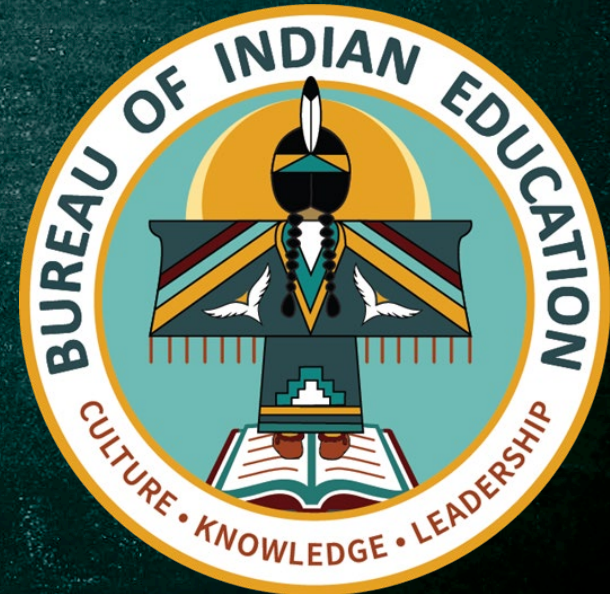




U.S. Department of the Interior
Bureau of Indian Education



HAZARDOUS MATERIALS AND HAZWOPER AWARENESS TRAINING





OBJECTIVE

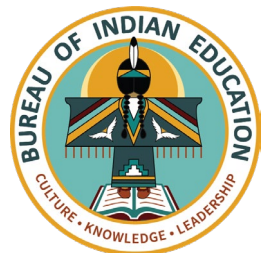
Provide an introduction to Hazardous Materials identification and management in the workplace, and cover First Responder Awareness Level requirements, roles, and responsibilities as prescribed in OSHA's Hazardous Waste Operation (HAZWOPER) standard

MEETING TIPS FOR ONLINE TRAINING

- 1). Place yourself on “Mute” to prevent background noise.
- 2). Use the “Chat with all” feature to ask questions.

Note: All participants will be able to see your comments or questions.

- 3). Every participant will receive a certificate of completion.





INSTRUCTOR INTRODUCTION

BIE BRANCH OF ENVIRONMENTAL MANAGEMENT (BIE BEM) *WHO WE ARE...*

Albuquerque Office

John Clymo, Program Manager, Supervisory Environmental Protection Specialist

Candace DeSantis, Lead Environmental Protection Specialist

Karlisa Benally, Environmental Protection Specialist

Priscilla Avila, Environmental Protection Specialist

Henryetta Price, Environmental Protection Specialist

Rochelle Mariano, Program Support Assistant

Bloomington Office

Russell Brigham, Environmental Protection Specialist

Doug Yocum, Environmental Protection Specialist

Gallup Office

Karmen Billey- Badonie, Environmental Protection Specialist

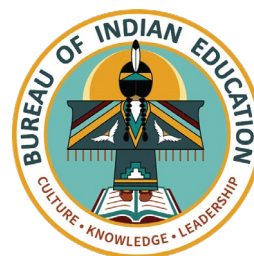


AGENDA

- Background
- Chemical Management
- HazMat Transportation
- HAZWOPER



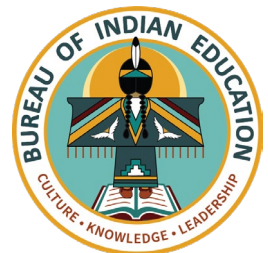
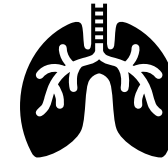
BACKGROUND INFORMATION



WHAT IS A HAZARDOUS MATERIAL?

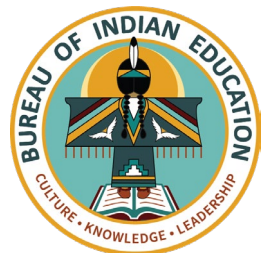
Hazardous materials (aka hazmat) are chemical substances that if released or misused can pose a threat to property, the environment, or health. Such chemicals are prevalent in many industries and products, including agriculture, medicine, research, and consumer product development. Hazardous materials can be:

- Carcinogens
- Toxins
- Irritants
- Damaging to skin, lungs, eyes, mucous membranes
- Combustible
- Flammable
- Explosive
- Reactive,
- Compressed gases
- Etc.

