



Hazardous Waste Operations and Emergency Response: *Available Guidance*

Office of Emergency and Remedial Response
Emergency Response Division MS-101

Quick Reference Fact Sheet

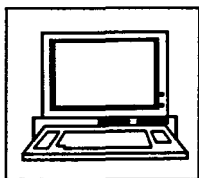


INTRODUCTION

The U.S. Environmental Protection Agency (EPA) and the U.S. Occupational Safety and Health Administration (OSHA) have issued identical health and safety standards

to protect workers engaged in hazardous waste operations and emergency response (HAZWOPER). The EPA regulations are codified at 40 CFR Part 311 (54 FR 6654). The OSHA regulations are codified at 29 CFR 1910.120 (54 FR 9294 and 55 FR 14072).

The Environmental Response Team (ERT) at EPA developed this Fact Sheet to alert interested parties to the availability of guidance materials that will help employers, employees, On-Scene Coordinators (OSCs), and Remedial Project Managers (RPMs) to better understand and comply with the new HAZWOPER standards. This Fact Sheet is organized into four sections, representing the four distinct formats used to present information about the new requirements: (1) Software; (2) HAZWOPER Fact Sheets; (3) Guidance Documents; and (4) Training. Exhibit 1 presents at a glance the various guidance that is described in this Fact Sheet.



COMPUTER SOFTWARE

Two major ERT software systems are currently available for HAZWOPER. The topics addressed by these systems are discussed below and are listed in Exhibit 2.

Health and Safety Planner (U.S. EPA, 1990)

The Health and Safety Planner (HASP) — often called the generic health and safety plan — is a menu-

driven computerized software system designed to assist health and safety officers in designing, implementing, and updating a site health and safety plan. HASP contains several valuable data bases that include information on chemical hazards associated with many of the chemicals typically found at an uncontrolled hazardous waste site. HASP allows the user to retrieve data on chemical hazards, suggests appropriate monitoring devices, identifies likely routes of exposure, and recommends levels of personal protective equipment based on those hazards and the tasks that will be performed at the site. HASP also includes standard protocols for typical assessment and remediation activities. Finally, HASP uses standard text components to actually produce a site-specific health and safety plan, addressing the potential hazards identified for the site. The health and safety plan format generated by HASP is consistent with OSHA's 29 CFR 1910.120 requirements. HASP is available on either 3½" or 5¼" diskettes, for either double density or high density disk drives; it runs on most IBM-compatible personal computers, and it comes with a User's Guide (OSWER Directive 9285.8-01).

Field Certification Tracking System (U.S. EPA, 1989)

The Field Certification Tracking System (FCTS) is a computerized software system that simplifies the recordkeeping associated with the health and safety requirements under HAZWOPER. The system creates personnel files, updates the personnel files, and produces personnel reports. FCTS is essentially a tracking system; it cannot be used to identify training and medical monitoring requirements, but rather allows the user to specify the requirements and to track the employee's fulfillment of those requirements. Employees working at a location, for example, may be grouped into categories, such as HAZMAT Team Member, routine site worker, or first responder, and then training and medical monitoring requirements for each worker or each category of workers

EXHIBIT 1
Available Guidance

Computer Software

- Health and Safety Planner (HASP)
- Field Certification Tracking System (FCTS)

HAZWOPER Fact Sheets

- Hazardous Waste Operations and Emergency Response: General Information and Comparison
- Hazardous Waste Operations and Emergency Response: Uncontrolled Hazardous Waste Sites and RCRA Corrective Action
- Hazardous Waste Operations and Emergency Response: RCRA TSD and Emergency Response Without Regard to Location
- Establishing Work Zones at Uncontrolled Hazardous Waste Sites

Guidance Documents

- Hazmat Team Planning Guidance
- Occupational Medical Monitoring Program Guidelines for SARA Hazardous Waste Field Activity Personnel
- Health and Safety Audit Guidelines
- Standard Operating Safety Guides
- Field Standard Operating Procedures

Training

- Hazardous Materials Incident Response Training Program Course Schedule

EXHIBIT 2
Computer Software

Health and Safety Planner

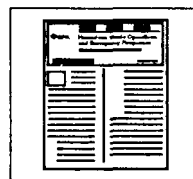
- Identification of chemical hazards
- Selection of monitoring devices
- Identification of likely routes of exposure
- Selection of personal protective equipment

