory materials. Descriptive information and technical data are given in the three sections of the book. The main section "General Information" is designed to expedite retrieval of hazard information. The three sections are:

a. "General Information" -- synonyms, description, formula, physical constants.

b. "Hazard Analysis" -- toxicity, fire hazard, explosive hazard.

C. "Countermeasures" -- handling, storage, shipoing, first aid, fire-fighting, personnel protection.

This book is not intended for use on-site. It can be useful later, however, to verify hazards associated with the emergency.

5. Documentation of the Threshold Litnit Values (TLVO), ACGIH Publications Office, 6500 Glenway Avenue,

Building D-5, Cincinnati, OH 4521 1.

This reference includes pertinent scientific information about each substance with references to literature sources used to determine each TLV. Each documentation also describes the type of toxic response for which the limit is used. This book should be consulted for a better understanding of TLVS.

6. *Emergency Response Guidebook:* developed under the supervision of the Office of Hazardous Materials Transportation, Research and Special Programs Administration, U.S. Department of Transportation. The guidebook is available through UNZ&CO, 190 Baldwin Avenue, Jersey City, NJ 07306.

The guidebook is intended to assist first responders in making informed judgments during the initial phases of a transportation incident involving hazardous materials. It lists the UN/NA numbers designated for hazardous materials, identifies potential hazards associated with the materials and recommends emergency actions to be taken following a spill. It also makes recommendations as to when areas should be evacuated or isolated in the event of a spill.

7. *Handbook of Environmental Data on Organic Chemicals.* Karel Verschueren, published by Van Nostrand Reinhold Company, Inc., 115 Fifth Avenue, New York, NY 10003.

This handbook provides information to: properties of organic chemicals; air pollution factors; water pollution factors; and biological effects. Where entries are not complete, it may be assumed that no reliable data were provided by the references utilized. The author uses numerous abbreviations which are explained in the first section of the book. Individuals who are not familiar with the abbreviations will find themselves referring to the first section frequently in order to understand listings of specific chemicals.

8. *Hazardous Mateiials Injuries: A Handbook for Pre-Hospital Care,* Bradford Communications Corp., 7500 Greenway Center Drive, Greenbelt, MD 20770.

This reference provides information on pre-hospital care. The handbook is set-up similar to the US DOT Guidebook.

9. *The Merck Index,* Merck and Company, Inc., Rahway, NJ 07065.

The Merck Index is a comprehensive, interdisciplinary encyclopedia of chemicals, drugs, and biological substances. It describes 9,856 chemicals in a structured format. An extensive index and cross-index make the manual easy to use. It is designed to serve a variety of purposes. For response personnel, it provides information on physical/chemical properties of chemicals and their toxicity.

10. National Institute of Occupational Safety and Health/Occupational Safety and Health Administration Resources.

a. *NIOSH Pocket Guide to Chemicals Hazards,* U.S. Government Printing Office, 1991, Washington, DC 20402.

Information in this pocket guide comes from the NIOSH/OSHA Occupational Health Guidelines. Presented in a tabular format, it is a reference for industrial hygiene and medical surveillance practices. Included are

chemical names and synonyms, permissible exposure limits, chemical and physical properties, signs and symptoms of overexposure, environmental and medical monitoring procedures, recommended respiratory and personal protective equipment, and procedures for treatment.

b. *NIOSHIOSIL4 Occupational Health Guidelines for Chemical Hazards,* U.S. Government Printing Office, Washington, DC 20402.

This three-volume document provides technical data for most of the substances listed in the "NIOSH/OS@ Pocket Guide." The information is much more detailed and is designed primarily for use by industrial hygienists and medical surveillance personnel. In addition to the information found in the "Pocket Guide," 'Occupational Health Guidelines' includes recommended medical surveillance practices, air monitoring and measurement procedures, protective equipment, and spill and disposal techniques.

11. *Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities:* developed by NIOSH/OSHAJUSCG/EPA, U.S. Government Printing Office. 1985, Washington, DC 20402.

This manual is a guidance document for managers responsible for occupational safety and health programs at inactive hazardous waste sites. It is intended for federal, state, and local officials and their contractors. It may be used: as a planning tool by government or private individuals; as a management tool by upper level or field managers; as an educational tool to provide a comprehensive overview of all aspects of safety and health protection at hazardous waste sites; or as a reference document for site personnel who need to review important aspects of health and safety.

