

# Annual Environmental Protection Officer Refresher Training – Online Version

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Fort Carson Directorate of Public Works -  
Environmental Division



**NOTE – You must have already attended and received credit for the Environmental Protection Officer (EPO) 40-hour Course to receive a certificate for this refresher course. You are required to provide a digital copy of your 40-hour certification with your quiz answers.**

Directions: Review the following presentation and complete the quiz by emailing your answers and your 40-hour EPO certification to the POC listed at the end. Once your answers have been verified, you'll receive a certification of training.

# References

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AR 200-1, Environmental Protection and Enhancement

FC Reg 200-1, Environmental Management and Protection

***Fort Carson Environmental Battle Book – This is your primary, local reference***

- A quick guide for the most common environmental concerns units and other organizations on Fort Carson face daily.
- Individual fact sheets cover over 70 topics.
- Installation points of contact identified for questions.
- EPO requirements and a leader's guide.
- Easy access – located on DPW's public website: [Policies and Training :: Fort Carson \(army.mil\)](#).



29 CFR 1910.1200

# HAZARD COMMUNICATION (HAZCOM)

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# HAZARD COMMUNICATION (HAZCOM)

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## What is the Hazard Communication Standard?

OSHA's Hazard Communication Standard provides **YOU** the right-to-know the hazards and identities of the chemicals **YOU** are exposed to in the workplace.



# HAZARD COMMUNICATION (HAZCOM)

## When does Hazard Communication apply?

HAZCOM applies before **YOU** begin work with a hazardous chemical. The intent is to provide **YOU** information prior to exposure to prevent the occurrence of adverse health effects.



Additional training is to be done whenever a new physical or health hazard is introduced into the work area, not a new chemical.

# HAZARD COMMUNICATION (HAZCOM)

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Why **YOU** have HAZCOM:



In 1917, the U.S. Radium Corporation hired some 70 women to perform various tasks including the handling of radium. Scientists at the plant were aware of the dangers associated with radium but did nothing to protect the workers. Many of the women later began to suffer from anemia, bone fractures and necrosis of the jaw, a condition now known as radium jaw. They became known as the Radium Girls.

# HAZARD COMMUNICATION (HAZCOM)

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Why **YOU** have HAZCOM:



## **NIH-funded twin study finds occupational chemical exposure may be linked to Parkinson's risk**

Researchers concluded that two common chemical solvents, trichloroethylene (TCE) and perchloroethylene (PERC), colorless liquids widely used for dry cleaning of fabrics, are significantly linked to development of Parkinson's Disease.

This study, supported in part by the National Institute of Neurological Disorders and Stroke (NINDS), a part of the National Institutes of Health, appears in the Nov. 14, 2011 issue of Annals of Neurology.

# HAZARD COMMUNICATION (HAZCOM)

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Why **YOU** have HAZCOM:

Published: Tuesday, February 16, 2016

Ford Motor Co. spent nearly \$40 million to fund science that says there is no evidence that brake mechanics are at increased risk for cancer development from asbestos, according to the Center for Public Integrity.

**Mesothelioma**, [me-zə-, thē-lē-'ō-mə] is an aggressive cancer almost always tied to asbestos exposure.

*It is a malignant tumor of the covering of the lung or the lining of the pleural and abdominal cavities, often associated with exposure to asbestos.*



# HAZARD COMMUNICATION (HAZCOM)

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## Today's HAZCOM:

In 1970, OSHA standardized safety for all workers in the United States and hazard communication for toxic substance exposure was included during the 1980s.



The Globally Harmonized System (GHS) of Classification and Labeling of Chemicals has been established to standardize workplace hazard protection internationally.

# HAZARD COMMUNICATION (HAZCOM)

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## United Nations Globally Harmonized System (GHS) of Classification and Labeling of Chemicals:

The US has about 945,000 hazardous chemical products.

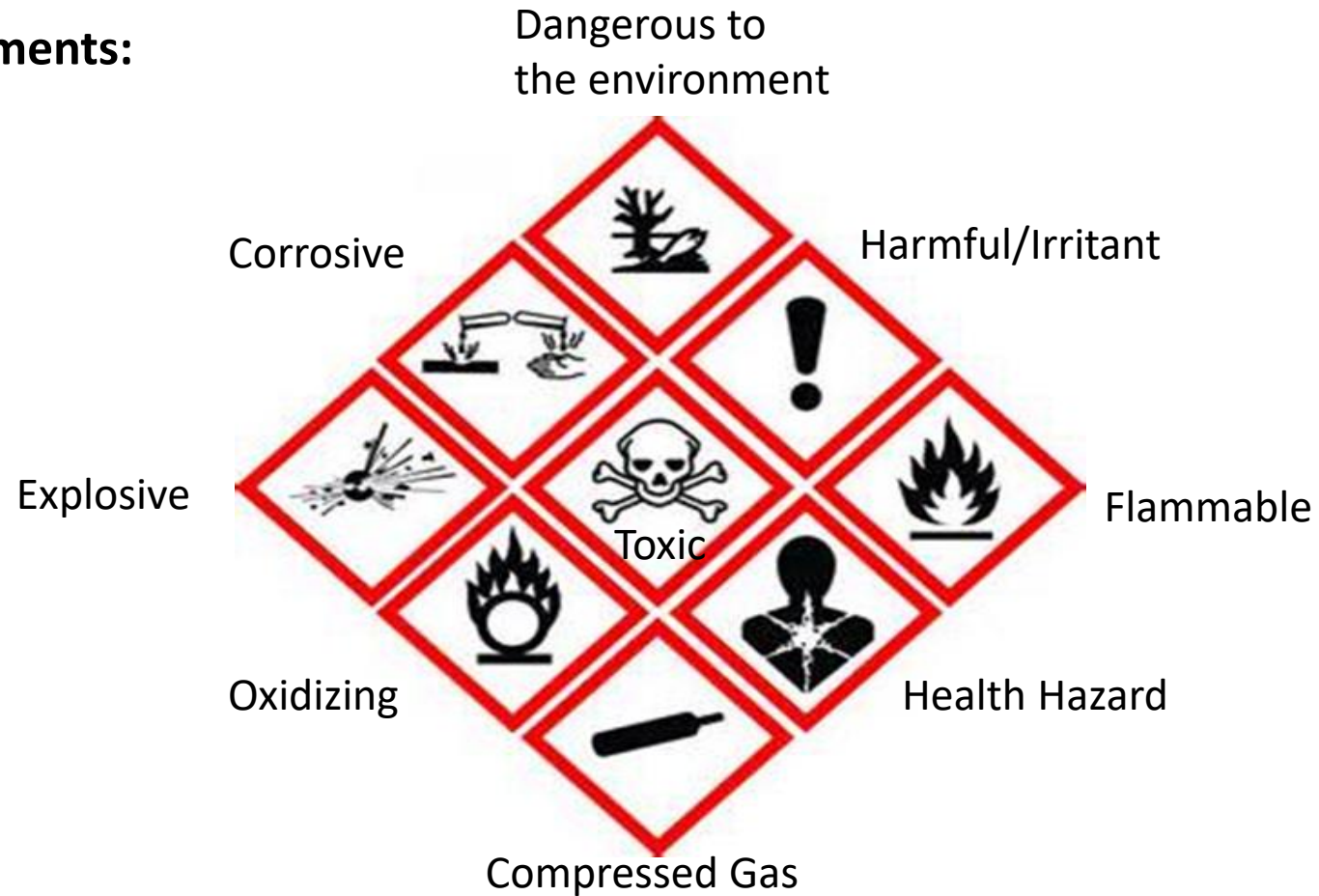


In the past, countries with systems to address these needs have adopted different requirements for hazard definitions as well as different label needs.