Field Certification Tracking System

- Simplification of recordkeeping for field personnel
- Creation of personnel files for health and safety requirements
- Updating of personnel files

must be input into the FCTS system. The training and medical monitoring requirements entered for each employee may be more or less stringent than those specified in 29 CFR 1910.120. Thus, although all affected employees must comply with the training and medical monitoring requirements in 29 CFR 1910.120, FCTS provides the user with flexibility regarding the elements that will be tracked. Once a personnel file is created, the

system can be used to list the required training for an employee's category, update an employee's file to reflect newly acquired training, and target personnel files to identify employees who are overdue for a particular type of training. FCTS is available on either 3½" or 5¼" diskettes, for either double density or high density disk drives; it runs on most IBM-compatible personal computers, and it comes with a User's Guide (OSWER Directive 9285.3-03).



HAZWOPER FACT SHEETS

Currently, there are four available ERT Fact Sheets (in addition to this one) that provide guidance on the HAZWOPER requirements. The topics addressed by these Fact Sheets are discussed below and are presented in Exhibit 3.

Hazardous Waste Operations and Emergency Response: General Information and Comparison (U.S. EPA, 1991, Pub. No. 9285.2-09FS)

This Fact Sheet explains the scope and purpose of the HAZWOPER standards, and distinguishes the Title I standards from regulations and consensus standards covering the same or similar subject matter. Specifically, this Fact Sheet provides a brief legislative history of HAZWOPER, and compares it with other programs governing the same kinds of activities, such as

**EXHIBIT 3
HAZWOPER Fact Sheets**

**General Information and
Comparison**

- Overview of EPA and OSHA Authority
- Comparing Regulatory Requirements
- Comparing General Requirements
- NFPA's Hazardous Materials Incidents Publications
- Sources of Additional Information

**Uncontrolled Hazardous Waste Sites
and RCRA Corrective Action**

- Planning Requirements
- Training Requirements
- Medical Surveillance Requirements
- Other Requirements
- Employee Rights
- Sources of Additional Information

**RCRA TSD and Emergency
Response Without Regard to Location**

- Requirements for Planning, Training, and Medical Surveillance for Emergency Response Without Regard to Location
- Requirements for Planning, Training, and Medical Surveillance at RCRA TSD Facilities
- Sources of Additional Information

**Establishing Work Zones at Uncontrolled
Hazardous Waste Sites**

- Definitions of Work Zones
- Data Collection Requirements
- Selection of Work Zones
- Ensuring Integrity of Work Zones
- Consultation and References

SARA Title III and OSHA's proposed rule on highly hazardous substances. This Fact Sheet also discusses how the HAZWOPER requirements relate to the industry-specific standards at 29 CFR 1910 and the standards applicable to the construction industry at 29 CFR 1926. Finally, this Fact Sheet describes relevant National Fire Protection Association (NFPA) publications and their relationship to HAZWOPER.

***Hazardous Waste Operations and Emergency Response:
Uncontrolled Hazardous Waste Sites and RCRA Corrective
Action (U.S. EPA, 1991, Pub. No. 9285.2-08FS)***

This Fact Sheet explains the principle HAZWOPER requirements as they apply to employees engaged in hazardous waste operations and emergency response at uncontrolled hazardous waste sites, including employees who perform corrective actions at RCRA TSD facilities. Specifically, this Fact Sheet describes the relevant planning, training, and medical surveillance requirements in HAZWOPER, including the site control and decontamination programs, the emergency response plan, the spill containment program, and the specific responsibilities of the OSC/RPM and ERT. Other requirements, such as the procedures for handling drums and containers, illumination and sanitation requirements, and the informational and new technology programs also are addressed. Finally, this Fact Sheet discusses employee rights under section 8 of the Occupational Safety and Health Act of 1970, as amended (OSH Act).

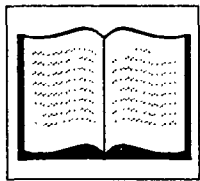
***Hazardous Waste Operations and Emergency Response:
RCRA TSD and Emergency Response Without Regard to
Location (U.S. EPA, 1991, Pub. No. 9285.2-07FS)***

This Fact Sheet describes the planning, training, and medical surveillance requirements in HAZWOPER as they apply to emergency responders regardless of location, and employees who perform routine hazardous waste operations at RCRA TSD facilities. The Fact Sheet explains the applicable HAZWOPER planning and medical monitoring requirements, as well as the five specific levels of training required for responders to emergencies that could occur at any location.