12. OHMTADS. Oil and Hazardous Materials Technical Assistance Data System, developed by the U.S. EPA- Access through U.S. EPA Regional Offices.

OHMTADS is a computerized data retrieval system available in the form of a computer printout, manuals, or microfiche. For each of more than 1,000 oil and hazardous substances, there are 126 possible information segments on, for example, toxicity and associated hazards, personnel safety precautions, cleanup and disposal methods, materials handling, and fire fighting. However, not all information is available for all materials.

13. Registry of Toxic Effects of Chemical Substances, U.S. Government Printing Office, Washington, DC 20402.

This annual publication is sponsored by NIOSH and contains toxic dose data with references to source documents and major standards and regulations for 35,000 chemicals.

14. Farm Chemicals Handbook 1991, edited by Charlotte Sine, Meister Publishing Company, Willoughby, Ohio, 1991.

This handbook/dictionary provides information on the properties of common pesticides and herbicides utilized in the farming industry.

C. TOLL-FREE AND OTHER TELEPHONE INFORMATION SOURCES

1. Federal Information Sources

a. Chemical Emergency Preparedness Program (CEPP) Information: Continental US (Toll Free) (800) 535-0202, DC Metropolitan Area (202) 479-2449.

Contact: Chemical Emergency Preparedness Program (CEPP), Office of Solid Waste and Emergency Response (WH-548A), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

EPA established the toll-free technical assistance hotline in 1985.

b. Coast Guard National Strike Force. Access through the National Response Center, telephone (800) 424-8801.

The National Strike Force (NSF) is a part of the National Response Team established under the authority of the Federal Water Pollution Control Act as amended in 1977.

C. Environmental Response Team (ERT). Telephone (908) 321-6740.

Tne National Contingency Plan directed EPA to establish the ERT to advise OSCS and Regional Response Teams on environmental issues related to spill containment, cleanup, and damage assessment. The team, established in October 1978, provides expertise in biology, chemistry, and engineering for environmental emergencies, as well as special equipment to control and clean up chemical discharges.

The ERT makes it possible for EPA to provide around-the-clock support to the Regional Offices through personnel whose sole responsibility is to respond to environmental emergencies. The Team is EPA's focal point for technical assistance to the Regions and Program Offices during emergency episodes involving toxic and hazardous wastes. The Team has two locations: Edison, NJ, and Cincinnati, OH. Usually, request for help from the Team comes from each Region's Emergency Coordinator, once the conclusion has been reached that technical assistance is needed. The Team consists of 23 individuals with long experience in dealing with various types of environmental emergencies and in responding to requests for assistance at uncontrolled hazardous waste sites.

The Team is responsible for coordinating the Response, Analytical and Engineering Contract (REAC), a cooperative effort between the Team, the Office of Research and Development's Oil and Hazardous Materials Spill Branch, and contractor personnel. Services available through the Response Unit include prototype spill control equipment such as the mobile physical/chemical treatment system, a mobile flocculation/ sedimentation system, contract laboratory analytical services, and pilot plant treatment studies.

d. Department of TransRortation (DOT) Hotline. Telephone (202) 426-2075.

This telephone service was established by the Standards Division of the Materials Transportation Bureau, Office of Hazardous Materials Regulations, to provide informational assistance to those interpreting DOT regulations, as defined in 49 CFR.

C. Hazard Assessment Computer Sntem (HACS). Telephone (800) 424-8802.

HACS, the computerized counterpart of Volume 3 of the CHRIS manuals, makes it possible to obtain very detailed hazard evaluations through the computer at Coast Guard Headquarters. The system is intended primarily for use by the OSC.

2. Private Information Sources

a. Bureau of Falosives. Association of American Railroads (AAR), telephone (202) 835-9500.

This 24-hour emergency number can be used for assistance for hazardous materials incidents involving railroads. This office is often contacted through CHEMTREC.

b. Chemical Referral Center (CRC).. Telephone (800) 262-8200, Monday through Friday, 8 a.m. to 9 p.m.

EST.

Contact: Chemical Manufacturers Association(CMA), 2501 M Street, NW, Washington, DC 20037. CMA makes this toll-free telephone number available for the general public to use to gain access to non-emergency health and safety information about chemicals.

