



# **Parts 42, 92, and 430 - Hazard Communication and Right-To-Know Requirements for General Industry and Construction**

**Student Materials  
MTI Level Two Compliance Course  
Consultation Education and Training Division  
Michigan Occupational Safety and Health Administration  
Michigan Department of Labor and Economic Opportunity  
[www.michigan.gov/miosha](http://www.michigan.gov/miosha)  
517-284-7720**



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# Parts 42, 92, and 430 Hazardous Communication Act 154: Labeling/Posting and SDS

Presented By:  
Consultation Education and Training Division  
Michigan Occupational Safety and Health Administration  
Michigan Department of Labor and Economic Opportunity  
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517-284-7720



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## Course Objectives

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Describe purpose and scope of the Hazard Communication (Haz Com) Standard including recognized exemptions.

Identify the requirements for compliance with the Haz Com Standard.

Classify chemicals using the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) from the appendices of the Haz Com Standard.

Evaluate chemical labels and safety data sheets (SDSs).

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## Objective 1

Describe purpose and scope of Haz Com Standard including recognized exemptions.



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## Horizontal vs. Vertical Standards

### Horizontal Standards

- More general standards applicable to multiple industries.

### Vertical Standards

- Apply to a particular industry or to operations, practices, conditions, processes, means, methods, equipment or installations.



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## The Beginning: Act 154 and Michigan's Right To Know Law

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Michigan Public Act 154  
Michigan Occupational Safety and Health Act

Employer to furnish a place of employment which is “free from recognized hazards” (a.k.a The General Duty Clause)

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## Act 154 – Section 14

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Make information available to employees exposed to hazardous chemicals:

14(c) Pipes and Pipe Labeling

14(i) Fire Fighter Department Plans

14(j) Signs - SDS Poster

14(k) Organizing your SDS and New/Revised SDS notification posting

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## Act 154 Requirements: Section 14(c) - Pipes and Pipe Labeling

Label or identify pipes/piping systems:

label or a sign,  
placard,  
process sheet,  
batch ticket,  
written operating instruction, or  
a substance identification system.



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## Act 154 Section 14(c) – Pipe Labeling

Labels or identification methods:

- Placed where employee exposure may be most likely will occur
- No size or specific distance between labels required
- Should be highly visible
- Alternative notification methods (other than labeling) must be readily accessible to each employee
- ASME A13.1-2007 (R2013) Scheme for the Identification of Piping Systems
- ANSI Z535.1-2006 (R2011) Safety Colors

Employees must be able to recognize what identification system the employer uses.

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## Act 154 Section 14(c) – Pipe Labeling: ANSI EXAMPLE



**Yellow** with Black Lettering - flammable liquids and gasses

**Green** with White Lettering - potable water

**Blue** with White Lettering - compressed air

**Red** with White Lettering - fire quenching fluids

**Orange** with Black Lettering - toxic or corrosive fluids

**Brown** with White Lettering - combustible fluids

*Other colors determined by the facility*

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## Act 154 Section 14(c) – Pipe Labeling: ANSI Pipe Label Placement

Recommendations for label placement:

Labels clearly visible from the normal angle of approach

Near all valves and flanges

Adjacent to changes in direction

Both sides of floor/wall penetrations

At regular intervals on straight runs of pipe; at least one label every 50 feet throughout the piping run

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## Fire Department Plans

Prepare a plan and disseminate to fire fighting employees

Related responsibilities at sites where hazardous chemicals are used or produced

Does not require fire departments maintain SDSs for sites in their jurisdiction that use or produce chemicals

Do you have chemicals that would pose a risk to fire fighters?

Have you invited the chief to your facility to discuss unique hazards and emergency plan?

[2015 Tainjin, China warehouse fire](#)



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## Act 154, Section 14(j-k) – SDS Signs and Notices (Posters)

Two Required MIOSHA SDS Posters:

- Completed “SDS Location” Poster (j)
- Completed “New or Revised SDS” Poster (k)(2)
  - Post within five working days after receipt of a new or revised data sheet
  - Keep posted for ten days

If a required posting is missing, a violation of 14(j) or 14(k) will be cited

See poster examples on next slide


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## Act 154 Section 14(j-k)\*

**This Workplace Covered by the Michigan Right To Know Law**



Employers must make available for employees in a readily accessible manner, Safety Data Sheets (SDS) for those hazardous chemicals in their workplace.