***Establishing Work Zones at Uncontrolled Hazardous Waste
Sites (U.S. EPA, 1991, Pub. No. 9285.2-06FS)***

This Fact Sheet summarizes the requirements and procedures for establishing and maintaining Support Zones (i.e., Clean Zones) at hazardous waste sites. The Fact Sheet defines the different work zones usually found at a hazardous waste site (i.e., Exclusion, Contamination Reduction, and Support), describes data collection and site characterization requirements for establishing a Support Zone (both prior to and during initial site entry), provides information on selecting and maintaining work zones (i.e., data compilation and evaluation), and provides information on maintaining the work zones (i.e., use of site controls, periodic monitoring of the support zone, and other considerations). This Fact Sheet also references a number of technical guidance documents

that address some of the activities that are conducted in establishing work zones (e.g., air monitoring).



GUIDANCE DOCUMENTS

Five major ERT guidance documents are currently available for HAZWOPER. The topics addressed by these documents are discussed briefly below and are presented in Exhibit 4.

Hazmat Team Planning Guidance (U.S. EPA, 1990, Pub. No. EPA/540/G-90/003)

The *Hazmat Team Planning Guidance* document assists local fire departments and other response organizations in establishing a HAZMAT Team. The document identifies necessary equipment and suggests ways to acquire and maintain the equipment and to train personnel for the HAZMAT Team. The document offers guidance in determining actual HAZMAT response requirements, establishing the goals and levels of expertise needed to meet those requirements, and estimating the costs of meeting those goals. The document also provides assistance in preparing response plans and standard operating procedures (SOPs). The Appendices to the document provide a summary of how to begin the hazards analysis process and how to design a medical program. The Appendices also contain a list of EPA Regional Superfund training contacts and selected guidance and reference documents.

Occupational Medical Monitoring Program Guidelines for SARA Hazardous Waste Field Activity Personnel (U.S. EPA, 1990, Pub. No. OSWER Directive 9285.3-04)

This summary document provides guidelines covering the requirements for a comprehensive occupational medical monitoring program for personnel involved in hazardous waste field activities. This document outlines general medical monitoring requirements such as the type of physician who must perform or supervise examinations, and the procedures required of the personnel who must undergo the monitoring. The four types of examinations — baseline, periodic, unscheduled, and termination — are described, as well as reporting requirements, special requirements (i.e., immunizations, research tests, and reproductive hazards), and the relationship between occupational medical monitoring and workers' compensation. The Appendices to the document address the minimum examination types and content, and provide guidelines for immunization requirements. References are also provided.

EPA Health and Safety Audit Guidelines (U.S. EPA, 1989, Pub. No. EPA/540/G-89/010)

These Guidelines provide a representative sample of the HAZWOPER requirements at different stages of cleanup at an uncontrolled hazardous waste site, as well as during emergency response operations that occur without regard to location. It is in a workbook format that provides the user with space for notes regarding the comprehensiveness and efficacy of the written site-specific health and safety plan, as well as the health and safety measures being implemented in the field and during off-site emergency response operations. The Guidelines may be used to assist an auditor or site supervisor in obtaining a sense of the likely level of compliance with the HAZWOPER requirements; they, however, are not meant to be a comprehensive compilation of all requirements. If compliance with the specific elements in a subsection of these guidelines is excellent, then it is likely that all requirements under that subsection have been met. If, on the other hand, compliance is sketchy or weak, it is advisable to pursue additional questions and to further investigate compliance with that subsection. The EPA Audit Guidelines are in a simple, easy to follow, question and answer format. The Appendices to the document provide an incident safety check-off list, a description of levels of personnel protection, and a log and summary form for occupational injuries and illnesses.

Standard Operating Safety Guides (U.S. EPA, 1988, OSWER Directive 9285.1-OIC)

The *Standard Operating Safety Guides* (SOSG) provide guidelines for use by any organization in developing its own specific operation safety procedures. These Guides should be adapted to address the safety criteria required for protection of response personnel from the hazards created by a specific operation or incident. This document is not meant to be a comprehensive safety manual, but rather it provides technical information that should be considered in developing instructions on how to accomplish specific hazardous waste operations in a safe manner.