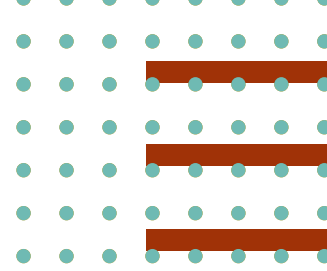


APPLICABLE REGULATIONS

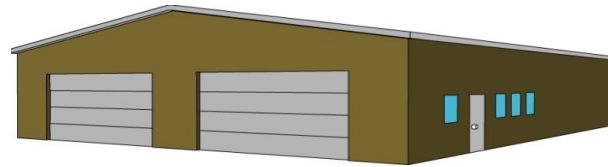
- OSHA
 - Hazard Communication Standard **29 CFR 1910.1200(a)(1)**
 - Purpose:
 - Ensure that hazards of all chemical produced or imported are classified
 - And that information concerning classified hazards is transmitted to employers and employees



BACKGROUND



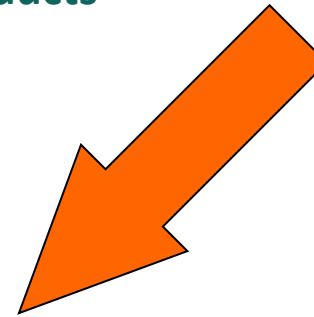
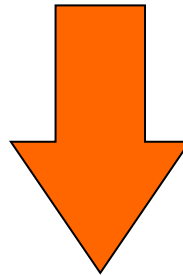
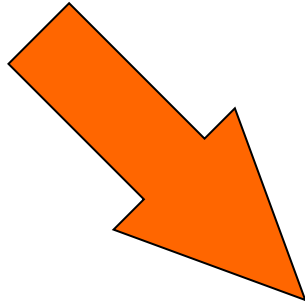
**Hazardous Materials –
DOT**