This impacts protection and trade.

# HAZARD COMMUNICATION (HAZCOM)

## GHS Requirements:



# GHS PICTOGRAMS

<b>Health Hazard</b> Carcinogens, respiratory sensitisers, reproductive toxicity, target organ toxicity, germ cell mutagens 	<b>Flame</b> Flammable gases, liquids, & solids; self-reactives; pyrophorics; 	<b>Exclamation Mark</b> Irritant, dermal sensitiser, acute toxicity (harmful) 
<b>Gas Cylinder</b> Compressed gases; liquefied gases; dissolved gases 	<b>Corrosion</b> Skin corrosion; serious eye damage 	<b>Exploding Bomb</b> Explosives, self-reactives, organic peroxides 
<b>Flame Over Circle</b> Oxidisers gases, liquids and solids 	<b>Environment</b> Aquatic toxicity 	<b>Skull &amp; Crossbones</b> Acute toxicity (severe) 



# Nine Classes of Hazardous Materials

## Class 1: Explosives

Divisions: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6



## Class 6: Poison (Toxic) and Poison Inhalation Hazard

## Class 2: Gases

Divisions: 2.1, 2.2, 2.3



## Class 7: Radioactive

## Class 3: Flammable Liquid and Combustible Liquid



## Class 8: Corrosive

## Class 4: Flammable Solid, Spontaneously Combustible, and Dangerous When Wet

Divisions 4.1, 4.2, 4.3



## Class 9: Miscellaneous

## Class 5: Oxidizer and Organic Peroxide

Divisions 5.1, 5.2



## Dangerous

Revised 04/13

Federal Motor Carrier  
Safety Administration



U.S. Department of Transportation  
[www.fmcsa.dot.gov](http://www.fmcsa.dot.gov)

# HAZARD COMMUNICATION (HAZCOM)

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## GHS Requirements:

### Signal Words



Used to indicate the relative level of severity of a hazard and alert personnel to a potential hazard on the label. “Danger” is used for more severe hazards, while “Warning” is used for less severe hazards.

# HAZARD COMMUNICATION (HAZCOM)

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## GHS Requirements:

### Hazard Statements

#### Examples:

- Keep away from heat, sparks and open flame.
- Keep cool
- Store in a well-ventilated place.

#### OR

- Keep away from heat, sparks and open flame, store in a cool, well-ventilated place.

In addition, if a chemical is classified for several hazards and the precautionary statements are similar, the most stringent must be included on the label and the less stringent may be omitted.

# HAZARD COMMUNICATION (HAZCOM)

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## SAFETY DATA SHEET (SDS) REQUIRED INFO

- Section 1: Identification
- Section 2: Hazard(s) Identification
- Section 3: Composition/Information on Ingrédients
- Section 4: First-Aid Measures
- Section 5: Fire-Fighting Measures
- Section 6: Accidental Release Measures
- Section 7: Handling and Storage
- Section 8: Exposure Controls/Personal Protection
- Section 9: Physical and Chemical Properties
- Section 10: Stability and Reactivity
- Section 11: Toxicological Information

## OPTIONAL INFO

- Section 12: Ecological Information
- Section 13: Disposal Consideration
- Section 14: Transport Information
- Section 15: Regulatory Information
- Section 16: Other Information





# HAZARD COMMUNICATION (HAZCOM)

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## Section 1. Identification

### Safety Data Sheet

**Material Name:** Hess 10W30 Motor Oil

**SDS No.** 8957  
US GHS

**Synonyms:** Valvoline Product Code 52670413

<b>* * * Section 1 - Product and Company Identification * * *</b>
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#### Manufacturer Information

Hess Corporation  
1 Hess Plaza  
Woodbridge, NJ 07095-0961

Phone: 732-750-6000 Corporate EHS  
Emergency # 800-424-9300 CHEMTREC  
[www.hess.com](http://www.hess.com) (Environment, Health, Safety Internet Website)

# HAZARD COMMUNICATION (HAZCOM)

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## Section 2. Hazard Identification

### GHS Classification:

Skin Corrosion/Irritation – Category 2  
Specific Target Organ Toxicity – Category 3 (narcosis)  
Carcinogenicity - Category 1B

### GHS LABEL ELEMENTS

#### Symbol(s)



#### Signal Word

WARNING

#### Hazard Statements

Causes skin irritation.  
May cause cancer.  
May cause drowsiness or dizziness.

# HAZARD COMMUNICATION (HAZCOM)

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## Section 4. First Aid

### **First Aid: Eyes**

If symptoms develop, move individual away from exposure and into fresh air. Flush eyes gently with water while holding eyelids apart. If symptoms persist or there is visual difficulty, seek medical attention.

### **First Aid: Skin**

Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention. Launder clothing before reuse.

### **First Aid: Ingestion**

Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

## Section 6. Accidental Release Measures

### **Materials and Methods for Clean-Up**

Take up with sand or other oil absorbing materials. Carefully shovel, scoop or sweep up into a waste container for reclamation or disposal. Caution, flammable vapors may accumulate in closed containers.

SMALL SPILL: Absorb liquid on vermiculite, floor absorbent or other absorbent material. Persons not wearing proper personal protective equipment should be excluded from area of spill.

LARGE SPILL: Prevent run-off to sewers, streams, or other bodies of water. If run-off occurs, notify authorities as required, that a spill has occurred. Persons not wearing proper personal protective equipment should be excluded from area of spill until clean-up has been completed.

# HAZARD COMMUNICATION (HAZCOM)

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## Section 7. Handling and Storage

### **Storage Procedures**

Keep away from flame, sparks, excessive temperatures and open flame. Use approved vented containers. Keep containers closed and clearly labeled. Empty product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose such containers to sources of ignition.

Store in a well-ventilated area. This storage area should comply with NFPA 30 "Flammable and Combustible Liquid Code". Avoid storage near incompatible materials. The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks In Flammable and Combustible Liquid Service" and API RP 2015 "Cleaning Petroleum Storage Tanks."

## Section 8. Exposure Controls and Personal Protection

### **Hygiene Measures**

Emergency eye wash capability should be available in the near proximity to operations presenting a potential splash exposure. Use good personal hygiene practices. Avoid repeated and/or prolonged skin exposure. Wash hands before eating, drinking, smoking, or using toilet facilities. Do not use as a cleaning solvent on the skin. Do not use solvents or harsh abrasive skin cleaners for washing this product from exposed skin areas. Waterless hand cleaners are effective. Promptly remove contaminated clothing and launder before reuse. Use care when laundering to prevent the formation of flammable vapors which could ignite via washer or dryer. Consider the need to discard contaminated leather shoes and gloves.

# HAZARD COMMUNICATION (HAZCOM)

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## Section 9. Physical and Chemical Properties

<b>Appearance:</b>	Dry, clear and bright	<b>Odor:</b>	None
<b>Physical State:</b>	Liquid	<b>pH:</b>	ND
<b>Vapor Pressure:</b>	ND	<b>Vapor Density:</b>	ND
<b>Boiling Point:</b>	>425 °F (218.3°C) @ 760.00 mmHg	<b>Melting Point:</b>	ND
<b>Solubility (H2O):</b>	Negligible	<b>Specific Gravity:</b>	0.881 @ 60°F (16°C)
<b>Evaporation Rate:</b>	Slower than ethyl ether	<b>VOC:</b>	ND
<b>Viscosity:</b>	<= 3300.0 cps @ -20°C; 10.0 - 11.0 cst @ 100°C	<b>Octanol/H2O Coeff.:</b>	ND
<b>Flash Point:</b>	430 °F (221.1 °C)	<b>Flash Point Method:</b>	COC
<b>Upper Flammability Limit (UFL):</b>	ND	<b>Lower Flammability Limit (LFL):</b>	ND
<b>Burning Rate:</b>	ND	<b>Auto Ignition:</b>	ND

# HAZARD COMMUNICATION (HAZCOM)

## Section 11. Toxicology Information

### Carcinogenicity

#### A: General Product Information

May cause cancer.