Field Standard Operating Procedures (FSOPs)

EPA has published a series of FSOPs that provides procedures to minimize the risk of exposure to hazardous substances. These procedures were derived from early drafts of EPA's *Standard Operating Safety Guides* and are presented in a format that is more appropriate for use in the field. Five of the most relevant FSOPs are described below.

EXHIBIT 4
Guidance Documents

Hazmat Team Planning Guidance

- Do you need a hazmat team?
- Training and equipping your hazmat team
- Preparing response plans and standard operating procedures

Health and Safety Audit Guidelines

- Preliminary evaluation
- Written health and safety plan review
- Health and safety field review
- Off-site emergency response review

**Occupational Medical Monitoring Program
Guidelines for SARA Hazardous Waste
Field Activity Personnel**

- General requirements
- Baseline examination
- Periodic examination
- Unscheduled examination
- Termination examination
- Reporting requirements
- Special requirements
- Relationship between occupational medical monitoring and workers' compensation
- Minimum examination types and requirements
- Guidelines for immunization requirements

Standard Operating Safety Guides

- Environmental incidents
- Standard operating procedures
- Health and safety requirements
- Site safety plan
- Initial site survey and reconnaissance
- Levels of personal protective equipment
- Effects of stress
- Work zones
- Decontamination
- Air surveillance

Field Standard Operating Procedures

- Site entry
- Work zones
- Decontamination of response personnel
- Air surveillance
- Site safety plan

FSOP #4: Site Entry (U.S. EPA, 1985, OSWER Directive 9285.2-01). This document discusses site entry procedures, including proper selection, use, and decontamination of personal protective equipment; use of field equipment; activities conducted during initial site entry; and check-out procedures for a self-contained breathing apparatus.

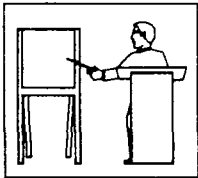
FSOP #6: Work Zones (U.S. EPA, 1985, OSWER Directive 9285.2-04). This document discusses a number of topics related to work zones, including definitions of work zones, methodology for selecting work zone locations, personal protective levels, and air monitoring.

FSOP #7: Decontamination of Response Personnel (U.S. EPA, 1985, OSWER Directive 9285.2-02). This document provides flow charts for decontamination

layouts, descriptions of personal protective equipment, procedures for decontamination, and lists of decontamination equipment.

FSOP #8: Air Surveillance (U.S. EPA, 1985, OSWER Directive 9285.2-03). This document describes the types and methods of air surveillance, procedures and equipment for air monitoring, and a method for analyzing organic solvents by gas chromatography.

FSOP #9: Site Safety Plan (U.S. EPA, 1985, OSWER Directive 9285.2-05). This document describes the general requirements for a site safety plan, discusses development and implementation of a site safety plan, and provides sample plans and a checklist.



TRAINING

As part of EPA's comprehensive program for protecting the public and the environment from releases of hazardous materials, ERT developed the Hazardous Materials Incident Response Training (HMIRT) Program. A list of the HMIRT courses is provided in Exhibit 5. A schedule of these courses is available from ERT in Cincinnati, Ohio.

EXHIBIT 5 Training

Hazardous Materials Incident Response Training Program Schedule of Courses

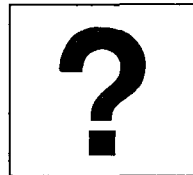
- Personal Protection and Safety
- Hazardous Materials Treatment Technologies
- Air Surveillance for Hazardous Materials
- Hazardous Materials Incident Response Operations
- Risk Assessment Guidance for Superfund
- Introduction to Groundwater Investigations
- Safety and Health Compliance for Managers
- Sampling for Hazardous Materials
- Radiation Safety at Superfund Sites
- Emergency Response to Hazardous Materials Incidents
- Advanced Air Sampling for Hazardous Materials
- Removal Cost Management System

Hazardous Materials Incident Response Training Program Course Schedule

The HMIRT program is designed for emergency responders and for personnel who investigate and clean

up uncontrolled hazardous waste sites. The HMIRT program currently has a curriculum of 12 courses. (See Exhibit 5.) The curriculum covers emergency operations, as well as the scientific and technical aspects of response to hazardous materials incidents. The courses provide specific training in worker health and safety and in various technical operations that must be performed by site personnel and emergency responders to identify, evaluate, and control releases of hazardous substances.