When the Center receives an inquiry about a chemical, the operator first must determine that the call is not an emergency. Emergencies are immediately routed to CMA's Chemical Transportation Emergency Center (CHEMTREC), which gives emergency personnel detailed information on how to handle the incident (see below). If the inquiry is not on emergency, the operator finds out the name of the company that manufactures the product in question. Working from a computerized index of over 110,000 trade name products, the operator gives the caller the address and phone number of the company person to call. That person will provide the specific health and safety information asked for. For more information about the CRC, contact (202) 887-1318.

C. CHEMTREC. Chemical Manufacturers Association**,** (800) 424-9300. Alaska, Hawaii, and DC (202) 483-7616.

Contact: Chemical Manufacturers Association, 2501 M Street, NW, Washington, DC 20037. CMA established CHEMTREC to provide immediate assistance to those at the scene of accident, 24 hours a day, seven days a week. CHEMTREC maintains an on-line librarian. Other requests will be referred back to the appropriate states for handling. When the situation requires an immediate response and the manufacturer is unable to respond promptly, CHEMTREC can activate CHEMNET. CHEMNET is an industlywide mutual aid program established to provide chemical expertise at the scene of a chemical emergency. The program currently includes more than 77 chemical producers, their response teams, and more than 50 private contractor emergency response teams.

CHEMTREC can also provide emergency respondents with a "hard copy" of the information which they have stored on the product during emergencies. The HIT (Hazardous Information Transmission) program requires that response personnel be preregistered and have access to a personal computer, a modem, and a printer. For additional information on the HIT program, contact R. Jay Chezem at the address listed above, or at (202) 887-1255.

d. CHLOREP (Chlorine Emergency Plan) Access through CHEMTREC.

CHLOREP was established by the Chlorine Institute to handle chlorine emergencies in the U.S. and Canada. The system operates through CHEMTREC. Upon receiving an emergency call, CHEMTREC notifies the nearest manufacturer in accordance with a mutual aid plan. This manufacturer then contacts the emergency scene to determine if a technical team should be sent to assist. Each participating manufacturer has trained personnel and equipment available for emergencies.

e. TEAP (TransPortation Emergency Assistance Plan). Canadian Chemical Producers Association. Access 24 hours a day through three regional control centers:

-- British Columbia, (604) 929-3341

-- Prairie Provinces, (403) 477-8339

-- Northern Ontario, (705) 682-2881

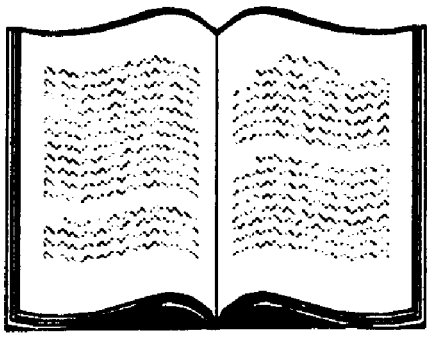
TEAP functions in Canada in a similar fashion to CHEMTREC in the U.S. It provides emergency advice,

gets knowledgeable personnel (usually the manufacturer) in touch with responsible people at the scene of the emergency, and sees that on-the-scene assistance is provided if needed. When the regional control center receives a call, the attendant irecords basic information, obtains a call-back number, and perhaps gives preliminary information from standard references if the name of the product is known. The attendant then calls one of the center's technical advisors, who calls the scene of the accident to get as much detail as possible and perhaps provides additional advice on coping with the emergency. The advisor then tries to contact the producer. If the producer cannot be reached, or if distances are great, the regional control center contacts a company familiar with the product. The center is also prepared to send personnel and equipment to the scene if necessary. Once contact has been established between producers and local authorities on the scene, the technical advisor assumes a follow-up role and notifies the Canadian Chemical Producers Association of the accident.

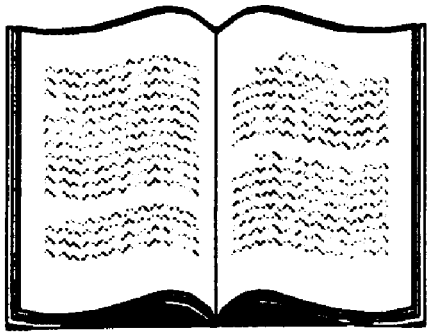
APPENDIX B

OTHER COMMON APPLICABLE OSHA STANDARDS

This Appendix presents some common health and safety requirements that are not part of 29 CFR §1910.120 that may need to be addressed prior to initiating hazardous work activities. For sites at which any of these safety requirements are applicable, the information from the regulation should be provided in sufficient detail within the Health and Safety Plan (HASP) to provide adequate protection of employees working on-site. The following are some of the more common OSHA standards that should be considered for site activities, although the list does not reflect all components of the OSHA General Industry (1910) or Construction (1926) standards.