Used motor oil has been shown to cause skin cancer in laboratory animal continually exposed by repeated applications.

## Section 16. Other Information

### NFPA® Hazard Rating

Health	1
Fire	1
Reactivity	0



### HMIS® Hazard Rating

Health	1*	Slight
Fire	1	Slight
Physical	0	Minimal

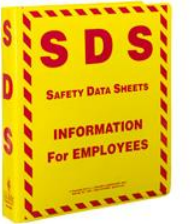
\*Chronic

# HAZARD COMMUNICATION (HAZCOM)

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## Obtaining SDSs:

- Safety Data Sheets (SDS) should be received with each shipment of hazardous chemicals. If you do not receive one, ask for it.
- Employers must ensure that the SDSs are readily accessible.
- Employers may keep the SDSs in a binder or, on computers as long as the employees have immediate access to the information without leaving their work area when needed.
- And a back-up is available for rapid access to the SDS in the case of a power outage or other emergency.



## Other Sources for SDS

[www.hazard.com](http://www.hazard.com)

Fort Carson HMCP,  
719-526-2979

EESOH-MIS

- **Manufacture's Web Site**

# HAZARD COMMUNICATION (HAZCOM)

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## EPO Responsibilities:

Ensure containers are properly labeled or marked.

Ensure SDSs are current and easily accessible.

Ensure containers are in good condition.

Ensure containers are closed when not in use.

Ensure proper use of PPE when necessary.





# Hazardous Material Minimization (HAZMIN)

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An Overview of the Ordering, Storage and Disposal of  
Hazardous Materials,

IAW AR200-1 and DA Pamphlet 710-7

# Objectives

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- Identify HAZMIN Regulatory Requirements
- Ongoing HAZMIN Problems
- HAZMIN Solutions
- AR 200-1 (Dec 2007), Section 7-3 and 7-4 , Basic Requirements
- IMCOM Publication, *HAZMIN Implementation and Compliance*, 29 August 2016
- Summary of Unit Level Requirements for Hazmat Storage

# What are OSHA and HAZCOM Regulatory Requirements?

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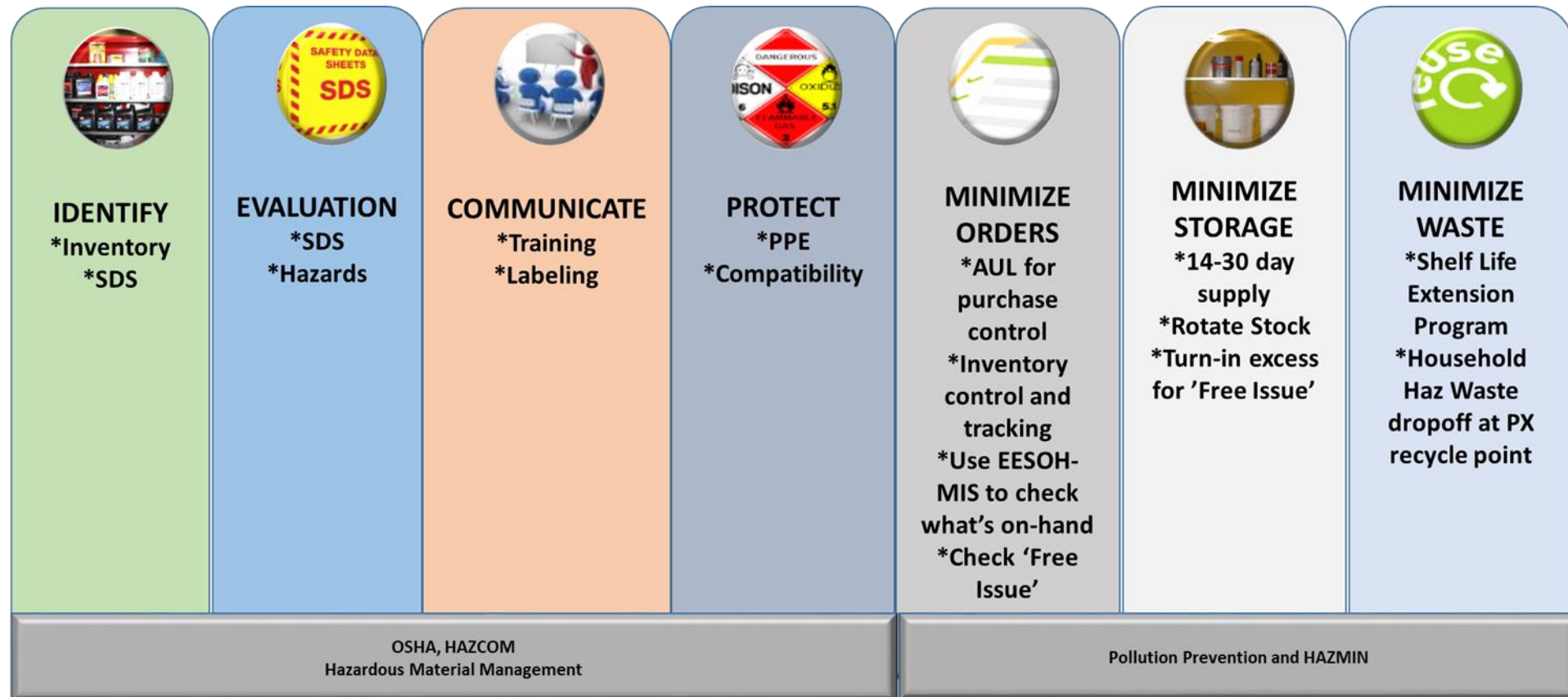
# Is OSHA and HAZCOM Enough for HAZMIN?

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**Both pictures have an inventory and  
MSDS/SDS binder.  
Which picture has the best HAZMIN?**

# Hazardous Minimization Management (HAZMIN)





# What are Ongoing HAZMIN Problems?

## Inspections Show:

- Excess material in POL lockers and storage rooms.
- SDS not present or updated.
- Inventories are not accurate, updated or do not contain enough information to be useful.
- AULs are not accurate, updated or used as part of the ordering process.
- Chemical incompatibility.
- Expired items, which become waste.
- Rotating stock, first-in-first-out or expiration date tracking is not performed.
- Shelf-life Extension is not performed.
- Free Issue items are not being utilized.
- Ordering too much product.



# What are the HAZMIN Solutions?

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## 1. Inventory Control

- Know what you have and how much of it.

## 2. Purchase Control

- Know what is on order and what has been received.

## 3. Minimization

- Only order the size and quantity you need.
- Only order a 14-30-day supply (30-day supply only authorized for training/field events and 14-day supply authorized for normal activities.).
- Use the Shelf-life Extension System to extend product life.



# What's the Big Deal?

## 1. Don't Know What You Have

- Reordering items that have already been ordered or that are on-hand.
- Over-ordering for routine maintenance and deployments.

## 2. Making Your Management Requirements More Difficult

- Ordering products that expire and cannot be extended.
- HM  $\longrightarrow$  HW = \$\$\$\$\$\$\$\$
- Ordering products with hazardous vs. non-hazardous characteristics.