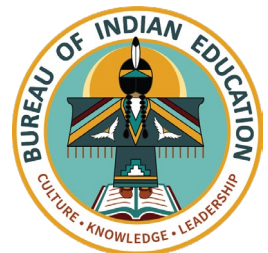
**Hazardous Chemical Products -
OSHA**



**Hazardous Waste -
EPA**



Hazardous Substance (Spills) – EPA

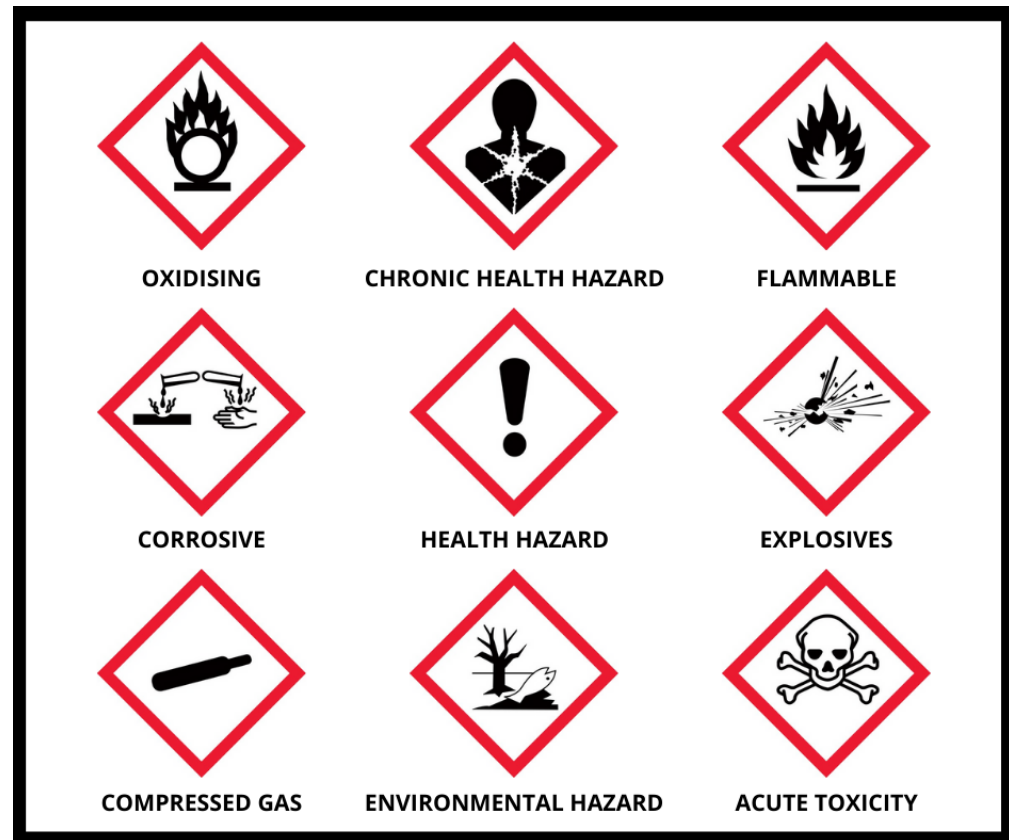


CHEMICAL MANAGEMENT






GLOBALLY HARMONIZED SYSTEM AND SAFETY DATA SHEETS

The Globally Harmonized System (GHS) of Classification and Labeling of Chemicals includes Safety Data Sheets (SDS). The GHS is a framework that standardizes chemical hazard communication elements and hazard classification criteria around the world. SDSs are a vital component of the GHS and global chemical safety.



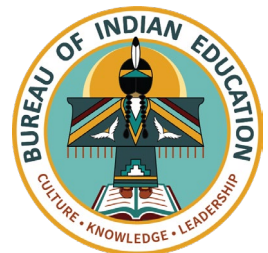
SDS

- Standardized 16-part format
- Manufacturer provides SDS
- Must have SDS for all chemicals on-site

 LabChem <small>performance through chemistry</small>		Acetone Safety Data Sheet <small>according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations</small> <small>Date of issue: 11/12/1998 Revision date: 04/24/2018 Supersedes: 04/24/2018 Version: 1.3</small>	
SECTION 1: Identification			
1.1. Identification			
Product form	:	Substance	
Substance name	:	Acetone	
Chemical name	:	2-Propanone	
CAS-No.	:	67-64-1	
Product code	:	LC10420, LC10425	
Formula	:	C ₃ H ₈ O	
Synonyms	:	2-propanone / beta-ketopropane / dimethyl formaldehyde / dimethyl ketone / dimethylketal / DMK (=dimethyl ketone) / keto propane / methyl ketone / pyroacetic acid / pyroacetic ether / pyroacetic spirit	
1.2. Recommended use and restrictions on use			
Use of the substance/mixture	:	Solvent Cleaning product Chemical raw material	
Recommended use	:	Laboratory chemicals	
Restrictions on use	:	Not for food, drug or household use	
1.3. Supplier			
LabChem, Inc. Jackson's Pointe Commerce Park Building 1000, 1010 Jackson's Pointe Court Zelienople, PA 15083 - USA T 412-826-5230 - F 724-473-0647			
1.4. Emergency telephone number			
Emergency number	:	CHEMTREC: 1-800-424-9300 or +1-703-741-5970	
SECTION 2: Hazard(s) identification			
2.1. Classification of the substance or mixture			
GHS-US classification			
Flammable liquids	H225	Highly flammable liquid and vapour	
Category 2			
Serious eye damage/eye irritation	H319	Causes serious eye irritation	
Category 2A			
Specific target organ toxicity (single exposure)	H336	May cause drowsiness or dizziness	
Category 3			
Full text of H statements : see section 16			
2.2. GHS Label elements, including precautionary statements			
GHS US labeling			
Hazard pictograms (GHS US)	:	  <small>GHS02 GHS07</small>	
Signal word (GHS US)	:	Danger	
Hazard statements (GHS US)	:	H225 - Highly flammable liquid and vapour H319 - Causes serious eye irritation H336 - May cause drowsiness or dizziness	
Precautionary statements (GHS US)	:	P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking. P233 - Keep container tightly closed. P240 - Ground/bond container and receiving equipment. P241 - Use explosion-proof electrical, lighting, ventilating equipment P242 - Use only non-sparking tools. P243 - Take precautionary measures against static discharge. P281 - Avoid breathing mist, spray, vapors.	
04/23/2019		EN (English US)	
		Page 1	

CHEMICAL MANAGEMENT BEST PRACTICES

- ☐ Label all chemical containers
- ☐ Store in appropriate containers and temperatures
- ☐ Develop and update chemical inventories
- ☐ Good housekeeping – reduce hazardous waste
- ☐ Develop emergency response and spill clean-up plan
- ☐ Train personnel
- ☐ Purchase environmentally preferable products
- ☐ Purchase only amounts that can be reasonably expected to be used up before expiration



