

**UNITED STATES ARMY FIRES CENTER OF EXCELLENCE  
and Fort Sill**

# **HAZARDOUS MATERIAL/ HAZARDOUS WASTE MANAGEMENT PLAN**



**MANAGING HAZARDOUS MATERIAL/  
HAZARDOUS WASTE**

**TURNING IN HAZARDOUS  
MATERIAL/HAZARDOUS WASTE**

**TRAINING AND INSPECTIONS**

**SPILL RESPONSE – LARGE & SMALL**

**PAGE INTENTIONALLY LEFT BLANK**

## Table of Contents

Chapter 1. Introduction	1
Purpose and Scope	1
Reviews and Revisions	1
Applicable Regulations	1
State Regulations	1
Federal Regulations	1
Military Regulations	2
Responsibilities	4
Environmental Quality Division (EQD)	4
Medical Department Activity (MEDDAC)	5
Public Health Environmental Health Section	5
Public Affairs Office (PAO)	6
Safety Office	6
Logistics Readiness Center (LRC)	6
Other Staff Directorates, Activities, and Subordinate Commands	7
Environmental Officer (EO)	7
Forms for Submitting Changes to This Plan	8
Chapter 2. Managing Hazardous Materials	11
OSHA and GHS Classification and Labeling of Chemicals	11
Identifying Unwanted and Unserviceable HM	11
Obtaining and Cataloging Safety Data Sheets (SDS)	12
Determining Hazardous Material Compatibility	12
Method 1: Determining Compatibility Using HMIRS Generated SDSs	13
Method 2: Determining Compatibility Using DOT Hazard Labels	19
Method 3: Determining Compatibility Using OSHA Precautionary Labels	21
Maintaining and Extending Shelf Life	24
Setting Up Storage Areas	24
Storage Lockers	24
Storage Rooms and Buildings and Placards	25
Storage Racks	27
Storage for Compressed Gases	28
Moving Cylinders	29
Stocking a HM Storage Locker	30
Maintaining and Tracking Inventory	30

Chapter 3. Managing Waste	33
Waste Management Made Easy – Waste Protocol Sheets	33
Waste Categories	34
Hazardous Waste (HW)	34
Universal Waste (UW)	34
Non-Hazardous Industrial Waste (NHIW)	35
Special Waste (Non-RCRA Regulated Waste)	35
General Refuse	35
Generating and Accumulating Waste	35
HW Satellite Accumulation Points	36
Non-HW Accumulation Points	36
Rules for Managing SAAs	37
Obtaining a Waste Accumulation Container	37
Adding Waste to Containers	38
Using Overpack Drums	39
Managing Empty Drums	39
Metal Drums	39
Plastic Drums	40
Chapter 4. Turning in HM and Waste	42
Funding Requirements	42
Turning in HM and Waste to the EQD	42
Turning in Vehicle Lead-Acid Batteries	46
Turning in Used Oil	47
Oil/Water Separator Cleanout	47
Mobile Fuel Tanker Purging	47
Transporting HM/HW on Fort Sill	48
Transporting HW off Fort Sill – Manifesting	48
Chapter 5. Training, Inspections, and Recordkeeping	50
Hazardous Waste Training Regulatory Drivers	50
Federal Regulations	50
State Regulations	51
Military Regulations	51
Fort Sill Hazardous Waste Training Program	51
Who Needs Hazardous Waste Training	51
When Hazardous Waste Training is Required	52
How Hazardous Waste Training Should be Conducted	52

Fort Sill Hazardous Material and Waste Management Plan	Table of Contents
Fort Sill Oil-Handling Personnel Training Program	52
Federal Regulation	52
Hazardous Waste Generator Classroom Instruction	53
Facility Specific Oil-Handling Personnel Training	53
Required Inspections	53
Inspecting Accumulation Points	54
Inspecting Portable Oil Containers and Mobile Refuelers/Fuel Pods	54
Inspecting POL Containment Areas	54
Required Recordkeeping	55
Training Records	55
Inspection Records	55
Other Records	55
Other Inspections and Tests	56
Forms and Instructions	56
 Chapter 6. Spill Response	 67
Spill Response Actions	68
Incidental Spills	68
Small Spills	68
Large Spills	70
Reporting	71
Arrangement with Local Authorities	71
Installation On-Scene Coordinator	71
Emergency Response Equipment	72
 Chapter 7. Glossary and Acronyms	 75
Glossary	75
Acronyms	77
 Appendix A. Waste Protocol Sheets	 79
Appendix B. Memorandums	126
Impulse II Aqueous Parts Washer Operational Guidelines	127
Management of Lithium Sulfur Dioxide Batteries	128
IT-48WC Weapons Cleaning System	129
IT-32 and IT-48 Parts Cleaning System	130
Management of Used Fluorescent and High Intensity Discharge Lamps	131
Disposal of Appliances with Freon	132
Used Oil Storage Tank Guidelines	133
Expired Materials for Turn in as Hazardous Waste	134
Disposal of Fire Extinguishers	135

### List of Tables

Table 1-1. Major Program Requirements of AR 200-1	3
Table 1-2. EO Compliance Table	8
Table 2-1. Storage Segregation Matrix	14
Table 2-2. DOT Labels	20
Table 2-3. Precautionary Labels	21
Table 5-1. Hazardous Waste Training Category and Associated Regulatory Agency/Body	50
Table 6-1. RCRA Contingency Plan Requirements Referenced in ISCP/SPCC Plan	67

### List of Figures

Figure 2-1. SDS Showing HCC	13
Figure 2-2. Sample DOT Labels	19
Figure 2-3. Example Precautionary Label	21
Figure 2-4. GHS/OSHA Pictogram Labels	23
Figure 2-5. Flammable Storage Locker	25
Figure 2-6. Safe Store® Building	26
Figure 2-7. Storage Rack	28
Figure 2-8. Locker Set	30
Figure 3-1. Safe Store® Building	37
Figure 4-1. Aerial Photograph of Waste Turn-In Access Route	44
Figure 4-2. DA 2765-1 for Vehicle Lead Acid Battery Turn-In	46

**List of Forms**

DA Form 2028 for Submitting Changes to This Plan	9
Quarterly Hazardous Materials Storage Inventory Form	31
Individual Hazardous Waste Training Record	57
Weekly Environmental Inspection Log	58
Monthly STI SP001 Portable Container Inspection Checklist	61
Monthly STI SP001 Mobile Refueler-Fuel Pod Inspection	62
POL Containment Drainage Record (POL or sheen observed)	65
Spill or Incident Report Record	73

**PAGE INTENTIONALLY LEFT BLANK**



## Chapter 1. Introduction

This Hazardous Material and Waste Management Plan prescribes responsibilities, policies, and procedures for managing hazardous materials and wastes at the U.S. Army Fires Center of Excellence and Fort Sill (USAFCOEFS) required by Army Regulation (AR) 200-1, *Environmental Protection and Enhancement*. This Plan is written to ensure Fort Sill's compliance with applicable federal, state, and local laws and regulations.

### Purpose and Scope

This Plan documents the Fort Sill hazardous materials and waste management program. It applies to the following:

- All organizations and activities located on Fort Sill
- Any outside organization or activity training at Fort Sill

### Reviews and Revisions

The Fort Sill Environmental Quality Division (EQD) will review this Plan at least once every two years. All Environmental Officers (EOs), as well as any other Fort Sill personnel directly involved in hazardous material (HM) or hazardous waste (HW) management, are encouraged to provide comments and input to this Plan. To do so, complete DA Form 2028 located at the end of this chapter and forward to the EQD at the Post Environmental Office.

### Applicable Regulations

#### State Regulations

The Oklahoma Department of Environmental Quality (ODEQ) has obtained primacy from the Environmental Protection Agency (EPA) to enforce solid and hazardous waste management standards. These standards are contained in Title 252 of the Oklahoma Administrative Code, Chapter 205, Hazardous Waste Management, and Chapter 515, Solid Waste Management.

#### Federal Regulations

In order to comply with the Federal Facilities Compliance Act, Fort Sill must manage its waste in accordance with (IAW) the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments (HSWA). Federal waste management regulations are codified in Title 40 of the Code of Federal Regulations (CFR). This Plan provides procedures for complying with the following parts of 40 CFR:

- Part 260 through Part 272 for the regulation of hazardous waste
- Part 273 for the regulation of universal waste

- Part 279 for the regulation of used oil Fort Sill must also comply with the following:
- Defense Transportation Regulations which incorporate by reference 49 CFR Parts 170 through 177 regarding hazardous materials transportation
- 29 CFR Part 1910 regarding employee safety

**Military Regulations**

Fort Sill personnel must comply with AR 200-1, *Environmental Protection and Enhancement*, which contains Army policy for hazardous material and waste management. This Plan provides procedures for complying with these regulations. The following table cross-references the major program requirements of AR 200-1, Chapter 9 (Materials Management) and Chapter 10 (Waste Management) with this Plan.

**Table 1-1. Major Program Requirements of AR 200-1**

<b>AR 200-1 Reference</b>	<b>Major Program Requirement</b>	<b>Plan Reference</b>
9-1 d	HM Management Program for identifying, storing, and transporting hazardous materials	Chapters 2, 3, and 4
	<ul style="list-style-type: none"> <li>• HM Inventory</li> </ul>	Chapter 2
	<ul style="list-style-type: none"> <li>• Transporting HM</li> </ul>	Chapter 4
	<ul style="list-style-type: none"> <li>• Designing Storage for HM</li> </ul>	Chapter 2
	<ul style="list-style-type: none"> <li>• Disposing of HM</li> </ul>	Chapters 3 and 4
	<ul style="list-style-type: none"> <li>• Managing Excess HM</li> </ul>	Chapters 2 and 4
	<ul style="list-style-type: none"> <li>• HM Not Owned by the Army</li> </ul>	Chapter 2
	<ul style="list-style-type: none"> <li>• Best Management Practices</li> </ul>	Throughout this Plan
	<ul style="list-style-type: none"> <li>• Accounting for Credit Card Purchases</li> </ul>	Chapter 2
	<ul style="list-style-type: none"> <li>• Cradle-to-Grave Tracking</li> </ul>	Chapters 3 and 4
9-2 b(4)	Asbestos Management	
9-2 c(4)	PCB Management	Chapter 3 (see DPW)
9-2 d(4)	Lead-based Paint Management	
10-1 d	Hazardous Waste Regulatory Compliance	Chapters 3, 4, and 5
10-1 d(1)	RCRA Compliance Waste Streams	Chapter 3, App. A
10-1 d(2)	Hazardous Waste Training	Chapter 5
10-1 d(3)	Develop and Implement Hazardous Waste Management Plan to include the identification, storage, and transporting of HW; training of personnel; tracking manifests; and maintaining required records.	
	<ul style="list-style-type: none"> <li>• RCRA Compliance Waste Streams</li> </ul>	Chapter 3, App. A
	<ul style="list-style-type: none"> <li>• Waste Accumulation, Storage, and Transfer Facilities</li> </ul>	Chapters 3 and 4
	<ul style="list-style-type: none"> <li>• Hazardous Waste Inventory</li> </ul>	Chapter 3
	<ul style="list-style-type: none"> <li>• Transporting Hazardous Waste</li> </ul>	Chapter 4
	<ul style="list-style-type: none"> <li>• Disposing of Hazardous Waste</li> </ul>	Chapters 3 and 4
10-1 d(4)	Maintain Appropriate Hazardous Waste Records	
10-1 d(5)	Reporting Requirements	
10-1 d (6)(7)(8)(9)	Local Procedures and Responsibilities	Chapter 1
	Minimizing Waste by Preventing Pollution	Throughout
5-4	Storage, Handling, Application, and Disposal of Pesticides	Chapters 3 and 4, Page A-30
5-4c	Disposing of Samples or Waste Pesticides and Pesticide Containers	Chapters 3 and 4, Page A-30

## **Responsibilities**

The following responsibilities are organized according to the USAFCOEFS.

### **Environmental Quality Division (EQD)**

The EQD will:

- Coordinate, inspect, or manage all aspects of installation actions relative to environmental regulations.
- Serve as the single point of contact for federal, state, and local agencies with regard to environmental permits, interpretation of regulatory requirements, and coordination and resolution of noncompliance issues or findings.
- Monitor installation compliance with federal, state, and local environmental requirements, including activities of tenants and sub-installations, and recommend to the Installation Commander necessary or advisable changes in policies to improve program management.
- Prepare all required status and compliance reports relative to solid and hazardous waste management, in accordance with applicable federal, state, and local regulatory requirements.
- Advise all waste generating activities of federal, state, local, and Army requirements for managing solid and hazardous waste, including requirements for permits, reporting, and recordkeeping to ensure compliance.
- Advise the Installation Commander on the most cost-effective and efficient means of waste storage, treatment, and disposal, to include the siting of new waste management facilities.
- Provide technical assistance and guidance to hazardous waste generating activities, tenants, and operators of hazardous waste, storage and disposal who have approved Satellite Accumulation Area (SAAs).
- Ensure hazardous wastes are properly identified, segregated, and weighed pursuant to federal, state, and Army requirements prior to release for transportation or disposal.
- Coordinate the analysis of waste to determine if it is hazardous and provide copies of waste analysis prior to release for off-post transportation or release to the Defense Logistics Agency Disposition Services (DLADS).
- Coordinate an installation-wide inventory of all hazardous waste generated and identify the waste generating activities annually.
- Establish, monitor, and execute programs in waste management, including waste minimization, resource recovery, reutilization, and recycling.
- Immediately advise the Installation Commander of the receipt of enforcement notices of violation, consent orders, or compliance agreements.
- Exercise staff responsibility for directing and coordinating the Hazardous Waste Management Program.

## **Medical Department Activity (MEDDAC)**

The MEDDAC will:

- Provide for the disposal of non-RCRA regulated medical, dental, and veterinary supplies and infectious waste in accordance with AR 40-5, federal and state laws and regulations, and this plan.
- Provide the Installation Commander with the solid waste and hazardous waste management implications of new and revised MEDDAC practices for review and concurrence.
- Prepare and maintain a management plan for the disposal of medical wastes.
- Provide workplace guidance on daily use of personal protective equipment, including respirators required for personnel involved in surveys, spill response, confined space entry, and abatement actions.
- Perform physical examinations before placement, annually during employment, and at the termination of employment for personnel working with asbestos, lead-based paint, or other hazardous materials, as required by TB MED 513.
- Maintain health records of all personnel and former employees involved in working with asbestos, lead-based paint, and hazardous materials as required by AR 40-5 and AR 40- 66.
- Program and budget adequate resources to accomplish medical support responsibilities for the installation and supported activities.
- Provide expertise in compliance matters associated with Occupational Safety and Health Administration (OSHA) health-related federal, state, and local requirements.
- Exercise staff responsibility for administrative monitoring and medical surveillance of all personnel working on Fort Sill for hazardous and toxic occupational health hazards.

## **Preventive Medicine, RACH**

Preventive Medicine, RACH will:

- Conduct field investigations and special studies to support environmental management programs and recommend measures required for protection of health.
- Provide technical assistance in the identification of wastes and guidance on the health aspects of the management and disposal of hazardous and toxic materials.
- Forward all requests for Environmental Health and Engineering Services support from the U.S. Army Public Health Command (USAPHC) through the Chief, Preventive Medicine, MEDDAC, to the Director of Health Services. The primary responsibilities for medical surveillance of pollution sources are assigned to the Director of Health Services with cooperation and support from the Safety Office and the EQD.

**Public Affairs Office (PAO)**

The PAO will:

- Ensure that the public is informed of Fort Sill's accomplishments in environmental protection, enhancement, and management.
- Develop public information plans to stimulate active support of the environmental program throughout commands down to the individual soldier and civilian employee.
- Coordinate with the EQD to release appropriate information concerning environmental matters.
- Coordinate and conduct public involvement activities (e.g., public meetings and public hearings) that satisfy the requirements of environmental permits and National Environmental Policy Act (NEPA) activities. Assist in the preparation of public involvement activities sponsored by other agencies.

**Safety Office**

The Safety Office will:

- Assist EQD, MEDDAC, and other activities on Fort Sill in applying safety procedures and standards.
- Manage and dispose of radioactive materials.

**Logistics Readiness Center (LRC)**

The LRC will:

- Monitor the use of hazardous materials to achieve progress in meeting federal and Army hazardous waste minimization goals and requirements and provide quarterly progress reports to EQD.
- Provide a semiannual report to the Installation Commander recommending opportunities for, and progress in achieving, a reduction in the use and toxicity of hazardous materials, following the concurrence of EQD.
- Manage and dispose of radioactive materials.
- Advise installation units and activities on proper requirements for packaging, labeling, and shipping of solid and hazardous material.
- Monitor supply items to identify those that may be categorized as hazardous and/or toxic and report them to EQD. LRC will monitor the supply, usage, and disposal of radioactive materials other than medical supplies, and assist MEDDAC with disposal of excess or waste radioactive materials.

## **Other Staff Directorates, Activities, and Subordinate Commands**

Other staff directorates, activities, and subordinate commands will:

- Integrate environmental protection, conservation, and preservation into the planning and execution of the Fort Sill mission to the fullest extent feasible.
- Establish an organizational structure to plan, execute, and inspect established environmental and conservation programs within their area of responsibility.
- Appoint in writing an Environmental Officer and alternate, as needed, to assure compliance with directives.
- Provide required input to the Installation Status Report, Part II (Environment).
- Be fully aware of and comply with all applicable federal, state, and local laws and regulations, both substantive and procedural, for generating, treating, storing, disposing of, and transporting solid and hazardous waste, including the terms and conditions of state and federal solid and hazardous waste permits and reporting requirements.
- Ensure that program and budget requests identify resource requirements to manage solid and hazardous waste programs, including waste minimization, and to achieve and maintain compliance.
- Encourage the use of joint or regional resource recovery with federal and nonfederal agencies (including commercial waste treatment) when advantageous, cost-effective, or more efficient to Fort Sill.
- Minimize the generation and land disposal of solid wastes and hazardous wastes by promoting waste minimization.
- Generate, transport, store, and dispose of wastes such as pesticides; hazardous chemical stocks; medical, dental and veterinary supplies; radioactive materials; propellant; explosive and pyrotechnic materials; explosive ordnance; or chemical warfare agents in a manner that protects public health and the environment.

## **Environmental Officer (EO)**

The EO will:

- Implement the procedures established by this Plan.
- Conduct inspections (or ensure that inspections are conducted) of waste accumulation areas.
- Implement hazardous waste spill procedures when necessary.
- Function as a liaison on all environmental issues between the unit and the EQD.
- Notify the EQD of changes to operations, including process changes, new waste streams, materials used, and materials stored.
- Ensure that appropriate unit personnel receive the proper level of waste management training.

- Ensure that unit regulated waste is turned in to EQD in a timely manner, to include wastes generated during training exercises.
- Responsible for properly maintaining HM to minimize safety hazards, prevent spills, and reduce hazardous waste generation
- **Turn-in or accompany the turn-in of regulated waste to EQD**

Table 1-2 contains a list of the unit/site required functions, where the information concerning these functions is located in this plan, and the frequency in which these activities must take place.

**Table 1-2. EO Compliance Table**

Function	Information Location	Frequency			
		Weekly	Monthly	Quarterly	Annually
Hazardous Materials					
Inventory	Chapter 2			X and whenever new supplies are obtained and old supplies depleted	
Shelf Life Update	Chapter 2			X	
Inspection	Chapter 2	X			
Portable Container Inspection	Chapter 5		X		
Mobile Refueler/Fuel Pod Inspection	Chapter 5		X		
Hazardous Waste					
Accumulation Point Inspection	Chapter 3	X			
Training					
Hazardous Communication	Chapter 5				X*
Hazardous Waste	Chapter 5				X*
HAZMAT (Dept. of Transportation [DOT]) Personnel	Chapter 5				Biennial*
Environmental Officer	Chapter 5				X*

\* Initial training also required upon assignment.

## Forms for Submitting Changes to This Plan

This section includes DA Form 2028 to be completed to submit changes to this plan.



<b>RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS</b>		Use <b>Part II</b> (reverse for Repair Parts and Special Tool Lists (RPSTL)).	DATE
<b>INSTRUCTIONS FOR SUBMITTING THE DA FORM 2028</b>			
<p>This form may be submitted by mail or electronically. For changes to blank forms, submit the DA Form 2028 electronically to the publications control officer (PCO), and the forms management officer (FMO) of the organization that has oversight of the form/publication. See PCO/FMO email addresses on the APD Website at: <a href="https://armypubs.army.mil/default.aspx">https://armypubs.army.mil/default.aspx</a>, then click on the 'RESOURCES' menu link at the top, then the link for the 'PC/PCO/FMO/EPCO Directory (CAC required for access)'. For comments/recommended changes to publications, users must submit the DA Form 2028 as required by the publication's proponent. (See suggested improvements paragraph on the title page of each publication to determine the proponent's preferred way to communicate.)</p>			
<b>DETERMINING AND SELECTING THE PROPER PROPONENT</b>			
<p>To identify the proper proponent for any publication or form, visit the APD Web site at: <a href="https://armypubs.army.mil/default.aspx">https://armypubs.army.mil/default.aspx</a> and click on the 'RESOURCES' menu at the top, then click on the 'PC/PCO/FMO/EPCO Directory (CAC required for access)' link to access the directory.</p>			
<b>TO:</b> (Forward to proponent of publication or form) (Include ZIP Code)		<b>FROM:</b> (Activity and location) (Include ZIP Code)	
<b>PART I - ALL PUBLICATIONS (EXCEPT RPSTL) AND BLANK FORMS</b>			
PUBLICATION/FORM NUMBER, CHANGE NUMBER (If applicable)	PUBLICATION/ FORM DATE	TITLE	
<p>For each comment, include as applicable: <i>Comment number, work package number or data module code, page number, paragraph number, figure number, table number, recommended change, and reason for change.</i></p>			
TYPED NAME, GRADE/RANK, POSITION TITLE, E-MAIL ADDRESS	TELEPHONE NUMBER/DSN/ EXTENSION	SIGNATURE	

**PAGE INTENTIONALLY LEFT BLANK**

## Chapter 2: Managing Hazardous Materials

Nearly all facilities on Fort Sill use HMs, which are essentially those items requiring a Safety Data Sheet (SDS) (formerly known as Material Safety Data Sheet or MSDS). The EO for the facility is responsible for properly maintaining HM to minimize safety hazards, prevent spills, and reduce hazardous waste generation. This chapter provides detailed guidance for managing HM. It addresses the following topics in the order one should follow when setting up an HM program for the first time:

- Identifying unwanted or unserviceable HM
- Obtaining and cataloging SDSs for each HM
- Determining HM compatibility
- Maintaining and extending HM shelf life
- Selecting HM storage units (includes Storing Compressed Gases)
- Stocking HM storage locations
- Conducting HM inventories

Follow the procedures outlined in this chapter as a minimum requirement for hazardous materials management. While each of the steps may not be required by regulation, they comprise a system that allows the user to prevent and/or reduce waste generation (i.e., pollution prevention), and ensure the safety of facility personnel working with HM.

### OSHA and Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

The GHS was adopted by OSHA (Occupational Safety and Health Administration) Hazard Communication standard in 2012. This system was implemented at Fort Sill in September 2018. GHS was developed by the United Nations to bring into agreement the chemical regulations and standards of different countries. In short, it is an international attempt to get all countries on the same page when it comes to defining and communicating chemical hazards. The main purpose of this system is to classify the chemicals with a system that can be used across the world.

The GHS includes criteria for the classification of health, physical and environmental hazards, as well as specifying what information should be included on labels of hazardous chemicals as well as safety data sheets. GHS adoption affects everyone in the chemical lifecycle and includes special responsibilities for chemical manufacturers and employers that handle, use and store hazardous materials. GHS adoption requires chemical manufacturers to reclassify their chemicals using standardized GHS classification criteria, as well as to produce GHS-aligned labels and safety data sheets (SDSs). The GHS pictograms and hazards associated with each pictogram can be found on page 23.

### Identifying Unwanted and Unserviceable HM

Removing unwanted and unserviceable HM from facilities is key to minimizing safety hazards, preventing spills, and reducing/eliminating hazardous waste generation. Approximately 60% of the hazardous waste generated by the DoD comes from unused HM.

To identify and remove unwanted and unserviceable HM, complete the following steps:

1. Walk around the entire facility and check closets, wall lockers, storage rooms, etc., for HM. Collect containers that are:
  - Unwanted (excess) or unserviceable HM
  - Unlabeled or unidentifiable material that may be hazardous
  - Damaged, leaking, or subject to leaking
  - Type I shelf-life items that have expired and cannot be renewed
  - Type II shelf-life items that can no longer be extended
2. Obtain SDSs, as described in the next section, for all the unwanted and unserviceable HM and process them for turn-in IAW Chapter 4.

## Obtaining and Cataloging Safety Data Sheets

SDSs provide compatibility information for HMs. They also contain information about the manufacturer, the chemical ingredients, associated hazards, specific handling procedures, and spill response measures. Each facility must maintain a master binder that contains SDSs for all the HM being stored at the facility. This section explains how to obtain, and catalog required SDSs.

1. Obtain an SDS for each HM at the facility. SDSs can be obtained from the Hazardous Materials Information Resource System (HMIRS). You will first need to establish an account on HMIRS. Access HMIRS at: <https://www.dla.mil/HQ/InformationOperations/Offers/Products/LogisticsApplication/HMIRS.aspx>; Click Access to AMPS, Click First Time User.- Click Here to Register, Click user type, Fill out AMPS User Registration – User Information.. If the SDS is not available through HMIRS, request assistance from the EQD, or the manufacturer. The SDS must be specific to the product's National Stock Number (NSN) and CAGE number (manufacturer's code). These numbers are printed on the SDS and on the HM container.

2. Create a master binder with all SDSs and centrally locate it so an SDS can be located quickly in case of a spill or exposure. The binder must be accessible at all times for review by employees or emergency personnel.

3. Create an index in the front of the binder(s) listing the SDSs. Place all SDSs in the binder in an order such that they can be easily found. A preferred method for managing SDSs is to assign a unique number to each SDS and write the number on every container of that HM. This step allows an SDS to be placed in a binder in sequential order, making it easier for employees to find and easier to insert new SDSs.

**EXAMPLE:** There are five HMs in your facility, and you have ten containers of each. Starting with any one of the HMs, write a “1” on the SDS and on all containers of that HM. For the next HM, write a “2” on the SDS and on all containers of that HM. For the next HM, assign the number 3, and so on. Place the SDSs in the binder in numerical order (i.e., 1, 2, 3 ...)

## Determining Hazardous Material Compatibility

Once the SDSs are obtained for all the HM at the facility, the EO must determine

compatibility of the material. Flammables, for instance, must not be stored with oxidizers. The easiest way to determine compatibility is to use SDSs generated from the HMIRS. There are two other ways to determine compatibility, as well. All three are discussed in this section.

### Method 1: Determining Compatibility Using HMIRS Generated SDSs

When using the HMIRS SDSs method for determining compatibility, complete the following steps:

1. From the SDSs obtained through HMIRS, find the Hazard Characteristic Code (HCC) under Physical Chemical Properties.
2. Using the Storage Segregation Matrix in Table 2-1, find the matching HCC located in the far left column.
3. Follow the row across the table and locate the \* marking.

Figure 2-1. SDS Showing HCC

**Phenol**

Physical/Chemical Properties	
HCC: T3	NRC/State LIC No:
Net Prop WT For Ammo:	B.P. Text: 360F,182C
Boiling Point:	M.P/F.P Text: 104F,40C
Melt/Freeze Pt:	Decomp Text: N/K
Decomp Temp:	Vapor Density: 3.24
Vapor Pres: .36	Spec Gravity: 1.074
Volatile Org Content %:	PH: N/K
VOC Pounds/Gallon:	Viscosity: N/P
VOC Grams/Liter:	
Evaporation Rate & N/K	
Reference:	
Solubility in Water: N/K	
Appearance and Odor: WHITE CRYSTALS.	
Percent Volatiles by Volume: N/K	Corrosion Rate: N/K
Reactivity Data	
Stability Indicator: N/P STRONG OXIDIZING AGENTS, STRONG BASES, STRONG ACIDS.	
Stability Condition To Avoid: MAY DISCOLOR ON EXPOSURE TO LIGHT.	
Materials To Avoid:	
Hazardous Decomposition TOXIC FUMES OF:CO, CO2.	
Products:	
Hazardous Polymerization N/P	
Indicator:	
Conditions To Avoid NONE SPECIFIED BY MANUFACTURER.	
Polymerization:	
Toxicological Information	
Toxicological Information: N/P	
Ecological Information	
Ecological: N/P	
MSDS Transport Information	
Transport Information: N/P	
Regulatory Information	
Sara Title III Information: N/P	

**HCC**

4. Follow the column up from the \* marking to the Primary Segregation Letter. These letters stand for the following:

A	Radioactive	C	Corrosive
D	Oxidizer	E	Explosive
F	Flammable	G	Gas, Compressed
L	Low Hazard (General Purpose)	P	Peroxide, Organic
R	Reactive	T	Poison

5. Hazardous materials may only be stored with items that have the same Primary Segregation Letter. For example, store Fs with other Fs (flammables with other flammables) and Cs with other Cs (corrosives with other corrosives).

