



Hazardous Material

Construction sites can expose workers to various chemicals through inhalation, contact with skin and eyes, or ingestion. Differing time frames of exposure, such as acute vs chronic, could potentially cause differing levels of illness severity. The reasons for these exposures are:

1. Lack of knowledge related to handling chemicals, asbestos, minerals, soil, and building demolition.
2. Not realizing the high risk associated with chemical exposure in construction ranging from immediate health effects such as skin irritation and respiratory problems to long-term consequences like respiratory conditions including chemical pneumonia, neurological injuries, internal organ damage, skin disorders, poisonings, birth defects, cancer, and death.
3. Not understanding the risk associated with asbestos, lead, silica, volatile organic compounds, formaldehyde, benzene, and various toxic industrial glues and paints.
4. Not using the proper PPE for chemical or hazardous material exposure.
5. Not providing proper ventilation when working with chemicals.
6. Not speaking up and bringing any concerns to your supervisors or the SRMS safety team.

EXAMPLES OF INCIDENTS INVESTIGATED AND CITATIONS BY OSHA INCLUDE:

1. OSHA Report - June 18, 2024: a welder was preparing to attach a welding torch to the welding gas setup when an explosion occurred. A section of the truck panel flew, striking the welder in the head.
2. OSHA Report - December 19, 2023: an employee who performed maintenance work for petroleum products removed a toilet and poured muriatic acid into the drains. The cause of death was determined to be H₂S and carbon monoxide (CO) poisoning.
3. OSHA Report - November 18, 2022: an employee was inspecting a chiller and was later found unresponsive on the stairs outside of the chiller. The employee was killed by asphyxia as a result of exposure to freon.

4. OSHA Report - October 25, 2017: an employee was working with a crew that was engaged in sewer line rehabilitation work using a cured-in-place-pipe. Emergency Services later pronounced the employee dead at the scene.

REGULATIONS: HAZARD COMMUNICATION: OSHA Standard Subpart Z Hazard Communication

- **1926.59** Note: The requirements applicable to construction work under this section are identical to those set forth at § 1910.1200.

OSHA Standard Appendix A-E Hazard Communication - 1910.1200:

Appendix A, Health hazard definitions (Mandatory)
 Appendix B, Hazard Determination (Mandatory)
 Appendix C, Information sources (Advisory)
 Appendix D, Definition of "trade secret" (Mandatory)
 Appendix E, Guidelines for Employer Compliance (Advisory)

1910.1200 (4) (iii) - Employers shall ensure that employees are provided with information and training in accordance with paragraph (h) of this section (except for the location and availability of the written hazard communication program under paragraph (h)(2)(iii) of this section), to the extent necessary to protect them in the event of a spill or leak of a hazardous chemical from a sealed container.

1910.1200 (e) (1) - Employers shall develop, implement, and maintain at each workplace, a written hazard communication program that at least describes how the criteria specified in paragraphs (f), (g), and (h) of this section for labels and other forms of warning, safety data sheets, and employee information and training will be met, and which also includes the following:

THE 3E SYSTEM COVERS ALL THE KEY POINTS AS FOLLOWS: KEY POINT #1 - WHAT TO FOCUS ON:

OSHA requires that a chemical inventory list must be "READILY AVAILABLE" for utilization:

1. Identification: A unique identifier for the chemical.
2. Safety Data Sheet (SDS): The location of the SDS for the chemical.
3. Product information: The chemical's name, manufacturer, address, and phone number.
4. Hazardous chemical status: Whether the chemical is hazardous, combustible, flammable, corrosive, or has other hazardous properties.

KEY POINTS #2 - WHAT TO FOCUS ON:

OSHA requires employers to:

1. Develop and implement a written HazCom program.
2. Ensure storage areas are free from clutter, explosives, and flammable conditions.
3. Separate chemicals that cannot be stored together.
4. Label hazardous chemicals with the required information.

KEY POINTS #3 - WHAT TO FOCUS ON:

Globally Harmonized System (GHS) classifies substances, mixtures, and articles by hazard category.

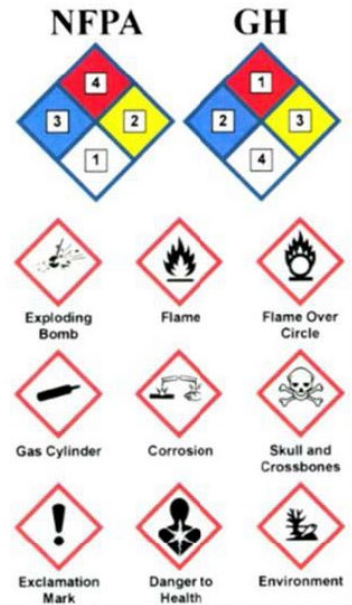
OSHA[®] QUICK CARD[™] Hazard Communication Standard Pictogram

As of June 1, 2015, the Hazard Communication Standard (HCS) will require pictograms on labels to alert users of the chemical hazards to which they may be exposed. Each pictogram consists of a symbol on a white background framed within a red border and represents a distinct hazard(s). The pictogram on the label is determined by the chemical hazard classification.

HCS Pictograms and Hazards

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

OSHA GLOBAL HARMONIZING HAZARD COMMUNICATIONS UPDATE 10-2013



WHAT YOU NEED TO KNOW:

Chemical Exposures On Job Sites Are Real

- **Recognizing Potential Exposures:** If you have any tasks involving asbestos, lead, silica, solvents, cadmium, carbon monoxide, dust, explosives, hydrogen sulfide, mercury, welding fumes, acids, benzene, and chemicals that can cause burns and skin irritation

"Hazard Communication - Guidance for Hazard Determination | Occupational Safety and Health Administration." www.osha.gov, www.osha.gov/hazcom/ghd053107.

"Accident Report Detail | Occupational Safety and Health Administration Osha.gov." Osha.gov, 2024, www.osha.gov/ords/imis/accidentsearch.accident_detail?id=167509.015. Accessed 21 Mar. 2025.

"1926.59 - Hazard Communication. | Occupational Safety and Health Administration." Osha.gov, 2024, www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.59.

OSHA. "1910.1200 - Hazard Communication. | Occupational Safety and Health Administration." Osha.gov, 2012, www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1200.

"Hazard Communication Standard: Labels and Pictograms." Osha.gov, www.osha.gov/sites/default/files/publications/OSHA3636.pdf. Accessed 21 Mar. 2025.

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Exceptional Service: Align goals. Add value. Develop lasting relationships.

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Focus on Team: Listen. Collaborate. Communicate. Execute.