WASTE MANAGEMENT THROUGH CHEMICAL INVENTORY

Inventory
Management

Reduced risk and cost due to reduced inventory and waste generation

Efficient Use

Sharing chemicals across departments reduces purchasing quantities and costs

Timely Collection
and Disposal

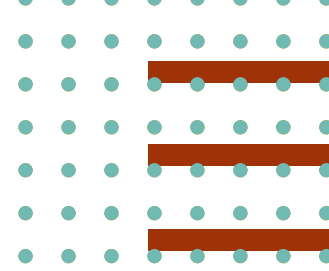
Reduced storage and disposal costs due to minimized on-site chemical quantities

Adequate
Monitoring and
Inspections

Reduced risk and potential errors by improving information tracking



CHEMICAL MANAGEMENT INVENTORY EXAMPLE



Manufacturer Name	Product Name	Quantity	Size	Environmentally Preferable Product?	Safety Data Sheet?
Sherman Williams	Latex Caulking	35	10 oz.		
Rust-O-Leum	Rust-O-Leum Paint	10	15 oz.		
Naptha	Naptha Break Fluid	1	12 oz.		
Hercules	Furnace Cement	4	8 oz.		
All Seasons	Car Wash and Lube	2	pt.		
Sherman Williams	Paint and Stain	8	qt.		
Valstar	Valstar Pent Oil	1	gal.		
Overhead Door	Door Lube	1	15 oz.		
Wal-Mart	Great Value - Carpet Cleaner	1	gal.		
Klean-Strip	Klean Strip Deglosser	1	qt.		
Homax	Homax - Texture	2	14 oz.		
STP	STP Break Fluids	1	12 oz.		
Bondex	Bondex - Trisodium Phosphate	1	lb.		
MARC	MARC - Odor Neutralizer	1	32 oz.		
Roberts	Roberts - Adhesives	1	qt.		
<div> <div>►</div> <div>Facilities</div> <div>Custodial</div> <div>+</div> <div>⋮</div> </div>					

HAZMAT TRANSPORTATION



HAZMAT TRANSPORTATION

- Governed by DOT
- 49 CFR 100-185
- Applicable to schools?
 1. If a school has unused and unneeded hazardous materials, which are still usable, and offers to give it to another user (different school, other government entity, off-site tribal entity), the school could be offering for shipment.
 2. All hazardous waste shipments are hazmat shipments.

Note: 49 CFR encompasses many requirements, including “function-specific” training, and it is not the intent of this training session to cover those requirements.



HAZMAT TRANSPORTATION

- To offer shipment, DOT HazMat Shipper Certification is required by 49 CFR 172.704 (Subpart H)



HAZARDOUS WASTE OPERATIONS AND EMERGENCY RESPONSE



WHAT IS HAZWOPER?

HAZWOPER: Hazardous Waste Operations and Emergency Response. Aims to prevent and minimize the risk of injury and illness from exposure to hazardous substances.

OSHA 29 CFR 1910.120

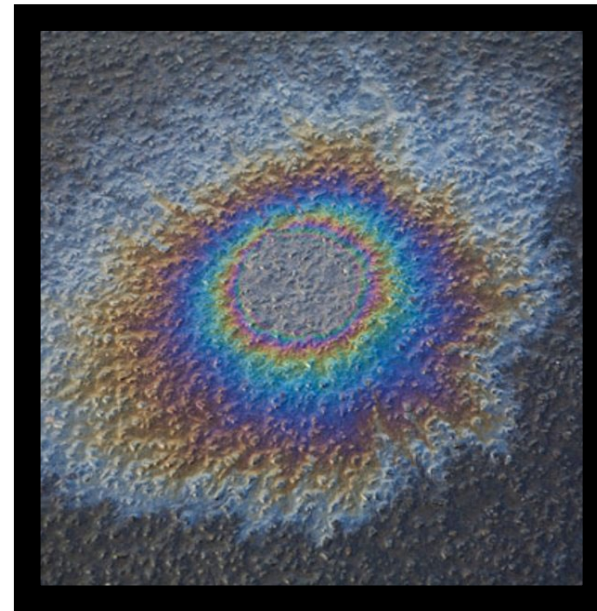
Includes requirements for employers to follow specific work policies, practices, and procedures to protect workers potentially exposed to hazardous substances during responses to emergencies involving releases of those substances.