6. Return to the HM's HCC row and find the "Note" under the Secondary Segregation column. Go to the back end of the table and read the note for any additional segregation requirements.

For example: A facility has an HM with a HCC of F7 (a corrosive alkali that is flammable) and an HM with an HCC of F6 (a corrosive acid that is flammable). Because they are both Fs, it first appears that they could be stored together. However, they both have a Secondary Segregation Note L, which states, "Separate from other flammables and flammables with secondary hazards by at least one four-foot aisle width."

7. Once compatibility is determined, the EO must store the HM accordingly. Go to "Selecting HM Storage Units" section in this chapter for more guidance.

**Table 2-1. Storage Segregation Matrix**

HCC	Hazard Characteristics Group Name	Primary Segregation										Secondary Segregation
		A	C	D	E	F	G	L	P	R	T	
A1	Radioactive, Licensed	*										Note A
A2	Radioactive, License Exempt	*										Note A
A3	Radioactive, License Exempt, Authorized	*										Note A
B1	Alkali, Corrosive Inorganic		*									Note B
B2	Alkali, Corrosive Organic		*									Note C
B3	Alkali, Low Risk							*				Note F
C1	Acid, Corrosive & Oxidizer, Inorganic		*									Note D

HCC	Hazard Characteristics Group Name	Primary Segregation										Secondary Segregation
		A	C	D	E	F	G	L	P	R	T	
C2	Acid, Corrosive, Organic		*									Note E
C3	Acid, Low Risk							*				Note F
C4	Acid, Corrosive & Oxidizer, Organic		*									Note E
C5	Acid, Corrosive & Oxidizer, Organic		*									Note E
D1	Oxidizer			*								None
D2	Oxidizer & Poison			*								Note G
D3	Oxidizer & Corrosive Acidic			*								Note G
D4	Oxidizer & Corrosive Alkali			*								Note G
E1	Explosive, Military				*							Note H
E2	Explosive, Low Risk							*				Note A
F1	Flammable Liquid DOT PG I, OSHA IA					*						Note J
F2	Flammable Liquid DOT PG II, OSHA IA					*						Note J
F3	Flammable Liquid DOT PG III, OSHA II					*						Note J
F4	Flammable Liquid DOT PG III, OSHA II					*						Note J
F5	Flammable Liquid & Poison					*						Note L
F6	Flammable Liquid & Corrosive, Acidic					*						Note L
F7	Flammable Liquid & Corrosive, Alkali					*						Note L
F8	Flammable Solid					*						Note K

HCC	Hazard Characteristics Group Name	Primary Segregation										Secondary Segregation
		A	C	D	E	F	G	L	P	R	T	
G1	Gas, Poison (Nonflammable)						*					Note M
G2	Gas, Flammable						*					Note N
G3	Gas, Nonflammable						*					Note P
G4	Gas, Nonflammable, Oxidizer						*					Note R
G5	Gas, Nonflammable, Corrosive						*					Note S
G6	Gas, Poison, Corrosive (Nonflammable)						*					Note T
G7	Gas, Poison, Oxidizer (Nonflammable)						*					Note U
G8	Gas, Poison, (Flammable)						*					Note V
G9	Gas, Poison, Corrosive Oxidizer (NF)						*					Note W
K1	Infectious Substance										*	Note X
K2	Cytotoxic Drugs										*	Note Y
M1	Magnetized Material							*				None
N1	Not Regulated as Hazardous							*				None
P1	Peroxide, Organic, Type A-F DOT Regulated								*			None
P2	Peroxide, Organic Type G (Low Risk)								*			None
R1	Reactive Chemical, Flammable									*		Note Z



HCC	Hazard Characteristics Group Name	Primary Segregation										Secondary Segregation
		A	C	D	E	F	G	L	P	R	T	
R2	Water Reactive Chemical									*		Note AA
T1	DOT Poison – Acute Toxin Inhalation Hazard										*	None
T2	UN Poison, Acute Toxin Packing Group I										*	None
T3	UN Poison, Acute Toxin Packing Group II										*	None
T4	UN Poison, Acute Toxin Packing Group III										*	Note BB
T5	Pesticide, Low Risk							*				None
T6	Health Hazard							*				None
T7	Carcinogen (OSHA, NTP, IARC)										*	Note CC
V1	Miscellaneous Hazardous Materials – Class 9							*				None
V2	Aerosol, Nonflammable					*						Note EE
V3	Aerosol, Flammable					*						Note EE
V4	DOT Combustible Liquid, OSHA IIIA Category 4					*						None
V5	Hi-Flash Point Materials, OSHA IIIB							*				None
V6	Petroleum Products							*				None
V7	Environmental Hazard							*				None
Z1	Article Containing Asbestos							*				None
Z2	Article Containing Mercury							*				None

HCC	Hazard Characteristics Group Name	Primary Segregation										Secondary Segregation
		A	C	D	E	F	G	L	P	R	T	
Z3	Article Containing Polychlorinated Biphenyls (PCB)							*				None
Z4	Article, Battery, Lead Acid, Non-spillable							*				None
Z5	Article, Battery, NickelCadmium, Non-spillable							*				None
Z6	Article, Battery, Lithium									*		Note DD
Z7	Article, Battery, Dry Cell							*				None
Z8	Article Battery, Lithium Large Form									*		Note DD

**DEFINITION OF NOTES**

NOTE A	Security Storage – must be well ventilated with limited access.
NOTE B	Inorganic Alkali Storage – store away from acids by at least one 4-foot aisle width and away from organic alkalis by at least one 4-foot aisle width.
NOTE C	Organic Alkali Storage – store away from acids by at least one 4-foot aisle width and away from inorganic alkalis by at least one 4-foot aisle width.
NOTE D	Inorganic Acid Storage – store away from alkalis (caustics) by at least one 4-foot aisle width and away from organic acids by at least one 4-foot aisle width. Separate from other acids with subsidiary risk labels by at least one 4-foot aisle width.
NOTE E	Organic Acid Storage – store away from alkalis (caustics) by at least one 4-foot aisle width and away from inorganic acids by at least one 4-foot aisle width. Separate from other acids with subsidiary risk labels by at least one 4-foot aisle width.
NOTE F	Further separate into Acid and Alkali storage within the low hazard storage area to keep potentially incompatible products from mixing.
NOTE G	Separate from other oxidizers and oxidizers with secondary hazards by at least one 4-foot aisle width.
NOTE H	Magazine Storage.
NOTE J	Segregate into Flammable Liquid storage separate from flammable solids by at least one 4-foot aisle width.
NOTE K	Segregate into Flammable Solid storage separate from flammable liquids by at least one 4-foot aisle width.
NOTE L	Separate from flammables and flammables with secondary hazards by at least one 4-foot aisle width.
NOTE M	Further segregate into Poison Gas storage within compressed gas area.
NOTE N	Further segregate into Flammable Gas storage within compressed gas area.
NOTE P	Further segregate into Non-flammable Gas storage within compressed gas area.
NOTE R	Further segregate into Oxidizer Gas within the Non-flammable Gas storage that is within the compressed gas area.
NOTE S	Further segregate into Corrosive Gas within the Non-flammable Gas storage that is within the compressed gas area.

HCC	Hazard Characteristics Group Name	Primary Segregation										Secondary Segregation
		A	C	D	E	F	G	L	P	R	T	

NOTE T	Further segregate into Corrosive Gas within the Poison Gas storage that is within the compressed gas area.
NOTE U	Further segregate into Oxidizer Gas within the Poison Gas storage that is within the compressed gas area.
NOTE V	Further segregate into Flammable Gas within the Poison Gas storage that is within the compressed gas area.
NOTE W	Further segregate into Corrosive and Oxidizer Gas within the Poison Gas storage that is within the compressed gas area.
NOTE X	Further segregate into Biomedical storage within the Poison storage area.
NOTE Y	Further segregate into Medical Security storage within the Poison storage area.
NOTE Z	Further segregate into Spontaneously Combustible storage within the Reactive storage area.
NOTE AA	Should not store in areas protected with water sprinkler system. Fire protection should be non-water based.
NOTE BB	Store away from food.
NOTE CC	Further segregate within Poison storage area may be necessary if secondary hazards exist (i.e. flammable, corrosive, etc.).
NOTE DD	Separate from other products within the Reactive storage area.
NOTE EE	Store aerosols from flammables by placing in separate room or barrier such as floor to ceiling wire mesh, chain link fence, etc. to protect personnel from aerosols that can become self-propelled projectiles.

## Method 2: Determining Compatibility Using DOT Hazard Labels

1. If an HMIRS-generated SDS is not available, look for a DOT Hazard Label on the container or the box the HM was shipped in.

**Figure 2-2. Sample DOT Hazard Labels**



2. If a DOT label is present, use Table 2-2 below to obtain an Interim HCC.

3. Once you have the Interim HCC, go back to Table 2-1 and follow Steps 2 through 7 under Method 1 to determine compatibility.

**Table 2-2. DOT Labels**

DOT Label	Interim HCC	Recommended Storage Area	
		Primary	Secondary
Explosive 1.1	E1	Explosive Magazine	NA
Explosive 1.2	E1	Explosive Magazine	NA
Explosive 1.3	E1	Explosive Magazine	NA
Explosive 1.4	E2	Explosive	Security
Explosive 1.5	E2	Explosive	Security
Explosive 1.6	E2	Explosive	Security
Poison Gas	G1	Compressed Gas	Poison Gas Cylinder
Flammable Gas (Cylinder)	G2	Compressed Gas	Flammable Gas Cylinder
Flammable Gas(Aerosol Non-refillable Tank or Canister)	V3	Flammable	Aerosol Containers
Nonflammable Gas	G3	Compressed Gas	Nonflammable Gas Cylinder
Flammable Liquid	F1-F4	Flammable	Flammable Liquid
Flammable Solid	F8	Flammable	Flammable Solid
Spontaneously Combustible	R1	Reactive	Spontaneously Combustible
Dangerous When Wet	R2	Reactive	Dangerous When Wet, No Water Sprinklers
Oxidizer	D1	Oxidizer	None Required
Organic Peroxide	P1	Peroxide Organic	None Required
Poison	T2	Poison	None Required
Harmful Keep Away From Food	T4	Low Hazard	Away From Food
Infectious Substance	K1	Poison	Biomedical
Radioactive I	A1	Radioactive	Security
Radioactive II	A1	Radioactive	Security
Radioactive III	A1	Radioactive	Security
Corrosive	C1, C2, C4, C5 (Acid)*	Corrosive	Acid
Corrosive	B1, B2, B3 (Alkali)	Corrosive	Alkali
Class 9	V1	Low Hazard	None Required
Magnetized Material	M1	General Purpose	None Required

\* If it is not known whether a corrosive is an acid or an alkali, look on the SDS or contact the HMIRS for a technical determination.

**Method 3: Determining Compatibility Using GHS/OSHA Precautionary Labels**

1. If an HMIRS-generated SDS is not available, look on the HM container for a GHS/OSHA precautionary label. Precautionary labels start with signal words followed by specific handling precautions. The three signal words used are Danger, Warning, and Caution.

**Figure 2-3. Example Precautionary Label**

**WARNING! Contents under pressure. Do not puncture or incinerate. Do not store at temperatures above 120 degrees F. Keep out of reach of children.**

2. If a precautionary label is present, use Table 2-3 below to obtain a Suggested Temporary HCC. Match the label with the “Signal Word” and “Statement of Hazard” in the first two columns of the table. The statement of hazard won’t always be exact. Choose the one that best describes the hazard.

3. Once you have the Suggested Temporary HCC from column 3, go back to Table 2-1 and follow Steps 2 through 7 under Method 1 to determine compatibility.

**Table 2-3 Precautionary Labels**

Signal Word	Examples of Statements of Hazard	Suggested Temporary HCC	Recommended Primary Storage Area	Recommended Secondary Storage Area
DANGER!	MAY BE FATAL IF SWALLOWED	T2	Poison	None Required
WARNING!	HARMFUL IF SWALLOWED	T3	Poison	None Required
WARNING!	HARMFUL IF SWALLOWED	T4	Low Hazard*	Away From Food
DANGER!	MAY BE FATAL IF ABSORBED THROUGH SKIN	T2	Poison	None Required
*WARNING!	HARMFUL IF ABSORBED THROUGH SKIN	T6	Low Hazard*	None Required
DANGER!	CAUSES(SEVERE)** BURNS	C1, C2, C4, C5	Corrosive	Acid
DANGER!	CAUSES(SEVERE)** BURNS	B1, B2	Corrosive	Alkali
DANGER!	EXTREMELY FLAMMABLE	F1	Flammable	Flammable Liquid
WARNING!	FLAMMABLE	F2, F3, F4	Flammable	Flammable Liquid
WARNING!	FLAMMABLE	F8	Flammable	Flammable Solid
+ WARNING!	COMBUSTIBLE	V4	Flammable	None Required

Signal Word	Examples of Statements of Hazard	Suggested Temporary HCC	Recommended Primary Storage Area	Recommended Secondary Storage Area
DANGER!	EXTREMELY FLAMMABLE, CATCHES FIRE IF EXPOSED TO AIR	R1	Reactive	Spontaneously Combustible
DANGER!	STRONG OXIDIZER, CONTACT WITH OTHER MATERIALS MAY CAUSE FIRE	D1	Oxidizer	None Required
DANGER!	MAY BE FATAL IF INHALED	T1	Poison	None Required
WARNING!	HARMFUL IF INHALED	T2	Poison	None Required
WARNING!	MAY CAUSE ALLERGIC RESPIRATORY REACTION	T6	Low Hazard*	None Required
+ WARNING!	(VAPOR GAS)** REDUCES OXYGEN AVAILABLE FOR BREATHING	T6	Low Hazard*	None Required
WARNING!	CAUSES EYE IRRITATION	T6, C3, B3	Low Hazard*	None Required
WARNING!	CAUSES IRRITATION	T6, C3, B3	Low Hazard*	None Required
WARNING!	MAY CAUSE ALLERGIC SKIN REACTION	T6, T5, C3, B3	Low Hazard*	None Required

Please note that "None Required" means no additional storage requirements.

\* Material bearing precautionary label text will not be assigned a Low Hazard (General Purpose) location without notification and approval by the EQD.

\*\* Enter proper term as appropriate.

+ Edited post-publish to change CAUTION to WARNING. CAUTION Signal Word is no longer used under the OSHA HAZCOM Standard.

4. If the GHS/OSHA Precautionary Labels are not available another option to obtain Hazardous Material compatibility is by the GHS/OSHA pictogram label. The SDS should indicate the GHS/OSHA pictogram label. If the SDS is not available or does not show or indicate the pictogram look on the HM container for a GHS/OSHA pictogram label. If you need further assistance, contact the EQD.

<b>Health Hazard</b>  <ul style="list-style-type: none"> <li>• Carcinogen</li> <li>• Mutagenicity</li> <li>• Reproductive Toxicity</li> <li>• Respiratory Sensitizer</li> <li>• Target Organ Toxicity</li> <li>• Aspiration Toxicity</li> </ul>	<b>Flame</b>  <ul style="list-style-type: none"> <li>• Flammables</li> <li>• Pyrophorics</li> <li>• Self-Heating</li> <li>• Emits Flammable Gas</li> <li>• Self-Reactives</li> <li>• Organic Peroxides</li> </ul>	<b>Exclamation Mark</b>  <ul style="list-style-type: none"> <li>• Irritant (skin and eye)</li> <li>• Skin Sensitizer</li> <li>• Acute Toxicity (harmful)</li> <li>• Narcotic Effects</li> <li>• Respiratory Tract Irritant</li> <li>• Hazardous to Ozone Layer (Non-Mandatory)</li> </ul>
<b>Gas Cylinder</b>  <ul style="list-style-type: none"> <li>• Gases Under Pressure</li> </ul>	<b>Corrosion</b>  <ul style="list-style-type: none"> <li>• Skin Corrosion/ Burns</li> <li>• Eye Damage</li> <li>• Corrosive to Metals</li> </ul>	<b>Exploding Bomb</b>  <ul style="list-style-type: none"> <li>• Explosives</li> <li>• Self-Reactives</li> <li>• Organic Peroxides</li> </ul>
<b>Flame Over Circle</b>  <ul style="list-style-type: none"> <li>• Oxidizers</li> </ul>	<b>Environment (Non-Mandatory)</b>  <ul style="list-style-type: none"> <li>• Aquatic Toxicity</li> </ul>	<b>Skull and Crossbones</b>  <ul style="list-style-type: none"> <li>• Acute Toxicity (fatal or toxic)</li> </ul>

Figure 2-4 GHS/OSHA Pictogram Labels

## Maintaining and Extending Shelf Life

Units can acquire the Shelf Life data online and google shelf life extension.

## Setting up Storage Areas

### Storage Lockers

Storage lockers are intended for use in the immediate work area. They should be National Fire Protection Association (NFPA) approved and should contain only small quantities of HM that are used in the facility on a daily basis. Lockers should not be “stuffed” with HM such that they become a tinderbox should a fire break out. Store excess containers of HM in storage rooms or buildings away from the work area.

Use the lockers for their intended purpose. For instance, do not store non-flammables, such as oil, in a Flammables Locker. Only store flammables (those with a flashpoint <200°F) in Flammables lockers. Keep lockers clean and orderly, and maintain all structural integrity and hardware, including doors, hinges, and shelves. **Do not remove the door or ventilation bungs**, penetrate the wall, modify ventilation, or otherwise modify the locker. Keep locker doors closed. To set up a locker, complete the following steps:

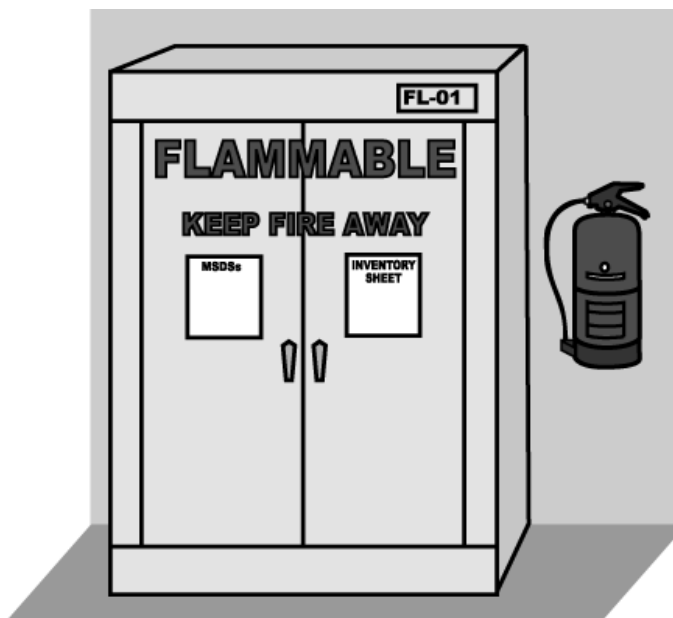
1. Select a location for the locker:
  - Locate the locker indoors in a well-ventilated area near where the HM will be used, or outdoors under cover.
  - Maintain easy access to the locker; do not block doors or place “stuff” on the locker.
  - Do not place the locker near doors, break rooms, bathrooms, offices, or other occupied non-shop areas.
  - Do not place the locker near floor drains, drainage channels, or areas with high foot or vehicle traffic.
  - Keep storage lockers away from storm drains.
2. Coordinate with the EQD and Fire Department to ensure that the correct NFPA locker is being used. NFPA lockers are already marked/labeled. Do not place unauthorized signs, labels, stickers, or markings on the locker.
3. Ensure that an appropriately rated fire extinguisher and spill response equipment are located nearby.

---

**NOTE: To make it easier to track HM usage, conduct inventories, and ensure that HM is stored in its proper location, consider assigning a four-character identifier to the locker and mark it on the front, top, right corner (See Figure 2-5). This identifier will consist of one of the three abbreviations used to differentiate locker contents and a two-digit sequential number (e.g., FL 01). The abbreviations are: FL – Flammable Locker, CL – Corrosive Locker, OL – Oxidizer Locker.**

---



**Figure 2-5. NFPA Flammable Storage Locker****Storage Rooms and Buildings and Placards**

Storage rooms and buildings (Safe Store®) are intended for storage of backup supplies of HM not kept in storage lockers and large containers of HM (>1 gallon). Locate storage rooms and Safe Store® out and away from the work area. Keep them clean and orderly, and maintain all structural integrity and hardware including doors, hinges, and shelves. Do not remove doors, penetrate walls, modify ventilation, or otherwise modify the room or building, if it has already been approved. To set up a storage room or building, complete the following steps:

1. Have the EQD, Fire Department, or designated representative approve the location chosen.
2. Provide primary and secondary containment as required by 40 CFR Part 64.175(b)(3). Secondary containment should be 10 percent of the volume of all containers, or the volume of the largest container, whichever is greater.

---

**NOTE: For storage rooms, the floor space itself usually provides enough secondary containment. However, ensure that the spill cannot escape the room. For example, equip each door with a sealed threshold, or store HM in pans or tubs on the shelf, making sure the HM is compatible with the container.**

---

3. Ensure that an appropriately rated fire extinguisher/extinguisher system and spill response equipment is located nearby.

The correct placard for storage buildings and rooms is the NFPA704. The national Fire Protection Association has developed a rating system to identify and rank hazards of a material. The label is diamond-shaped, made up of four smaller diamonds one blue, red, yellow, and white. A number or special symbol is placed on the four diamonds.

4. The **blue diamond**, appearing on the left side of the label, conveys **Health Hazard** information for persons exposed to the material. A number from 0 to 4 is written in the **blue diamond**. The higher the number the higher the hazard as follows:

- 0 – No hazard under fire conditions beyond that of ordinary combustible materials.
- 1 – Can cause irritation if not treated.
- 2 – Can cause injury. Requires prompt treatment.
- 3 – Can cause serious injury despite medical treatment.
- 4 – Can cause death or major injury despite medical treatment.

- The **red diamond**, appearing at the top of the label, conveys **Flammability Hazard** information. Again the numbers 0 to 4 are used to rate the flammability hazard as follows:

- 0 – Will not burn.
- 1 – Ignites after considerable preheating.
- 2 –
- 3 – Can be ignited at all normal temperatures.
- 4 – Very flammable gases or very volatile flammable liquids.

- The **yellow diamond** appearing at the right side of the label, conveys **Reactivity (or Stability)** information. The numbers 0 to 4 are also used to rank reactivity hazards as follows:

- 0 – Normally stable. Not reactive with water.
- 1 – Normally stable. Unstable at high temperatures and pressure. Reacts with water.
- 2 – Normally unstable but will not detonate.
- 3 – Can detonate or explode but requires strong initiating force or heating under confinement.
- 4 – Readily detonates or explodes.

- The **white diamond** appearing at the bottom of the label, conveys **Special Hazards** information. This information is conveyed by use of symbols that represent the special hazard. Some of the common symbols are shown here:

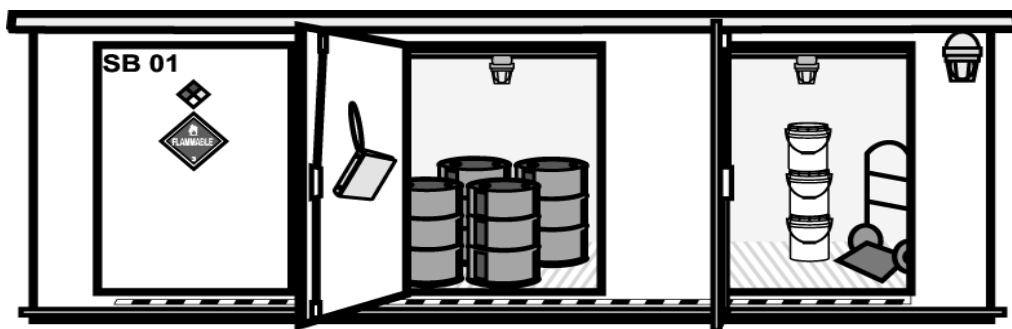
- W** – denotes the material is water reactive.
- OX** – denotes an oxidizing agent.
- COR** – denotes a corrosive hazard.
- ALK** – denotes an Alkali hazard.
- ACID** – denotes an Acid hazard.

To determine the NFPA Hazard Ratings for a material that does not have the label affixed, check the SDS. NFPA Hazard Ratings are commonly displayed there.

Besides the NFPA placard also put the correct label (flammable or corrosive) on the storage buildings. Placards and labels for storage room/buildings can be ordered at <http://www.grainger.com>. After ordering the NFPA704 placard(s) needed, contact the Fire Department to ensure the proper number or symbol is displayed in the diamonds. **Unit Movement (Building 2276, 442-3661) supplies placards for vehicle. Do not use vehicle placards on storage rooms/buildings.**

**NOTE:** To make it easier to track HM usage, conduct inventories, and to ensure HM is stored in its proper location, consider assigning a four-character identifier to the storage area and mark it on each storage area door (See Figure 2-6). This identifier will consist of one of the two abbreviations used to differentiate contents and a two-digit sequential number (SB 01, SB 02 etc.). abbreviations are: SB – Storage Building, SR – Storage Room

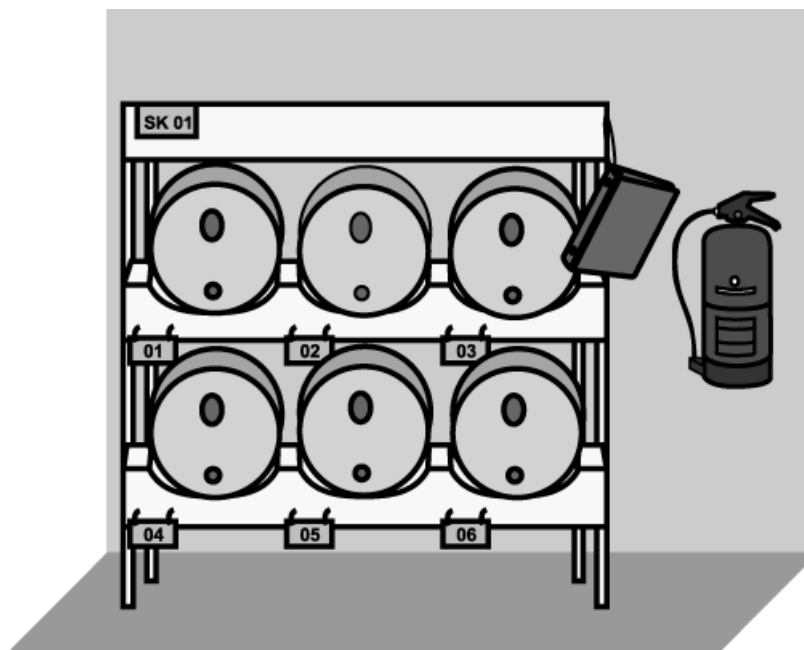
Figure 2-6. Safe Store® Building (Storage Room/Building)



### Storage Racks

To set up a storage rack, complete the following steps:

1. Have the EQD and Fire Department approve the location chosen.
2. Provide primary and secondary containment. Secondary containment must be 10 percent of the total volume of containers, or the volume of the largest container, whichever is greater. If stored outside, provide enough secondary containment to contain a spill from the largest single container, plus an additional 10 percent. For instance, if the largest container is 55 gallons, provide 55 gallons of secondary containment plus 10%, or 5.5 gallons (a total of 60.5 gallons). Place drip pans under dispensing faucets or valves.
3. Ensure that an appropriately rated fire extinguisher and spill response equipment are located nearby.
4. Mark and label the storage rack. Coordinate with the EQD and Fire Department to ensure that the storage area is appropriately labeled. Do not place unauthorized signs, labels, stickers, or markings on the storage rack. .

**Figure 2-7. Storage Rack****Storage for Compressed Gases**

When storing compressed gases, excluding fire extinguishers and aerosol cans, additional guidelines must be followed. A compressed gas is a gas that is packaged under charged pressure. Because compressed gases are under pressure, handle such gases with extreme care, particularly the flammable and explosive gases.

---

**CAUTION DO NOT use cylinders as rollers or supports, or for any other unintended purpose. DO NOT accept, issue, or use a cylinder unless the contents are identified.**

---

The EQD and Fire Department are responsible for designing and approving compressed gas storage areas. The guidelines listed below will help you maintain those areas properly to protect human health and the environment.