29 CFR 1910



29 CFR 1926

OTHER COMMON APPLICABLE OSHA STANDARDS

OSHA Act, Section 5(a)(1): GENERAL DUTY CLAUSE

Under the "General Duty" clause of the Occupational Safety and Health Act of 1970, section 5(a)(1) states that each employer "shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees."

29 CFR §1904.2: LOG AND SUMMARY OF OCCUPATIONAL ILLNESSES AND INJURIES

This regulation requires that each employer maintain a log of all recordable occupational injuries and illnesses and that the information be recorded in the log within 6 working days of the receipt of the information. Form OSHA No. 200 or its equivalent is to be used for this purpose.

29 CFR §1910.20: ACCESS TO EMPLOYEE EXPOSURE AND MEDICAL RECORDS

An employer must provide exposure and medical records to an employee or designated representative within 15 days after the request for access to records. If the employee requests copies of this information, the employer must make the copies available to the employee at no cost. All employee medical records must be maintained for the duration of employment plus 30 years by the employer.

29 CFR §1910.24: FIXED INDUSTRIAL STAIRS

This section contains specifications for the safe design and construction of fixed general industrial stairs. This classification includes interior and exterior stairs around machinery, tanks, and other equipment, and stairs leading to or from floors, platforms, or pits.

Requirements include stair strength, stair width, angle of stairway rise, stairway platforms, railings and handrails, and vertical clearance. The requirements regarding stairs are very specific. For instance, 29 CFR §1910.24(h), Railings and Handrails, references 29 CFR §1910.23, which requires two standard rails (one set on each open side) if the stairway is more than four feet in height from ground level.

29 CFR §1910.27: FIXED LADDERS

This regulation includes information on design requirements, specific features, appropriate clearances, special requirements (e.g., use of cages for ladder heights greater than 20 feet), and appropriate pitch when using a fixed ladder.

29 CFR §1910.28: SAFETY REQUIREMENTS FOR SCAFFOLDING

This regulation provides safety requirements for the construction, operation, maintenance, and use of the approximately 20 types of scaffolding.

29 CFR §1910.38: EMPLOYEE EMERGENCY PLANS AND FIRE PREVENTION PLANS

This regulation applies to all emergency action plans and fire prevention plans required by particular OSHA standards. With the exception of employers with 10 or fewer employees, both the emergency action plan and the fire prevention plan are required in writing. The required elements of each of these plans are provided in the regulation. If the employer has 10 or fewer employees, the elements of both types of plans must be provided orally to the employees. The employer shall also perform housekeeping and maintenance of equipment and systems as part of the fire prevention plan.

29 CFR §1910.95: OCCUPATIONAL NOISE EXPOSURE

On many sites, different site activities (e.g., drilling operations, heavy equipment operations) may result in appreciable noise levels. It is important that area and personal noise surveys be conducted to categorize noise levels appropriately. A sound level meter that has the capability to integrate and average sound levels over the course of a work day is required. Currently, the OSHA-Permissible Exposure Limit for an 8-hour work day, 40-hour work week, is 90 decibels as recorded on a sound level meter on the A weighted scale (dBA). An employer shall implement a hearing conservation program if 8-hour time weighted average noise exposures equal or exceed 85 dBA. Continuous intermittent and impulsive sound levels of 80 dBA or greater shall be integrated into the time weighted average.

29 CFR §1910.96: IONIZING RADIATION

This regulation covers employee protection measures related to the possession, use, or transfer of ionizing radiation. The regulations set limitations on employee exposure to ionizing radiation and provide methods for establishing precautionary procedures and personnel monitoring, including surveys of radiation hazards, monitoring equipment, marking of radiation areas, emergency evacuation warning signals, and personnel instruction. The regulations require notification of incidents of releases, overexposure, or excessive levels or concentrations of radiation, and specify that employers must keep records of employee exposure and disclose the information upon request from a former employee.

29 CFR §1910.101: COMPRESSED GASES

To the extent possible, each employer should determine, through a visual inspection, that compressed gas cylinders under his/her control are in safe condition. Other inspections are prescribed in the DOT Hazardous Materials Regulations. Specific safety requirements for handling compressed gases are found in 29 CFR §252(b).