HAZWOPER TRAINING LEVELS

There are 5 levels to HAZWOPER:

1. **First Responder Awareness Level**
2. First Responder Operations Level
3. Hazardous Materials Technician
4. Technician with Specialties
5. On-Scene Incident Commander



WHAT IS EMERGENCY RESPONSE?

Emergency response or responding to emergencies means a response effort by employees from outside the immediate release area or by other designated responders (i.e., mutual-aid groups, local fire departments, etc.) to an occurrence which results, or is likely to result, in an uncontrolled release of a hazardous substance.

Responses to incidental releases of hazardous substances where the substance can be absorbed, neutralized, or otherwise controlled at the time of release by employees in the immediate release area, or by maintenance personnel are not considered to be emergency responses within the scope of this standard.

Responses to releases of hazardous substances where there is no potential safety or health hazard (i.e., fire, explosion, or chemical exposure) are not considered to be emergency responses.



WHAT IS EMERGENCY RESPONSE?

*For actual emergencies, **first responders at the awareness level** are individuals who are likely to witness or discover a hazardous substance release and who have been trained to initiate an emergency response sequence by notifying the proper authorities of the release.*

They would take no further action beyond notifying the authorities of the release.



HAZWOPER AWARENESS LEVEL



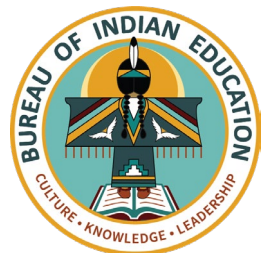
WHAT IS A HAZARDOUS SUBSTANCE?



Any substance that can impact or threaten human health or the environment when released or spilled based on its quantity, concentration, or location.

Examples relevant to schools:

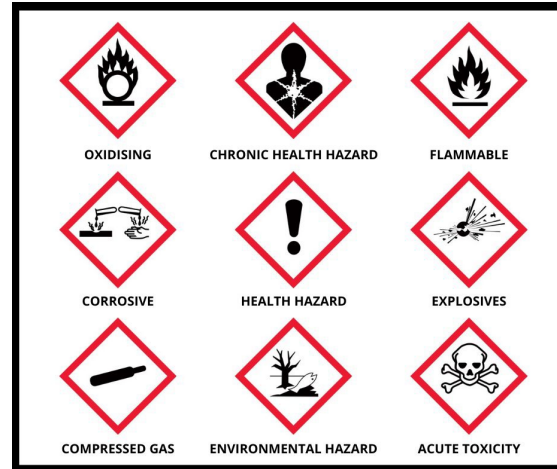
- Substances identified in 40 CFR part 302
- DOT hazardous materials
- Hazardous waste



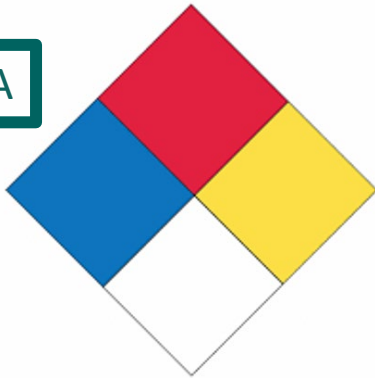
UNDERSTANDING AND RECOGNIZING HAZARDOUS SUBSTANCES

Identifying hazardous substances is important for safety management in the workplace. It can help prevent accidents, comply with safety regulations, and promote a safety culture.