## 3. Potential Fines for Mismanagement

- OSHA violations = \$7,500 per violation, per day.
- EPA violations = \$72,115 per violation, per day.



- Ordered 6 boxes
- Type 1
- Flash Point <140° F
- Expired 2010



# AR 200-1, Section 7-3 and 7-4: Basic HAZMIN Requirements

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## 1. Unit has an Inventory

- Inventory is rotated and tracked to prevent expiration (First in - First out).
- Bar-coded by issue point (SSA or HMCP).

## 2. Authorized Use List

- Inventory with min and maximum limits.
- 14-30-day supply.
- Purchases thru SSA or HMCP, but no GPCC.

## 3. Shelf-life Extensions for Type II hazmat

# IMCOM Publication, HAZMIN Implementation and Compliance, 29 August 2016

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Intent is to enhance mission readiness, reduce and prevent pollution by controlling and reducing the acquisition, use, handling and disposition of HM.

- Identify all personnel responsible for lifecycle management of HM down to the unit/shop level.
- Ensure training and operate in compliance with HAZMIN including utilization of Enterprise Environmental Safety and Occupational Health Management Information System (EESOH-MIS).
- Procure all HM thru GCSS.
- Enforce prohibition from purchasing HM with GPC Card.
- Exceptions to be approved by Garrison Commander on a case-by-case basis.
- Ensure all HM is recorded in EESOH-MIS and material is properly rotated, stored and bar-coded.

# Summary of Unit Level Requirements for Hazmat Storage

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## 1. Inventory which tracks manufacturer, expiration and shelf-life codes

- Manufacturer/EESOH-MIS is used to pull MSDS/SDS.
- Expiration is used to rotate inventory and prevent expiration.
- Shelf-life code is used to (potentially) extend Type II hazmat.

## 2. Authorized Use List (AUL)

- Inventory with minimum and maximum limits.
- 14-30-day supply.
- Purchases made thru SSA, issued thru HMCP with bar-coding, but no GPCC.

## 3. Inventory Tracking (EESOH-MIS) and Purchase Tracking (SSA)

- EESOH-MIS data-entry for issued, received, stored/in-use, empty, reorder (future).
- EESOH-MIS data for Free Issue versus reorder (future).

## 4. Shelf-life Extensions for Type II Hazmat

# The Hazardous Materials Control Center

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**FORT CARSON HMCP BLDG 9246**  
**719-526-2979 (M-F 0730-1600hrs)**



2012



# HAZARDOUS WASTE AWARENESS



# TRAINING OBJECTIVES

- Establish the importance of hazardous waste management, sustainable/Net Zero practices and Fort Carson environmental policies.
- Describe the requirements (federal/state/Army) for generators of waste.
- Describe basic waste handling, accumulation and storage procedures.
- Describe appropriate emergency responses.



# Resource Conservation and Recovery Act of 1976 (RCRA)

- Establishes requirements that are the basis of all HW regulations.
- Fort Carson must comply with RCRA — we are a LQG (Large Quantity Generator).
- Must cooperate with Regulatory Agencies.
  - Environmental Protection Agency (US EPA)
  - Colorado Department of Public Health and Environment (CDPHE)
- AR 200-1
  - Environmental Protection and Enhancement
  - Army's environmental regulations



# RCRA requires management of hazardous waste from the point of generation to its final disposal — “Cradle-to-Grave”

The point of generating HW is known as the “cradle”

Characterization – as a non-HW or HW

HW Storage (accumulation) – at SAPs or the HWSF

Disposal as non-hazardous or HW – the “grave”

*Figure III-1: RCRA's Cradle-to-Grave Hazardous Waste Management System*



Hazardous Waste  
Generation



Hazardous Waste  
Transportation



Hazardous Waste  
Disposal



# BASIS FOR HAZARDOUS WASTE AWARENESS TRAINING

## MOTOR POOLS generate most of the hazardous waste on Fort Carson

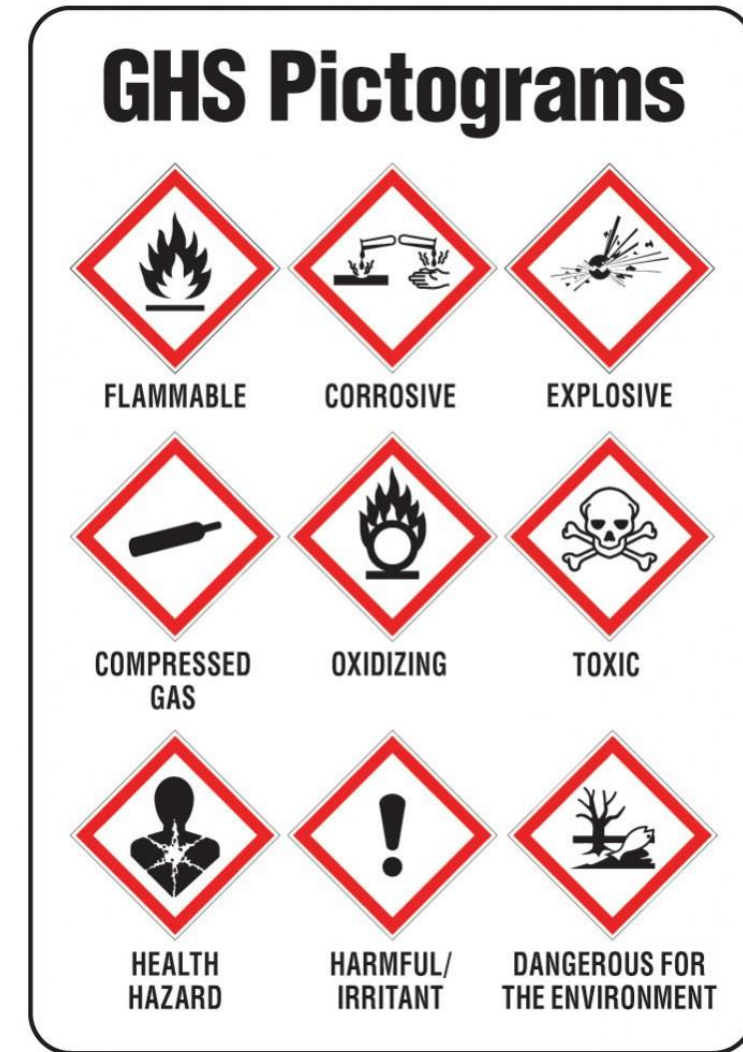
Motor pools are responsible for the majority of:

- Hazardous materials/waste
- Used products
- Scrap metal and recyclable materials
- Energy and water consumption

Fort Carson hazardous waste permit requires site-specific training for ***anyone*** who potentially handles hazardous waste.

# HAZARDOUS WASTE DEFINITION

- Hazardous waste is a solid, liquid or gaseous waste that is dangerous or potentially harmful to human health or the environment when it is discarded.
- DPW personnel make the waste determination as to whether a waste is a hazardous waste or not.
- Hazardous wastes are divided into listed wastes, characteristic wastes, universal wastes and mixed wastes.



# IS IT A LISTED WASTE



- **F List** – nonspecific sources, usually spent solvents (BAAF, WWTP).
- **K List** – Specific Sources (Fort Carson doesn't have any K listed wastes).
- **P List** – Discarded commercial chemical products (acutely hazardous/lethal in small quantities)(usually off-spec, un-used chemicals)(Evans Army Hospital).
- **U List** – Discarded commercial chemical products (toxic)(nicotine patches, denatured alcohol, acetone).

