

Chemical Hazard

October 2023

Housekeeping



Muster Point

Presenter & Introductions



Safety begins with me!



Why am I here?

You are the KEY to SAFETY!

Chemical Hazards and Toxic Substances



Types of Chemicals

Flammable

Combustible

Corrosive

Reactive

Oxidizers



CORROSIVE



TOXIC

Types of Chemicals, cont.

- **Organic Peroxides**
- **Water Reactive**
- **Air Reactive**
- **Sensitizers**
- **Teratogens**



Routes of Exposure



Inhalation

Injection

Absorption

Ingestion

Symptoms of Chemical Exposure

Neurologic

Respiratory

Cardiovascular

Immunologic



Severity of Health Effects

Chronic Health Effects

Acute Health Effects












Workers' "Right to Know" Law

- Employers are required
 - to ensure that all employees know the hazards of chemicals they work with at their jobs
 - to ensure that employees are provided with information about chemicals they work with through:
 - Information on chemical labels
 - Safety Data Sheets (SDSs)
 - Training on hazard communication (HAZCOM)
 - Written HAZCOM plan

Globally Harmonized System (GHS)



Globally Harmonized System (GHS), cont.

<p>Exploding bomb</p>  <p>Explosives; Self Reactive; Organic Peroxides</p>	<p>Skull and Crossbones</p>  <p>Acute toxicity (severe)</p>	<p>Flame</p>  <p>Flammables; Pyrophorics; Self-Heating; Emits Flammable Gas; Self Reactive; Organic Peroxides</p>
<p>Gas Cylinder</p>  <p>Gases under pressure</p>	<p>Health Hazard</p>  <p>Carcinogen; Mutagenicity; Reproductive Toxicity; Respiratory Sensitizer; Target Organ Toxicity; Aspiration Toxicity</p>	<p>Flame over circle</p>  <p>Oxidizers</p>
<p>Corrosion</p>  <p>Corrosives</p>	<p>Exclamation mark</p>  <p>Irritant; Skin Sensitizer; Acute Toxicity (harmful); Narcotic effects; Respiratory Tract Irritant; Hazardous to Ozone Layer</p>	<p>Environmental</p>  <p>Aquatic Toxicity (OSHA did not propose this pictogram)</p>

Container Labeling in the Workplace

There are 6 elements of a GHS label:

Product Name

1

DANGER

Carbon Monoxide

6

Signal Word



H220: Extremely flammable gas. -
H331: Toxic if inhaled. - H360D: May
damage the unborn child. - H372:
Causes damage to organs through
prolonged or repeated exposure

5

Hazard Statement

Keep container tightly closed. Avoid
breathing vapours. If inhaled: Remove
victim to fresh air and keep at rest in a
position comfortable for breathing. Call
a Poison Center or doctor. Store in a
well-ventilated place.