GHS



NFPA



DOT

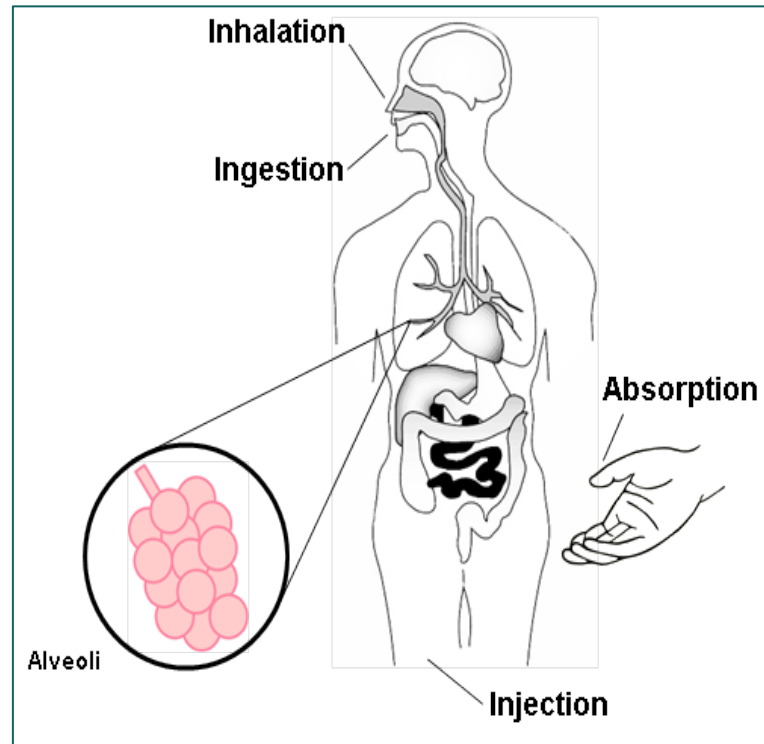


HAZARDS OF HAZARDOUS MATERIALS/SUBSTANCES

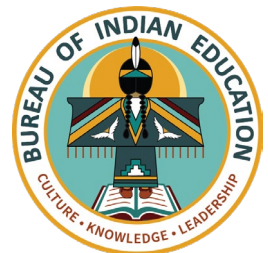
Routes of entry:

- Inhalation*
- Ingestion
- Absorption
- Injection

* Most Common



Source: Construction Safety Council, used with permission.



PHYSICAL HAZARDS

Types of **physical hazards** associated with hazardous materials:

Flammability

Explosivity

Reactivity

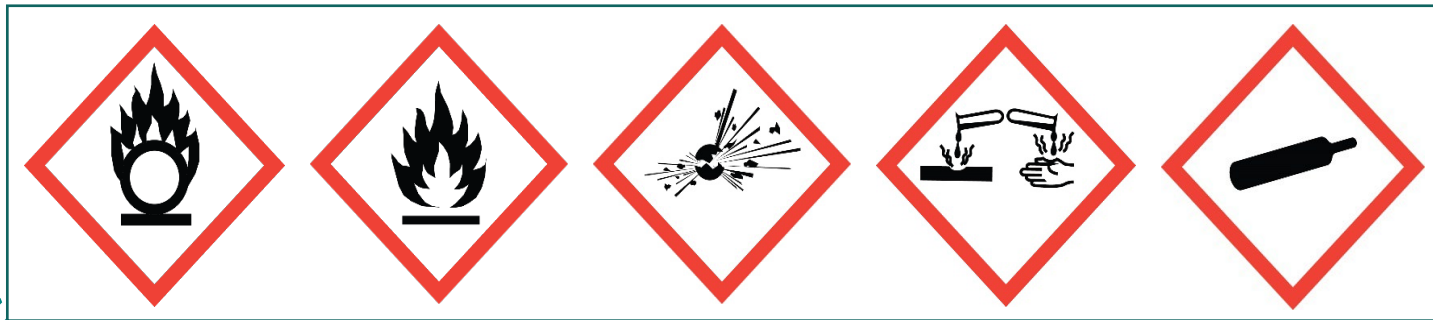
Pressure hazards

Corrosivity

Toxicity

Asphyxiation

Physical state changes



Source of pictograms: OSHA



HEALTH HAZARDS

Types of **Health Hazards** associated with hazardous materials:

Acute/chronic toxicity

Skin corrosion or irritation

Aspiration hazard

Serious eye damage
or eye irritation

Respiratory or
skin sensitization

Germ cell mutagenicity

Carcinogenicity

Reproductive toxicity

Specific target organ toxicity

Neurotoxicity



Source of pictograms: OSHA



AWARENESS LEVEL RESPONDER COMPETENCIES

Awareness level responders:

- Understanding what hazardous substances are, and risks associated with them in an incident
- Understand potential outcomes associated with an emergency with hazardous substances present
- Ability to recognize the presence of hazardous substances in an emergency
- Ability to identify the hazardous substances, if possible
- Understand their role in the school's emergency response plan, including site security and control
- Ability to realize the need for additional resources, and to make appropriate notifications to proper authorities.

They are not expected to take any further action beyond notifying the proper authorities.