# IS IT A CHARACTERISTIC WASTE



- **Ignitability (D001)**

- Flash Point  $<140^{\circ}\text{F}$
- Ignitable Compressed Gas



Examples: isopropyl alcohol, fuels, aerosols, various epoxies & adhesives, acetone

- **Corrosivity (D002)**

- Aqueous solution with a pH of less than or equal to 2 or greater than or equal to 12.5.
- Liquid that corrodes steel.



Examples: hydrochloric acid, sulfuric acid (car batteries), swimming pool chemicals

# IS IT A CHARACTERISTIC WASTE (continued)



- **Reactivity (D003)**

- Normally unstable and readily undergoes violent change without detonation.
- Violent reaction/explosive mixture with water.
- Generates toxic gases, vapors or fumes with water.



Examples: lithium batteries, MRE heaters, munitions & UXO



- **Toxicity (D004)**

- Wastes greater than the specified limit (ppm) listed in 40 CFR 261.24.
- 8 metals, 6 pesticides and 26 solvents



Examples: arsenic, barium, cadmium, chromium, selenium, silver, lead, mercury, TCE, benzene



# COMMON HW GENERATED AT FORT CARSON



Un-used /  
discarded  
hazardous  
materials



Unusable/discarded  
paint, epoxies and  
adhesives



CBRN mask  
filters  
(black)(may  
require de-  
milling



Medical waste  
including warfarin,  
insulin and nicotine



Used blast  
media



Used solvents  
including petro  
ether, xylene and  
acetone

# SATELLITE ACCUMULATION POINTS (SAPs)

These are established points where hazardous waste is accumulated according to set rules/regulations.

Common wastes accumulated at SAPs on Fort Carson are used/spent solvents, hospital waste and paint-related wastes.

**If you do not have a SAP in your shop, your hazardous waste (including universal) must be taken to the HWSF (Bunker) every 24-hours or at the end of the shift!! THERE ARE NO EXCEPTIONS!!!!!!**

**Building 702**



**Evans Army Hospital**

**Building 1392**



**Building 8009**

**Wastewater Treatment Plant**





# UNIVERSAL WASTE

Is still a hazardous waste, but so much is generated that the EPA relaxed the management standards.

Empty or unusable aerosol cans



Spent fluorescent light bulbs (all shapes)



All used batteries except lead-acid and alkaline



If you do not have a Satellite Accumulation Point (SAP), **UNIVERSAL WASTE must be** turned-in to the HWSF (the Bunker) within 24 hours!

# HAZARDOUS WASTE TURN-IN

- All hazardous and universal wastes **must be turned-in** to the Hazardous Waste Storage Facility (HWSF)(aka “the Bunker”) for subsequent management and disposal.
- Only individuals who **have completed this training** are authorized to handle, transport and turn-in waste to the HWSF.
- **No** POVs or walk-ins allowed in the HWSF.
- Use the “What Are You Turning In” (WAYTI) Sheet.



If you do not have a Satellite Accumulation Point (SAP), all **HAZARDOUS WASTE must be** turned-in to the HWSF (the Bunker) by the end of the working shift!

# WASTE TURN-IN SHEET (WAYTI SHEET)

## FILL IN:

- Description of material or hazardous waste based on:
  - User knowledge of material
  - Safety Data Sheet (SDS)
- Unit, DODAAC, APC, NSN, Quantity

WASTE TURN-IN SHEET (WAYTI) <i>(DPW is the proponent; the approving authority is FC REG 200-1)</i>			
UNIT INFORMATION			
<b>BRIGADE</b> EPO	<b>BN/DIRECTORATE</b> DPW-ENV	<b>BLDG</b> 1219	<b>DODAAC</b> W81THB
ITEM INFORMATION			
<b>DESCRIPTION</b> (e.g., NOMENCLATURE, UNUSED OR SPENT, COLOR, PHYSICAL STATE, NUMBER OF LAYERS, etc.): WD-40			
<b>NSN:</b> 9150-00-944-8186		<b>QTY</b> 3	<b>TYPE OF CONTAINER:</b> Aerosol Can
<b>MANUFACTURER:</b> WD-40 Company		<b>MIL-SPEC:</b> N/A	
<b>ADDRESS:</b> 1061 Cudahy Place (92110), San Diego, CA 92138-0607			<b>PHONE:</b> 1-888-324-7596
<b>REASON FOR TURN-IN:</b> The top broke off and cannot use it			<b>Transportor's Initials:</b>

**REMEMBER TODAYS DATE**—It's your training date.

# WASTE TURN-IN SHEET (WAYTI SHEET)<sub>CONTINUED</sub>

## HMCP item serviceability certification:

- Possible serviceable products
- Sealed / unexpired products
- Must be certified unserviceable by HMCP.

## SHELF-LIFE:

- The time a product remains useful.
- Make every effort to extend shelf life of items to use up the material.

ITEM SERVICEABILITY CERTIFICATION				
DOL HMCC	Phone: 526-2979	Initial:	DATE: N/A	SERVICEABLE / UNSERVICEABLE
I certify that the information pertaining to the item identified above is accurate and complete. I also understand that all costs for analysis, packing, and disposal will be paid by the generating organization and my chain of command has been informed of this turn-in.				
I also certify that I have completed the RCRA Hazardous Waste Awareness Training required by federal, state, and Army regulations.				
PVT Joe Snuffy			719-526-0980	July, 28, 2014
(PRINTED NAME)	(SIGNATURE)		(PHONE)	(DATE)

Must be signed/certified by an individual with Hazardous Waste Awareness Training.

Circle one

# REQUIRED ADMINISTRATIVE DOCUMENTS



- All hazardous materials purchased by the unit with their Government Purchase Card (GPC) or other purchasing mechanism must be approved in writing by the DPW – Environmental Division.
- **ALL** hazardous materials **MUST BE** tracked on Fort Carson using EESOH-MIS. **DO NOT bring materials from home.**
- Units must have a current copy of the Spill Prevention, Control and Countermeasures (SPCC) Plan.
- A Spill Response poster must be posted.
- Keep all applicable training rosters for your unit.





# HAZARDOUS MATERIALS STORAGE

Always store and segregate all hazardous materials IAW manufacture instructions (i.e. container label, SDS, etc.) to prevent reaction, contamination, spoilage or freezing.

Always store all flammable materials in flammable storage lockers when not in use.

Create and make available for review a hazardous material product list.



# CHEMICAL COMPATABILITY

- Some things do not mix !! Be aware how your hazardous materials are stored.
- Dangerous reactions can occur.



Oxidizers

+

Flammables

=

Violent  
Reaction,  
Excessive  
Heat,  
Noxious Gas



# THE MIXTURE RULE

**Do not mix** hazardous waste with a non-hazardous waste. Doing so makes the entire mixture a hazardous waste, which becomes more expensive to dispose of, may be construed as “treatment” of the hazardous waste, or can result in dangerous chemical reactions.



# HAZARDOUS WASTE CONTAINERS...

**ALWAYS** need to be accurately labeled according to its contents.

**ALWAYS** need to be in good condition (no rust or dents).

**ALWAYS** need to be protected from the elements and, if containing a liquid, have secondary containment.

**ALWAYS** are closed when not adding waste to minimize the possibility of spills and cross contamination.



**BAD**



**GOOD**



# COMPRESSED GAS CYLINDERS



## Do's

- Store cylinders strapped or chain upright around the body.
- Always have clearly marked labels on the cylinders.
- Separate empty from full cylinders and oxygen from flammable cylinders by at least 20 feet.
- Turn in empty and excess cylinders through DSCR by calling 1-866-724-0932.