Employees cannot be discharged or discriminated against for exercising their rights including the request for information on hazardous chemicals.

Employees must be notified and given direction (by employer posting) for locating Safety Data Sheets and the receipt of new or revised SDS(s).

When the employer has not provided a SDS, employees may request assistance in obtaining SDS from the:

Michigan Department of Licensing and Regulatory Affairs  
Michigan Occupational Safety & Health Administration  
General Industry Safety & Health Division  
(517) 264-7750  
Construction Safety & Health Division & Asbestos Licensing  
(517) 264-7800  
[www.michigan.gov/miosha](http://www.michigan.gov/miosha)  
MIOHSA/CCT #2008 (Rev. 05/16)

**SDS(s) For This Workplace Are Located At**

Location(s) \_\_\_\_\_

Location(s) \_\_\_\_\_


Person(s) responsible for SDS(s) \_\_\_\_\_

Phone \_\_\_\_\_

**MIOSHA**  
Michigan Occupational Safety & Health Administration

LARA is an equal opportunity employer/program.

**As Required by the Michigan Right To Know Law**



**New or Revised SDS**

TO BE POSTED THROUGHOUT THE WORKPLACE NEXT TO THE SAFETY DATA SHEETS (SDS) LOCATION POSTERS

New or Revised	Receipt Date	Posting Date	Location of New or Revised SDS

**LICENSING AND REGULATORY AFFAIRS**  
CUSTOMER SERVICE, BUSINESS SERVICES

Michigan Department of Licensing and Regulatory Affairs  
Michigan Occupational Safety & Health Administration  
Construction Education & Training Division  
(517) 264-7750

Field is part with Federal OSHA funds.  
MIOHSA/CCT #2008 (Rev. 05/16)  
LARA is an equal opportunity employer/program.

For further information, visit our website at [www.michigan.gov/miosha](http://www.michigan.gov/miosha)

**MIOSHA**  
Michigan Occupational Safety & Health Administration

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## Act 154 Section 14 (f) and (g) – RTK Exemptions

Section 14(f) Agriculture: pesticides, fungicides, rodenticides

Section 14(g) Chemicals In Transit:  
Common carriers with sealed packages



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## Federal OSHA 1910.1200 vs MIOSHA Parts 42, 92, and 430

Federal OSHA passed Haz Com Standard (revised 2012).

Three Michigan Standards Adopted OSHA Standard

- Part 42: Construction Safety
- Part 92: General Industry Safety
- Part 430: Occupational Health



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### (a) Purpose:

Ensure hazards of chemicals are classified and information shared with employers and employees exposed to the chemicals.

Classify chemicals according to the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS) Revision 3.



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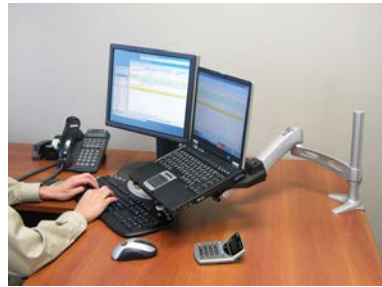
## (a) Purpose: (continued)

Haz Com rules intended to:

Address comprehensive classification of potential chemical hazards

Communicate the hazards and protective measures to employees

- Written Haz Com program
- List of hazardous chemicals
- Labeling
- Safety Data Sheets (SDS)
- Employee training



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## (b) Scope and Application

Applies to any chemical that is known to be present in the workplace:

Where employees may be exposed during:

- Normal operations
- Foreseeable emergencies.

Regardless of whether the employer has created the chemical exposure (e.g., multi-employer worksites).

Includes by-products formed while chemical is processed

[CPL 02-02-079.pdf \(osha.gov\)](#)

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## (b) Scope and Application – Examples of covered chemicals and products:

- Bricks
- Metal ingots
- Wood products where the hazard is not just combustion - wood sawdust creates a respiratory hazard
- Hazardous drugs not in final form or a solid - drugs that are crushed or dissolved prior to administration
- Combustible dusts
- Simple asphyxiants
- Welding rods/wire
- Acid batteries
- Consumer products not used in the quantities and the manner that a consumer would use them
- Oil and gas products; the producers are considered manufacturers under the Haz Com

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## (b) Scope and Application – Who does what?