NOTIFICATIONS

Internal

- Radios
- Sirens
- Bells
- Lights
- Flags
- Hand Signals
- Flares

External

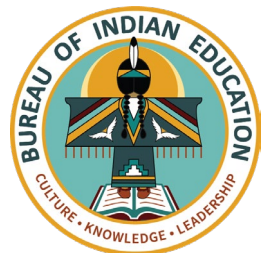
- 911
- Site/Program Management
- Regulatory Agencies



DISCERNING IF ADDITIONAL RESOURCES ARE NEEDED

Additional resources may be needed for hazardous materials incidents. This includes: 911, specialist resources, medical support, transportation.

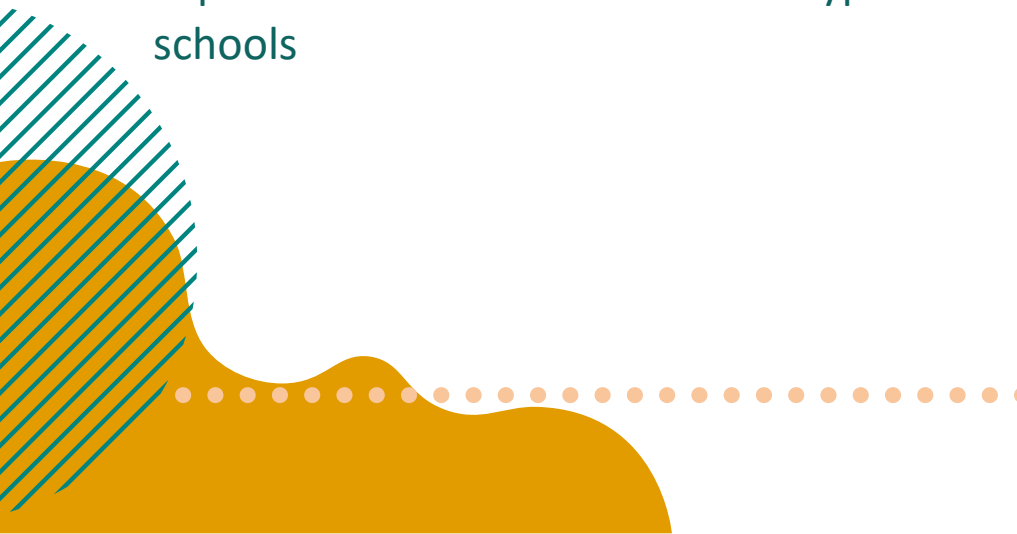
- Identify the materials involved
- Determine the risk or hazard (physical, health, environment) posed by the spill or leak
- Isolate the area
- Provide/request first aid, as needed





WHAT IS HAZARDOUS WASTE?



- “Waste” means a solid, liquid, or contained gaseous material that is being discarded or recycled.
 - “Hazardous waste” if it has certain **characteristics**:
 - Ignitable (alcohol-based hand sanitizer, waste fuels)
 - Corrosive (acid drain cleaner, alkaline floor stripper)
 - Reactive (possibly some chemistry lab materials?)
 - Toxic (contains metals / chemicals that can leach out)
 - Some chemicals are specifically **listed** by U.S. EPA
 - Much less common for schools to generate these
 - Expired chemicals are a common type of hazardous waste generated by schools
- 



CONCLUSION

Hazardous Materials / Hazardous Waste Operations and Emergency Response (HAZWOPER) Awareness goals are to:

- Prevent and minimize the possibility of worker injury and illness resulting from potential exposures to hazardous substances
- Provide first responder awareness level information to school staff
- Help school staff provide effective communication to transportation workers, emergency responders, and the general public of the hazards of the materials present at the school





RESOURCES

BIE Branch of Safety Management Hazard Communication Safety Program

- Contact your school's assigned safety officer for more information

OSHA Hazard Communication Standard

[1910.1200 - Hazard Communication. | Occupational Safety and Health Administration \(osha.gov\)](#)

HAZWOPER

[Hazardous Waste Operations and Emergency Response \(HAZWOPER\) - Overview | Occupational Safety and Health Administration \(osha.gov\)](#)

DOT Is It Hazmat?

[Check the Box: Is it Hazmat? | US Department of Transportation](#)





QUESTIONS?



BIE BEM PROGRAM CONTACTS



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Environmental Protection
Specialist

Hazardous Materials Lead

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Mvto HiyHiy LemLmts Wado
DaWaEh Miigwech Wopila
Pinangigi Wimblahoho
Quyana Baasee AnaaBasee HiriweTudahe
Ahéhee Pilamiya
Thank You Nya:Weh Aho
Tansi