## Don'ts

- Store flammable gases near open flames, areas where electrical sparks are generated, or where other sources of ignition may be present.



# SPENT LEAD-ACID VEHICLE BATTERIES



- Batteries should be turned in through the unit SSA or contact Interstate Batteries directly for recycle options.
- Store batteries off ground, away from floor and storm drains and away from the elements (i.e., inside of a motor pool or outside under cover).
- Leaking batteries must be double-wrapped in heavy duty plastic and duct taped.



# USED OIL FILTERS



- All used oil filters must be punctured or crushed, drained for 24 to 48 hours and put into the scrap metal bin.
- If your unit does not have a filter crusher, transport drained filters to the Hazardous Waste Storage Facility.
- This **DOES NOT** include fuel filters.



# UNWANTED FUEL

- Unwanted fuel is recycled on Fort Carson.
- Accurately mark the drum with its contents.
  - i.e. “JP8 mixed with water”
  - **Avoid: “Contaminated Fuel  
“Used Fuel”**
- Turn into the Hazardous Waste Storage Facility or the National Guard Maneuver Area Training Equipment Site (MATES), Bldg. 9100.



# SHOP TOWEL (RED RAG) MANAGEMENT

- Shop rags are exempt from classification as a hazardous waste as long as they are laundered through an approved program.
- All units must subscribe to Fort Carson's approved Shop Towel Program through HWSF.
- Units exchange the dirty rags for laundered rags at the HWSF (comes in bundles of 50).





# SHOP TOWEL (RED RAG) MANAGEMENT CONTINUED

- Always store solvent laden rags in a sealed and labeled metal container to prevent volatile organic compound (VOC) release.
- (Petroleum, Oils & Lubricants) POL-containing rags.
- Units are to maintain accountability of their shop towels at all times whether they are clean or dirty.



Never throw shop towels in the trash!

# ABSORBENT PADS

- **White Pads:** Hydrocarbons (Oil) only – will not pick up water
- **Blue or Gray:** All fluids – not for acids
- **Yellow:** Aggressive chemicals - acids, bases, pesticides
- **Pink:** Absorbs high concentrations of acids, bases or unknown liquids

- Keep absorbent pads separate from red rags.
- **Do not throw in trash.**
- Double-bag used absorbent materials.
- Label bag with the words “Used absorbents soaked with \_\_\_\_.”
- Turn into the Hazardous Waste Storage Facility.



# DRY SWEEP/SPEEDY DRI/GRANULAR ABSORBENTS

- Turn in all petroleum-contaminated soil and dry sweep to the HWSF.
- Keep used dry sweep free of trash and debris.
- **DO NOT** throw used dry sweep in the trash.
- Store used and un-used absorbent materials separate from dry sweep.



# WASTEWATER MANAGEMENT



- Ensure floor and storm drain covers are secured in place.
- Maintain all floor and storm drains to be free of excessive dirt, trash and debris.
- **DO NOT** clean equipment/vehicles over floor or storm drains.
- **ALWAYS** protect drains from spills.

# SPILL MANAGEMENT

- Units must have a current copy of the hazardous substance and POL spill posters displayed in areas.—NEXT SLIDE
- Units must have recommended spill control material on hand, including absorbents compatible with your spill.


The dry  
sweep  
shuffle




**All spills and/or releases must be SUFFICIENTLY cleaned.**



# ALL UNITS SHOULD HAVE THIS POSTER DISPLAYED IN THEIR SHOP



## SPILL RESPONSE PROCEDURE



Is spilled material greater than 5 gallons?

☐ YES ☐ NO

Has spilled material entered a drain or storm ditch?

☐ YES ☐ NO

Is the spilled material a fire hazard?

☐ YES ☐ NO

Is the spilled material a health and safety hazard?

☐ YES ☐ NO

Is an SDS for the spilled material onsite?

☐ YES ☐ NO



Are the cleanup materials and equipment specified in the SDS readily available?

☐ YES ☐ NO

Clean up spilled material with onsite spill response equipment AND notify the ECAT or HWSF.

**Call 911 – ask for the Fort Carson Fire Department**

- Without endangering personal health and safety, prevent further spillage and use onsite spill response materials to minimize the spill.
- CALL THE DPW ENVIRONMENTAL SPILL LINE: 526-0973.
- Complete FC Form 1200-E (Spill Report) and submit to ECAT or DPW Environmental personnel.



### Environmental Do's

Containers **MUST** be closed and labeled with their contents.

Spills **MUST** be cleaned and reported according to these Spill Response Procedures.

All containers 55 Gallons and above **MUST** be on secondary containment.

Flammable materials **MUST** be stored in flammable storage lockers.

### Environmental Do Not's

Don't wash tactical vehicles unless in an authorized wash area.

Don't pour/rinse products into drains.


Don't mix products or wastes.

### Environmental Phone Numbers

Environmental Compliance Assessment Team (ECAT)  
524-3534 or 526-0979/0755/8000/9176

AST Manager:	526-9411
Hazardous Waste Storage Facility:	526-8003
Pollution Prevention:	526-4340
Recycle Program:	526-5898
Stormwater Manager:	526-1697
Wastewater Manager:	526-1730
Service Orders:	526-5345

Fort Carson DPW Environmental Battle Book  
<http://www.carson.army.mil/DPW/>



**YOUR EPO/EPNCO IS:**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

# SPILL MANAGEMENT CONTINUED



All 55-gallon drums containing liquids must be on secondary containment pallet.

All mobile facilities (fuel tankers, etc.) must be properly positioned and bermed to prevent ground or water contamination in the event of a leak.



Inspect and document all mobile facilities for leaks daily. Use drip pans to prevent leaks onto a surface.



# REMEMBER...

If your unit does not have a SAA, then all hazardous and universal waste **MUST BE** taken to the Bunker every 24 hours or at the end of the shift

Use non-hazardous and non-toxic materials to the maximum extent practical.

**DO NOT**  
accumulate  
unknown  
waste.

**Significant Penalties Under RCRA:**  
Fines up to **\$115,000** per day per  
violation may be assessed to the  
unit or responsible party.

Use best  
management  
practices to  
minimize  
procurement,  
use, handling,  
storage,  
transportation  
and disposal of  
HW.

**Safety first!!!** Proper  
management results in a  
reduction in  
soldier/civilian injuries  
and increased community  
confidence in Fort  
Carson's presence

Extend shelf-life expiration dates when  
appropriate & return usable products  
to the HMCP before expiration date.

**Sustainability:** Using materials and resources  
wisely enables the use of limited funding for  
more important needs and ensures Fort  
Carson's operational future.

# QUESTIONS?



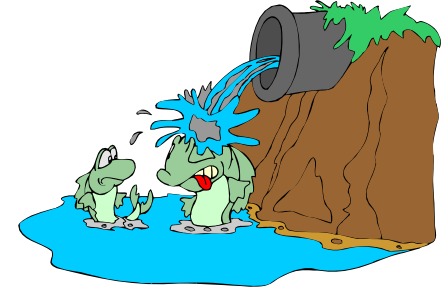
Hazardous Waste Storage Facility – **719-338-4616**

Environmental Compliance Assessment Team – **719-526-0973**

RCRA Program Manager **520-691-9236**

**NOTE:** The most current version of the Fort Carson  
Environmental Battle Book can be found online at:  
[Policies and Training :: Fort Carson \(army.mil\)](#)





# Spill Response Training

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DPW-ENVIRONMENTAL DIVISION ENVIRONMENTAL COMPLIANCE  
BRANCH

# Objectives

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- Learn what constitutes a spill.
- Importance of spill response requirements of Fort Carson's Spill Prevention, Control and Countermeasures (SPCC) Plan.
- Understand and implement basic spill prevention techniques, control procedures and reporting requirements.