- Ensure that the area is well-ventilated (complete change of air at least six times each hour).
- Separate storage facilities from other buildings by at least 50 feet.
- Store gases that support combustion in different sheds separated by 50 feet.
- Keep dry vegetation and combustible materials at least 15 feet away from storage areas.
- Keep cylinders out of the sun and off the ground (earth).

- Protect storage areas from vehicular traffic.
- Lock storage areas to prevent unauthorized entry.
- Post NO SMOKING signs.
- Do not allow open flames within 50 feet.
- Place hazard identification signs such as FLAMMABLE at all entrances.
- Ensure that all cylinders are properly labeled (do not alter or remove the manufacturer's label from cylinders).
- Store cylinders with the valve protection cap secured.
- Secure cylinders you are using or storing so they do not fall over.
- Store liquefied flammable gas cylinders upright or so the pressure-relief valve directly communicates with the vapor space of the cylinder.
- Ensure that cylinders are not located where they could become part of an electrical circuit.
- Segregate incompatible or combustible materials by at least 20 feet (see Determining Hazardous Material Compatibility in Chapter 2 for more information).
- Isolate incompatible or combustible materials with a barrier of non-combustible material at least five feet high and with a minimum fire resistance rating of 30 minutes.

### **Moving Cylinders**

If you must move cylinders, note the following precautions:

- Only handle, ship, or store cylinders if they have valve protection caps.
- Close cylinder valves before moving cylinders.
- Do not lift cylinders by the valve protection cap.
- Do not lift cylinders by cranes or mechanical lifts unless fastened in proper containers, racks, and cradles.
- Do not use rope and chain slings or electromagnets to lift cylinders.

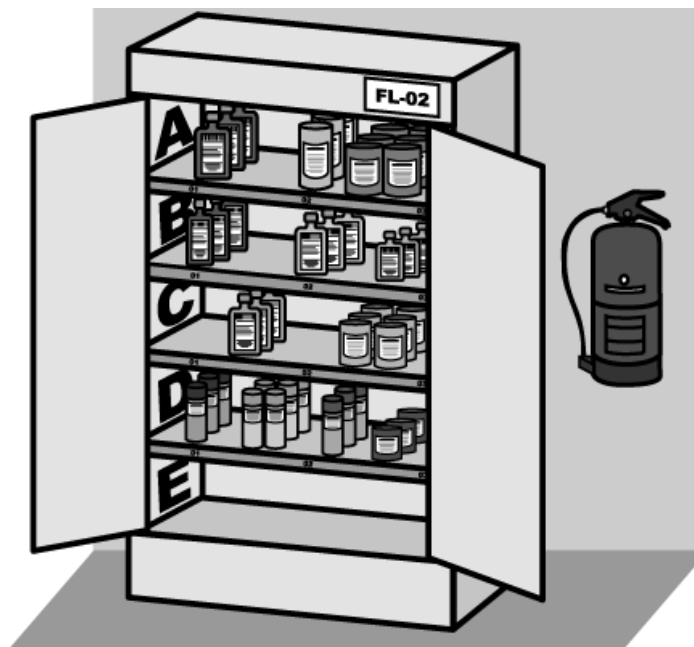
The following items do not require valve protection caps:

- Small cylinders with a capacity of less than 40 pounds
- "Ram-bottom" type cylinders
- Cylinders with less than 625 cubic inches of volumetric capacity, such as medical gases

## Stocking an HM Storage Locker

1. Check the compatibility of HM items before placing them in the storage locker.
2. Determine the amount of required shelf space needed for the storage of HM.
3. Ensure that all HM containers have labels and place them in the storage unit in an orderly fashion (see Figure 2-8). Rotate the containers so that items that expire first are in the front. Remember: FIRST in, FIRST out.

**Figure 2-8. Locker Set**



## Maintaining and Tracking Inventory

Once storage units are stocked, perform an initial inventory of all HM in the storage location. Take quarterly inventories thereafter based on the calendar year. It is also mandatory to update inventory whenever new supplies are obtained or old supplies are depleted. This section explains how to conduct the HM inventory.

An example Hazardous Materials Storage Inventory Form is provided at the end of this chapter. Use of this form is not mandatory if the site is using an alternate form that contains the same information. In addition to the inventory requirement, HM storage units should be inspected weekly. Refer to Chapter 5 for further instruction on conducting these inspections and maintaining the inspection logs.

**Conducting an HM Inventory**

To conduct an inventory, complete the following steps:

1. Check that every container, bottle, can, box, etc., is labeled with the following and replace any labels that are missing or unreadable:
  - Product name
  - Any warning of physical or health hazards listed on the SDS
2. Check the expiration, inspection, or testing dates on all shelf-life HM and manage by calling the LRC.
3. Complete a Quarterly Hazardous Materials Storage Inventory Form for each HM location (Use of this form is not mandatory if you are using an alternate form that contains the same information). An example of this form is on page 31. To obtain a computer fillable form, call the EQD.
4. Maintain a copy of the Hazardous Materials Storage Inventory.

---

**NOTE: After each inventory, replace shortages by ordering new items. Purchase only the quantity needed for the specific mission or task. When restocking HM storage units, rotate the containers so that items that expire first are in the front. Remember: FIRST in, FIRST out. After restocking remember to UPDATE inventory.**

---

Initial:

[illegible]

- (1) NSN/PN
- (2) Product Name
- (3) Manufacturer Name
- (4) Unit of Issue BT = Bottle, DM = Drum, CN = Can, BX = Box
- (5) Unit of Measure OZ, QT, GAL, PT
- (6) Quantity (OH = On Hand, / OO = On Order)
- (7) Shelf life – Product Good Until Date/Criteria



**PAGE INTENTIONALLY LEFT BLANK**

## Chapter 3. Managing Waste

This chapter describes how to manage wastes generated at Fort Sill facilities, including hazardous waste (HW), universal waste (UW), non-hazardous industrial waste (NHIW), special waste, and general refuse. The following topics are covered:

- Waste Management Made Easy—Waste Protocol Sheets
- Waste Categories
- Waste Accumulation Areas—Satellite Accumulation Points
- Selecting an Accumulation Container
- Adding Waste to the Container
- Using Overpack Drums
- Managing Empty Drums
- Forms and Instructions

### Waste Management Made Easy—Waste Protocol Sheets (WPSs)

All Fort Sill facilities generate waste, whether it is residue from the use of products or products themselves that are no longer useful. Learning the intricacies of proper waste management can be very difficult, especially if you don't do it every day. For example, the procedures for handling asbestos are much different than those for managing waste paint thinner. In order to simplify the waste management process, specific handling procedures for wastes commonly generated at Fort Sill have been developed in the form of Waste Protocol Sheets. The WPSs are easy to follow, laying out step-by-step how to manage each waste stream. These WPSs can be found in Appendix A of this plan.

To use the WPSs, turn to Appendix A, page 81 to find the “Waste Protocol Sheet Index.” Find the particular waste you are looking for and turn to that sheet. The handling procedures are self-explanatory. It is very important that the waste meets the description in the WPS. If it does not, or if you cannot find your waste in the index, contact the EQD for guidance.

---

**NOTE: If you want a WPS that is not in Appendix A, you may request one by completing DA Form 2028 and submitting it to the EQD, or you can call EQD at 442-3266.**

---

## Waste Categories

Fort Sill activities generate a wide variety of regulated waste, both hazardous and non-hazardous, that falls into one of the following categories.

### Hazardous Waste (HW)

HW is a solid waste that is not specifically excluded from regulation as a hazardous waste and meets one of the following criteria:

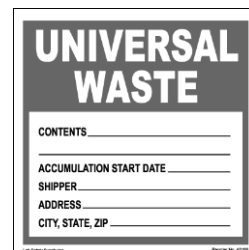
- It is ignitable, corrosive, reactive, or toxic as measured by standard test methods or as can be reasonably determined by knowledge of generators.
- It is specifically listed as a hazardous waste in 40 CFR 261, Subpart D.



**NOTE: Solid wastes are discarded materials including solids, semi-solids, sludges, liquids, and compressed gases. A discarded material is any material that is abandoned or recycled, or is considered inherently waste-like. Do not store HW in underground storage tanks.**

### Universal Waste (UW)

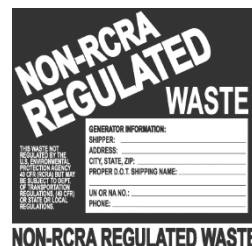
UW is a type of HW category subject to special regulations that are less stringent than normal HW regulations. The EPA has identified the following items as UW: batteries, pesticides, thermostats, mercury-containing devices, and pesticides. **Mercury-containing lamps, non-vehicle lead acid batteries, NiCad batteries, and lithium-ion batteries are managed as UW at Fort Sill. All other batteries are managed as HW.**



## Non-Hazardous Industrial Waste (NHIW)

NHIWs, as the name suggests, are certain industrial waste streams not regulated as hazardous but may pose a potential environmental danger if improperly handled. NHIWs are regulated by Oklahoma and include:

- Non-hazardous unusable industrial or chemical products (outdated and off-specification products),
- Non-hazardous solid waste generated by the release of an industrial product to the environment (spill residue), or
- Non-hazardous solid waste generated by a manufacturing or industrial process (ground plastic media), and
- Many NHIWs are recyclable, including used oil, and contaminated fuel.



## Special Waste (Non-RCRA Regulated Waste)

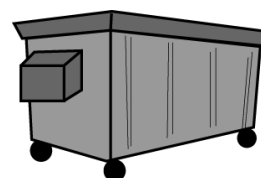
Special wastes are those wastes that are not hazardous but which, because of their nature or volume, require special or additional handling. Special wastes include, but are not limited to, PCBs\*, tires, asbestos wastes\*, spent herbicide and pesticide containers (from pest shop), sludge, septic tank pumping, grease trap wastes, dead animals, waste fats and oils, and process residues and wastes.



\*Directorate of Public Works (DPW) is responsible for managing PCBs and asbestos.

## General Refuse

General refuse are those wastes that pose little or no threat to human health and the environment. It includes wastes such as paper, plastic, food, etc. Minimize waste by Set up recycling points and encourage their use. General refuse may be thrown in the dumpster provided it is free of liquids. By Regulation, disposal of hazardous wastes regulated, infectious wastes, radioactive wastes, regulated PCB wastes, or off post waste is prohibited. Keep dumpster lids closed at all times. **If unsure what can be thrown in the dumpster, call EQD.**



## Generating and Accumulating Waste

Many activities/facilities at Fort Sill generate regulated hazardous and non-hazardous wastes. These wastes must be accumulated temporarily at the generating facility in accumulation

points or turned in through EQD immediately upon generation. The only exception is used oil, which must be placed in “Lube Cubes” located at maintenance shops.

All wastes must be accumulated in approved containers. The WPSs in Appendix A provide specific guidance on container selection and what action to take with each waste stream.

### **HW Satellite Accumulation Areas (SAA)**

Facilities may accumulate HW in a 55-gallon drum, ensuring a 4-inch headspace, (see WPSs for list of HW) or one quart of acutely HW in containers *at or near* the point of generation where wastes initially accumulate. This area is commonly referred to as a HW Satellite Accumulation Area (SAA). An SAA must be under the control of the EO of the process generating the waste. Regarding the regulatory language “under the control of the operator:”

- The operator controls access to an area, building, or room in which the SAA is located by access card, key, or lock box.
- The operator accumulates waste in a locked cabinet and controls access to the key, even if the cabinet is stored inside a room to which access is not controlled.
- The operator is regularly within view of the SAA during the course of their job.
- The operator is able to observe any individuals that may enter or exit the SAA.

There can be more than one operator having control of an SAA. Once a 4-inch headspace in a 55-gallon drum is reached at an SAA, the generator must mark the date on the container (this becomes the accumulation start date [ASD]) and move it to the Environmental Yard within 72 hours (including weekends and holidays). The generator must begin accumulating newly generated waste in a second 55-gallon drum while it moves the first drum to the Environmental Yard.

---

**NOTE: Because the definition of an SAA is somewhat subjective, the EQD will determine where an SAA may be located. Do not establish SAAs without EQD approval.**

---

The purpose of an SAA is to allow you some relief from having to take your waste each time to the Environmental Yard. Regulators closely inspect SAAs, so special care should be taken managing them properly.

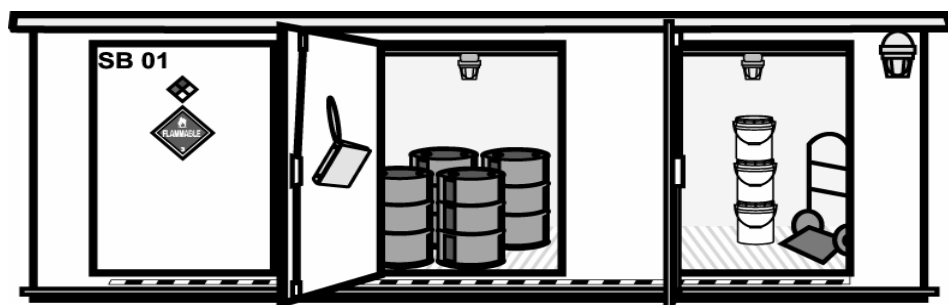
### **Non-Hazardous Waste Accumulation Points**

Non-hazardous waste accumulation points are locations at a facility such as a Safe Store® building or other designated area where non-hazardous regulated waste can be temporarily accumulated prior to turn in to EQD. Non-HW accumulation points are for those wastes listed in the WPS that are not characterized hazardous waste. Examples of non-HW include *absorbents with POL, oil and fuel filters, uncontaminated fuel, GAA grease, uncontaminated oil, latex paint, and shop rags*. **Always provide secondary containment for liquid wastes.**

When adding the first drop of Non-Hazardous Waste mark the drum “Non-Hazardous Waste,” the content name, any required GHS/OSHA labels, and the accumulation start date.

Once a 4-inch headspace in a 55-gallon drum is reached at a Non-HW accumulation point, the generator must change to current date container and move it to the Environmental Yard within 72 hours (including weekends).

**Figure 3-1. Safe Store® Building**



### Rules for Managing SAAs

1. Each container in an SAA must be marked immediately upon first drop IAW the WPS in Appendix A. Containers must be marked with the words “Hazardous Waste,” contents of the container, and with an indication of the DOT hazard that it presents. For example, a hazardous waste that is flammable use the DOT hazard class 3 flammable liquid label. GHS/OSHA pictograms are also required to identify further hazards that fall outside the DOT classification. If you cannot find a WPS for your waste stream, contact the EQD for guidance. Also mark the container with the accumulation start date. The DOT hazard class labels and the GHS/OSHA pictograms can be found on page 19 and 21, respectively, and in Appendix A.

2. Containers must be provided secondary containment.

3. **Once a 4-inch headspace in a 55-gallon container is reached at an SAA the waste generator must change the date on container to the date it became full, (the ASD), and move it to the Environmental Yard within 72 hours (including weekends and holidays). Do not place another drum into operation at the SAA until the first drum is turned in.**

4. All SAAs must be inspected weekly using the Accumulation Point Weekly Inspection Checklist located in Chapter 5.

5. Each container in an SAA must be kept closed except when filling.

### Obtaining a Waste Accumulation Container

Only certain types of containers are authorized for accumulating waste. The type of container selected depends on the type of waste.

- Open-head drums are commonly used for non-liquid wastes such as rags and filters. Individual cans, containers, and bottles are also put in open head drums.

- Closed-head drums (drums with bung holes) are used for liquids.  
**Flammables go in steel drums.**  
**Corrosives go in poly drums.**
- Boxes are the best container for fluorescent light tubes.

**NOTE: A container is defined as any portable device in which material is stored. Transport a 55 gallon drum, ensuring minimum 4-inch headspace.**

The WPSs located in Appendix A list the container requirements for each waste stream. If there is not a WPS for your waste, contact the EQD.

Drums must not be creased, rusted, or dented, must have appropriate sealing lids, must be clean and in good condition and able to withstand handling, transport, and long-term storage without leaking or rupturing, **and have no previous markings or labels; therefore, ONLY NEW drums will be used for turn-ins. If a turn-in comes to EQD in a used drum it will be the unit's responsibility to transfer the waste into a new drum.**

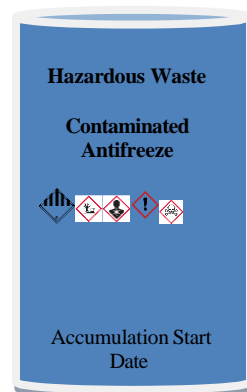
**Approved containers can be obtained from the Environmental Yard.** To get a container, go to the EQD. The EQD will help you select the right kind of container at no cost. Unit will also be given the correct labels to go on the drum according to intended content. No paperwork is needed.

### Adding Waste to Containers

These procedures are general instructions that apply to any waste. Some wastes may require special handling. Before adding waste to a container, check the WPS. **Contact the EQD before adding any corrosive liquids to a drum.**

Adding hazardous liquids (fuel/antifreeze) to a drum:

- Ensure that the drum is appropriate for the waste you are accumulating. All flammables must be in metal drums. Antifreeze in poly drums. **Upon first drop** mark the drum properly with content, i.e., Contaminated Fuel or Contaminated Antifreeze. If fuel, mark the kind of fuel (F24, diesel, or mogas), mark the kind of waste, i.e., Hazardous Waste, the DOT and GHS/OSHA labels, and the Accumulation Start Date.
- Don the proper protective equipment (PPE) before handling the waste.
- Remove bungs and add the waste. Always put bungs back on drum when not filling. Use a funnel to pour the waste into the drum. **DO NOT** mix different waste in the same container.  
**Whenever adding flammable liquid to a steel drum, ensure that the drum is properly grounded.**
- **STOP** adding waste when the level of the liquid reaches headspace per type of drum shown below on page 39.
- Replace the bungs on the container.



- Change the **Accumulation Start Date** to the **Accumulation Date**, which is the date the unit stopped adding the waste. The drum must be turned into EQD within 72 hours of this date.

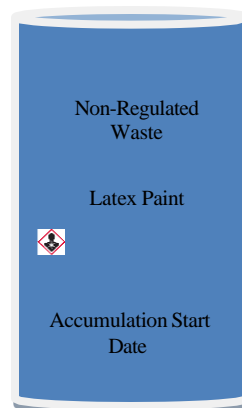
### Maintain headspace in the container as noted below.

<u>Size of Container</u>	<u>Amount of Headspace</u>
<b>55 gal.</b>	<b>4 inches</b>
30 gal.	3 inches
15 gal.	2 inches
Less than 15 gal.	1 inch

### Using Overpack Drums

An overpack drum is a ploy or steel drum that can hold a smaller container. If you need to overpack a drum for some reason, call the EQD immediately.

When using an overpack container, follow the same procedure as above and mark the drum IAW the appropriate WPS. Always mark the content name on outside of drum, i.e., Latex Paint, Enamel paint, Used Grease, type of waste, i.e., Hazardous Waste, or Non-Hazardous, the DOT Hazard Class and GHS/OSHA labels, and Accumulation Start Date, i.e., the date the first a container is placed in the drum. Always close the drum when not adding containers. Change the **Accumulation Start Date** to the **Accumulation Date**, which is the date the unit finish putting container(s) in the drum. The drum must be turned into EQD within 72 hours of that date.



### Managing Empty Drums

Used drums, whether metal or poly, that have been emptied of their contents are regulated and must be properly managed. A drum is considered empty when all wastes or materials are removed using common practices such as pouring, pumping, etc., and no more than three percent of residue (approximately 1 inch) remains in the bottom. Empty drums cannot be reused and must be triple rinsed prior to placing in a scrap metal bin (metal) or taken to the landfill (poly).

### Metal Drums

Empty used 55gallon metal drums must be triple-rinsed at the Environmental Yard or at a wash rack on post, crushed, and recycled as scrap metal. EQD has a drum crusher at Building 2511 available to Fort Sill units. **All empty used metal drums must be tripled-rinsed and placed in a scrap metal bin. NEVER REUSE USED DRUMS.** Empty used 5 gallon containers must be tripled rinsed and placed in a scrap metal bin, crushed or uncrushed, for recycling.



**Plastic Drums**

Empty used plastic drums should be triple-rinsed at the EQD yard or an authorized wash rack and take it to the landfill. Store empty **NEW** drums on their sides on a pallet or drum rack so they do not accumulate rainwater (causing metal drums to rust). Use stenciling, a paint pen, or labels to clearly mark the word “**empty**” on the top and side of each drum. **All empty used plastic drums must be tripled-rinsed and taken to the landfill. NEVER REUSE USED DRUMS**

**PAGE INTENTIONALLY LEFT BLANK**

## Chapter 4. Turning in HM and Waste

The EQD has made hazardous material and waste turn-in at Fort Sill extremely easy and convenient. Generators need only coordinate with EQD by phone (442-3266), and deliver the waste to the Environmental Yard. The procedures for turning in HM, HW, non-RCRA regulated waste, and UW are presented in this chapter.

### Funding Requirements

The EQD will generate document numbers and pay for HW disposal costs, drums, buckets, absorbent pads, and dry sweep, etc., except as noted below. Organizations below must pay for their HW disposal at the time of turn-in (funding code must be presented).

1. Non-Army Tenants and activities funded through an operating fund (Defense Business Operating Fund and Army Working Capital Fund, a procurement fund (Procurement of Ammunition, Army), a research and development fund (Research, Development, Test, and Evaluation and Army Test and Evaluation Command activities), and other DoD funded activities (primarily Defense Logistics Agency, Medical Command, Defense Commissary Agency).

2. Non-appropriated funds activity if not included in an ISSA or MOA.

3. Any unit / organization that must dispose of HM as HW because of gross negligence in ordering and failure to manage shelf life.

### Turning in HM and Waste to the EQD

The EQD operates the Environmental Yard Monday through Friday, 0730-1530. The Environmental Yard is a central waste management point designed to temporarily hold large volumes of waste prior to shipment off-post. To turn in unwanted, unserviceable, or overstocked HM, HW, UW, and non-RCRA regulated waste, follow the steps below:

---

**NOTE: Remember to allow for headspace in drums as specified on page 3-6.**

---

1. Segregate materials that are being transported to prevent accidental mixing of incompatible wastes or incompatible materials (Use the compatibility chart in Chapter 2). Consider making more than one trip. The following general guidelines apply for segregating wastes:

- Acid containers must be separated from caustic soda solutions, boiler compounds, radiator shop descaling compounds, other caustic degreaser/cleaners, and ignitable compounds.
- Antifreeze containers must be separated from acids and caustic compounds.
- Fire-resistant hydraulic fluid containers must be separated from acids and caustic compounds.

2. Place drums on drum pallets obtained from EQD. **DO NOT transport drums on wooden pallets.** Load containers on a *government vehicle* and ensure that they are

secured using a rope, strap, or some other method. Do not transport HM or HW in a privately owned vehicle (POV). **Do not transport damaged or reused containers.**

---

**NOTE: Personnel turning in liquid wastes to the Environmental Yard in open-top drums or in damaged drums will have to pump the waste into a bung drum, rinse out the old damaged drum, and crush it.**

3. Transport unwanted, unserviceable, or overstocked HM, HW, non-RCRA regulated waste, and UW to the Environmental Yard Building 2515, and report to one of the turn-in specialists. See Figure 4-1 for directions. It is preferred that you come in from the north on the gravel road just off of Hunt Road. However, you can also use the one-way paved black top alleyway off of Ringgold Road.

4. Assist EQD personnel in off-loading the waste.

---

**NOTE: If you have a one-time turn-in of HM or HW, coordinate with the EQD via telephone (442-3266) and take it to Environmental Yard right away. The staff there will accept it, segregate it for disposal. Follow steps 1–5 above.**

---

**Figure 4-1. Aerial Photograph of Waste Turn-In Access Route**

**PAGE INTENTIONALLY LEFT BLANK**

## Turning in Vehicle Lead-Acid Batteries

Vehicle lead-acid batteries must be turned in for recycling when no longer serviceable.

Units/Activities:

1. Requisition/pick-up lead-acid batteries by completing DA Form 2765-1, possessing a current DA Form 1687 and presenting each of these forms to the LRC SSA located at Building 2243.

2. Accumulate vehicle lead-acid batteries only in designated areas having secondary containment

3. Turn-in vehicle lead acid batteries by completing DA Form 2765-1 (IAW Figure 4-2) and presenting to LRC SSA located at Building 2243.

4. Batteries regardless of if it is one, five, or a pallet full will be delivered to the battery turn in point secured to a pallet. Multiple batteries must be shrink wrapped to the pallet. Batteries exceeding one layer, but no more than three layers will have at least 1-inch of honeycomb cardboard between the layers.

Broken, leaking, lead-acid vehicle batteries should be contained in a nonmetal, i.e., drip pan, and immediately turned in to EQD as a hazardous waste. See Waste **Protocol Sheet on page A-22**.

**Figure 4-2. DA 2765-1 for Battery Turn-In**

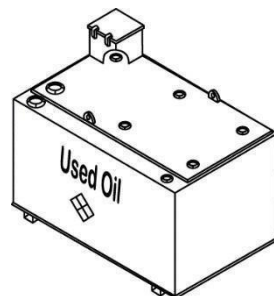
DA FORM 2765-1, APR 78										① POC ROSAS									
DOC IDENT: ② DDRC										REQUEST IS FROM: ③ HHS 2/18									
STOCK NUMBER: ④ 6140014469506										UNIT OF ISSUE: ⑤ E.A.O.O.1.2									
QUANTITY: ⑥ 12										COST DETAIL ACCOUNT NUMBER: ⑦ APC Code									
UNIT PRICE: ⑧ 72.92										TOTAL PRICE: ⑨ 875.04									
ITEM DESCRIPTION: ⑪ Battery										PUBLICATION DATA									
FUND: ⑩ W80BHM22903099										MCS CODE									
PRIORITY: ⑫ 02										ISSUED									
REQ DEL DATE										DATE POSTED									
EXP										DATE AVAILABLE									
NON-EXP										DATE RECEIVED									
SIGNATURE										SIGNATURE									

1. Unit Point of Contact
2. Logistics Readiness Center (LRC)
3. Unit Name
4. National Stock Number
5. Unit of Issue
6. Quantity

7. Accounting Processing Code
8. Unit Price
9. Total Price
10. Document Number
11. Item Description
12. Priority Code

## Turning in Used Oil

A contractor picks up used oil placed in a Lube Cube® on a routine basis. Call Safety Kleen, 405-518-4133, to have your uncontaminated oil picked up. When calling Safety Kleen, provide them with your name, point of contact name (if different), point of contact phone number, and location of pick-up. It is important to have Safety Kleen give you the date and time of pick-up and arrange to have someone available to meet them when they arrive to pick up your used oil. Used oil that is contaminated with fuel, solvents or antifreeze cannot be placed in Lube Cubes and must be accumulated in drums within HW accumulation points. Turn in contaminated oil to EQD in drums following the “Turning in Waste” procedures listed above. See the Used Oil WPS for further guidance. Lube Cubes are for USED OIL only. **DO NOT PUT ANTIFREEZE OR ANY OTHER PRODUCT IN THE LUBE CUBES.**



---

**NOTE: Lube Cubes are not to be used for the storage or placement of rainwater collected in oil collection pans (drip pans). Do not put this material in the Lube Cubes. Contact the EQD for information concerning proper disposal of this waste.**

---

## Oil/Water Separator Cleanout

If an oil/water separator alarm light/sound alarm is on, if there is fluid in the oil/water separator vault, or if other unusual conditions exist contact EQD, 442-3266. EQD has oil/water separators cleaned out routinely, and schedules clean outs on an as-needed basis when usage is increased or other conditions warrant.

---

**NOTE: Oil/water separators are not designed to accept soaps, solvents, or significant amounts of fuel. Dumping of oil into building drains, wash racks, and rinse pads is prohibited. The Central Wash Facility is available for removal of large amounts of mud, dirt, gravel, etc. Oil/water separators will malfunction with accumulation of too much sludge.**

---

## Mobile Fuel Tanker Purging

Drain as much fuel as possible from all compartments, piping, manifolds, meters, retail hoses, and filter separator. All filter elements, meter screens, and nozzle screens must be removed. Collect fuel for reuse or turn in to EQD for disposal.

Bring the fuel tanker to the EQD wash rack (facility 2511) to perform purging. Fill each fuel compartment halfway with water. Add a total of 6 gallons or less of simple green or other approved quick release agent divided between fuel compartments. Fill each fuel compartment to full capacity with water and secure all fuel compartment hatch covers. Operate the fuel tanker for at least five miles to agitate the solution. Return to the EQD wash rack and circulate the solution through the pump, meter, fuel separator, and dispensing hoses for several minutes with onboard pumps running. Drain the solution in a controlled manner through the fuel tanker gravity port into the EQD wash rack.



Contact EQD for additional guidance and a copy of TACOM 14 MAR 03 GPM 94-02 Fuel Tanker Purging.