Precautionary Statement

2

30.0 L

3630-08-0
211-128-3

006-001-00-2
#####

Company ABC
1234 Long Road
New York, New York
555-800-8585

4

Manufacturer Information

GHS Symbol

Additional Product Identifiers

3

Primary vs Secondary Container Labeling



Safety Data Sheets



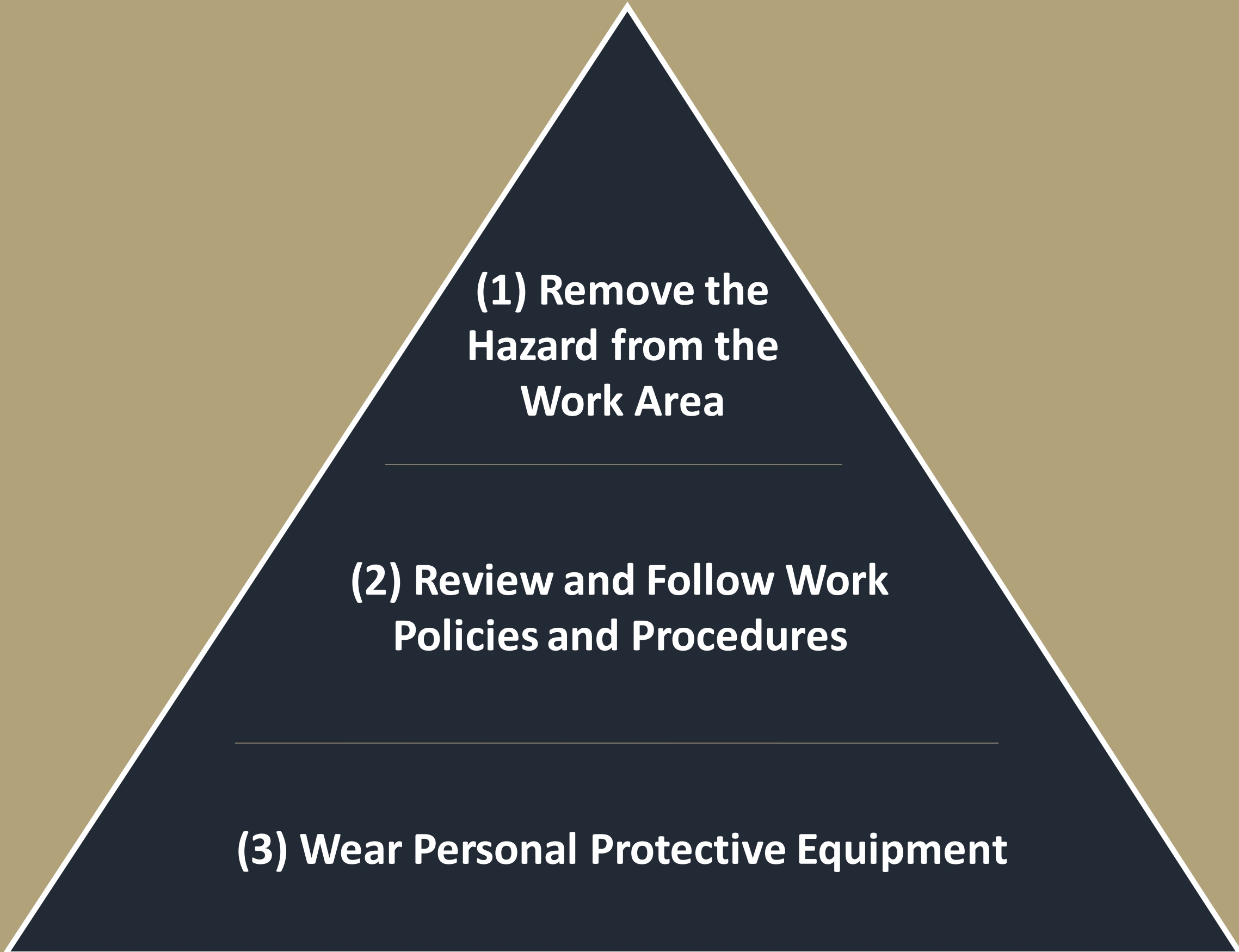
Safety Data Sheets, cont.

1. Identification
2. Hazard(s) identification
3. Composition/ information on ingredients
4. First-aid measures
5. Fire-fighting measures
6. Accidental release measures
7. Handling and storage
8. Exposure control/ personal protection
9. Physical and chemical properties
10. Stability and reactivity
11. Toxicological information
12. Ecological information
13. Disposal considerations
14. Transport information
15. Regulatory information
16. Other information

OSHA requires sections 1-11 and 16 be mandatory

Not regulated by OSHA

Chemical Hazard Control Approaches



**(1) Remove the
Hazard from the
Work Area**

**(2) Review and Follow Work
Policies and Procedures**

(3) Wear Personal Protective Equipment

Personal Protective Equipment (PPE)



One Team

QUESTIONS?