# Fort Carson Policy

---

- Establish policies and procedures for control of discharges to the environment (soil, ditches, drains, etc.).
- Handle, use and store materials to avoid discharges.
- Design storage facilities incorporating safeguards.
- Ensure that units and activities maintain current SPCC plan at their locations.
- Available on EPO DVD or from ECAT Assessor.

# Spill Response Training

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## **What is a spill?**

- Any unwanted release of materials or waste.
- May include POL products and/or hazardous substances.
- Might occur on pavement, asphalt, soil, water, or air.



# Spill Response Training

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## **Primary causes of spills are:**

- Loading/unloading of vehicles and equipment.
- Vehicle/equipment leaks or accidents.
- Transferring materials or waste from one container to another.
- Leaking containers or drip pans.
- Poor planning.
- Inadequate equipment maintenance.
- Improper storage.

# Spill Response Training

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## **How are spills prevented?**

- Use of secondary containment and other physical control measures.
- Best management practices in handling, storing, transporting and dispensing materials IAW SDS.
- Review information contained in the Environmental Battle Book and in the SPCC plan (site-specific info.).
- Planning and training.

# Spill Response Training

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## **Unit responsibilities**

- Site-specific portion of the SPCC plan shall be maintained at the facility for which it is assigned.
- Personnel must review the plan and operate their facility in a manner that prevents or minimizes spills.
- Unit must notify the ECAT and/or the Installation Spill Coordinators regarding updates and changes to their facility.
- DPW-Environmental Division (DPW-ED) will update the plan periodically or as changes occur.

# Containment for Drums



Containment pallet



POL distribution with containment



Conex with built-in containment

# SPCC Plan Requirements

---

## **Aboveground Storage Tanks (ASTs)**

- Daily visual inspections and ullage (volume gauging) must be recorded on the AST ullage log.
- Monthly inspections must be recorded on the AST Monthly Visual Inspection form.
- Ensure the AST and surrounding area are free of spills.

# SPCC Plan Requirements

---

## Mobile Fuel Storage Facilities

- Inspect for leaks daily
  - Check integrity of hoses and all connections.
  - Leaking mobile facilities will be emptied and repaired.
- Place drip pans under connections while fueling.
- Do not park directly over a storm drain in the motorpools.
- In the field, park at least 100 feet from storm drains, streams, creeks, ditches, lakes and reservoirs.
- Mobile facilities containing 55 gallons or more must be placed on secondary containment.



# Containment for Tankers

---



# Spill Materials and Personal Protective Equipment (PPE)

---



- Units must have the appropriate spill kits and PPE on hand for the substance spilled (see list in the EPO Battle Book).
- Units must inventory the spill kits routinely to ensure serviceability and re-order supplies that have been used.



# SPILL RESPONSE PROCEDURE



Is spilled material greater than 5 gallons?



NO

YES

Has spilled material entered a drain or storm ditch?



NO

YES

Is the spilled material a fire hazard?



NO

YES

Is the spilled material a health and safety hazard?



NO

YES

Is an SDS for the spilled material onsite?



YES

NO

Are the cleanup materials and equipment specified in the SDS readily available?



YES

NO

Clean up spilled material with onsite spill response equipment AND notify the ECAT or HWSF.

## Call 911 – ask for the Fort Carson Fire Department

- Without endangering personal health and safety, prevent further spillage and use onsite spill response materials to minimize the spill.
- CALL THE DPW ENVIRONMENTAL SPILL LINE: 526-0973.
- Complete FC Form 1200-E (Spill Report) and submit to ECAT or DPW Environmental personnel.



## Environmental Do's

Containers **MUST** be closed and labeled with their contents.

Spills **MUST** be cleaned and reported according to these Spill Response Procedures.

All containers 55 Gallons and above **MUST** be on secondary containment.

Flammable materials **MUST** be stored in flammable storage lockers.

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Don't pour/rinse products into drains.

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Recycle Program:	526-5898
Stormwater Manager:	526-1697
Wastewater Manager:	526-1730
Service Orders:	526-5345

Fort Carson DPW Environmental  
Battle Book  
<http://www.carson.army.mil/DPW/>



YOUR EPO/EPNCO IS:

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# Spill Response Actions

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- Discovery
  - Identify spill source
  - Identify spilled material
- Initial Response – **SAFETY IS FIRST PRIORITY!**
  - Initiate response **IF IT IS SAFE** and adequate spill response material and PPE are available.
  - If unsafe, then report to the Fort Carson Fire Department at 911 or Range Control when down range.



# Spill Response Actions

- Reporting:
  - Greater than 5 gallons or any amount in a storm drain/waterway
    - Fort Carson: **CALL 911**
    - Downrange: **CALL Range Control**
    - PCMS: **CALL Range Control**
    - Fill out **FC Form 1200 (Spill Report Form)**
  - Less than 5 gallons
    - Proceed with spill clean up.
    - Contact ECAT or the Spill line (719-526-0973) to verify clean up is done sufficiently or to request guidance.

FORT CARSON SPILL REPORT <small>DPW is the proponent, the approving authority (FC REG 200-1)</small>		
DATE: <input type="text"/>		
UNIT: <input type="text"/>	POC: <input type="text"/>	PHONE: <input type="text"/>
1. Complete the questions below and e-mail this form and any additional documentation (e.g., SDS, pictures) to: <a href="mailto:usarmy.carson.incom-central.list.dpw-ed-spill-response@mail.mil">usarmy.carson.incom-central.list.dpw-ed-spill-response@mail.mil</a> .		
a. Name, unit/organization, and phone number of person discovering spill: <input type="text"/>		
b. Date and time the spill occurred: <input type="text"/>		
c. Did the spill occur because materials were wrongfully discharged or abandoned? <input type="radio"/> YES <input type="radio"/> NO		
d. Location of spill: <input type="text"/>		
e. Type of material spilled: <input type="text"/>		
f. Estimated quantity of material spilled (gallons): <input type="text"/>		
<small>NOTE: In accordance with FC REG 200-1, all spills of more than five gallons or covering more than 100 square feet and/or any amount entering a drain or ditch must be reported to the Fort Carson Fire and Emergency Services at 911. Make further notification by calling the DPW, Spill Line at (719) 526-0973.</small>		
g. Was the spill reported to the Fort Carson Fire and Emergency Services? <input type="radio"/> YES <input type="radio"/> NO		
h. Cause of spill: <input type="text"/>		
i. Affected resources or facilities: <input type="text"/>		
j. Did any spilled materials enter any drains or ditch? <input type="radio"/> YES <input type="radio"/> NO		
k. Estimated quantity and type of contaminated soil, dry sweep and/or other clean-up materials: <input type="text"/>		
l. Description of clean-up or other remedial action taken: <input type="text"/>		
2. The POC for this report and clearance is: <input type="text"/> PHONE: <input type="text"/>		
COMMENTS: <input type="text"/>		

FC FORM 1200-E, JAN 2015 PREVIOUS EDITIONS ARE OBSOLETE

# Spill Response Actions

---

- **Containment**

- Stop source of spill (turn off valves, etc.)
- Protect the environment (keep spill from entering drains or ditches using berms, socks, etc.).