---

**NOTE: All fuel tanker purging must be performed at the EOD wash rack (facility 2511). No other wash racks may be used for fuel tanker purging. As much fuel as possible must be drained from the fuel tanker prior to purging.**

---

## Transporting HM/HW on Fort Sill

Activities generating regulated waste are responsible for transporting the waste to the Environmental yard for turn-in. No paperwork is needed as long as the transportation is confined to the installation. **Under no circumstances should Fort Sill units or activities self-transport waste off-post.** The regional DLADS is the only authority authorized to transport regulated waste off post to a designated Treatment, Storage, and Disposal Facility (TSDF) for proper treatment, disposal and/or reuse/recycle. DLADS, or his/her designees, will arrange for any off-post transportation of regulated waste IAW all applicable federal, state, and Army regulations.

## Transporting HW off Fort Sill - Manifesting

This Section provides information for compliance with the EPA and the Oklahoma requirements for manifesting HW as required by 40 CFR 262 Subpart B. These regulations specify requirements regarding manifests which complete the HW cradle to grave process.

A HW manifest is required for all off-installation shipments of HW, or other shipments of HW along public highways.

Hazardous waste manifests will be prepared by an authorized contractor of the HW Contract and checked and approved by the EQD and DLADS prior to printing. Using a HW manifest serves three purposes:

1. The manifest is used to track shipments of HW. The manifest identifies the Army installation which generated the waste, the transporter which transported the waste, and the permitted Treatment Storage Disposal Facility (TSDF) which ultimately treated, stored or disposed of the waste. Consequently, the manifest identifies who is responsible for the waste from point of generation through ultimate disposal.
2. The manifest provides information during transportation emergencies. Drivers are required to keep the HW manifest with them in the cab of their vehicles either in their immediate reach, or in a holder mounted on the inside of the door on the driver's side of the vehicle. During an accident or an inspection, information on the manifest may be used to identify the HW loaded on the vehicle and emergency procedures to follow to control a fire, spill or explosion involving the hazardous wastes.
3. The manifest is used as a basis for recordkeeping and reporting. Information on the Fort Sill HW Quarterly and Biennial reports is obtained from the manifests. Additionally, a copy of a manifest must be submitted to the EPA if a shipment of hazardous wastes is not received by the designated TSDF, or if there are significant discrepancies between what was shipped and what was received by the TSDF.

The HW manifest is the shipping document that identifies the HW generator, transporter, and TSDF. It also describes the contents of the waste shipment. When a waste shipment leaves the installation, the manifest must be completed through block 17, Transporter 1 and signed by the

transporter driver and the DLAD representative. One copy of this "open" manifest must be kept on file at the EQD for the installation which generated the waste, one copy will be kept on file with the DLADS, and the remaining copies must be provided to the transporter. The open manifest accompanies the transporter to the designated TSDF. The transporter may also deliver the HW to additional transporters who will move the waste to the designated TSDF. After acceptance of the waste, the owner or operator of the TSDF must sign the manifest signifying receipt of the shipment. The signed manifest is then returned to the DLADS and EQD to complete the cradle to grave process.

Federal regulations require generators and transporters of HW and owners or operators of HW TSDFs to use the Uniform Hazardous Waste Manifest (EPA Form 8700-22) for both interstate and intrastate transportation. The DLADS will utilize the EPA Uniform HW Manifest for all HW shipments.

---

**NOTE: Units must transport hazardous waste in government vehicles only. Under no circumstances should a POV be used to transport hazardous waste.**

---

## Chapter 5. Training, Inspections, and Recordkeeping

This chapter gives information, instructions, and forms for required training, periodic internal inspections, and recordkeeping.

### Hazardous Material/Hazardous Waste Training Regulatory Drivers

There are several regulatory agencies/bodies (federal, state, and military) that govern various types of HM/HW training (environmental, transportation, safety, and health). This chapter gives information, instructions, and forms for complying with all applicable HM/HW training requirements. Table 5-1 below shows the types of training and the authority under which it is regulated.

**Table 5-1. Hazardous Material/Hazardous Waste Training Category and Associated Regulatory Agency/Body**

Hazardous Waste Training Category	Federal Regulatory Agency	State Regulatory Agency	Military Regulatory Body
Environmental	EPA	ODEQ	DA and USAFCOEFS
Transportation <sup>1</sup>	DOT	Oklahoma DOT	DoD and DA
Safety and Health	OSHA	Oklahoma Dept. of Labor	DoD, DA and USAFCOEFS

This section outlines the comprehensive Fort Sill hazardous material/waste training program. This program incorporates all applicable aspects of environmental, transportation, safety, and health components described herein.

#### Federal Regulations

- 40 CFR 265.16 requires that facility personnel working at the Environmental Yard successfully complete classroom within 6 months after their hire date (with an annual refresher) that teaches them to perform their duties to ensure that the facility is compliant with RCRA.
- 29 CFR 1910.120 (q)(6) requires the appropriate level of Hazardous Waste Operations and Emergency Response (HAZWOPER) training for employees who are expected to participate in cleaning up hazardous waste.
- 29 CFR 1910.1200(h) requires Hazard Communication (HAZCOM) training to be given to employees about the hazardous materials to which they could potentially be exposed to.

---

<sup>1</sup> Hazardous waste transportation training is required by DOT (49 CFR 172.704), DoD (DoD 4500.9-R), and the Army (AR 200-1) which only applies to transportation over public highways. This Plan only applies to hazardous wastes being transported to the 90-day lot. Fort Sill soldiers shall not transport hazardous waste off-post. Therefore, hazardous waste transportation training is not required.

### State Regulations

- 40 CFR 262.34 and 265.16 contain the EPA hazardous waste training regulations.
- OSHA safety and health training regulations and Section 380:40-1-22 (Safety Programs) requires that appropriate safety training be provided to all employees, including management, no less than **quarterly**.

### Military Regulations

- DoD Instruction 6050.5 requires that employees undergo HAZCOM training.
- DoD 4500.9-R, Chapter 204, Section D, Paragraph 1(a) states that “all personnel involved with the preparation and shipment of hazardous material (HAZMAT) for commercial or surface military transportation must receive training in accordance with 49CFR 172.704 and DoD Component regulations.”
- AR 200-1 requires employees to receive environmental training.
- 40 CFR 265.16 and 49 CFR 172.704 requires that all newly assigned employees who handle hazardous waste (or are tasked with environmental duties) successfully complete 40 hours of environmental training and receive annual refresher training.

### Fort Sill Hazardous Material/Hazardous Waste Training Program

The Fort Sill HM/HW Management Training Program incorporates the federal, state, and Army/Fort Sill environmental, transportation, and safety/health regulations listed above.

Training is essential to help prevent environmental violations. Army Environmental Funding Policy states payment of fines and penalties for environmental violations will be paid by the organization against which the fine or penalty has been assessed using applicable Army appropriations unless otherwise required by law. Payment of fines and penalties will be charged to the funding account of the operation causing the violation.

---

**NOTE:** This section identifies the *who, what, when, and how* with respect to hazardous waste training.

---

### Who Needs Hazardous Material/Hazardous Waste Training

All personnel who perform tasks that can cause significant environmental impacts will be competent on the basis of appropriate education, training, and/or experience.

The general categories of personnel requiring hazardous waste training are:

- Personnel who directly handle hazardous materials/hazardous wastes or may be potentially exposed to hazardous waste.
- Personnel in non-environmental managerial functions will receive appropriate technical and/or awareness training.
- Personnel who are assigned an environmental duty (Supervisors, EOs).
- Personnel who physically turn in hazardous waste to the EQD.

Supervisors are responsible to ensure their employees are properly trained. All organizations will identify training needs, document training taken, and evaluate effectiveness.

### **When Hazardous Material/Hazardous Waste Training is Required**

All required personnel must receive training within 6 months after their hire date (with an annual refresher) that teaches them to perform their duties. Initial and annual training is recommended to ensure required personnel receive adequate training to remain compliant at their facilities. OPOD 14-006 signed by CG requires all EO's and alternates to take the online Corp of Engineer training which can be found at <https://www.blackboard.wood.army.mil/>. At website enter engineer tab, then courses tab, search environmental, enroll in 052-ENV EOC 2019.

### **How Hazardous Material/Hazardous Waste Training Should be Conducted**

All required personnel will receive required training by way of 40-hour Hazardous Materials and Waste Generator classroom instruction. Training is performed monthly and can be booked by contacting EQD by email or on 442-3266. GBK Partnership may be contacted at 888-408-0700 ext.# 408 or emailing dcooper@gbki.com. All training should be recorded and documented in the facility's training records.

### **Fort Sill Oil-Handling Personnel Training Program**

The Spill Prevention Control and Countermeasure (SPCC) Rule (40 CFR 112) requires oil-handling personnel, including Contractors, to be trained once a year to assure adequate understanding of their facility's SPCC plan. All oil-handling personnel will receive required training through the Facility Specific Oil-Handling Personnel Training provided by the facility EO or other personnel who have attended the 40-hour initial or 8-hour refresher Hazardous Waste Generator classroom instruction.

**Oil-handling personnel are defined as personnel who are engaged in the operation and maintenance of oil storage containers, operation of equipment related to oil storage containers, and emergency response personnel.** A bulk oil storage container is defined as having a shell capacity of 55 gallons or greater. Therefore, **oil storage containers in the above definition refers to oil storage containers that are 55 gallons or greater in size.**

The EPA defines oil as oil of any kind in any form. F-24, gasoline, diesel, lubricating grease, cooking oil, hydraulic fluid, engine oil, brake fluid, transmission fluid, penetrating oil are a few examples, but there are many more.

### **Federal Regulation**

40 CFR 112.2 - *Discharge* includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, or dumping of oil.

40 CFR 112.7 (f) (1) - At a minimum, train your oil-handling personnel in the operation and maintenance of equipment to prevent discharges; discharge procedure protocols; applicable pollution control laws, rules, and regulations; general facility operations; and the contents of the facility SPCC Plan.

40 CFR 112.7 (f) (2) - Designate a person at each applicable facility who is accountable for discharge prevention and who reports to facility management. *This is the EO.*

40 CFR 112.7 (f) (3) - Schedule and conduct discharge prevention briefings for your oil-handling personnel at least once a year to assure adequate understanding of the SPCC Plan for

that facility. Such briefings must highlight and describe known discharges as described in §112.1 (b) or failures, malfunctioning components, and any recently developed precautionary measures. 40 CFR 112.1 (b) deals with “waters of the U.S.”, however, Fort Sill discharge prevention briefings shall include small and large spills as defined in Chapter 6.

### **Hazardous Waste Generator Classroom Instruction**

EO’s and other personnel who attend the 40-hour initial and 8-hour refresher Hazardous Waste Generator classroom instruction will receive general training in the operation and maintenance of equipment to prevent discharges; discharge procedure protocols; applicable pollution control laws, rules, and regulations; general facility operations; and general contents of the Installation’s Spill Prevention Control and Countermeasure / Installation Spill Contingency Plan.

The 40-hour initial and 8-hour refresher Hazardous Waste Generator classroom instruction also includes an Installation overview from the previous year of small and large spills or failures, malfunctioning components, and any recently developed precautionary measures.

### **Facility Specific Oil-Handling Personnel Training**

EO’s and other personnel who attend the 40-hour initial and 8-hour refresher Hazardous Waste Generator classroom instruction shall schedule and conduct discharge prevention briefings for all oil-handling personnel at least once a year to assure adequate understanding of the SPCC Plan for that facility.

Highlight and describe any small and large spills that have occurred focusing on the route cause and how well response actions were carried out. Describe any equipment or human failures and malfunctioning components that caused a discharge. Stress any recently developed precautionary measures that have been put in place to prevent discharges.

The discharge prevention briefings shall include training on the operation and maintenance of equipment to prevent discharges; discharge procedure protocols; applicable pollution control laws, rules, and regulations (sheen rule or RQ of large spills); general facility operations; and the contents of the facility SPCC Plan.

Remind personnel of spill and emergency call out rosters, available personal protective equipment, spill kit locations and description of spill supplies, fire extinguisher locations, fire alarm locations, emergency eyewash stations, emergency showers, evacuation routes and assembly areas.

File the training records with the facility Spill Prevention Control and Countermeasure / Installation Spill Contingency Plan and **maintain for a minimum of 3 years.**

### **Required Inspections**

All Fort Sill environmental activities are subject to inspections by EQD, DoD, Oklahoma state and federal regulatory agencies. Local government agencies may also inspect for compliance with permits, local codes, or other regulations. To ensure that you are prepared, comply with the required inspections in this section.

Periodically, EQD personnel will conduct internal audits to ensure post compliance. Should anyone representing agencies other than EQD request to inspect your facility for environmental compliance, immediately notify the EQD by telephone (442-3266).

### **Inspecting Accumulation Points**

As a best management practice, inspect accumulation points weekly using the Weekly Environmental Inspection Log located on pages 57-58. Use a separate log for each accumulation point and for each calendar month (allow space on the log for each week of the month). File completed log sheets in the facility records and **maintain for a minimum of 3 years**.

### **Inspecting Portable Oil Containers and Mobile Refuelers/Fuel Pods**

The Spill Prevention Control and Countermeasure (SPCC) Rule (40 CFR 112) requires that all bulk oil storage containers be inspected on a regular basis according to an industry standard. A bulk oil storage container is defined as having a shell capacity of 55 gallons or greater. It is important to note that this **55-gallon threshold** is based on the shell capacity of the container, **NOT** how much oil is actually in the container. The EPA defines oil as oil of any kind in any form. F-24, gasoline, diesel, lubricating grease, cooking oil, hydraulic fluid, engine oil, brake fluid, transmission fluid, penetrating oil are a few examples, but there are many more.

The Steel Tank Institute's (STI) SP001 Standard for the Inspection of Aboveground Storage Tanks 6th edition is the industry standard utilized by Fort Sill, which allows for monthly visual inspection of portable oil containers and mobile refuelers/fuel pods along with their containment structures.

The **Monthly STI SP001 Portable Container Inspection Checklist** on pages 59-60 is used to inspect 55-gallon drums and other portable containers that store 55 gallons or more of oil.

The **Monthly STI SP001 Mobile Refueler/Fuel Pod Inspection Checklist** on pages 61-63 is used to inspect mobile refuelers and fuel pods.

Each individual portable oil container and mobile refueler/fuel pod must be identified on these checklists. A method for numbering or other identification system must be established so that each portable oil container, mobile refueler, or fuel pod can be found. Serial numbers of mobile refuelers and fuel pods may be used for identification. 55-gallon drums may have to be marked with an identification number. Multiple monthly checklists can be used for facilities that have several hazardous material conex units or other oil storage locations.

File completed checklists with the facility Spill Prevention Control and Countermeasure / Installation Spill Contingency Plan and **maintain for a minimum of 3 years**.

---

**NOTE: DPW performs monthly industry standard inspections of fixed/stationary storage tanks such as used oil tanks (lube cubes), used cooking oil tanks, and fuel tanks located throughout the Installation.**

**NOTE: Unit/Organization personnel inspect fixed/stationary storage tanks for obvious defects and leaks on the Weekly Environmental Inspection Log located on pages 57-58.**

---

### **Inspecting POL Containment Areas**

A POL Containment Drainage Record, provided on pages 65-66, is completed when discharging uncontaminated rainwater from secondary containment. Containment areas should be inspected for accumulated rainwater after every rain event. For containment areas that are equipped with drainage valves the valves shall remain closed at all times, preventing indiscriminant discharges from the containment structure. Rainwater is allowed to be

discharged only after it has been determined that it has not been contaminated with POL or any other potential HM. Perform a visual inspection of the containment area, and if no visible floating oil or oil sheen or other potential HM is detected, and there is no evidence of other contamination, open the valve(s), and allow the accumulated rainwater to discharge. Close the valve(s) as soon as possible after the discharge is completed. File completed POL Containment Drainage Records with the facility Spill Prevention Control and Countermeasure / Installation Spill Contingency Plan and **maintain for a minimum of 3 years**.

If floating oil or visible oil sheen or other potential HM is detected, **DO NOT** drain the containment area. Contact EQD by telephone (442-3266) and guidance will be provided on how to remove the contamination prior to drainage.

## Required Recordkeeping

### Training Records

In accordance with 40 CFR 265.16(d), each unit will maintain the following training information in their records:

- Job title for each hazardous waste job position and name of the person filling the job (provide copy to EQD)
- A written job description for each position
- A written description of the type and amount of training required for each position
- Records that indicate the dates when training was successfully completed by each person

In accordance with 40 CFR 112 Appendix G Attachment 3.4 Facility Specific Oil-Handling Personnel Training records must include the date training was conducted, description/scope of the training, and a list of attendees. File the training records with the facility Spill Prevention Control and Countermeasure / Installation Spill Contingency Plan and **maintain for a minimum of 3 years**.

### Inspection Records

Maintain the following inspection records for no less than three years from the date of the inspection:

- Copies of Weekly Environmental Inspection Logs
- Copies of any internal inspections conducted by EQD
- Copies of Environmental Performance Assessment System (EPAS) results
- Copies of Monthly STI SP001 Portable Container Inspection Checklists
- Copies of Monthly STI SP001 Mobile Refueler/Fuel Pod Inspection Checklists
- Copies of POL Containment Drainage Record

### Other Records

In addition to training and inspection records, maintain the following documents:

- Any EQD memos or Letters of Instruction (LOI) related to HW management
- Spill records (A blank Spill or Incident Report Record is included in Chapter 6)



- A copy of this Plan
- A copy of the Spill Prevention Control and Countermeasure / Installation Spill Contingency Plan

Each generator will maintain records in an orderly manner. One method of accomplishing this is establishing a hazardous waste management binder.

---

**NOTE: It is the responsibility of the EO to ensure that all required hazardous waste records and plans for the unit or facility are maintained.**

---

## **Other Inspections and Tests**

Water Buffalo Inspections are done by Public Health Environmental Health Section, RAHC, Building 4301, 558-8480.

Fuel samples for testing are taken to LRC Freight Movement, Building 2243, 442-6702.

Testing of fuel tankers (sniff test) before maintenance or shipping is done at LRC Welding Shop, Building 2281, 442-3451. Prior to a sniff test the fuel tankers are required to be purged and cleaned (see Chapter 4). Contact EQD for additional guidance and a copy of TACOM 14 MAR 03 GPM 94-02 Fuel Tanker Purging.

## **Forms and Instructions**

This section contains the following forms and instructions:

- Individual Hazardous Waste Training Record
- Weekly Environmental Inspection Log
- Monthly STI-SP001 Portable Container Inspection Checklist
- Monthly STI-SP001 Mobile Refueler-Fuel Pod Inspection Checklist
- POL Containment Drainage Record (No POL or sheen observed)
- POL Containment Drainage Record (POL or sheen observed)

[illegible]

<b>Fort Sill</b>	
<b>Weekly Environmental Inspection Log</b>	
DATE:	WEATHER:
Y N NA	Are weekly environmental inspection logs (this checklist) filed and retained for a three-year period?
Y N NA	Has an Environmental Officer been appointed in writing?
Y N NA	Have the appropriate personnel been properly trained in the following: used oil and spent solvent management, fueling procedures, good housekeeping practices, proper painting (touch up) procedures, used battery management, inspection procedures, SWP3 plan maintenance, and recordkeeping procedures?
Y N NA	Are spill plans, HMWMP, SOPs and emergency response kits readily available?
Y N NA	Are all POL storage areas identified in the storm water (SWP3) and spill (SPCC) plans?
Y N NA	Are the refuse containers (dumpsters etc.) closed to ensure no storm water violations?
Y N NA	Are curbs or other drainage areas clean of debris and/or trash? Are the outfalls clean with no evidence of spills or accumulation of pollution?
Y N NA	Is the facility inspected after every rainfall event to determine if spill/drip pans and/or secondary containment structures contain contamination and were properly drained? Note: Uncontaminated rainwater can be emptied at the site.
Y N NA	Is the POL containment drainage record completed when rainwater is drained from secondary containment?
Y N NA	Are awareness signs properly posted and maintained?
Y N NA	Are good housekeeping and best management practices being observed? Are drip pans being properly used and maintained, are emergency spill kits readily available and adequately stocked, are leaks, spills and oil stains cleaned up in a timely manner?
Y N NA	Are all POL containers/vessels, including mobile fuel tankers, staged in sufficient secondary containment?
Y N NA	Are designated storage areas located away from storm drains and/or storm water outfalls?
Y N NA	Are everyday in use items stored in spill containment and protected from precipitation?
Y N NA	Are vehicles and other stored equipment checked for leaks and spills cleaned up immediately?
Y N NA	Do oil spills receive adequate attention (proper use of sorbents, proper contact with sorbents –rubbing with boot, and/or all stains capable of creating a discharge or sheen removed)?
Y N NA	Are all containment systems in good working order and functioning properly?

Y N NA	Are the oil water separators being maintained?
Y N NA	Have storage tanks, piping, valves and equipment been visually inspected for defects or leaks?
Y N NA	Is the interstitial space free of liquids and all alarms on tanks and separators working properly?
Y N NA	Is there an inventory of hazardous materials and SDS located at this site?
Y N NA	Is hazardous waste being accumulated at a Satellite Accumulation Point only?
Y N NA	Are hazardous materials/waste stored in a manner that protects them from storm water, properly labeled, and segregated?
Y N NA	Are wastes being accumulated in proper containers and tightly closed when not in use?
Y N NA	Are all containers marked IAW the waste protocol sheet?
Y N NA	Are markings visible and is there adequate aisle space?
Y N NA	Are all containers free of corrosion, bulges or damages and not leaking?
<b><i>For questions on environmental compliance, call 442-3266.</i></b>	
Unit/Building Inspected:	
Inspector and Telephone Number:	

## **STI SP001 Portable Container Monthly Inspection Checklist**

**General Inspection Information:**

Inspection Date: _____	Prior Inspection Date: _____	Retain until date: _____
Inspector Name (print): _____	Title: _____	
Inspector's Signature ( ): _____		
Container(s) inspected ID _____		
Regulatory facility name and ID number (if applicable) _____		

**Inspection Guidance:**

- This checklist is intended as a model. Locally developed checklists are acceptable as long as they are substantially equivalent (as applicable).
- This periodic Inspection is intended for monitoring the external condition and its containment structure. This visual inspection does not require a Certified Inspector. It shall be performed by an owner's inspector who is familiar with the site and can identify changes and developing problems. Note the non-conformance and corresponding corrective action in the comment section.
- Retain the completed checklists for at least 36 months.

Item		Area:	Area:	Area:	Area:
<b>Portable Container Containment/Storage Area</b>					
1	Are all portable container(s) within designated storage area?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
2	Is the containment and storage area free of excess liquid, debris, cracks or fire hazards?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
3	Are drain valves closed and in good working condition?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
4	Are containment egress pathways clear and any gates/doors operable?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
<b>Container</b>					
5	Is the container free of leaks? <i>Note: If "No", identify container and describe leak.</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
6	Is the container free of distortions, buckling, denting or bulging?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

[illegible]

## **STI SP001 Monthly Mobile Refueler/Fuel Pod Inspection Checklist**

### General Inspection Information:

Inspection Date: _____	Prior Inspection Date: _____	Retain until date: _____
Inspector Name (print): _____	Title: _____	
Inspector's Signature _____		
Mobile Refueler/Fuel Pod(s) inspected ID _____		
Regulatory facility name and ID number (if applicable) _____		

### Inspection Guidance:

- This checklist is intended as a model. Locally developed checklists are acceptable as long as they are substantially equivalent (as applicable). Inspections of multiple tanks may be captured on one form as long as the tanks are substantially the same.
- For equipment not included in this Standard, follow the manufacturer recommended inspection/testing schedules and procedures.
- The periodic tank inspection is intended for monitoring the external tank condition and its containment structure. This visual inspection does not require a Certified Inspector. It shall be performed by an owner's inspector per paragraph 4.1.2 of the standard.
- Upon discovery of water in the primary tank, secondary containment area, interstice, or spill container, remove promptly or take other corrective action. Inspect the liquid for regulated products or other contaminants and dispose of properly.
- Non-conforming items important to tank or containment integrity require evaluation by an engineer experienced in tank design, a Certified Inspector, or a tank manufacturer who will determine the corrective action. Note the non-conformance and corresponding corrective action in the comment section.
- Retain the completed checklists for at least 36 months.
- **After severe weather (snow, ice, wind storms) or maintenance (such as coating) that could affect the operation of critical components (normal and emergency vents, valves), an inspection of these components is required as soon as the equipment is safely accessible after the event.**

ITEM		STATUS	COMMENTS / DATE CORRECTED
<b>Tank and Piping</b>			
<b>1</b>	Is tank exterior (roof, shell, heads, bottom, connections, fittings, valves, etc.) free of visible leaks? <b>Note:</b> If "No", identify tank and describe leak and actions taken.	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<b>2</b>	Is the tank liquid level gauge legible and in good working condition?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
<b>3</b>	Is the area around the tank (concrete surfaces, ground, containment, etc.) free of visible signs of leakage?	<input type="checkbox"/> Yes <input type="checkbox"/> No	

4	Is the primary tank free of water or has another preventative measure been taken?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
5	For double-wall or double bottom tanks is interstitial monitoring equipment (where applicable) in good working condition?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
6	For double-wall tanks or double bottom tanks is interstice free of liquid? Remove the liquid if it is found. If tank product is found, investigate possible leak.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
<b>Equipment on tank</b>			
7	If overfill equipment has a "test" button, does it activate the audible horn or light to confirm operation? If battery operated, replace battery if needed.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
8	Is overfill prevention equipment in good working condition? If it is equipped with a mechanical test mechanism, actuate the mechanism to confirm operation.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
9	Is the spill container (spill bucket) empty, free of visible leaks and in good working condition?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
10	Are piping connections to the tank (valves, fittings, pumps, etc.) free of visible leaks? <b>Note:</b> If "No", identify location and describe leak.	<input type="checkbox"/> Yes <input type="checkbox"/> No	
11	Do the ladders/platforms/walkways appear to be secure with no sign of severe corrosion or damage?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
<b>Containment (Diking/Impounding)</b>			
12	Is the containment free of excess liquid, debris, cracks, corrosion, erosion, fire hazards and other integrity issues?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
13	Are dike drain valves closed and in good working condition?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
14	Are containment egress pathways clear and any gates/doors operable?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
<b>Other Conditions</b>			
15	Is the system free of any other conditions that need to be addressed for continued safe operation?	<input type="checkbox"/> Yes <input type="checkbox"/> No	



[illegible]

Page 3 of 3

**PAGE INTENTIONALLY LEFT BLANK**

**POL Containment Drainage Record**

This record must be completed when rainwater is drained from secondary containment areas. The drain valve(s) must normally be in the closed position. Under responsible supervision, open the drain valve(s), after inspecting for POL or Sheen, and close the valve(s) following drainage. Maintain this record with the Spill Prevention Control and Countermeasure Plan.

<b>Date</b>	<b>Location (Facility # and Containment Area ID)</b>	<b>POL or Sheen Present?</b>	<b>Time Drainage Started</b>	<b>Time Drainage Ended</b>	<b>Comments</b>	<b>Name</b>

**PAGE INTENTIONALLY LEFT BLANK**

## Chapter 6. Spill Response

RCRA requires that Large Quantity Generators, such as Fort Sill, have a contingency plan (40 CFR Part 265 Subpart D) describing the action that facility personnel must take to minimize hazards from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste. The procedures described in this chapter fulfill these requirements.

Fort Sill is also following an existing Spill Prevention, Control and Countermeasure Plan (SPCCP)/Installation Spill Contingency Plan (ISCP) required under AR 200-1, 40 CFR Part 112, and 40 CFR Part 265 Subpart D. Table 6-1 below compares the RCRA contingency plan requirements to the SPCCP/ISCP. The RCRA contingency plan described in this chapter is consistent with the Fort Sill SPCCP/ISCP.

**Table 6-1. RCRA Contingency Plan  
Requirements Referenced in ISCP/SPCC Plan**

<b>RCRA Contingency Plan Requirement</b>	<b>Regulation (40 CFR)</b>	<b>SPCCP/ISCP Plan Section where Requirement is Addressed</b>
A description of actions facility personnel must take in response to fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water at the facility.	265.52(a)	SPCCP/ISCP Section 6.0 and Building 2515, 90-Day Hazardous Waste Storage Yard Section 1.8
A description of arrangements agreed to by local police departments, fire departments, hospitals, contractors, and state and local emergency response teams to coordinate emergency services.	265.52(c)	SPCCP/ISCP Section 3.0
A list of names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator.	265.52(d)	SPCCP/ISCP Section 3.1 and Building 2515, 90-Day Hazardous Waste Storage Yard Section 1.2
A list of all emergency equipment at the facility, the location, and a physical description of each item on the list, and a brief outline of its capabilities.	265.52(e)	SPCCP/ISCP Section 9.0 and Building 2515, 90-Day Hazardous Waste Storage Yard Section 1.10
An evacuation plan (if warranted) describing signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes.	265.52(f)	SPCCP/ISCP Section 6.2.5 and Building 2515, 90-Day Hazardous Waste Storage Yard Section 1.9

## Spill Response Actions

### Incidental Spills

Spills that are incidental to **routine operations** that are Limited in Quantity, Exposure Potential, or Toxicity and present minor safety or health hazards to employees in the immediate work area.