All HMIRT courses, which generally last from three to five days, emphasize the practical application of lecture material through problem solving, case studies, and demonstrations, along with actual exercises using response equipment and instruments. Many of the HMIRT courses are accredited by the American Council on Education. The program also offers continuing education units and American Board of Industrial Hygiene (ABIH) certificate maintenance credits for course participants. Tuition for HMIRT courses is free to any government worker, including federal, state, and local personnel, as well as to volunteer fire companies; however, there is a nominal tuition fee for members of industry.



WHERE TO OBTAIN GUIDANCE

The guidance described in this Fact Sheet can be obtained from the sources shown in Exhibit 6. When calling or writing, please be certain to specify the title and identification number (if available) of the guidance.

EXHIBIT 6
Where to Obtain Guidance

To Obtain:

- Computer Software
 - HASP (and User's Guide, 9285.8-01)
 - FCTS (and User's Guide, 9285.3-03)
- HAZWOPER Fact Sheets
 - General Information and Comparison (9285.2-09FS)
 - Uncontrolled Hazardous Waste Sites and RCRA Corrective Action (9285.2-08FS)
 - RCRA TSD and Emergency Response Without Regard to Location (9285.2-07FS)
 - Establishing Work Zones at Uncontrolled Hazardous Waste Sites (9285.2-06FS)
- Occupational Medical Monitoring Program Guidelines for SARA Hazardous Waste Field Activity Personnel (9285.3-04)
- Standard Operating Safety Guides (9285.1-0IC)
- Field Standard Operating Procedures
 - FSOP #4: Site Entry (9285.2-01)
 - FSOP #6: Work Zones (9285.2-04)
 - FSOP #7: Decontamination of Response Personnel (9285.2-02)
 - FSOP #8: Air Surveillance (9285.2-03)
 - FSOP #9: Site Safety Plan (9285.2-05)

Call or Write:

U.S. EPA/ERT ERC H&S
2890 Woodbridge Avenue
Building 18 (MS-101)
Edison, NJ 08837-3679
(908) 321-6740 or (FTS) 340-6740

To Obtain:

- Hazmat Team Planning Guidance (EPA/540/G-90/003)
- Health and Safety Audit Guidelines (EPA/540/G-89/010)

Call or Write:

- National Technical Information Service (NTIS)
5285 Port Royal Road
Springfield, VA 22161
(703) 487-4600

To obtain:

- HMIRT Course Schedule

Call or Write:

- U.S. EPA/ERT
26 West Martin Luther King
Cincinnati, OH 45268
(513) 569-7537 or (FTS) 684-7537

To Obtain:

- Other information on worker protection standards

Call or Write:

- Emergency Planning and Community Right-to-Know Information
U.S. EPA (OS-120)
401 M Street, SW
Washington, D.C. 20460
(800) 535-0202 or (202) 479-2449
- Superfund Docket/U.S. EPA
401 M Street, SW
Room 2427 SDIC
Washington, D.C. 20460
(202) 382-3046
- U.S. Department of Labor
Occupational Safety and Health Administration (OSHA)
OSHA Publications Office, Room N3101
200 Constitution Avenue, NW
Washington, D.C. 20210
(202) 523-9667
- National Institute of Occupational Safety and Health
NIOSH Publications
4676 Columbia Parkway
Cincinnati, OH 45226
- Federal Emergency Management Agency (FEMA)
P.O. Box 70274
Washington, D.C. 20024
(or contact FEMA Regional Office directly)
- Emergency Management Institute (EMI)/
National Fire Protection Academy (NFA)
Federal Emergency Management Agency
16825 South Seton Avenue
Emmitsburg, MD 21727
(301) 447-1122
- National Fire Protection Association (NFPA)
1 Batterymarch Park
P.O. Box 9101
Quincy, MA 02269-9101
(617) 770-3000
- Fire Protection Publications
Oklahoma State University
Stillwater, OK 74078-0118
(405) 744-7576
- Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402
(202) 783-3238
- National Technical Information Service (NTIS)
5285 Port Royal Road
Springfield, VA 22161
(703) 487-4600