- **Clean up**

- Utilize proper spill equipment (dry sweep, absorbent pads, etc.).
- Wear proper PPE (gloves, goggles, etc.).
- If you have to **DIG** you need a **DIG PERMIT! Call spill line (719-526-0973) and we will assist you with the process.**





# Spill Response Actions

---

- **Disposal**

- Clean up and bag contaminated dry sweep, dirt, etc. and take to HWSF for disposal.
- Contact ECAT or HWSF personnel for spill debris disposal instructions or questions.

- **Restoration**

- Return the are to pre-spill condition.
- If contaminated dirt was removed, backfill with clean fill dirt.

# Spills occur from places that you would least expect!

---



# Previous Spills & Cleanup

---



# Previous Spills & Cleanup

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# Previous Spills & Cleanup

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# Previous Spills & Cleanup

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# Previous Spills & Cleanup

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# Previous Spills & Cleanup

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# Previous Spills & Cleanup

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# Previous Spills & Cleanup

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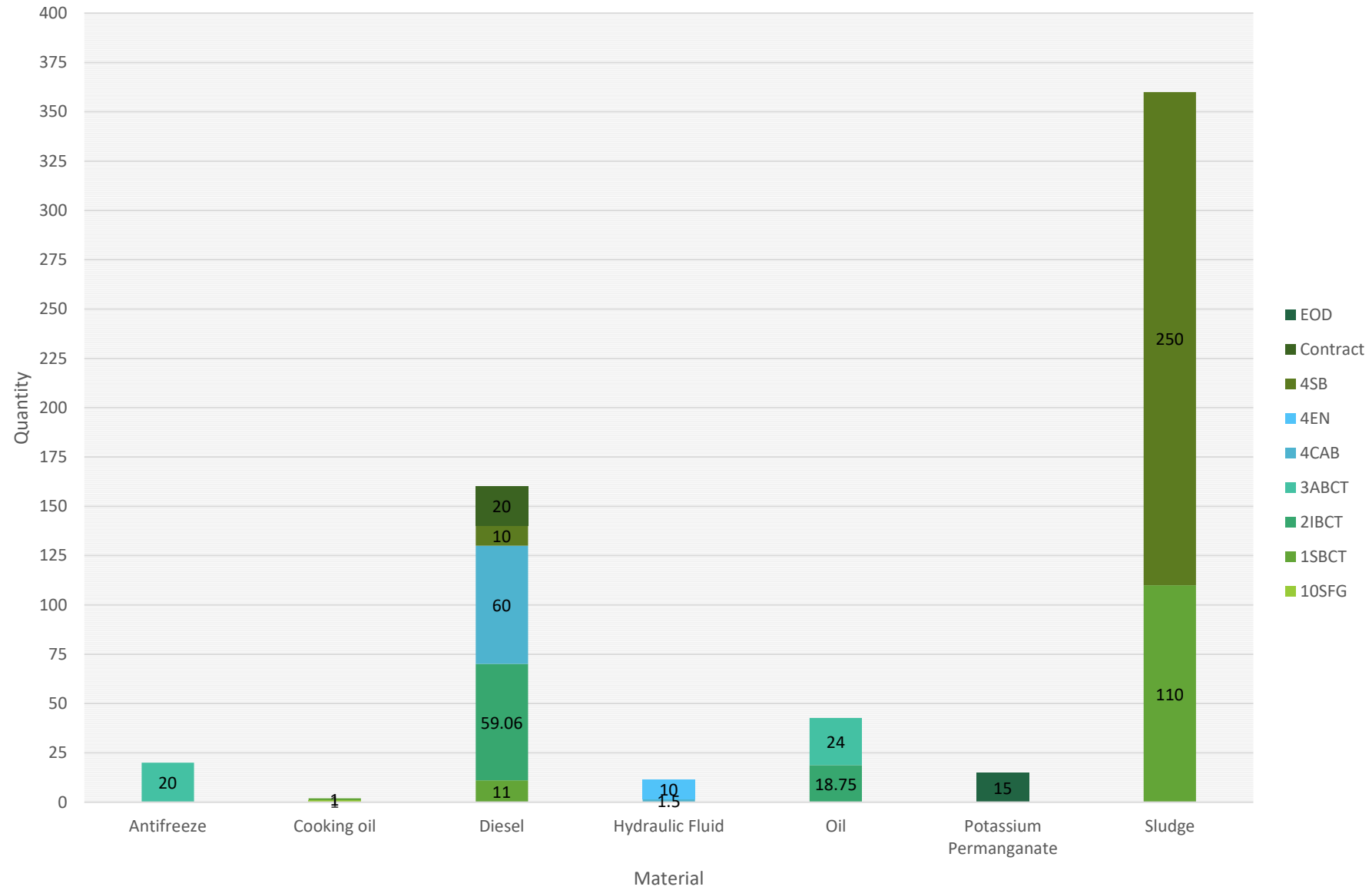


# Previous Spills & Cleanup

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Quantity by Material and Unit





# Questions?

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Hazardous Waste Storage Facility – **719-338-4616**

Environmental Compliance Assessment Team – **719-526-0973**

RCRA Program Manager – 520-691-9236

Spill Line (Spill Coordinators) – **719-526-0973**

**NOTE:** The most current version of the Fort Carson Environmental Battle Book can be found online at: [Policies and Training :: Fort Carson \(army.mil\)](#)

# QUIZ

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Now that you have reviewed the slides and completed the refresher training, complete the following quiz questions and submit the answers to: [tyler.g.wendtland.civ@army.mil](mailto:tyler.g.wendtland.civ@army.mil).

Please number and list the answers in the body of the email vertically.

Once your answers are graded and upon passing, an electronic EPO Refresher certification will be emailed back to you.

Thank you for your commitment to environmental excellence!

1. All 55-gallon drums containing liquids must be placed on secondary containment.

---

A. True

B. False

2. You should store drums and containers inside or covered from the elements.

---

- A. True
- B. False

3. An individual requires Hazardous Awareness Training to turn in waste at the Bunker.

---

A. True

B. False

4. You do not need to call 911 if you only spill one gallon of oil and it enters the storm drain.

---

A. True

B. False



5. Which is not part of HAZMIN regulatory requirements (concerning materials management)?

---

- A. Identify
- B. Analyze
- C. Evaluate

6. Oil filters and fuel filters are managed in the same way.

---

A. True

B. False

7. Safety is the number one priority when responding to any type of spill.

---

A. True

B. False

## 8. Universal Waste is NOT a Hazardous Waste.

---

A. True

B. False

9. Fort Carson's hazardous waste management is governed by a hazardous waste permit.

---

- A. True
- B. False

10. You can mix different wastes together to save money on containers.

---

- A. True
- B. False



11. The US has roughly how many hazardous chemical products?

---

- A. 830,000
- B. 1.2 Million
- C. 945,000

12. A hazardous material can become a hazardous waste.

---

- A. True
- B. False

# 13. Which can be thrown in the trash?

---

- A. Used red shop towels
- B. Used dry sweep
- C. Both
- D. Neither

14. If your shop does not have an SAA, how often must the spent aerosol cans be taken to the Bunker?

---

- A. Within 72 hours
- B. Within 24 hours
- C. When convenient
- D. Never – they go in the scrap metal bin

15. You should only have the SDS for the materials you think are hazardous.

---

- A. True
- B. False

16. You can be fined for mismanagement of hazardous materials.

---

A. True

B. False



17. You should always keep a 3-month supply of hazardous materials on hand.

---

A. True

B. False

18. What is the name of the system that was established to standardize workplace hazard protection internationally?

---

- A. JHS
- B. GHS
- C. SDS
- D. HIS

19. How many classes of hazardous materials are there?

---

A. 6

B. 8

C. 9