Clean up of incidental spills is the responsibility of the product users in the motor pools, maintenance shops, or wherever the incidental spill occurs.

Incidental and/or minor spills are defined as those that occur during routine operations and do not pose a significant safety or health hazard to employees in the immediate vicinity or to the employee(s) cleaning them up. Incidental spills are characterized as not having potential to become an emergency situation in a short time frame. Other factors considered in distinguishing between an incidental spill and a spill requiring an emergency response are the properties of the POL or hazardous substance such as toxicity, volatility, flammability, explosiveness, corrosiveness, etc. as well as the circumstances of the spill such as quantity, confined space considerations, ventilation, etc. Unit/Organization personnel are qualified to clean up incidental spills since they are familiar with the hazards of the materials they normally work with. No reporting is necessary for incidental spills.

If an incidental spill occurs, take the following action:

- Contain the spill using on-site spill kits, drip pans, rags, etc.
- Remove standing liquids by safe means if possible.
- Use absorbent materials to remove residual contamination.
- If not on a hard surface excavate as necessary to remove contamination.
- Place all contaminated materials into labeled containers suitable for turn-in to EQD.
- Make sure that no product enters into a storm drain system or conveyance.

### Small Spills

A small spill is considered to be 55 gallons or less of POL that **DOES NOT** enter a stormwater conveyance or body of water.

Clean up of small spills is the responsibility of the product users in the motor pools, maintenance shops, or wherever the small spill occurs.

Non-emergency or small spills are defined as those of less than 55 gallons of POL that do not enter a stormwater conveyance or body of water. Small spills of POL are mostly associated with the handling of small POL containers; vehicle leaks and hose ruptures; equipment leaks; vehicle and equipment maintenance; overfilling of vehicles and equipment; and accidents involving vehicles and equipment. Small spills and leaks of POL less than 55 gallons in volume are difficult to completely eliminate from vehicle and equipment maintenance operations and military training exercises. These types of spills pose very little threat to human safety or the environment unless they reach a water body or cause explosive conditions. Unless these spills create an immediate safety or environmental hazard, they are the responsibility of the user to clean up. These types of discharges are termed “small spills” for the purpose of installation response actions. All sites where POL or other hazardous substances are stored or used are required to have spill kits and absorbent materials on-hand which can adequately

control and clean up such spills. Unit/Organization personnel are qualified to clean up POL spills less than 55 gallons since they have adequate spill kits available and are familiar with the materials they work with. Cleanup and disposal operations should be coordinated with EQD.

If a small spill occurs, take the following action:

1. Immediately notify your supervisor or EO. The supervisor or EO will confirm the spill and contact 911 if:
  - a. the spill is deemed to be greater than 55 gallons;
  - b. the spill of POL enters a stormwater conveyance or body of water;
  - c. the spill is a hazardous substance other than POL, and is not an incidental spill;
  - d. the spill causes an immediate safety or environmental hazard; or
  - e. the spill is beyond your capabilities to contain and clean up.
2. Turn off all sources of ignition. While wearing the proper PPE consistent with your level of training (face shield, apron, goggles, etc.), and without placing yourself at risk of injury, attempt to stop the spill source by closing valves, shutting off pumps, up righting the drum, etc.
3. Eliminate, stop, or slow the source of the spill to prevent any further release.
  - a. Set containers upright or roll them over so the hole is facing upward.
  - b. Close valves and turn off power to pumps.
  - c. Place leaking drums in compatible DOT-approved overpack drums.
  - d. Transfer material from a leaking container to functional container.
  - e. Patch holes in the leaking container.
  - f. Relocate container to where it poses less of a threat.
4. Contain the spill using dry sweep, absorbent socks, absorbent pads, soil, etc. All residual contamination must be removed. Applying dry sweep and scrubbing can remove stains on pavement or asphalt. Excavate contaminated soil until no visual or other evidence of spilled material remains.
5. Collect contaminated items such as soil, absorbent material, PPE, etc. and place in a suitable container for turn in for disposal.
6. Contact the EQD to verify that the affected areas have been adequately remediated. The EQD will provide any technical assistance with the cleanup including the turn-in of contaminated material.

---

**NOTE: Every effort should be made to prevent the spill from reaching drains in buildings or in parking areas.**

---

The Unit/Organization, typically the Environmental Officer (EO), is required to complete the Spill or Incident Report Record for all “small spills” and submit this record to EQD within 72 hours of the spill incident.

## Large Spills

A large spill consists of:

- 55 gallons or greater of POL or an uncontained spill of POL;
- a Hazardous Substance Spill other than POL that is Not an Incidental Spill;
- any spill of POL or Hazardous Substance that enters a Stormwater Conveyance or body of water;
- an Emergency Situation.

Clean up of large spills is the responsibility of the Installation Response Team (IRT). Unit/Organization personnel are initially responsible for ensuring personnel safety, barricading the spill site, and evacuating the area as necessary. If safe, Unit/Organization personnel may also eliminate any ignition sources and initiate spill control measures by constructing berms, applying absorbent materials, blocking stormwater conveyances, etc.

Emergency or large spills are mostly associated with the handling of large POL containers and containers of other hazardous substances; improper closing of vehicle and equipment valves; vehicle or equipment hose ruptures that quickly drain the connected POL reservoirs; accidents that cause punctures in vehicle or equipment POL reservoirs; vehicle roll overs; and vehicle or equipment fires that rupture POL reservoirs; depletion of spill kit materials; and failure of diversionary measures meant to keep spills out of stormwater conveyances and bodies of water. Large spills by definition include any POL or hazardous substance that enters a stormwater conveyance or body of water. For the purposes of installation response actions, these types of discharges are called “large spills”. Emergency or large spills are reported immediately to 911.

The F&ES, upon notification through the 911 system, will respond to large spills quickly with available resources and assume incident command. Once emergency services arrives Unit/Organization personnel shall provide as much information as possible on the incident and may be requested to assist the emergency response team.

The emergency response team will work to contain the spill, stop sources of the release, and mitigate emergency situations. If a spill requires response efforts that exceed the capabilities of installation emergency response organizations, private spill response contractors may be contacted for assistance. Incidents that involve long term cleanup are addressed through the United States Army Corps of Engineers. Once the emergency nature of the incident is mitigated the F&ES, EQD, and other applicable installation response team members ensure that the released POL or other hazardous substance is properly cleaned up, disposed of, and the site is restored. The EQD is responsible for determining reportable quantities and reporting to regulatory authorities.

If a large spill occurs, take the following action:

1. Immediately call 911. Notify the Comanche County personnel answering the call that the incident is on Fort Sill, they will then notify the Fort Sill Directorate of Emergency Services (DES) which will provide initial response actions. Upon arrival, the



responding agency (Fort Sill Fire and Emergency Services for hazardous substance incidents) shall appoint an Installation On-Scene Coordinator (IOSC). The IOSC is responsible for mobilization of the members of the IRT based on the situation.

2. If potential hazards posed by the spill are unknown, evacuate and barricade the spill site until emergency services personnel arrive. In such situations, it is critical to provide the 911 operators with as much information as possible so that the initial response agencies can be as prepared as possible for the situation.

3. Take action to minimize impacts from the spill while waiting for emergency services personnel to arrive. Eliminate any ignition sources and quickly assess the spill and safety hazard. If the type of material spilled is known and there is no immediate safety hazard, attempt to stop or control the spill to minimize further impacts by constructing berms, applying absorbent materials, and blocking storm drains, etc.

4. Once emergency services personnel arrive, cooperate with the response team and provide them with any information possible.

---

**NOTE: These actions should be limited to only properly trained personnel under the supervision of the supervisor or EO. Always wear the proper PPE.**

---

The EQD is responsible for determining reportable quantities and reporting to regulatory authorities.

### **Reporting**

Incidental Spills - No reporting required.

Small Spills - Complete the Spill or Incident Report Record and submit this record to EQD within 72 hours of the spill incident. Hand deliver to EQD at 2515 Ringgold Rd, email to [oren.t.hefley.civ@mail.mil](mailto:oren.t.hefley.civ@mail.mil), or fax to 580-442-7209.

Large Spills – The IRT will record a detailed report. EQD is responsible for determining reportable quantities and reporting to regulatory authorities.

### **Arrangement with Local Authorities**

The authorities that would respond to a large spill may include:

- Fort Sill Fire Department
- EQD
- EO
- DES
- DPW
- MEDDAC

### **Installation On-Scene Coordinator**

The IOSC is the senior fire official on duty for the Post. The Fort Sill Fire Department is

manned 24 hours a day, 365 days a year. The IOSC is responsible for coordinating all emergency response measures. This IOSC must be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records within the facility, and the facility layout. In addition, this person must have the authority to commit the resources needed to carry out the RCRA contingency plan.

### **Emergency Response Equipment**

The EO must keep on hand at all times enough spill equipment and supplies to respond to a 55- gallon spill. Ensure that the materials on hand are compatible with the material you are cleaning up. For instance, do not use sawdust on acid spills. Contact the EQD for assistance in selecting spill response supplies. Remember to promptly clean and restore to good/ready condition any equipment you use, and replace any materials used.

**Spill or Incident Report Record**

Date: _____	Time: _____	Location of Incident: _____
Unit/Organization: _____		Point of Contact: _____
Phone Number: _____		Substance/Material Released: _____
Stock Number and Manufacturer of Substance/Material Released: _____		
Quantity Released: _____		_____
<b>Environment Affected:</b>		
<input type="checkbox"/> Confined Within Building	<input type="checkbox"/> Pavement	<input type="checkbox"/> Gravel <input type="checkbox"/> Soil <input type="checkbox"/> Storm Drain
<input type="checkbox"/> Water	<input type="checkbox"/> Air	<input type="checkbox"/> Other (Describe) _____
Source and Cause of Release or Incident: _____		
Actions Taken To Contain/Mitigate the Release or Incident: _____		
Units/Organizations Responding to the Release or Incident: _____		
Weather Conditions: _____		
Actions Taken to Cleanup/Mitigate the Release or Incident: _____		
Disposition of Waste Generated During Cleanup/Mitigation Activities: _____		
Actions Taken to Prevent Reoccurrence: _____		
Person Completing Record _____	Signature _____	Date _____

Submit To: EQD 2515 Ringgold Rd, [oren.t.hefley.civ@mail.mil](mailto:oren.t.hefley.civ@mail.mil), 580-442-7209 (fax)

**PAGE INTENTIONALLY LEFT BLANK.**

## Chapter 7. Glossary and Acronyms

### Glossary

The following definitions are specific to this Plan. In some cases, these definitions may vary from those found in the regulations as they are summarized or are a composite of definitions from different regulations.

**Accumulation** – The process of collecting waste in containers or tanks on site prior to shipping to a Treatment, Storage, and Disposal Facility (TSDF). Waste can be accumulated at satellite accumulation points and the Environmental Yard.

**Accumulation Date:** The date a container reaches the appropriate headspace which begins the 72-hour timeframe allowed to turn in container to EQD.

**Activity** – A unit or organization that performs a function or mission, or a group or facility on an installation assigned space for a common usage or function and held operationally accountable by an authority other than the Installation Commander.

**Acute Hazardous Waste** – The commercial hazardous chemical products, manufacturing hazardous chemical intermediates, and off-specification commercial hazardous chemical products or manufacturing hazardous chemical intermediates listed in 40 CFR 261.33(e).

**Hazardous Chemical** – Any element, hazardous chemical compound, or mixture of elements and compounds that is a physical hazard or a health hazard. Hazardous chemicals are any items requiring an SDS; this includes batteries, filters, and other solids, liquids, or gases. Chemicals with physical hazards include combustible liquids, compressed gases, explosives, flammables, organic peroxides, oxidizers, pyrophoric chemicals that will ignite spontaneously in air, unstable chemicals, and water-reactive chemicals. Chemicals with health hazards are those for which there is significant evidence that the chemical has an acute or chronic effect on the health of exposed people. See 29 CFR 1910.1200, Appendix A, and Appendix B for further definitions, explanations, and criteria for identifying hazardous chemicals.

**Hazardous Material** – Defined by the U.S. Department of Transportation (DOT), it is anything that due to its chemical, physical, or biological nature causes safety, public health, or environmental concerns when transported in commerce. Hazardous materials include hazardous waste and materials exhibiting explosive, flammable, corrosive, and oxidizing properties.

**Hazardous Materials Information Resource System (HMIRS)** – A multiple compact disc set and website sponsored by the Defense Logistics Agency. The HMIRS contains SDSs for chemicals procured through military supply channels.

**Hazardous Waste** – Hazardous waste is a solid waste that is not specifically excluded from regulation as a hazardous waste and meets one of the following criteria:

- It is ignitable, corrosive, reactive, or toxic as measured by standard test methods or as can be reasonably determined by knowledge of generators
- It is specifically listed as a hazardous waste in 40 CFR 261, Subpart D

**HAZMAT Employee** – Personnel that load, unload, or handle hazardous materials or prepare them for shipment and/or persons responsible for hazardous materials transportation safety or who operate a vehicle used to transport hazardous materials.

**Personal Protective Equipment (PPE)** – Any protective clothing or device worn by the employee to prevent contact with, and exposure to, hazardous materials in the work area. Examples include protective aprons, goggles, face splash shields, eye protection, and various types of respiratory protection.

**Safety Data Sheet (SDS)** – Formally referred to as MSDS, a collection of information required by the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard. An SDS includes the identity of hazardous chemicals, health and physical hazards, exposure limits, and safety precautions.

**Satellite Accumulation Area (SAA)** – A designated point where a generator may accumulate hazardous waste in a 55-gallon drum, always **ensuring a 4-inch headspace** per drum, or 1 quart of acutely hazardous waste. Each SAA must be at or near the point of generation and must be under the control of the EO of the process generating the waste. Once a 4-inch headspace in a 55-gallon drum of the accumulated waste at an SAA is reached, it must be marked with the accumulation start date (ASD) and moved within 72 hours to the Environmental Yard.

**Solid Waste** – All discarded materials including solids, semi-solids, sludges, liquids, and compressed gases are solid wastes unless excluded by regulation. A discarded material is any material that is abandoned, recycled, or considered inherently waste-like.

**Spill** – The accidental leaking, pumping, emitting, discharging, emptying, or dumping of waste or materials to the environment (air, water, or soil).

**Start Date:** The date the first drop or container of waste is put in a drum.

**Used Oil** – Any oil that has been refined from crude oil, or any synthetic oil that has been used and as a result of such use is contaminated by physical or chemical impurities. This includes, but is not limited to, fuel oils, motor oils, gear oils, cutting oils, transmission fluids, brake fluids, and hydraulic fluids. For the purposes of this Plan, used oil does not include transformer oil or other dielectric fluids.

## Acronyms

AR	Army Regulation
ASD	accumulation start date
CFR	Code of Federal Regulations
DES	Directorate of Emergency Services
DLADS	Defense Logistics Agency Disposition Services
DoD	Department of Defense
DOT	Department of Transportation
EO	Environmental Officer
EOC	Emergency Operations Center
EPA	Environmental Protection Agency
EPAS	Environmental Performance Assessment System
EQD	Fort Sill Environmental Quality Division
GHS	Globally Harmonized System
HAZCOM	Hazard Communication
HAZMAT	hazardous material
HAZWOPER	Hazardous Waste Operations and Emergency Response
HCC	Hazard Characteristic Code
HM	hazardous material
HMIRS	Hazardous Materials Information Resource System
HSWA	Hazardous and Solid Waste Amendments
HW	hazardous waste
IAW	in accordance with
IOSC	Installation On-Scene Coordinator
IRT	Installation Response Team
ISCP	Installation Spill Contingency Plan
LOI	Letter of Instruction
LR	Logistics Readiness Command
MEK	methyl ethyl ketone
NEPA	National Environmental Policy Act
NFPA	National Fire Protection Association
NHIW	non-hazardous industrial waste
NSN	National Stock Number
OAC	Oklahoma Administrative Code
ODEQ	Oklahoma Department of Environmental Quality
OSHA	Occupational Safety and Health Administration
OWS	Oil-Water Separator
PAO	Public Affairs Office
PCB	Polychlorinated biphenyl

POL	Petroleum, oil, and lubricants
POV	privately-owned vehicle
PPE	personal protective equipment
RCRA	Resource Conservation and Recovery Act
SAA	Satellite Accumulation Area
SDS	Safety Data Sheet
SPCCP	Spill Prevention, Control, and Countermeasure Plan
SSA	Supply Support Activity
TSDF	Treatment, Storage, and Disposal Facility
UN	United Nations
USAFCEFS	United States Army Fires Center of Excellence and Fort Sill
USAAHC	United States Army Public Health Command
UW	universal waste
WPS	Waste Protocol Sheet



## **Appendix A. Waste Protocol Sheets**

**PAGE INTENTIONALLY LEFT BLANK.**

**Waste Protocol Sheet Index**

Absorbents-Used	83
Adhesives and Sealants	84
Aerosol Cans	85
Antifreeze	86
Aqueous Parts Washer – Impulse II	87
Asbestos	88
Batteries-Lithium Sulfur Dioxide	89
Batteries-Lithium Manganese Oxide	90
Batteries-Lithium Thionyl Chloride	91
Batteries – Lithium Ion	92
Batteries – Mercury, Magnesium	93
Batteries – Nickel Cadmium (NiCad)	94
Calcium Hypochlorite	95
Filters- Fuel	96
Filters- Oil	97
Fuel – F24, Diesel, Mogas	98
GAA Grease	99
Hull Fluid	100
IT-48WC Weapons Cleaning System	101
IT-32 and IT-48 Parts Cleaning System <b>Buildings 2451/2440</b>	102
IT-32 and IT-48 Parts Cleaning System <b>Building 813</b>	103
Lamps	104
Lead-Acid Batteries (Non-Vehicle)	105
Lead-Acid Batteries (Damaged/Leaking)(Non-Vehicle and Vehicle)	106
M229 Refill Kit	107
M256, M256A1 Detector Tickets	108
M258, M258A1, M280 Skin Decontamination Kit	109
MRE Heaters	110
Non-PCB Ballasts	111
PCB Ballasts	112
OWS/Sump Wastewater and Sludge	113
Paint and Primer – Latex	114
Paint and Primer - Enamel	115
Paint Booth Waste- Solid	116
Paint Related Materials	117
Pesticides	118
Protective Mask Filters/Canisters	119
POL Contaminated Rags, Shop Towels, and Wipes	120

Solvent Contaminated Rags, Shop Towels, and Wipes	121
Used Oil - Uncontaminated	122
Weapons Cleaning Patches, Rags, and Q-tips	123

# ABSORBENTS-USED

## POSSIBLE CONTAMINANTS OF CONCERN

Saturated absorbent material (e.g., dry sweep, cloth towels, booms, etc.) may be flammable and/or toxic.

## CHARACTERIZATION

Absorbent materials contaminated with POL are considered **non-hazardous waste**. Absorbent material contaminated with other hazardous material such as fuel are considered hazardous if saturated and/or any free liquid.

## CONTAINER MARKING AND HANDLING PROCEDURES

**Step 1** Obtain a NEW open-top metal drum and required labels from EQD.  
Line the drum with doubled trash bags to accumulate the absorbent material.

**Step 2** POL product - Mark the container with the words "Non-Hazardous Waste," "Used Absorbents," and the Accumulation Start Date before adding any waste. Hazard Class and GHS/OSHA labels not required.  
Non-POL product - Mark the container "Hazardous Waste," "Used Absorbent," what contaminated with, i.e., fuel, Flammable Hazard Class Label and the Accumulation Start Date.



Hazard Class Label



GHS/OSHA Labels

**Step 3** Make sure drum is in the proper SAA within secondary containment.

**Step 4** Put the waste in the bags. Wear proper PPE listed on the SDS.  
Ensure lid is placed back on the drum.

**Step 5** When the **POL Absorbent** drum is full, or sooner, take the doubled trash bags of absorbent (no free liquids) to the EQD, IAW procedures in Chapter 4.

When the **Non-POL Absorbent** drum is full, or sooner change the Accumulation Start Date to the current date and take the entire drum to the EQD, within 72 hours, IAW procedures in Chapter 4.



## GENERAL INFORMATION

Keep absorbents contaminated with hazardous waste separate from POL-saturated absorbents and turn in to EQD. Call the EQD if you clean up anything other than POL. They will provide guidance for proper disposal.

# ADHESIVES AND SEALANTS

## POSSIBLE CONTAMINANTS OF CONCERN

Adhesives and sealants are made up of combinations of chemicals suspended in a solvent that partially evaporates during use. The solvents found in these products vary. Adhesives and sealants may also be flammable and may contain heavy metals such as lead, chromium, and cadmium. Refer to the SDS for specific hazards.

## CHARACTERIZATION

Spent adhesives and sealants are considered **hazardous waste**.

## CONTAINER MARKING AND HANDLING PROCEDURES

### Step 1

Obtain a NEW open-top, UN/NA-rated drum and required labels from EQD IAW Chapter 3.

### Step 2

Mark the drum with the words "Hazardous Waste," "Used Adhesives and/or Sealants," the Accumulation Start Date, the Flammable Liquid and below GHS/OSHA labels upon adding the first can of adhesive.



Hazard Class Labels



GHS/OSHA Labels

### Step 3

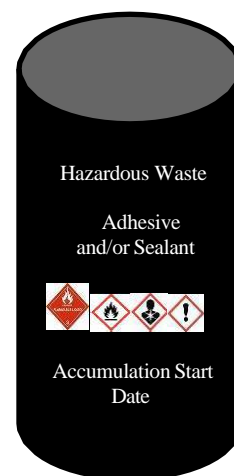
Make sure the drum is in a designated SAA within secondary containment.

### Step 4

Put waste containers in the drum. Do not pour liquids in the drum. Wear proper PPE listed on the SDS. Ensure lid is placed back on the drum.

### Step 5

When the drum becomes full, change the Accumulation Start Date to the current date and turn it in to EQD within 72 hours IAW the procedures listed in Chapter 4.



## GENERAL INFORMATION

None

# AEROSOL CANS

## POSSIBLE CONTAMINANTS OF CONCERN

Aerosols may be flammable, corrosive, and/or toxic depending on the contents of the cans and the propellant involved.

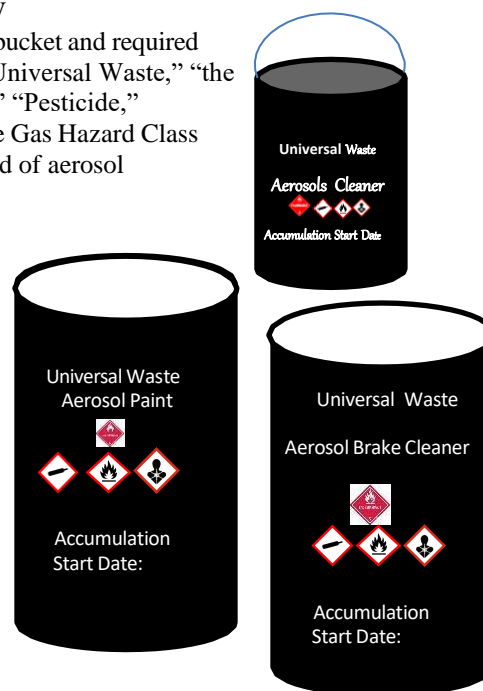
## CHARACTERIZATION

All aerosol cans used by units/organizations/tenants as part of mission operations (not part of household or barracks use) that are no longer serviceable (e.g., broken nozzle, empty or expired), are considered to be still under pressure and therefore must be turned into EQD. Oklahoma Department of Environmental Quality has adopted the Universal Rule for aerosol cans, so aerosol cans are now collected and turned into EQD as a Universal Waste.

## CONTAINER MARKING AND HANDLING PROCEDURES

### Step 1

For accumulation of aerosol cans that are no longer in use (broken nozzle, empty or expired) obtain a NEW Steel open-top, UN/NA-rated drum or 5-gallon steel bucket and required labels from EQD. Mark the drum with the words "Universal Waste," "the type of aerosol i.e., "Cleaner," "Lubricant," "Paint," "Pesticide," "Adhesive," "Accumulation Start Date," Flammable Gas Hazard Class and below GHS/OSHA labels depending on the kind of aerosol upon putting in the first can.



### Step 2

Make sure the drum is in a designated SAA within secondary containment. Secondary containment is considered a best management practice for cans that are not ruptured, for cans that are ruptured, secondary containment is required.

### Step 3

Put the waste aerosol cans in the appropriate drum based on the type of aerosol.

### Step 4

When the drum becomes full, change the Accumulation Start Date to the current date and turn it in to EQD within 72 hours IAW the procedures listed in Chapter 4.

## GENERAL INFORMATION

Coordinate with EQD for turn in of full drums and for any questions related to segregation of aerosol products.

**Do not dispose of empty aerosol cans in trash cans.** A special exception may be granted to units/organizations that generate a large number of aerosol cans. This exception would include the puncturing of cans, collecting waste liquid for disposal and collecting the RCRA empty cans for recycling at the Fort Sill Recycling Center. The establishment of the recycling operation for aerosol cans requires a written approval from EQD.

# ANTIFREEZE

## POSSIBLE CONTAMINANTS OF CONCERN

Antifreeze typically contains ethylene glycol. However, other formulations have been developed recently using less toxic chemicals. Used antifreeze may contain low concentrations of toxic metals such as copper, zinc, lead, cadmium, chromium, and selenium. Each year an analysis is performed to determine any presence of toxic metals. Used filters and sludge from antifreeze recycling machines may also contain ethylene glycol and heavy metals.

## CHARACTERIZATION

Currently used antifreeze is contaminated and is considered a **hazardous waste**.

## CONTAINER MARKING AND HANDLING PROCEDURES

**Step 1** Obtain a **New Poly** closed-top, UN/NA-rated drum and required labels from EQD IAW Chapter 3.

**Step 2** Mark the drum with words, "Hazardous Waste," Contaminated Antifreeze," the Accumulation Start Date, the Class 9 Hazard Class and the below GHS/OSHA labels upon adding first drop of waste.



Hazard Class Label

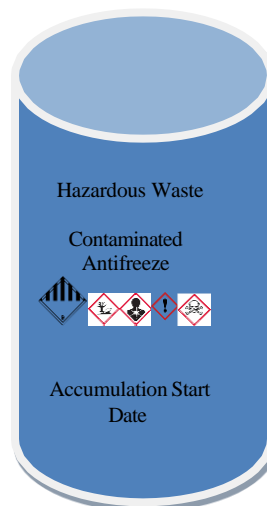


GHS/OSHA Labels

**Step 3** Make sure drum is in the proper SAA Within secondary containment.

**Step 4** Put waste in the drum. Wear proper PPE listed on the SDS. Ensure bung cap is placed back on the drum.

**Step 5** When the drum becomes full, **ensuring a 4" headspace**, change the Accumulation Start Date to the current date and turn it in to EQD within 72 hours IAW the procedures listed in Chapter 4.



## GENERAL INFORMATION

Used antifreeze is contaminated and must be turned in to the EQD. Unused Antifreeze still in container is not hazardous but must also be turned into EQD.



# AQUEOUS PARTS WASHER—IMPULSE II

## POSSIBLE CONTAMINANTS OF CONCERN

Possible contaminants in these systems include used oil from vehicle parts, metal parts coatings, and paint residues that are removed in the parts washers. Metal contaminants including chromium, cadmium, and lead, may be found in the cleaning solutions. Each year an analysis is performed to determine any presence of toxic metals or flammability.

## CHARACTERIZATION

Currently aqueous parts washer (APW) wash water is considered a **non-hazardous waste** and must be turned in to the EQD. The skimmer used oil is recyclable and should be placed in a Lube Cube.

## CONTAINER MARKING AND HANDLING PROCEDURES

- Step 1** Obtain a **NEW** closed-top, UN/NA-rated, 55-gallon poly drum from EQD IAW Chapter 3.
- Step 2** Mark the drum with the words "Non-Hazardous Waste," "Used Aqueous Parts Washer Fluid," and the Accumulation Start Date. Hazard Class and GHS/OSHA labels not required.
- Step 3** Put waste in the drum. Wear proper PPE listed on the SDS. Ensure bung cap is placed back on the drum.
- Step 4** Take the drum immediately to the EQD or place it in a designated SAA within secondary containment.
- Step 5** When the SAA drum becomes full, **ensuring a 4" headspace**, change the Accumulation Start Date to the current date and turn it in to EQD within 72 hours, IAW the procedures listed in Chapter 4.
- Step 6** If filter requires changing contact EQD about proper packaging for transport to EQD for analysis and disposal.