29 CFR §1910.133: EYE AND FACE PROTECTION

Eye and face protection is required when there is the potential for on-site injury. Particular information on goggles, spectacles, and face protection is included in this regulation. Design, construction, testing, and use of such devices must be in accordance with ANSI Z87.1-1968 specifications.

29 CFR §1910.134: RESPIRATORY PROTECTION

Prior to wearing a respirator, an employee should be certified as medically able to wear one. Each employer should have a written respiratory protection plan for selection and use of respirators.

All employees must receive training in the proper use of a respirator.

29 CFR §1910.135: OCCUPATIONAL HEAD PROTECTION

On-site situations requiring head protection include: presence of overhead objects, on-site operation of heavy equipment, potential for flying objects in the work area, and possible electric shock hazard. In addition to protecting workers from falling or flying objects, head protection affords limited protection from electric shock and burn. Head protection must meet ANSI Z89.1-1969 specifications.

29 CFR §1910.136: OCCUPATIONAL FOOT PROTECTION

Safety toe footwear for employees must meet ANSI Z41.1-1967 specifications for Men's Safety Toe Footwear. In general, workers at hazardous waste sites must wear leather or rubber boots with steel toes and steel shanks.

29 CFR §1910.141: SANITATION

Specifications concerning appropriate housekeeping, waste disposal, vermin control, water supply, toilet and washing facilities, showers, change rooms, waste disposal containers, sanitary storage, and food handling for permanent places of employment are provided in this regulation.

29 CFR §1910.151: MEDICAL SERVICES AND FIRST AID

If a medical facility is not located in proximity to the workplace, there shall be a person or persons on-site with adequate first-aid training. First-aid supplies approved by a consulting physician shall be available on-site. If there is the potential for corrosive materials on-site, suitable facilities shall be available for drenching of eyes and skin.

29 CFR §1910.165: EMPLOYEE ALARM SYSTEMS

The employee alarm system shall be recognizable to all on-site employees. The signal from the employee alarm system shall be audible to employees in the event of a need to warn employees of an evacuation from work areas.

29 CFR §1910.181: DERRICKS

Derricks attached to drill rigs must be periodically inspected. This regulation defines nine different types of derricks. Specific information is provided on inspection; frequency of inspection; lead ratings; rope use and inspection; fire extinguisher use; operation near power lines; and operating enclosures.

29 CFR §1910.252: WELDING, CUTTING, AND BRAZING

Detailed regulations exist for various types of welding, cutting, and brazing operations. There regulations provide specific information on types of gases, gas pressures, operations and maintenance, and safety procedures.

29 CFR §1910.307: HAZARDOUS LOCATIONS

Electrical equipment used in hazardous locations must be intrinsically safe and suitable for use in the appropriate classified environment. Specified definitions of classifications and further information can be found in §1910.307 and §1910.399.

Subpart Z, 29 CFR §1910.1000:
TOXIC AND HAZARDOUS SUBSTANCES

There are other applicable OSHA standards that refer to particular air sampling procedures for chemical contaminants, PPE requirements, and recordkeeping for a variety of compounds. These compounds and their accompanying OSHA regulations are as follows:

Compound	OSHA Reference
Asbestos	29 CFR §1910.1001
Coal tar pitch volatiles	29 CFR §1910.1002
4-nitrobiphenyl	29 CFR §1910.1003
Alpha-naphthylamine	29 CFR §1910.1004
Methyl chloromethyl ether	29 CFR §1910.1006
3,3'-dichlorobenzidine	29 CFR §1910.1007
bis-chloromethyl ether	29 CFR §1910.1008
beta-napthylamine	29 CFR §1910.1009
Benzidine	29 CFR §1910.1010
4-aminodiphenyl	29 CFR §1910.1011
Ehthyleneimine	29 CFR §1910.1012
beta-propiolactone	29 CFR §1910.1013
2-acetylaminofluorene	29 CFR §1910.1014
4-dimethylaminoazobenzene	29 CFR §1910.1015
N-nitrosodimethylamine	29 CFR §1910.1016
Vinyl Chloride	29 CFR §1910.1017
Inorganic arsenic	29 CFR §1910.1018
Lead	29 CFR §1910.1025
Benzene	29 CFR §1910.1028
Coke oven emissions	29 CFR §1910.1029
1,2-dibromo-3-chloropropane	29 CFR §1910.1044
Acrylonitrile	29 CFR §1910.1045
Ethylene oxide	29 CFR §1910.1047
Formaldehyde	29 CFR §1910.1048

29 CFR §1910.1200: HAZARD COMMUNICATION

The employer will establish a hazard communication program to ensure that hazards associated with chemical usage are communicated to employees. The hazard communication program does not apply to hazardous wastes. There are training, labeling, and material safety data sheet (MSDS) requirements for known chemicals. Employers are required to develop a written hazard communication program that will include:

- List of known chemicals on-site;

- Methods for informing employees of chemical hazards associated with non-routine tasks;
- Methods for informing both employees and subcontractors about chemical hazards (e.g., chemical hazard training, distribution of MSDSs).