## GENERAL INFORMATION

Water-based systems may have several waste streams including the water solution in the main tank, the sludge solution in the main tank, and the oil sludge in the skimmer tank.

Do not put solvents or solvent-wet parts in aqueous parts washers. This will result in foaming and damage to the machine, and the solution will have to be disposed of as a waste.

Do not clean weapons, paintbrushes, drip pans, or empty POL containers in aqueous parts washers.

For additional guidance refer to the Impulse II Aqueous Parts Washer Operational Guidelines memorandum, (found in Appendix B).

# ASBESTOS

## Brake Shoes/Pads and Safes

### THE LANDFILL REQUIRES A 24 HOUR NOTIFICATION TO TAKE ASBESTOS ITEMS

#### POSSIBLE CONTAMINANTS OF CONCERN

Asbestos is a naturally occurring mineral that takes the form of hollow, microscopic fibers that are nearly indestructible. It can be densely packed into a tough, flexible, and very useful material. Asbestos that is "friable," or easily crumbled, pulverized, or reduced to powder in your hand when dry has the potential to release asbestos fibers that can become airborne, and potentially create a health hazard. Some diseases associated with asbestos exposure include:

**Asbestosis** – a progressive, non-cancerous and irreversible scarring of the lungs that can produce shortness of breath. Typical latency period is over 20 years.

**Pleural disease** – plaque deposits or a thickening of the thin tissue that separates the lungs from the other organs in the body.

**Lung cancer** – cancerous tumors that have a latency period of 20 to 30 years, usually fatal.

**Mesothelioma** – a cancer in the lining of the chest cavity or abdomen, very rare but always fatal.

#### CHARACTERIZATION

Asbestos-containing materials (ACMs) are managed as **Special Waste (Non-RCRA Regulated Waste)**.

#### CONTAINER MARKING AND HANDLING PROCEDURES

- Step 1** Asbestos Brake Shoes/Pads and Safes will be disposed of in the Fort Sill Asbestos Landfill.
- Step 2** Contact EQD at 442-2792 with concerns and on how to properly dispose of asbestos items.
- Step 3** An Asbestos Waste Shipment Record will be required with the disposal of the asbestos items and can be obtained from the EQD prior to going to the Landfill. The EQD will give information on how to fill out the Waste Shipment Record at that time.
- Step 4** Contact the Landfill at 442-5241 to set up a 24 HOUR NOTIFICATION required for the disposal of asbestos items.
- Step 5** Take the completed Asbestos Waste Shipment Record plus 4 extra copies, and the asbestos item(s) to the Landfill for the proper disposal.

#### GENERAL INFORMATION

Other than the occasional asbestos brake shoes, personnel must not handle asbestos. Personnel changing out asbestos brake shoes must follow specific procedures to avoid exposure. The EQD will coordinate all asbestos management and disposal. **ALL** brake shoes/pads and safes **MUST** come to EQD. If a unit can prove there is no asbestos in the brake shoe/pad or safe verification is required with your visit to EQD.

# BATTERIES

## LITHIUM-SULFUR DIOXIDE (Li-SO<sub>2</sub>)

### POSSIBLE CONTAMINANTS OF CONCERN

Lithium-Sulfur Dioxide (Li-SO<sub>2</sub>) batteries are primary non-rechargeable battery. The cell has an anode of Lithium Metal and a liquid cathode of sulfur dioxide with up to 2.8 grams of lithium per cell. Li-SO<sub>2</sub> batteries contain pressurized sulfur (SO<sub>2</sub>) gas. The gas has a pungent odor, and is highly toxic. The battery **MUST NOT** be abused in any way which can cause the battery to rupture.

**IMMEDIATELY** turn off the equipment if battery or battery compartment shows signs of overheating or become hot to the touch. Allow the battery to cool (at least 60 minutes) before removing it.

If you hear a hissing sound (battery venting), or smell irritating gas, **IMMEDIATELY** turn off the equipment, and **LEAVE** the area until any smell or signs of leaking gas have been cleared from the area.

### CHARACTERIZATION

Lithium-Sulfur Dioxide batteries are managed as a Hazardous Waste for ignitability and reactivity. **DO NOT DISCHARGE** the batteries prior to turn in procedures.

### HANDLING PROCEDURES

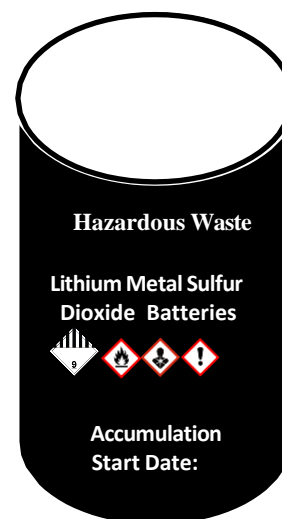
- Step 1** Obtain a NEW open-top steel UN/NA-rated drum and required labels from EQD IAW Chapter 3. Mark the drum, with the words "Hazardous Waste," "Lithium Metal Sulfur Dioxide Batteries," the Accumulation Start Date, the Class 9 Hazard Class and the below GHS/OSHA labels when the first battery is placed in the drum.



Hazard Class Label



GHS/OSHA Labels



- Step 2** Make sure the drum is in a designated SAA within secondary containment.
- Step 3** Place each individual battery in a plastic bag prior to putting in drum.  
Wear proper PPE listed on the SDS. Ensure lid is placed back on the drum.
- Step 4** When the drum becomes full change the Accumulation Start Date to the current date and turn in to EQD with 72 hours IAW the procedures listed in Chapter 4.

### GENERAL INFORMATION

Store batteries in dry, well-ventilated facility. Segregate batteries by type. For additional guidance refer to the Management of Lithium Sulfur Dioxide Batteries memorandum, (found in Appendix B).

# BATTERIES

## Lithium-Manganese (Li-MnO<sub>2</sub>)

### POSSIBLE CONTAMINANTS OF CONCERN

Lithium Manganese batteries (Li-MnO<sub>2</sub>) are primary non-rechargeable batteries. Li-MnO<sub>2</sub> The cell has an anode of Lithium metal and a solid cathode of manganese dioxide.

NEVER test batteries for capacity with a conventional test set.

IMMEDIATELY turn off the equipment if battery or battery compartment shows signs of overheating or become hot to the touch. Allow the battery to cool (at least 60 minutes) before removing it.

If you hear a hissing sound (battery venting), or smell irritating gas, IMMEDIATELY turn off the equipment, and LEAVE the area until any smell or signs of leaking gas have been cleared from the area.

### CHARACTERIZATION

Lithium-Manganese are managed as a Hazardous Waste for, reactivity.

### HANDLING PROCEDURES

- Step 1** Obtain a NEW open-top steel UN/NA-rated drum and required labels from EQD IAW Chapter 3, mark the drum, with the words "Hazardous Waste," "Lithium Metal Manganese Batteries," the Accumulation Start Date, the Class 9 Hazard Class and the below GHS/OSHA labels when the first battery is placed in the drum.



Hazard Class Label



GHS/OSHA Labels

- Step 2** Make sure the drum is in a designated SAA within Secondary containment.

- Step 3** Place each individual battery in a plastic bag prior to putting in drum. Wear proper PPE listed on the SDS. Ensure lid is placed back on the drum.

- Step 4** When the drum becomes full change the Accumulation Start Date to the current date and turn in to EQD with 72 hours, IAW the procedures listed in Chapter 4.



### GENERAL INFORMATION

Store batteries in dry, well-ventilated facility. Segregate batteries by type.

# BATTERIES

## Lithium-Thionyl Chloride (Li-SOC12)

### POSSIBLE CONTAMINANTS OF CONCERN

Lithium-Thionyl Chloride (Li-SOC12) batteries are primary non-rechargeable batteries. Li-SOC12 batteries contain liquid thionyl chloride (SOCl) which fumes upon exposure to air. They are highly toxic and the battery MUST NOT be abused in any way which may cause the battery to rupture. SOCl2 has a sharp suffocating odor and a corrosive and poisonous material. NEVER test batteries for capacity with a conventional test set.

IMMEDIATELY turn off the equipment if battery or battery compartment shows signs of overheating or become hot to the touch. Allow the battery to cool (at least 60 minutes) before removing it.

If you hear a hissing sound (battery venting) or smell irritating gas, IMMEDIATELY turn off the equipment, and LEAVE the area until any smell or signs of leaking gas have been cleared from the area.

### CHARACTERIZATION

\*Lithium-Thionyl Chloride (Li-SOC12) are managed as a Hazardous Waste for ignitability, reactivity, and chromium.

### HANDLING PROCEDURES

- Step 1** Obtain a NEW open-top steel UN/NA-rated drum and required labels from EQD IAW Chapter 3, mark the drum, with the words "Hazardous Waste," "Lithium Metal, Thionyl Chloride Batteries," the Accumulation Start Date, the Class 9 Hazard Class, and the below GHS/OSHA labels upon placing the first battery in the drum.



Hazard Class Label



GHS/OSHA Labels

- Step 2** Make sure the drum is in a designated SAA within Secondary containment.
- Step 3** Place each individual battery in a plastic bag prior to putting in drum. Wear proper PPE listed on the SDS.
- Step 4** Ensure lid is placed back on the drum. When the drum becomes full, change the Accumulation Start Date to the current date and turn into EQD within 72 hours, IAW the procedures listed in chapter 4.



### GENERAL INFORMATION

Store batteries in dry, well-ventilated facility. Segregate batteries by type.

# BATTERIES

## LITHIUM-ION (Li-ion)

### POSSIBLE CONTAMINANTS OF CONCERN

Lithium-Ion (Li-ion) Batteries. Li-ion batteries are secondary rechargeable batteries. The cells contain an anode of Lithium cobalt Dioxide and a carbon cathode. Batteries need protective control circuits to insure that they are not overcharged nor over discharged.

### CHARACTERIZATION

Lithium-Ion batteries are managed as a Universal Waste.

### HANDLING PROCEDURES

**Step 1** Obtain a NEW open-top steel UN/NA-rated drum and required labels from EQD IAW Chapter 3.

**Step 2** Mark the drum, with the words "Universal Waste," "Lithium-ion Metal batteries" the Accumulation Start Date, and the below GHS/OSHA labels before putting the first battery in the drum. Hazard class label not required.



**Step 3** Make sure the drum is in a designated SAA within secondary containment.

**Step 4** Place each individual battery in a plastic bag prior to putting in drum. Wear proper PPE listed on the SDS. Ensure lid is placed back on the drum.

**Step 5** Every 6 months, or when the drum becomes full, whichever occurs first, turn batteries in to EQD, IAW the procedures listed in Chapter 4. **DO NOT change the date since it is a Universal Waste.**



### GENERAL INFORMATION

Store batteries in dry, well-ventilated facility. Segregate batteries by type.

# BATTERIES

## MERCURY, MAGNESIUM

### POSSIBLE CONTAMINANTS OF CONCERN

**Magnesium Batteries.** Magnesium batteries contain an electrolyte of an aqueous solution of magnesium bromide or magnesium perchlorate and chromium. These chemicals can emit highly toxic fumes when heated.

**Mercury Batteries.** These batteries contain mercury and mercuric oxide, and a potassium hydroxide (KOH) or sodium hydroxide electrolyte. Mercury is a listed hazardous metal and highly toxic.

### CHARACTERIZATION

Magnesium, and mercury batteries are **hazardous waste**. If the batteries are damaged or drained, the electrolyte solution or any materials coming into contact with the solution, including the battery casing, should be disposed of as **hazardous waste**.

### HANDLING PROCEDURES

**Step 1** Obtain an open-top poly UN/NA-rated and required labels drum from EQD IAW Chapter 3.

**Step 2** Mark the drum, with the "Hazardous Waste," the type of battery, the Accumulation Start Date, the appropriate Hazard Class and the below GHS/OSHA label, in accordance with the content of drum, upon adding first battery to the drum.



Magnesium Battery Labels



Mercury Battery Labels

**Step 3** Make sure the drum is in a designated SAA within secondary containment.

**Step 4** Place each individual battery in a plastic bag prior to putting in drum. Wear proper PPE listed on the SDS.

**Step 5** Ensure lid is placed back on the drum. When the drum becomes full, change the Accumulation Start Date to the current date and turn into EQD within 72 hours, IAW the procedures listed in Chapter 4.



### GENERAL INFORMATION

Segregate batteries by type. Store batteries away from moisture. Small amounts of **alkaline** batteries such as AAA, AA, C, and D type can go in the trash. Take large amounts to the EQD.

# BATTERIES

## NICKEL-CADMIUM

### POSSIBLE CONTAMINANTS OF CONCERN

**Nickel-Cadmium.** There are two kinds of Ni-Cd batteries: sealed non-serviceable batteries without vent-filler caps (dry) and serviceable vented batteries with vent-filler caps (wet). The cell of a Ni-Cd battery typically contains metal and highly toxic.

### CHARACTERIZATION

**Nickel-Cadmium** batteries are managed as a Universal Waste. If the batteries are damaged or drained, the electrolyte solution or any materials coming into contact with the solution, including the battery casing, should be disposed of as **hazardous waste**, therefore segregate from the other NiCad Batteries and contact the EQD.

### HANDLING PROCEDURES

**Step 1** Obtain an open-top poly UN/NA-rated drum and the required labels from EQD IAW Chapter 3.

**Step 2** Mark the drum, with the "Universal Waste," the type of battery NiCad Dry or NiCad Wet, the Accumulation Start Date, the Corrosive Hazard Class and GHS/OSHA labels upon adding first battery to the drum.



**Step 3** Make sure the drum is in a designated SAA within secondary containment.

**Step 4** Place each individual battery in a plastic bag prior to putting in drum.

Wear proper PPE listed on the SDS. Ensure lid is placed back on the drum.

**Step 5** When the drum becomes full turn it in to EQD. **DO NOT Change the date since it is a Universal Waste.**

### GENERAL INFORMATION

Segregate batteries by type – wet or dry. Store batteries away from moisture.



# CALCIUM HYPOCHLORITE

## POSSIBLE CONTAMINANTS OF CONCERN

Calcium hypochlorite is generally available as a white powder, pellets, or flat plates. Calcium hypochlorite decomposes in water to release chlorine and oxygen. Calcium hypochlorite is toxic by the oral and dermal routes and can react to release chlorine or chloramine which can be inhaled.

## CHARACTERIZATION

Unused calcium hypochlorite is considered a **hazardous waste**.

## HANDLING PROCEDURES

- Step 1** Turn in to EQD unused calcium hypochlorite in the container it came in as soon as it is declared a waste at the unit. Do not accumulate on site.
- Step 2** Ensure that containers are marked or labeled with "Hazardous Waste," "Calcium Hypochlorite," the Oxidizer Hazard Class and the below GHS/OSHA labels.



Hazard Class Label



GHS/OSHA Labels

## GENERAL INFORMATION

Calcium hypochlorite should be stored in a dry, well-ventilated area at a temperature below 120°F, separated from acids, ammonia, amines, and other chlorinating or oxidizing agents.

# **FILTERS—FUEL**

## **Diesel, F-24, and MOGAS**

### **POSSIBLE CONTAMINANTS OF CONCERN**

F-24 and MOGAS may contain VOCs such as benzene, toluene, trimethylbenzene, and xylene in varying levels. Refer to the SDSs for specific hazards.

### **CHARACTERIZATION**

Fuel filters are **non-hazardous wastes** and cannot be thrown in the dumpster.

### **CONTAINER MARKING AND HANDLING PROCEDURES**

- Step 1** Air dry the fuel filters and place them in a **NEW** open-top metal drum lined with doubled trash bags. Obtain drums from EQD IAW Chapter 3.
- Step 2** Mark drum holding fuel filters with the words “Non-Hazardous Waste,” “Used Fuel Filters,” and the Accumulation Start Date. Hazard Class and GHS/OSHA labels not required.
- Step 3** Make sure drum is in the proper SAA within secondary containment.
- Step 4** Put waste in the drum. Wear proper PPE listed on the SDS. Ensure lid is placed back on the container or bag is closed.
- Step 5** When the drum is full, or sooner as needed, take the doubled bagged fuel filters directly to the Fort Sill Landfill. Landfill personnel will inspect the filters prior to disposal.



### **GENERAL INFORMATION**

**Contact EQD if type of fuel filters changes (i.e.: paper to metal or other material).**

Landfill personnel will advise units on what actions are necessary to meet disposal standards should they reject any fuel filters.

# FILTERS—OIL

## POSSIBLE CONTAMINANTS OF CONCERN

Oil filters may contain heavy metals such as cadmium and chromium. Terne-plated oil filters contain a lead alloy. Refer to the SDS for specific hazards.

## CHARACTERIZATION

Non-terne plated oil filters free of oil are **non-hazardous waste**. Terne-plated oil filters, often found on large equipment, are **hazardous waste**.

## CONTAINER MARKING AND HANDLING PROCEDURES

- Step 1** Let the oil filters drain 24 hours prior to containerizing them. Collect oil filters and terne-plated oil filters separately. **Contact EQD immediately if you have a terne-plated filter.** Use a NEW open-top drum lined with a double bagged trash bag to accumulate the filters.
- Step 2** Mark drum holding oil filters with the words “Non-Hazardous Waste”, “Used Oil Filters,” and the Accumulation Start Date. Hazard Class and GHS/OSHA labels not required.
- Step 3** Make sure drum is in the proper SAA within secondary containment.
- Step 4** Wear proper PPE listed on the SDS. Ensure lid is placed back on the drum.
- Step 5** When the drum is full, or sooner as needed, take the double bagged oil filters to EQD for crushing. Crush only one filter at a time. After crushing, take the double bagged filters to the Fort Sill landfill. Units will need to provide their own trash bags. Coordinate with EQD a time to crush the oil filters. **Turn in terne-plated oil filters immediately as a hazardous waste IAW the procedures in Chapter 4.**



## GENERAL INFORMATION

The EQD maintains an oil filter crusher. When taking oil filters to EQD, provide enough manpower to operate the crusher.

# FUEL—F24, DIESEL, MOGAS

## POSSIBLE CONTAMINANTS OF CONCERN

F-24 is flammable and toxic to aquatic life. Diesel fuel #2 consists of a mixture of "long-chain" hydrocarbons. Unleaded gasoline (MOGAS) is a toxic and flammable. MOGAS contains volatile organic compounds (VOCs) such as benzene, xylene, toluene, and ethylbenzene.

## CHARACTERIZATION

F24, Diesel and Mogas are always managed as a **hazardous waste**. **OBTAIN SEPERATE DRUMS FOR EACH KIIND OF FUEL**

## CONTAINER MARKING AND HANDLING PROCEDURES

**Step 1** Obtain a NEW closed-top, UN/NA-rated, 55-gallon metal drum and the required labels from EQD IAW Chapter 3.

**Step 2** Mark and label the drum with the words "Hazardous Waste "Contaminated F24" Contaminated Diesel" or Contaminated Mogas.," the Accumulation Start Date, the Flammable Liquid Hazard Class and the below GHS/OSHA labels upon adding waste.



Hazard Class Label



GHS/OSHA Labels



**Step 3** Make sure the drum is in the proper SAA within secondary containment.

**Step 4** Put waste in the drum. Wear proper PPE listed on the SDS. Ensure bung cap is placed back on the container.

**Step 5** When the drum becomes full, **ensuring a 4" headspace**, change the Accumulation Start Date to the current date and turn it in to EQD within 72 hours, IAW the procedures listed in Chapter 4.

## GENERAL INFORMATION

If different kinds of fuel are in one drum indicate the mixture of fuels on the container.

# DO NOT REUSE THE TAN DRUMS THAT CONTAINED OIL.

# GAA GREASE

## POSSIBLE CONTAMINANTS OF CONCERN

GAA grease contains petroleum hydrocarbons and additives. Refer to the SDS for specific hazards.

## CHARACTERIZATION

Grease is a **non-hazardous industrial waste** due to the petroleum constituents.

## HANDLING PROCEDURES

- Step 1** Turn in individual containers of grease or, if accumulating, obtain a New open-top, UN/NA-rated poly drum and required label from EQD.
- Step 2** Mark the drum with “Non-Hazardous Waste, Grease, the accumulation start date and the below GHS/OSHA label on adding any waste. Hazard Class labels are not required.
- Step 3** Make sure the drum is in the proper SAA within secondary containment.
- Step 4** Put waste in the drum. Wear proper PPE listed on the SDS. Ensure lid is placed back on the drum.
- Step 5** When the drum becomes full change the Accumulation Start Date to the current date and turn it in to EQD within 72 hours, IAW the procedures listed in Chapter 4.



**GHS/OSHA Label**



## GENERAL INFORMATION

All grease must be turned in EQD. Do not take grease to landfill.

# HULL FLUID

## POSSIBLE CONTAMINANTS OF CONCERN

A hull serves as containment for the chassis on armored vehicles and tanks. Hulls can collect fluid such as water, oil, brake fluid, transmission fluid, fuel, or antifreeze. Used antifreeze may contain concentrations of toxic metals such as lead or selenium. Fuels are toxic and flammable.

## CHARACTERIZATION

Hull fluid may be managed as a hazardous waste or a non-hazardous industrial waste depending on the content. Hull fluid contaminated with fuel or antifreeze must be managed as a hazardous waste. The chemical and the amount of chemical mixed in the hull fluid will depend on how to classify the waste. EQD will characterize the hull fluid by performing an analysis.

## CONTAINER MARKING AND HANDLING PROCEDURES

**Step 1** Obtain a NEW closed-top, UN/NA-rated, 55-gallon metal drum and required labels from EQD IAW Chapter 3.

**Step 2** Since unsure if hull fluid is hazardous or non-hazardous mark the drum with the words "Waste," "Hull Fluid," the accumulation start Date and the below GHS/OSHA labels upon adding first drop of fluid.



GHS/OSHA Labels

**Step 3** Make sure the drum is in the SAA within secondary containment.

**Step 4** Put waste in the drum. Wear proper PPE listed on the SDS.

**Step 5** Ensure bung cap is placed back on the container.

**Step 6** When the drum becomes full, **ensuring a 4" headspace**, change Accumulation Start Date to the current date and turn it in to EQD within 72 hours, IAW the procedures listed in Chapter 4.



## GENERAL INFORMATION

All hull fluid must be turned into EQD. Hull fluid cannot be disposed of in building trench/slot drains, maintenance bay pits, washracks, or the Central Wash Facility West.

# IT-48 WEAPONS CLEANING SYSTEM

## Filters and Solvent

### POSSIBLE CONTAMINANTS OF CONCERN

The solvent, the used Edge Tek Filters, and the debris collected from the pre-filter screen and baskets may be contaminated with a number of chemicals used in weapons cleaning. Each year an analysis is performed to determine toxicity and flammability.

### CHARACTERIZATION

The solvent, the used Edge Tek Filters, and the debris collected from the pre-filter screen and baskets are currently managed as a **non-hazardous waste**. The Edge Tek Filters and debris collected from the pre-filter screen and baskets are contaminated with lead, which is a characteristic toxic metal, therefore managed as a **hazardous waste**.

### CONTAINER MARKING AND HANDLING PROCEDURES

- Step 1** Obtain a NEW 5-gallon bucket and required labels for accumulating filters and debris from EQD. The bucket must be clean and free from any previous markings or labels.
- Step 2** Mark the bucket with words “Hazardous Waste”, “Used Weapons System Filters,” the Accumulation Start Date, a Flammable Solid and Poison Hazard Class, and the below GHS/OSHA labels upon adding any waste.



**Hazard Class Labels**



**GHS/OSHA Labels**



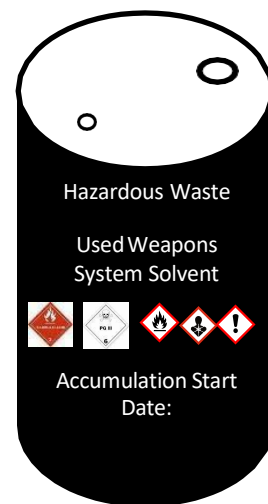
- Step 3** Make sure bucket is in the proper SAA within secondary containment.
- Step 4** Put waste in the bucket. Wear proper PPE listed on the SDS. Ensure lid is placed back on the bucket.
- Step 5** When the bucket containing filters becomes full change the Accumulation Start Date to the current date and turn it in to EQD within 72 hours, IAW the procedures listed in Chapter 4.
- Step 6** Obtain a NEW closed-top, UN/NA-rated metal 55-gallon drum and required labels for accumulating the used solvent from EQD.
- Step 7** Mark the drum with words “Hazardous Waste”, “Used Weapons System Solvent,” the Accumulation Start Date, a Flammable Liquid and Poison Hazard Class and the below GHS/OSHA labels upon adding first drop of solvent.



**Hazard Class Labels**



**GHS/OSHA Labels**



- Step 8** Put waste in the drum, **ensuring a 4” headspace**. Wear proper PPE listed on the SDS. Ensure bung cap is placed back on the drum.
- Step 9** When draining is complete, change the Accumulation Start Date to the current date and turn it in to EQD within 72 hours, IAW the procedures listed in Chapter 4.

### GENERAL INFORMATION

Debris accumulated in the IT-32 and IT-48 Parts Cleaning System basket should be dumped onto paper towels, allowed to air dry, and then placed into the 5-gallon bucket used to accumulate the filters for the machine. The IT-32 and IT-48 systems are authorized for parts cleaning only. No weapons, paint brushes, etc., are allowed to be cleaned in the system. It is recommended that units lock the system closed when it is not in use. For additional guidance refer to IT-32 and IT-

# IT-32 AND IT-48 PARTS CLEANING SYSTEM

## Filters and Solvent Building 2435/2440

### POSSIBLE CONTAMINANTS OF CONCERN

The solvent, the used Edge Tek Filters, and the debris collected from the pre-filter screen and baskets may be contaminated with a number of chemicals used in parts cleaning. Each year an analysis is performed to determine toxicity and flammability.

### CHARACTERIZATION

The solvent is currently **managed as a hazardous waste for flammability**. The current analysis shows the used Edge Tek Filters and the debris collected from the pre-filter screen and baskets are not hazardous.

### CONTAINER MARKING AND HANDLING PROCEDURES

**Step 1** Obtain a NEW 5-gallon bucket for accumulating filters and debris from EQD. The bucket must be clean and free from any previous markings or labels.

**Step 2** Mark the bucket with words "Non-Hazardous Waste", "Used Parts System Filters," No labels are required.

NONE

Hazard Class Labels

NONE

GHS/OSHA Labels

**Step 3** Put filters and debris in the bucket. Wear proper PPE listed on the SDS. Ensure lid is placed back on the bucket.

**Step 4** When the bucket containing filters becomes full turn it in to EQD.

**Step 5** Obtain a NEW closed-top, UN/NA-rated metal 55-gallon drum and required labels for accumulating the used solvent from EQD.

**Step 6** Mark the drum with words "Hazardous Waste," "Used Parts System Solvent," the Accumulation Start Date, a Flammable Liquid Hazard Class and the below GHS/OSHA labels upon adding first drop of solvent.



Hazard Class Labels



GHS/OSHA Labels

**Step 7** Put waste in the drum, **ensuring a 4" headspace**. Wear proper PPE listed on the SDS. Ensure bung cap is placed back on the drum.

**Step 8** When draining is complete, change the Accumulation Start Date to the current date and turn it in to EQD within 72 hours, IAW the procedures listed in Chapter 4.



### GENERAL INFORMATION

Debris accumulated in the IT-32 and IT-48 Parts Cleaning System basket should be dumped onto paper towels, allowed to air dry, and then placed into the 5-gallon bucket used to accumulate the filters for the machine. The IT-32 and IT-48 systems are authorized for parts cleaning only. No weapons, paint brushes, etc., are allowed to be cleaned in the system. It is recommended that units lock the system closed when it is not in use. For additional guidance refer to IT-32 and IT-48 Parts Cleaning System memorandum, (found in Appendix B). Contact the EQD when solvent is no longer serviceable. Skysol Solvent (NSN 6850-01-381-4401) may be ordered by calling Inland Technology at 1-800-523-3100.



# IT-32 AND IT-48 PARTS CLEANING SYSTEM

## Filters and Solvent Building 813

### POSSIBLE CONTAMINANTS OF CONCERN

The solvent, the used Edge Tek Filters, and the debris collected from the pre-filter screen and baskets may be contaminated with a number of chemicals used in parts cleaning. Each year an analysis is performed to determine toxicity and flammability.

### CHARACTERIZATION

The solvent, the used Edge Tek Filters, and the debris collected from the pre-filter screen and baskets are currently **managed as a hazardous waste**.