29 CFR §1926.56: ILLUMINATION

General work areas shall have a minimum illumination intensity of 5 foot-candles. Other specifications for minimum illumination intensities for different work areas and operations are provided in this regulation.

29 CFR §1926.57: VENTILATION

Whenever dust, fumes, mists, vapors, or gases exist or are produced in the course of construction work, their concentrations must not exceed limits specified in 29 CFR §1926.55(a). When ventilation is used, the system must be installed and operated according to the requirements of this section.

29 CFR §1926.59: HAZARD COMMUNICATION

29 CFR §1926.151(a)(3): FIRE PREVENTION

Electrical equipment and wiring for light, heat, or other power purposes must be installed in accordance with the National Electrical Code requirements, NFPA 70-1971; and ANSI CI-197. Also, smoking is prohibited at or in the vicinity of operations which constitute a fire hazard. "No Smoking" or "Open Flame" signs must be posted. In general, smoking should be limited to a designated area within the "support zone" at a hazardous waste site. This will minimize the fire hazard, as well as the transfer of contaminants to smokers' mouths.

29 CFR §1926.152: FLAMMABLE AND COMBUSTIBLE LIQUIDS

Information on appropriate containers and appropriate storage for flammable and combustible liquids is contained in this reference. Note that no more than 25 gallons of liquid may be stored indoors unless located within an approved storage cabinet.

29 CFR §1926.200: ACCIDENT PREVENTION SIGNS AND TAGS

This regulation contains specific information on color, size, shape, and placement of danger, caution, exit, safety instruction, directional, accident prevention, and traffic signs.

29 CFR §1926.301: HAND TOOLS

Special attention should be paid to the use of safe hand tools. For example, wooden tool handles must be kept free of splinters or cracks, and impact tools, such as wedges and chisels, must be kept free of mushroomed heads. Also, wrenches must not be used when jaws are sprung to the point that slippage occurs.

29 CFR §1926.651: SPECIFIC EXCAVATION REQUIREMENTS

Specific information on locating underground utilities; using support systems; securing sides, slopes, and faces; using seals, benches, rock bolts, and wire meshes; taking precautions for work

adjacent to previously backfilled areas; diverting water flows from excavated areas; using explosives appropriately; using dust control techniques; and using ladders and ramps is provided in this regulation.

29 CFR §1926.652: TRENCHING REQUIREMENTS

Shoring is needed when the sides of a trench are more than 5 feet deep and unsuitable ground or soft material is present. Also, sides of trenches in hard or compact soil must be shored when the trench is more than 5 feet deep and 8 feet long.

29 CFR Part 1926: Safety and Health Regulations for Construction

29 CFR Part 1926 is divided into twenty-four specific areas addressing safety and health standards for the construction industry, some of which are described in more detail above:

Subpart A	General
Subpart B	General Interpretations
Subpart C	General Safety and Health Provisions
Subpart D	Occupational Health and Environmental Controls
Subpart E	Personal Protective and Life Saving Equipment
Subpart F	Fire Protection and Prevention
Subpart G	Signs, Signals, and Barricades
Subpart H	Materials Handling, Storage, Use, and Disposal
Subpart I	Tools -- Hand and Power
Subpart J	Welding and Cutting
Subpart K	Electrical
Subpart L	Ladders and Scaffolding
Subpart M	Floors and Wall Openings, and Stairways
Subpart N	Cranes, Derricks, Hoists, Elevators, and Conveyors
Subpart O	Motor Vehicles, Mechanized Equipment, and Marine Operations
Subpart P	Excavations
Subpart Q	Concrete and Masonry Construction
Subpart R	Steel Erection
Subpart S	Underground Construction
Subpart T	Demolition
Subpart U	Blasting and Use of Explosives
Subpart V	Power Transmission and Distribution
Subpart W	Rollover Protective Structures; Overhead Protection
Subpart X	Effective Dates