### CONTAINER MARKING AND HANDLING PROCEDURES

**Step 1** Obtain a NEW 5-gallon bucket and required labels for accumulating filters and debris from EQD. The bucket must be clean and free from any previous markings or labels.

**Step 2** Mark the bucket with words "Hazardous Waste", "Used Parts System Filters," the Accumulation Start Date, a Flammable Solid Hazard Class, and the below GHS/OSHA labels upon adding any waste.



Hazard Class Labels

GHS/OSHA Labels



**Step 3** Make sure bucket is in the proper SAA within secondary containment.

**Step 4** Put waste in the bucket. Wear proper PPE listed on the SDS. Ensure lid is placed back on the bucket.

**Step 5** When the bucket containing filters becomes full change the Accumulation Start Date to the current date and turn it in to EQD within 72 hours, IAW the procedures listed in Chapter 4.

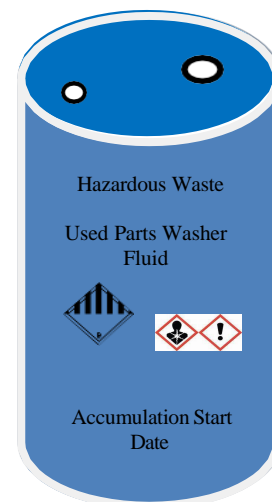
**Step 6** Obtain a NEW closed-top, UN/NA-rated metal or poly 55-gallon drum and required and required labels for accumulating the used solvent from EQD.

**Step 7** Mark the drum with words "Hazardous Waste," "Used Parts System Solvent," Accumulation Start Date, Class 9 Hazard Class label and GHS/OSHA label below.



Hazard Class Labels

GHS/OSHA Labels



**Step 8** Put waste in the drum, **ensuring a 4" headspace**. Wear proper PPE listed on the SDS. Ensure bung cap is placed back on the drum.

**Step 9** When draining is complete, change the Accumulation Start Date to the current date and turn it in to EQD within 72 hours, IAW the procedures listed in Chapter 4.

### GENERAL INFORMATION

Debris accumulated in the IT-32 and IT-48 Parts Cleaning System basket should be dumped onto paper towels, allowed to air dry, and then placed into the 5-gallon bucket used to accumulate the filters for the machine. The IT-32 and IT-48 systems are authorized for parts cleaning only. No weapons, paint brushes, etc., are allowed to be cleaned in the system. It is recommended that units lock the system closed when it is not in use. For additional guidance refer to IT-32 and IT-48 Parts Cleaning System memorandum, (found in Appendix B). Contact the EQD when solvent is no longer serviceable. Skysol Solvent (NSN 6850-01-381-4401) may be ordered by calling Inland Technology at 1-800-523-3100.

# LAMPS

## Fluorescent, Mercury Vapor, High Intensity Discharge (HID)/LED, High-Pressure Sodium, and Metal Halide/Hydride, and Halogen Lamps

### POSSIBLE CONTAMINANTS OF CONCERN

Small quantities of mercury, antimony, cadmium, barium, and lead are used to manufacture fluorescent, mercury vapor, HID/LED, high-pressure sodium, metal halide/hydride, and halogen lamps.

### CHARACTERIZATION

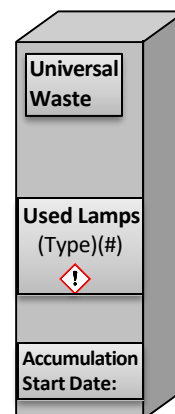
All spent lamps are **universal wastes**.

### CONTAINER MARKING AND HANDLING PROCEDURES

- Step 1** Lamps should be collected in the boxes they came in or in other packaging that will minimize breakage during normal handling conditions. **Separate the different kinds of lamps into their own box.** Contact the EQD to get boxes designed specifically for waste collection and transportation.
- Step 2** Mark the box with the words “Universal Waste,” “Used Lamps **Including the type,**” the Accumulation Start Date, and the below GHS/OSHA label upon placing the first lamp in the box. Hazard Class labels are not required.



GHS/OSHA Label



- Step 3** Make sure box is in the proper SAA.
- Step 4** Put lamps in the box. Wear proper PPE listed on the SDS. Ensure box is closed. Keep accurate count of lamps and mark final count on container prior to taking to EQD.
- Step 5** Every 6 months, or when the box becomes full, whichever occurs first, turn lamps in to EQD IAW the procedures listed in Chapter 4. **DO NOT** change the date since lamps are a Universal Waste.

### GENERAL INFORMATION

Care must be taken to ensure lamps are not broken. Residue from broken lamps must be cleaned up and turned in to EQD immediately. Remember to always wear gloves when handling unbroken or broken lamps. Hazardous waste generator training is required for staff assigned responsibility for managing lamp accumulation points.

The EQD must be notified in writing of any lamp accumulation points that are established. Try to minimize the number of accumulation points.

For additional guidance refer to the Management of Used Fluorescent and High Intensity Discharge (HID) Lamps memorandum, (found in Appendix B).

# Lead-Acid Batteries

## (GEL and NON-GEL)

### (Non-Vehicle)

#### POSSIBLE CONTAMINANTS OF CONCERN

The cells of gel and non-gel lead-acid battery contain lead and lead dioxide. Non-gel lead acid batteries also contain an acidic electrolyte solution of sulfuric acid. The solution is very corrosive.

#### CHARACTERIZATION

Non-vehicle lead-acid batteries are managed as a **universal waste** and turned in to EQD. It is illegal to dispose of a lead-acid battery in a dumpster or at the landfill.

#### CONTAINER MARKING AND HANDLING PROCEDURES

- Step 1** Obtain a NEW open-top poly UN/NA-rated drum and required labels from EQD IAW Chapter 3 and mark the drum, with the words "Universal Waste," "Lead Acid Batteries," the Accumulation Start Date, and the below GHS/OSHA labels upon placing first battery in the drum. Hazard Class labels are not required.



GHS/OSHA Labels

- Step 2** Make sure the drum is in a designated SAA Within secondary containment.
- Step 3** Place each individual battery in a plastic bag prior to putting in drum.
- Step 4** Wear proper PPE listed on the SDS. Ensure lid is placed back on the drum. When the drum becomes full turn in to EQD IAW the procedures listed in Chapter 4.
- DO NOT change date since the batteries are a Universal Waste.**



#### GENERAL INFORMATION

Batteries should be kept cool, dry, and away from open flame, heat, and combustibles. Do not store them in a way that might cause leakage.

Remember to always wear proper PPE listed on the SDS.

See procedures for turning in Vehicle Lead-Acid batteries chapter 4.

# Lead-Acid Batteries

## (Damaged/Leaking)

### (Vehicle/Non-vehicle)

#### POSSIBLE CONTAMINANTS OF CONCERN

The cells of gel and non-gel lead-acid battery contain lead and lead dioxide. Non-gel lead acid batteries also contain an acidic electrolyte solution of sulfuric acid. The solution is very corrosive.

#### CHARACTERIZATION

Damaged or leaking vehicle and non-vehicle lead-acid batteries are managed **as a hazardous waste** and turned in to EQD. It is illegal to dispose of a lead-acid battery in a dumpster or at the landfill. **Only broken, leaking vehicle batteries are turned into EQD. See page 4-4 for vehicle lead acid battery turn-in.**

#### CONTAINER MARKING AND HANDLING PROCEDURES

- Step 1** IMMEDIATELY containerize in a nonmetal container, i.e., drip pan, and turn in damaged or leaking batteries to EQD.
- Step 2** Mark the batteries "Hazardous Waste, Used Batteries," and the Accumulation Start Date. **EQD will containerize the batteries and put the Hazard Class and the below GHS/OSHA labels on the container.**



Hazard Label



GHS/OSHA Labels

- Step 3** Make sure batteries are CONTAINERIZED and in proper SAA prior to transporting to EQD.
- Step 4** Turn in batteries to EQD IAW the procedures in Chapter 4.

#### GENERAL INFORMATION

Batteries should be kept cool, dry, and away from open flame, heat, and combustibles. Do not store them in a way that might cause leakage.

Remember to always wear proper PPE listed on the SDS.

See procedures for turning in Vehicle Lead-Acid batteries in chapter 4.

# M229 REFILL KIT

## POSSIBLE CONTAMINANTS OF CONCERN

Contaminants of concern in the M229 Refill Kit include potassium hydroxide, ethanol, and diethyl phthalate.

## CHARACTERIZATION

The refill kit, when disposed of, is a **hazardous waste** for ignitability and toxicity.

## CONTAINER MARKING AND HANDLING PROCEDURES

**Step 1** Turn in to EQD unused M229 kits in the boxes they came in as soon as they are declared a waste at the unit. Do not accumulate on site.

**Step 2** Ensure that boxes are marked with the contents.

## GENERAL INFORMATION

The M229 is a three-part refill kit. Part A contains potassium hydroxide, which is a colorless, viscous liquid with no odor. Part B contains ethyl alcohol (ethanol), which is a colorless liquid. Part C contains diethyl phthalate, which is a colorless, odorless liquid.

# M256 and M256A1 DETECTOR TICKETS

## POSSIBLE CONTAMINANTS OF CONCERN

The chemicals used in manufacturing the detector tickets are numerous. The contaminants of concern, however, are methyl alcohol, ligroin, and mercury.

## CHARACTERIZATION

Detector tickets on this WPS must be managed as a **hazardous waste**. All kits contain the same hazardous waste characteristic: ignitability.

## CONTAINER MARKING AND HANDLING PROCEDURES

**Step 1** Turn in to EQD unused kits in the boxes they came in as soon as they are declared a waste at the unit. Do not accumulate on site.

**Step 2** Ensure that boxes are marked with the contents.

## GENERAL INFORMATION

The kit is a portable, expendable item capable of detecting and identifying hazardous concentrations of nerve and blister agents and cyanide. Each kit consists of 12 disposable plastic sampler-detectors (ticket or card), one booklet of M8 paper, and a set of instruction cards. Each ticket (card) contains laboratory filter paper test spots for the various agents. Dispose of M8 and samplers separately.

# M258, M258A1, AND M280 SKIN DECONTAMINATION KIT

## POSSIBLE CONTAMINANTS OF CONCERN

Vial #I of the M258 decon kit contains ethanol, phenol, sodium hydroxide, ammonia, and the rest water. Vial #II contains ethanol, zinc chloride, and the rest water. The internal ampoule in the vial contains 16 grams; in the packet, mixed with dry towelette 1 gram chloramine "B." The M280 kit packets each contains 10 times the amount that is in the M258A1 kit packets.

## CHARACTERIZATION

All kits contain the same **hazardous waste** characteristic: ignitability. Whether the kits are hazardous waste depends on how they are managed. If the kits are disposed of as a whole, they are hazardous waste. If the kits are used or functioned, and the material allowed to dry, they are non-hazardous.

## CONTAINER MARKING AND HANDLING PROCEDURES

- Step 1** Turn in to EQD unused decontamination kits in the boxes they came in as soon as they are declared a waste at the unit. Do not accumulate on site.
- Step 2** Ensure that boxes are marked with the contents.

## GENERAL INFORMATION

None

# MREHEATERS

## POSSIBLE CONTAMINANTS OF CONCERN

Meals Ready-to-Eat (MRE) heaters consist of a plastic bag containing a piece of fiberboard and powdered magnesium or magnesium alloys along with other materials.

## CHARACTERIZATION

Unused MRE heaters are a reactive solid and therefore a hazardous material. If disposing of large quantities of unused MRE heaters, manage as a **hazardous waste**. Contact the EQD for further instructions.

## CONTAINER MARKING AND HANDLING PROCEDURES

**Step 1** For large quantities of MRE heaters, obtain a NEW open-top, UN/NA-rated metal drum and required labels from EQD IAW Chapter 3.

**Step 2** Mark the drum with the words "Hazardous Waste, Unused MRE Heaters," the Accumulation Start Date, a Dangerous When Wet Hazard Class and the below GHS/OSHA label upon adding any waste.



Hazard Class Label



GHS/OSHA Label

**Step 3** Make sure drum is in the proper SAA.

**Step 4** Put waste in the drum. Wear proper PPE listed on the SDS. Ensure lid is placed back on the drum.

**Step 5** When the drum becomes full, change the Accumulation Start Date to the current date and turn it into EQD within 72 hours IAW the procedures listed in Chapter 4.



## GENERAL INFORMATION

None



# NON-PCB BALLASTS

## POSSIBLE CONTAMINANTS OF CONCERN

Non-PCB Di (d-ethylhexyl) phthalate (DEHP) ballasts are found in the same types of fixtures as PCB containing ballasts (which were banned in 1979) but are not specifically regulated under TSCA. Non-PCB (DEHP) ballasts are a health issue and classified as a possible carcinogen.

## CHARACTERIZATION

Once the DEHP ballast is used it is classified it no longer meets the definition of hazardous waste. Non-PCB ballasts are classified as a Non-Hazardous waste and are disposed of as scrap metal for recycle. Recyclers remove the DEHP-containing capacitors which are subsequently incinerated or landfilled. Usable materials, such as metals, are reclaimed for secondary use.

## CONTAINER MARKING AND HANDLING PROCEDURES

- Step 1** Obtain a NEW 55-gallon to UN/NA-rated drum from the EQD, IAW Chapter 3.
- Step 2** Mark the drum “Non-Hazardous Waste,” “Non-PCB Ballasts,” and the Accumulation Start Date” upon adding the first ballasts. Keep count of the ballasts while filling the drum. Hazard Class and GHS/OSHA labels are not required.
- Step 3** Put waste in the drum. Wear proper PPE listed on the SDS. Ensure lid is placed back on the drum.
- Step 4** When the drum becomes full, put amount of non-PCB ballasts and change the Accumulation Start Date to the current date and take drum to EQD within 72 hours IAW the procedures listed in Chapter 4. EQD will inspect contents of drum and provide paperwork prior to taking drum to DLADS.



## GENERAL INFORMATION

“Non-PCB” or “PCB free” will be marked on the ballast. If the words “Non-PCB” or “PCB free: are not on the ballast do not put in drum and turn into the EQD.



When taking Non-PCB Ballasts to DLADS units will dump the ballasts in their scrap hopper and take drum back with them, triple rinse, crushed and put in scrap metal bin.

# PCB BALLASTS

## POSSIBLE CONTAMINANTS OF CONCERN

Poly Chlorinated Biphenyls (PCBs) are a major type of toxic chemical. They are a suspected human carcinogen and have been shown to be teratogenic (capable of inducing mutations in the offspring of affected organism). PCBs were banned from use in 1979, however, there is still equipment around from before that time period.

Carefully check the ballasts that have been removed from your fixtures, they should say on them that they are non-PCB or PCB free if they were manufactured after 1979. If the ballast does not say this, you must assume that it contains PCBs and contact the EQD.

## CHARACTERIZATION

PCBs are most commonly found in electrical transformers and capacitors, air conditioning equipment and lighting ballasts.

## CONTAINER MARKING AND HANDLING PROCEDURES

**Step 1** Obtain a NEW 55-gallon to UN/NA-rated drum and required labels from the EQD, IAW Chapter 3.

**Step 2** Mark the drum "Hazardous Waste," "PCB Ballasts", the Accumulation Start Date" and the below GHS/OSHA labels upon adding the first ballast.



PCB Label



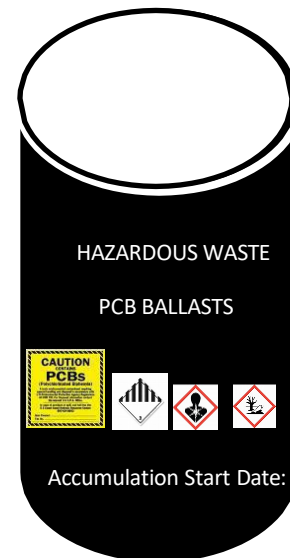
Hazard Class Label



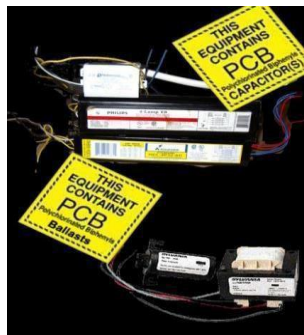
GHS/OSHA Labels

**Step 3** Put PCB ballasts in the drum. Wear proper PPE listed on the SDS. Ensure lid is placed back on the drum.

**Step 4** When the drum becomes full, put amount of PCB ballasts and change the Accumulation Start Date to the current date and take drum to EQD within 72 hours IAW the procedures listed in Chapter 4.



## GENERAL INFORMATION



# OWS WASTEWATER AND SLUDGE

## POSSIBLE CONTAMINANTS OF CONCERN

Contaminants found in oil-water separator (OWS) wastewater/sludge may include metals, total petroleum hydrocarbons, benzene, ethylbenzene, toluene and xylenes.

## CHARACTERIZATION

The dirt sand, grit, grime that settle out of liquid OWS wastewater solutions range in consistency from slurries to sludge. These residues or sediments may be hazardous waste, depending on the constituents of the original solution.

## GENERAL INFORMATION

The EQD conducts routine OWS sampling and clean out. If your OWS needs servicing, contact the EQD at 442-3266 to verify servicing is required. Most OWSs have high oil level alarms that sound off and display a red light when servicing is required.

The EQD will schedule the clean out of OWSs as needed. During clean outs the EQD determines if repairs to the OWS are needed and submits a DPW Work Request as necessary.

The DPW Construction Branch, 442-3898, conducts routine clean outs of most Rinse Pad/Wash Rack/Car Wash drains in order to reduce sediment load to the OWSs and sanitary sewer system.

Also note that some OWSs are located in concrete vaults that have steel grate covers. A sump pit and sump pump are installed in the vaults to return rain water to the inlet piping of the OWS. At some point the sump pumps will quit working due to run time and weather conditions causing the vault to fill up with water. If this occurs call in a Service Order to 442-3251.

## GENERAL INFORMATION

None

# PAINT AND PRIMER—LATEX

## POSSIBLE CONTAMINANTS OF CONCERN

Latex paints and primers contain water and small amounts of other materials (glycols, etc.) to keep the paint liquid and uniform. The water is essentially nontoxic, and the other materials are present in such small amounts that they do not present any demonstrable toxicity. Latex paints are also referred to as vinyl, acrylic, or water-based paints. Latex house paint manufactured before 1992 likely contains mercury. Latex paint manufactured before 1978 likely contains lead. Refer to the SDS for specific hazards.

## CHARACTERIZATION

Latex paint and primer are **non-hazardous waste**. Most house paint manufactured after 1991 has no lead or mercury and is therefore non-hazardous.

## CONTAINER MARKING AND HANDLING PROCEDURES

- Step 1** Turn in individual containers of latex paint or latex paint related product or obtain a New open-top, UN/NA-rated poly drum and required label from EQD for accumulating individual paint containers.
- Step 2** Mark the drum with “Non-Hazardous Waste, Latex Paint and Latex Paint Related Product,” if containing both or “Latex Paint” if only containing paint, the accumulation start date and the below GHS/OSHA label upon adding any waste. Hazard Class labels are not required.
- Step 3** Make sure drum is in the proper accumulation point within secondary containment.
- Step 4** Put waste in the drum. Wear proper PPE listed on the SDS. Ensure lid is placed back on the drum.
- Step 5** When the drum becomes full change the Accumulation Start Date to the current date and turn it in to EQD within 72 hours, IAW the procedures listed in Chapter 4.



## GENERAL INFORMATION

If not reused, **dried** paintbrushes, tarps, rollers, brushes, gloves, and stir sticks used to apply latex paint and primer that have dried may be taken to the landfill. **Empty cans of latex paint (less than 1 inch of paint left) that have solidified may also be taken to the landfill.**

Wastewater from latex paint cleanup can be put into the sanitary sewer. Do not put into storm drains or septic systems. Where possible, reuse the wastewater by allowing solids to settle out and pouring off the water into another container. The latex solids can then be dried out and taken to the landfill.

# PAINT- ENAMEL

## Paints in Cans, Paint Booth Paint

### POSSIBLE CONTAMINANTS OF CONCERN

Solvent-based paints, primer, and stains contain organic solvents such as mineral spirits, alcohols, acetates, and aliphatic solvents. Oil-based paints, primer, and stains are regulated due to their flammability and the presence of regulated solvents. They also contain regulated metals including cadmium, chromium, lead, silver, barium, mercury, arsenic, and selenium. Refer to the SDS for specific hazards.

### CHARACTERIZATION

Waste oil-based paints, primers, and stains are **hazardous waste**. When cleaning up after painting, remove all **excess** paint from tarps, rollers, brushes, etc., and dispose of as hazardous waste. Tarps, rollers, brushes, gloves, and stir sticks that have dried and are no longer needed may be taken to the landfill.

**Notify the EQD immediately if paint booth operations change i.e., paint type, solvent type, etc.**

### CONTAINER MARKING AND HANDLING PROCEDURES

**Step 1** Turn in individual containers of oil-based paint or obtain NEW open-top, UN/NA-rated open top metal drum and required labels from EQD for accumulating individual paint cans; and a NEW closed-top UN/NA-rated metal drum and required labels for paint booth paint.

**Step 2** Mark the drum with words “Hazardous Waste,” “Enamel Paint,” the Accumulation Start Date, the Flammable Liquid Hazard Class and the below GHS/OSHA labels upon adding any waste.



Hazard Class Label

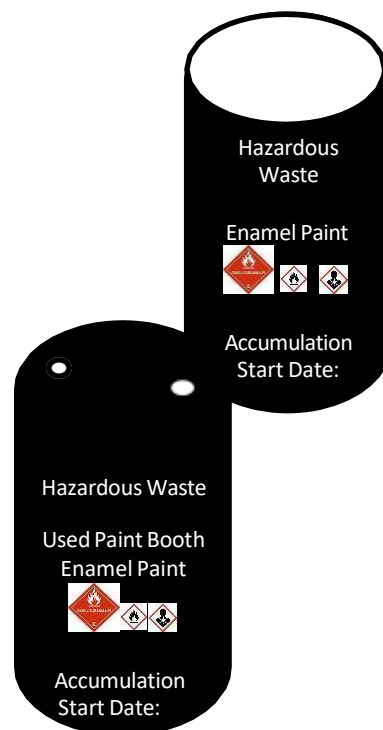


GHS/OSHA Labels

**Step 3** Make sure drum is in the proper SAA within secondary containment.

**Step 4** Put individual cans of waste in the drum. Wear proper PPE listed on the SDS. Ensure lid and/or bung cap is placed back on the drum.

**Step 5** When the drum becomes full, change the Accumulation Start Date to the current date and turn it in to EQD within 72 hours, IAW the procedures listed in Chapter 4.



### GENERAL INFORMATION

Do not mix different types of paints or solvents unless directed to do so by the EQD. If the manufacturer's label is missing or illegible, label the container with a description of its contents. If unsure of its contents, the product should be assumed to be solvent-based.

Store containers of paint in a well-ventilated area. Never dispose of paint or paint waste by pouring it on the ground or into a drain. Do not dry out oil-based paint containers, or spread out on cardboard to dry, etc. Never let paint containers sit open to evaporate; the fumes are toxic.

# PAINTBOOTHWASTE--SOLID

Barrier Paper, Masking Tape, Paint Booth Filters, Gloves, Stir Sticks, Mixing Implements, Sandpaper, and Paint Chips/Dust

## POSSIBLECONTAMINANTS OF CONCERN

Paint booth waste may contain residue such as solvents, heavy metals, etc., that are used in the manufacturing of the paint used. Each year an analysis is performed to determine toxicity, corrosivity, and flammability. Currently Paint Booth Waste is a nonhazardous waste.

## CHARACTERIZATION

Paint booth waste described in this WPS generated from painting operations do not qualify as a listed hazardous waste since the solvents found in the waste are considered ingredients in the paint. The wastes may qualify, however, as characteristic **hazardous waste** and must be tested. Currently Paint Booth Waste is a Non-Hazardous Waste. **Notify the EQD immediately if you change paint type, solvent type, etc.**

## CONTAINER MARKINGAND HANDLINGPROCEDURES

- Step 1** Obtain a NEW open-top, UN/NA-rated drum from EQD IAW Chapter 3.
- Step 2** Mark the drum with words “Non-Hazardous Waste,” “Paint Booth Waste”, the Accumulation Start Date. Hazard Class and GHS labels are not required.
- Step 3** Make sure drum is in the proper SAA within secondary containment.
- Step 4** Put waste in the drum. Wear proper PPE listed on the SDS. Ensure lid is placed back on the container.
- Step 5** When the drum becomes full, change the Accumulation Start Date to the current date and turn in to the EQD within 72 hours, IAW procedures listed in chapter 4.



## GENERAL INFORMATION

Waste paper, tape, and all **non-liquid** wastes such as gloves, stir sticks, mixing implements, and sandpaper may be accumulated in the same container. Paint Booth Filters should be accumulated separately and tested prior to disposal. Contact the EQD for guidance.

# PAINTRELATEDMATERIALS

Thinner, Primer, Stains, Varnish, Stripper, Remover, or Polyurethane

## POSSIBLECONTAMINANTS OF CONCERN

Paint related materials can be organic solvents such as mineral spirits, alcohols, acetates, and aliphatic solvents. They are regulated due to their flammability and the presence of listed solvents. Some are also corrosive and should be kept separated from the flammables. Refer to the SDS for specific hazards.

## CHARACTERIZATION

Paint-related waste, are a **hazardous waste**. Unless previously approved by the EQD, do not mix different types together, as violent reactions may occur.

## CONTAINER MARKINGAND HANDLINGPROCEDURES

**Step 1** Turn in individual containers of paint waste, unless you generate a large volume. For large volumes of paint waste, obtain a NEW closed-top, UN/NA-rated metal drum and required labels from EQD IAW Chapter 3.

**Step 2** Mark the drum with words "Hazardous Waste:" "Paint Related Products," the Accumulation Start Date, the Flammable Liquid Hazard Class and the below GHS/OSHA labels upon adding the first drop of waste.



Hazard Class Label



GHS/OSHA Labels



**Step 3** Make sure is in the proper SAA within secondary containment.

**Step 4** Put cans of waste in the drum. Wear proper PPE listed on the SDS. Ensure lid is placed back on the drum.

**Step 5** When the drum becomes full, change the Accumulation Start Date to the current date and turn it in to EQD within 72 hours IAW the procedures listed in Chapter 4. If not accumulating immediately turn in the individual containers to EQD.

## GENERAL INFORMATION

Never dispose of paint-related waste by pouring it on the ground or into a drain. Do not dry out containers of paint thinners, stripper, or remover, or spread out on cardboard to dry, etc. Never let paint-related waste containers sit open to evaporate; the fumes are toxic. If the manufacturer's label is missing or illegible, label the container with a description of its contents. Store containers of paint thinner in a well-ventilated area. Do not accumulate flammable paint-related waste near oxidizers, corrosives, or heat sources. Corrosive paint-related materials must be separated from flammables.

# PESTICIDES

## POSSIBLE CONTAMINANTS OF CONCERN

Pesticides include insecticides, herbicides, rodenticides, and fungicides. All pesticides are toxic. Contaminants of concern vary from one pesticide to another.

## CHARACTERIZATION

The Pest Management Shop manages pesticides and pesticide containers IAW the Fort Sill Pest Management Plan. Units/activities generating pesticide containers (full, partially full or empty) must manage them as a **hazardous waste**.

## CONTAINER MARKING AND HANDLING PROCEDURES

- Step 1** Units/activities must ensure pesticide containers are labeled or marked with their contents and required GHS/OSHA labels.
- Step 2** Turn in to EQD any pesticide in the boxes or containers they came in as soon as they are declared a waste at the unit. Do not accumulate on site. Ensure that boxes/containers are marked or labeled with the contents.

## GENERAL INFORMATION

For significant quantities of pesticides, contact the EQD for specific handling procedures. Only the Pest Management Shop is authorized to spray on Fort Sill.



# PROTECTIVE MASK FILTERS/CANISTERS

## POSSIBLE CONTAMINANTS OF CONCERN

The mask filters contain ASC Whetlerite charcoal and heavy metal chemical compounds (Chromium 6).

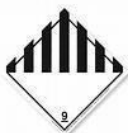
## CHARACTERIZATION

Separate all masks by their NSN and manage as a **hazardous waste**.

## CONTAINER MARKING AND HANDLING PROCEDURES

**Step 1** Turn in mask filters/canisters to EQD in original boxes as soon as they are declared a waste or obtain a NEW open-top, UN/NA-rated poly drum and required labels from EQD IAW Chapter 3.

**Step 2** Mark the drum with words "Hazardous Waste," "Used Protective Mask Filters, and the kind, i.e. C2 and NSN" the Accumulation Start Date, the Class 9 Hazard Class and the below GHS/OSHA labels upon adding any filters.



**Hazard Class Label**



**GHS/OSHA Labels**



**Step 3** Make sure drum is in the proper SAA.

**Step 4** Put waste in the drum. Wear proper PPE listed on the SDS. Ensure lid is placed back on the drum.

**Step 5** When the drum becomes full, change the Accumulation Start Date to the current date and turn in the filters to EQD within 72 hours, IAW the procedures listed in Chapter 4.

## GENERAL INFORMATION

These procedures do not cover any item that has been contaminated with agents.

# POL CONTAMINATED RAGS, SHOP TOWELS AND WIPES

## POSSIBLE CONTAMINANTS OF CONCERN

Disposable rags and shop towels and wipes may be contaminated with any number of chemicals used in the shop. Each year an analysis is performed to determine toxicity, corrosivity, and flammability.

## CHARACTERIZATION

Contaminated cloth rags used in performing maintenance activities are currently a **non-hazardous industrial waste** but **must be turned in to EQD**. If rags are used to clean up solvents, paints, adhesives, and sealants, keep separated from POL contaminated shop rags and turn in to EQD, IAW the Solvent-Contaminated Rags, Shop Towels and Wipes Waste Protocol Sheet, page 121.

## CONTAINER MARKING AND HANDLING PROCEDURES

**Step 1** Obtain a NEW open top UN/NA-rated metal drum from EQD IAW Chapter 2. Line the drum with doubled-bagged trash bags and mark the drum “Non-Hazardous Waste,” “Used Shop Rags,” and the Accumulation Start Date. Hazard Class and GHS/OSHA labels are not required.

**Step 2** Make sure drum is in the proper SAA within containment.

**Step 3** When the drum becomes full, tie the doubled-bag shop rags closed, change the Accumulation Start Date to the current date and turn it in to EQD within 72 hours, IAW the procedures listed in Chapter 4.



## GENERAL INFORMATION

Used disposable rags and wipes must be stored in a NEW drum and kept away from sources of ignition. Drum must remain closed to prevent the release of contaminants to the air.

## DO NOT TAKE DISPOSABLE RAGS TO LANDFILL

## TURN ALL DISPOSABLE RAGS INTO EQD.

# SOLVENT CONTAMINATED RAGS, SHOP TOWELS AND WIPES

## POSSIBLE CONTAMINANTS OF CONCERN

Disposable rags and shop towels and wipes may be contaminated with any number of chemicals used in the shop. Each year an analysis is performed to determine toxicity, corrosivity, and flammability.

## CHARACTERIZATION

Contaminated disposable rags, towels and wipes used to clean up solvent, paints, adhesives and sealants are currently exempted from being a hazardous waste IAW 40 CFR 261.4 but must be accumulated separately from contaminated shop rags and turned into EQD. The free liquid, if any, in the container is handled as a hazardous waste.

## CONTAINER MARKING AND HANDLING PROCEDURES

- Step 1** Used disposable solvent rags, towels and wipes must be accumulated stored, and transported in a non-leaking METAL container to ensure any Free liquid is contained. Obtain a NEW open-top metal UN/NA-rated drum and required labels from EQD IAW Chapter 2. Line the drum with doubled bagged trash bags and mark the drum “Hazardous Waste,” Used Solvent Shop Rags,” the Accumulation Start Date, Flammable Solid Hazard Class and the below GHS/OSHA labels.



Hazard Class



GSH/OSHA Labels



- Step 2** Make sure drum is in the proper SAA within containment.
- Step 3** When the drum becomes full tie the doubled-bag solvent rags closed, change the Accumulation Start Date to the current date, and turn in to EQD within 72 hours, IAW the procedures listed in Chapter 4.

## GENERAL INFORMATION

Used solvent disposable rags and wipes must be stored in a NEW METAL drum and kept away from sources of ignition. Drum must remain closed to prevent the release of contaminants to the air.

## USED OIL—UNCONTAMINATED

Motor Oil, Differential Fluid, Transmission Oil, Hydraulic Oil,  
Gear Oil, Lubricating Oil, and Brake Fluid

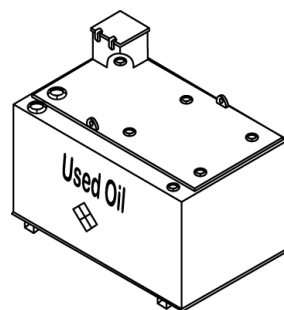
### POSSIBLE CONTAMINANTS OF CONCERN

Used oil potentially contains traces of metals such as chromium, cadmium, and lead. Chromium, cadmium, and lead are hazardous metals. Refer to the SDS for specific hazards.

### CHARACTERIZATION

Used petroleum-based and synthetic oils (but not vegetable- or animal-based oils) are **non-hazardous industrial waste** and can be recycled if not contaminated. Before pouring CLP into the lube cube contact EQD. Some CLPs are flammable and must be turned in as a hazardous waste.

- Step 1** Place uncontaminated used oil in Lube Cubes® or if your unit does not have a lube cube in a NEW closed- top, UN/NA-rated, 55-gallon drum.
- Step 2** **Make sure** the lube cube or drum is marked with the words “Used Oil” before adding any waste.
- Step 3** Put waste in the lube cube or drum. Wear proper PPE listed on the SDS. Ensure lid or bung cap is closed and secured on the lube cube or drum.
- Step 4** Call Safety Kleen at 1-405-518-4133 to have the Lube Cube serviced. Safety Kleen will also service never opened oil drums placed by the Lube Cube. Used oil in drums will **NOT** be serviced by Safety Kleen and must be poured into the lube cube. If the unit does not have a lube cube and the container becomes full, **ensuring a 4” headspace**, turn it in to EQD IAW the procedures listed in Chapter 4.



### GENERAL INFORMATION

Lube Cubes are not to be used for the storage or placement of rainwater collected in oil collection pans (drip pans). Do not put this material in the Lube Cubes. Contact the EQD for information concerning proper disposal of this waste.

No solvents or other hazardous waste can be mixed with used oil. If listed hazardous waste has been mixed with oil, the mixture must be managed as hazardous waste.

Metalworking fluids can be managed as used oil unless they contain chlorinated compounds. If the fluids contain chlorine, they are hazardous waste. In addition, metal chips (unless they are recycled as scrap metal), sorbents and floor sweepings that come in contact with chlorinated fluids must—like the fluids—be managed as hazardous waste.

PAG (polyalkylene glycol) oil is a lubricant waste with R134a refrigerants, mostly in automobiles. It may be a hazardous waste due to toxicity and corrosivity. Contact the EQD if disposing of PAG oil.

For additional guidance refer to the Used Oil memorandum, (found in Appendix B).

## IF OIL IS CONTAMINATED CALL THE EQD.

# WEAPONS CLEANING PATCHES AND RAGS

## POSSIBLE CONTAMINANTS OF CONCERN

Weapons cleaning patches, rags, Q-tips, pipe cleaners, etc. may be contaminated with lead residue after cleaning weapons. Lead is a characteristic toxic metal. If Pre-1994 Breakfree® was used, the rags will contain chlorinated solvents. Each year an analysis is performed to determine toxicity, corrosivity, and flammability.

## CHARACTERIZATION

Weapons cleaning patches and rags are a **non-hazardous waste**.

## CONTAINER MARKING AND HANDLING PROCEDURES

- Step 1** Obtain a NEW open-top, UN/NA-rated metal drum from EQD IAW Chapter 3.
- Step 2** Mark the drum with words “Non-Hazardous Waste,” “Used Weapons Cleaning Patches and Rags,” and the s and the below GHS/OSHA labels upon adding any waste.
- Step 3** Make sure drum is in the proper SAA within secondary containment.
- Step 4** Put waste in the drum. Wear proper PPE listed on the SDS. Ensure lid is placed back on the drum.
- Step 5** When the drum becomes full, change the Accumulation Start Date to the current date and turn it in to EQD within 72 hours, IAW the procedures listed in Chapter 4.



## GENERAL INFORMATION

Do not use Breakfree manufactured before 1994. It contains chlorinated solvents that are F-Listed when used for cleaning weapons. Turn in all pre-1994 Breakfree to EQD immediately.

## **Appendix B. Memorandums**

---

**Memorandum Index:**

11 January 2023

Impulse II Aqueous Parts Washer Operational Guidelines	127
Management of Lithium Sulfur Dioxide Batteries	128
IT-48WC Weapons Cleaning System	129
IT-32 and IT-48 Parts Cleaning System	130
Management of Used Fluorescent and High Intensity Discharge Lamps	131
Disposal of Appliances/Equipment with Freon	132
Used Oil Storage Tank Guidelines	133
Expired Materials for Turn in as Hazardous Waste	134
Disposal of Fire Extinguishers	135


AMIM-SIP-E

11 January 2023

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Impulse II Aqueous Parts Washer Operational Guidelines.

1. For operational and equipment specification refer to the owner's manual.
2. When machine stops cleaning parts and the water needs changing obtain a NEW closed top 55 gallon plastic drum to pump water from the Impulse II aqueous parts washer cleaning system. Mark the drum with "used Impulse II aqueous parts washer fluid," and the accumulation start date before adding the waste, IAW the Fort Sill Hazardous Material and Waste Management Plan, Chapter 3, and Waste Protocol Sheet in Appendix A, page 87. Pump waste in drum ensuring a 4" headspace. Once complete contact your unit's Environmental Officer for turn-in procedures. This waste must be turned into the Environmental Quality Division (EQD). If needed contact the Environmental Compliance Branch, EQD, at 442-3266 for guidance and turn-in procedures.
3. Debris and filters from the Impulse II aqueous parts washer system should be air dried then placed in a NEW 5-gallon plastic bucket with a lid and marked "used Impulse II aqueous parts washer filters." and the accumulation start date. Once container is full, contact your unit's Environmental Officer for turn-in procedures. If needed contact the Environmental Compliance Branch, EQD, at 442-3266 for guidance and turn-in procedures.
4. Skimmer oil will be placed in unit's lube cube daily.
5. **DO NOT** clean weapons in an Impulse II aqueous parts washer. This is strictly forbidden. \_
6. **DO NOT** put solvents (i.e., Safety Kleen, PD-680, breakfree, CLP, TCE or paint thinners) or solvent wet parts in the Impulse aqueous parts washer.
7. **DO NOT** clean drip pans or empty POL containers in the Impulse II aqueous parts washer.
8. **DO NOT** clean paint brushes in the Impulse II aqueous parts washer.
9. Nat-50ms detergent or RPN-225 rust inhibitor can be ordered from Better Engineering at 1-800-229- 3380.
10. Questions regarding this procedure may be found in the Fort Sill Hazardous Material and Waste Management Plan or by contacting the Environmental Compliance Branch, EQD, at 442-3266.



GLEN WHEAT  
Chief, Environmental Quality Division

## DISTRIBUTION:

All Fort Sill Organizations



AMIM-SIP-E

11 January 2023

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Management of Lithium Sulfur Dioxide, Lithium Manganese Dioxide, and Lithium Thionyl Chloride Batteries

## 1. References.

- a. Letter, Environmental Protection Agency (EPA) Washington D.C., 8 June 2006.
  - b. Technical Bulletin (TB) 43-0134, Battery Disposition and Disposal, 1 October 1996.
  - c. 40 Code of Federal Regulations, Protection of Environmental, parts 268.9, 1 October 2005.
  - d. 49 Code of Federal Regulations, Transportation, Part 172.101, 1 October 2006.
2. Based on the above references Lithium Sulfur Dioxide, Lithium Manganese Dioxide, and Lithium Thionyl Chloride batteries are considered a hazardous waste at the time of removal from service. This guidance supersedes TB 43-0134 and all units are to dispose of lithium sulfur dioxide, lithium manganese dioxide and lithium thionyl chloride batteries as a waste. DO NOT discharge the batteries prior to turn in procedures.
3. Personnel generating waste lithium batteries on Fort Sill will turn the waste batteries in to the Environmental Quality Division (EQD) at building 2515 IAW the Fort Sill Hazardous Material and Waste Management Plan, Chapter 3, and Waste Protocol Sheet in Appendix A, pages 89 for Lithium Sulfur Dioxide Batteries, page 90 for Lithium Manganese Batteries, and page 91 for Lithium Thionyl Chloride Batteries.
4. Waste lithium sulfur dioxide, lithium manganese dioxide and lithium thionyl chloride batteries are reactive and must stay dry at all times. Accumulate waste lithium sulfur dioxide batteries, waste lithium manganese dioxide, and waste lithium thionyl chloride batteries separately each in a steel drum prior to turn in. Place each individual battery in a plastic bag and seal prior to putting in drum. The accumulation container must be marked with the words **"Hazardous Waste," "Used Lithium Metal Sulfur Dioxide Batteries," "Used Lithium Metal Manganese Dioxide Batteries," or "Used Lithium Metal Thionyl Chloride Batteries," the accumulation start date, hazard class label, GHS/OSHA labels** and stored in a dry accumulation point. EQD must be notified in writing of any lithium battery accumulation points. When one drum is filled the unit has 72 hours to turn it into EQD for disposal. Hazardous waste generator training is required for staff assigned responsibility for managing lithium batteries.
5. Lithium-ion (Li-Ion) batteries are managed as a universal waste and turned in to the Environmental Compliance Division, EQD, IAW the Fort Sill Hazardous Material and Waste Management Plan, Chapter 3, and Waste Protocol Sheet in Appendix A, page 92.
6. Questions regarding this procedure may be found in the Fort Sill Hazardous Material and Waste Management Plan or by contacting the Environmental Compliance Branch, EQD, at 442-3266.



GLEN WHEAT

Chief, Environmental Quality Division

## DISTRIBUTION:

All Fort Sill Organizations

AMIM-SIP-E

11 January 2023

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: IT-48WC Weapons Cleaning System

1. For operational and equipment specification refer to the owner's manual.
2. Weapons Cleaning System is authorized for weapons cleaning only. No automotive parts, paint brushes, etc. are allowed to be cleaned in the system.
3. Debris collected from pre-filter screen, baskets, and used Edge Tek Filters should be air dried then placed in a NEW 5-gallon metal bucket with a lid and mark "used weapons system filters." Accumulation start date, hazard class labels, and GHS/OSHA labels; IAW the Fort Sill Hazardous Material and Waste Management Plan, Chapter 3, and Waste Protocol Sheet in Appendix A, page 102. Once container is full, contact your unit's environmental officer for turn-in procedures. This waste stream must be turned into the Environmental Quality Division (EQD). If needed, contact the Environmental Compliance Branch, EQD, at 442-3266 for guidance and turn-in procedures.
4. If solvent needs to be changed, obtain a NEW closed-top 55-gallon metal drum to pump solvent from the weapons cleaning system. Mark the drum with "used weapons system solvent, accumulation start date, hazard class labels, and GHS/OSHA labels before adding waste; IAW the Fort Sill Hazardous Material and Waste Management Plan, Chapter 3, and Waste Protocol Sheet in Appendix A, page 102. Pump waste in drum ensuring a 4" headspace. Once complete contact your unit's Environmental Officer for turn-in procedures. This waste stream must be turned into the EQD. If needed contact the Environmental Compliance Branch, EQD, at 442-3266 for guidance and turn-in procedures. Skysol 100 Solvent (NSN 6850-01-381- 4401) and Edge Tek filters may be ordered by calling Inland Technology at 1-800-552-3100.
5. Recommend weapons cleaning units be locked to prevent unauthorized uses.
6. Questions regarding the operation, filter storage, and disposal may be found in the Fort Sill Hazardous Material and Waste Management Plan, by contacting your unit/organization Environmental Officer, or by contacting the Environmental Compliance Branch, EQD, at 442- 3266.



GLEN WHEAT

Chief, Environmental Quality Division

DISTRIBUTION:

All Fort Sill Organizations

AMIM-SIP-E

11 January 2023

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: IT-32 and IT-48 Parts Cleaning System -Solvent (Skysol)

1. For operational and equipment specification refer to the owner's manual.
2. Gross contamination should be removed from parts prior to using the Inland System to prolong the solvent life.
3. Parts cleaning system is authorized for parts cleaning only. No weapons, paint brushes, empty POL containers, drip pans, etc. are allowed to be cleaned in the system.
4. Debris collected from pre-filter screen, baskets and used Edge Tek Filters should be air dried then placed in a NEW 5-gallon metal bucket with a lid and labeled "used Parts System Filters," accumulation start date, hazard class labels, and GHS/OHSA labels; IAW the Fort Sill Hazardous Material and Waste Management Plan, Chapter 3, and Waste Protocol Sheet in Appendix A, page 103. Once container is full contact your unit's Environmental Officer for turn-in procedures. This waste stream must be turned into the Environmental Quality Division (EQD). If needed contact the Environmental Compliance Branch at 442-3266.
5. If solvent needs to be changed, obtain a NEW closed-top 55-gallon metal drum to pump solvent from the parts cleaning system. Mark the drum with "used Parts System Solvent," accumulation start date, hazard class label, and GHS/OSHA labels before adding the used solvent; IAW the Fort Sill Hazardous Material and Waste Management Plan, Chapter 3, and Waste Protocol Sheet in Appendix A, page 103. Pump used solvent in the drum ensuring a 4" headspace. Once complete contact your unit's Environmental Officer for turn-in procedures. This waste stream must be turned into the EQD. If needed contact the Environmental Compliance Branch, EQD, at 442-3266 for guidance and turn-in procedures. Skysol 100 Solvent (NSN 6850-01-0381-4401) and Edge Tek filters may be ordered by calling Inland Technology at 1-800-552-3100.
6. Recommend parts cleaning units be locked to prevent unauthorized uses.
7. For questions regarding the operations, filter storage, and disposal procedures refer to Fort Sill Hazardous Material and Waste Management Plan, contact your unit/organization Environmental Officer or contact the Environmental Compliance Branch, EQD, at 442-3266



GLEN WHEAT  
Chief, Environmental Quality Division

DISTRIBUTION:  
All Fort Sill Organizations

AMIM-SIP-E

11 January 2023

## MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Management of Used Fluorescent, High Intensity Discharge (HID)/LED, Mercury Vapor, High-Pressure Sodium, Metal Halide/Hydride, and Halogen Lamps

1. Used lamps are regulated by EPA's "Standards for Universal Waste Management" found in 40 CFR 273. This regulation makes it necessary for anyone generating this waste to determine if the lamp exhibits a hazardous characteristic as described in 40 CFR 261.20 through 40 CFR 261.24 and to manage the lamp accordingly.
2. All lamps generated on Fort Sill will be managed as a universal hazardous waste unless specifically excluded from classification as a hazardous waste by a manufacturer's certification or exempted as a "household waste" in 40 CFR 261.4(b)(1). Household wastes are defined as any lamp changed by the occupant of an army family housing unit in their quarters.
3. All personnel/units/organization that generate used (burned out) lamps on Fort Sill will turn the used lamps in to the Environmental Quality Division (EQD) at building 2515.
4. Used lamps may be accumulated prior to turn in for a period of 6 months. If lamps are to be accumulated they must be stored in a closed box, which will protect them from breakage. The box must be marked with the words "Used Lamps" kind of lamp, and the date the accumulation started. Also required on the container are the name, phone number and unit/organization of the person responsible for the accumulation area. Total quantity of the lamps is to be put on box prior to turn-in. Care must be taken to insure accumulated lamps are not broken and residue from broken lamps must be cleaned up immediately. Hazardous waste generator training is required for staff assigned responsibility for managing lamp Satellite Accumulation Areas (SAAs)
5. The EQD must be notified in writing of any lamp SAA that are established. SAAs for lamps in units/organizations will be identified as the waste is generated and provided to EQD either by the unit/organization's Environmental Officer or directly if there is no Environmental Officer identified. Units/organizations are encouraged to establish a minimum number of centralized lamp SAAs.
6. Questions regarding this procedure may be found in the Fort Sill Material and Waste Management Plan, by contacting the unit/organization Environmental Officer, or by contacting Environmental Compliance Branch 442-3266.



GLEN WHEAT  
Chief, Environmental Quality Division

DISTRIBUTION:  
All Fort Sill Organizations

AMIM-SIP-E

11 January 2023

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Disposal of Appliances/Equipment with Freon

1. Section 608 of the Clean Air Act prohibits individuals from knowingly venting ozone Depleting compounds, such as chlorofluorocarbons (CFS's) which are used as refrigerants, into the atmosphere while maintaining, servicing, repairing, or disposing of air-conditioning or refrigeration equipment (appliances, refrigerators, water coolers, military equipment, etc.). This applies to any appliance or equipment owned by Fort Sill tenants, units or activities. These items cannot be disposed unless the refrigerant has been recovered in accordance with EPA requirements.
2. The Directorate of Public Works (DPW) has the responsibility, through its contractor, of managing all ozone depleting compounds on Fort Sill.
3. For all non-useable appliances/equipment that are to be disposed of on Fort Sill, a service order must be called into DPW, 442-3251, requesting refrigerant evacuation. As part of this process, a time and date that the requestor can meet with the removal technician will be established. Once the CFC is removed, DRMS Form 2016 will be completed by the technician and given to the requestor.
4. Once the CFC's have been removed, the item along with the DRMS Form 2016, may be taken to the landfill, recycle center or turned into the Defense Logistics Agency Disposition Service (DLADS).
5. During special events such as fall and spring cleanup, the DPW contractor will set up collection points for appliances/equipment that are destined for disposal. They can be dropped off and all refrigerants will be evacuated and the appliance/equipment will be properly disposed of.
6. Items that are in working order and are being sold for continued use do not have to conform to this requirement.
7. Contact the Compliance Branch, Environmental Quality Division (EQD) with any questions regarding this procedure.



GLEN WHEAT  
Chief, Environmental Quality Division

DISTRIBUTION:  
All Fort Sill Organizations

AMIM-SIP-E

11 January 2023

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Used Oil Storage Tank Guidelines

1. **YOU MAY** put motor oil, differential fluid, transmission fluid, hydraulic oil, gear oil, lubricating oil, and brake fluid into used oil storage tanks.
2. Used oil, if not contaminated, can be recycled at no cost.
3. **DO NOT** put absorbent, floor sweepings, metal, trash, oil filters, fuel filters, rags, nuts, bolts, screws, antifreeze, gasoline, F-24, diesel, solvent, rainwater from drip pans, cooking oil, chlorinated metalworking oils, polyalkylene glycol oil (refrigerant), or other chemicals into used oil storage tanks.
4. **If used oil is contaminated (i.e. any other material other than what is listed in item #1 of this memo), the responsible Unit/Organization will be charged for the cost of disposal.**
5. **DO NOT** pour used oil into any other tank opening other than the pour box with debris screen.
6. **DO NOT** tamper with used oil storage tank gauges, vents, bungs, drain plugs, labels, or piping and alarms if present.
7. **DO NOT** stand or sit on used oil storage tanks.
8. **DO NOT** relocate a used oil storage tank without contacting EQD first.
9. Recommend the pour box, lids on used oil storage tanks be locked to prevent unauthorized use. Ensure that proper key control is performed with a sufficient number of duplicate keys issued out and a retain key in a key lock box to ensure access to the used oil storage tank.
10. For questions regarding these guidelines refer to the Fort Sill Hazardous Material and Waste Management Plan, contact your unit/organization Environmental Officer, or contact the Environmental Quality Division Compliance Branch at 442-3266.



GLEN WHEAT

Chief, Environmental Quality Division

DISTRIBUTION:  
All Fort Sill Organizations

AMIM-SIP-E

11 January 2023

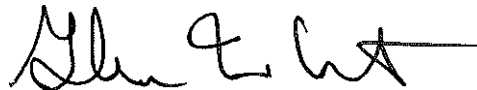
MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Expired Materials for Turn in as Hazardous Waste

1. Management of Hazardous Material: Units / organizations must manage shelf life of their Hazardous Materials (HM). Order quantities that will be used before item reaches the end of its shelf life. Request extension of shelf life (if possible) through supply channels if item is approaching the end of its shelf life.

2 Disposal Cost due to failure to manage shelf life: Turn in any expired product to EQD for determination of proper disposal. If the HM must be disposed of as Hazardous Waste (HW) due to a failure to manage shelf life the unit / organization will be charged for disposal. Units will provide unit DDODAC and POC upon turn in of any expired HM.

3 For questions regarding these guidelines refer to the Fort Sill Hazardous Material and Waste Management Plan, contact your unit / organization Environmental Officer, or contact the EQD Environmental Compliance Branch at 442-3266.



GLENWHEAT

Chief, Environmental Quality Division

## DISTRIBUTION:

All Fort Sill Organizations

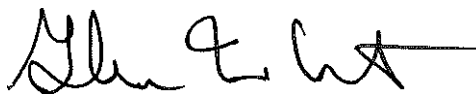
AMIM-SIP-E

11 January 2023

## MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Disposal of Fire Extinguishers

1. Fire extinguishers pose a risk to health and safety when discharging. They may contain residue that could be an irritant
2. Determine what type of fire extinguisher you have. Ratings are shown on the extinguisher faceplate.
  - Class A and B extinguishers carry a numerical rating that indicates how large a fire an experienced person can safely put out with that extinguisher.
  - Class C extinguishers have only a letter rating to indicate that the extinguishing agent will not conduct electrical current. Class C extinguishers must also carry a Class A or B rating.
  - Class D extinguishers carry only a letter rating indicating their effectiveness on certain amounts of specific metals.
  - Some extinguishers are marked with multiple ratings such as AB, BC and ABC. These extinguishers are capable of putting out more than one class of fire.
  - Multipurpose (ABC-rated) chemical extinguishers leave a residue that can harm sensitive equipment, such as computers and other electronic equipment. Because of this, carbon dioxide or halon extinguishers are preferred in these instances because they leave very little residue.
3. YOU CANNOT "TEST" A FIRE EXTINGUISHER. DRY CHEMICAL extinguishers will usually NOT hold a charge after partial use. While the gauge may hold steady in the green immediately after a slight use, check it the next day and you'll find the gauge on EMPTY! This is because upon use the dry powder gets inside the seals and allows the nitrogen carrier to escape over a period of time.
4. Perhaps the most popular fire extinguisher sold is the ABC fire extinguisher. This is a multipurpose, dry chemical extinguisher that is filled with monoammonium phosphate, a yellow powder. This type of extinguisher represents more than 80 percent of fire extinguishers sold and can be used for a combination of Class A, B or C fires. There's also the BC extinguisher, which is a regular dry chemical extinguisher that can handle a range of fires and can contain a CO2 agent, sodium bicarbonate or potassium bicarbonate.
5. Dispose of an old dry chemical fire extinguisher by emptying the contents in a trash bag and take to the Fort Sill landfill. Take the top off the fire extinguisher and put in a scrap Fort Sill metal bin.
6. If your unit has halon extinguishers contact the Environmental Quality Division, Compliance Branch, 442-3266, for guidance and turn-in procedures.



GLEN WHEAT

Chief, Environmental Quality Division

## DISTRIBUTION:

All Fort Sill Organizations



**PAGE INTENTIONALLY LEFT BLANK**

# **Fort Sill Hazardous Material and Waste Management Plan**

## ***IMPORTANT NUMBERS***

<b>Hazardous Waste and Material Turn-in Section</b>	<b>442-3266</b>
<b>Motor Pool Inspection-EQD</b>	<b>442-3266</b>
<b>Asbestos-EQD</b>	<b>442-2792</b>
<b>Solid Waste Program Manager-EQD</b>	<b>442-1144</b>
<b>LRC Battery Shop</b>	<b>442-2912</b>
<b>Fire Department</b>	<b>442-5911</b>
<b>Shelf Life- LRC</b>	<b>442-1905</b>
<b>Unit Movement, Building 2276</b>	<b>442-3661</b>
<b>Range Control</b>	<b>442-6191/2994</b>
<b>Landfill</b>	<b>442-5241</b>
<b>DLADS (DRMO Turn-in and Disposal)</b>	<b>442-4140</b>
<b>DLADS Environmental</b>	<b>442-3667</b>
<b>DLADS Reutilization</b>	<b>442-9338</b>
<b>Post Safety Garrison</b>	<b>442-4466</b>
<b>Post Safety Mission</b>	<b>442-4701</b>
<b>Safety Kleen</b>	<b>405-518-4133</b>
<b>Central Wash Facility West</b>	<b>442-6731</b>
<b>LRC Welding Shop-Sniff Test</b>	<b>442-3451</b>
<b>Freight Movement-Fuel Sample</b>	<b>442-6702</b>
<b>Oil/Water Separator Service</b>	<b>442-3266</b>
<b>Environmental Health</b>	<b>442-25.8791</b>
<b>Recycle Center</b>	<b>442-5712</b>
<b>Radioactive - Safety</b>	<b>442-2108/4466</b>
<b>Public Health Environmental Section</b>	<b>558-8480</b>
<b>Preventive Medicine-Water Buffalo Inspection</b>	<b>442-3175</b>