### **Manufacturers and Importers:**

Classify the hazards of chemicals  
Provide information about the hazards

### **Distributors:**

Transmit information to employers

### **Employers:**

Establish workplace program  
Communicate information to employees



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## (b) Scope and Application – Partial Exemptions: Lab

### Laboratories only requirements:

- Maintain labels on incoming containers.
- Maintain any SDS received with incoming shipments of hazardous chemicals.
- Ensure SDS are readily accessible.
- Provide info and training to laboratory employees.

When lab makes and ships products out of the lab, the lab would be considered a manufacturer.

Refer to Part 431. Hazardous Work in Laboratories Standard.

Note: Laboratories subject to MIOSHA Part 431 are NOT required to follow MIOSHA Part 42, 92 or 430 Hazard Communication.

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## (b) Scope and Application – Partial Exemptions: Sealed Containers

If not opened under normal conditions of use, the only applicable Haz Com requirements are:

- Ensure labels are intact.
- Maintain received copies of SDS or if employee requests.
- Train to protect if spill or leak.
- No written program required if only exposed to sealed containers.



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## (b) Scope and Application – Exempt from Haz Com Labeling

Pesticides are labeled under FIFRA.

Toxic chemical or substance labeled under TSCA.

Food, food additives, color additives, drugs, cosmetics, and medical devices are subject to FDA or USDA labels.

Alcohol labeled by Federal Alcohol Administration Act or ATF.

Consumer product or substance labeled under Consumer Product Safety Act.



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## (b) Scope and Application – Exempt from all Haz Com

Hazardous wastes are covered by EPA regulations

Tobacco and tobacco products

Wood/wood products which will not be processed

Articles in general, partial

Food, alcohol, cosmetics, drugs sold to consumers and personal use

Consumer products (depends on use)

Nuisance particulates that pose **no** hazard

Ionizing and nonionizing radiation

Biological materials



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## (b) Scope and Application – Exempt Articles

**Definition:** Manufactured item (solid) which under normal conditions does not release more than trace amounts of a hazardous chemical and does not pose a risk.

Covered if item contains a hazardous chemical which can be released and result in an employee exposure.



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## (b) Scope and Application – Exempt Consumer Products

**Definition:** ...for sale to a consumer for household use.

Covered by Haz Com (except labeling requirements) if used where duration, frequency or volume is greater than consumer usage.



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## (b) Scope and Application - Summary

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Act 154, Section 14 (RTK) specifies requirements for posters, labeling, and SDSs.

Haz Com applies if hazardous chemical that is not exempted under section (b) is present and there is a potential employee exposure.

Articles are not covered by Haz Com.

Consumer products **may** be covered by Haz Com Standard.

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## Scope and Application – Activity 1

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Determine if the following are covered by the Haz Com Standard as follows:

1. Covered by all the Haz Com standard
2. Exempt from Haz Com labeling requirements
3. Exempt from the entire Haz Com standard

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## Scope and Application – Activity 1

### Are these items covered under Haz Com?

Window cleaner – one quart bottle (occasional usage).

Cutting lumber at a lumberyard.

Barrel of used waste solvents (paint shop).

Chemotherapy IV drugs (cancer clinic).

Bleach – Mix and use ten gallons per week (large hotel).

1. Covered by all Haz Com
2. Label exemption
3. Exempt from all Haz Com

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## Scope and Application – Activity 1

### Are these items covered under Haz Com?

Spray can(s) of paint from a hardware store.

Aspirin for employee personal use.

Welding rods (welding shop).

Radioactive source for XRF device.

Wine at office party.

Chemicals used to sterilize or disinfect instruments in a hospital.

1. Covered by all of Haz Com
2. Label exemption
3. Exempt from all of Haz Com

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## Scope and Application: Things to Remember...

### Best practices:

- Maintain SDSs for all chemicals used by employees
- Provide training in the hazards of all chemicals in the workplace

Exemption from Haz Com does not necessarily mean exempt from other MIOSHA Standards such as:

- Part 6/33/433 Personal Protective Equipment
- Construction Part 18 Fire Protection and Prevention
- G.I. Part 75 Flammable liquids

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## Objective 2

Identify the requirements for compliance with the Haz Com Standard.



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## Overview of the Haz Com

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- |                                      |                                      |
|--------------------------------------|--------------------------------------|
| a) Purpose                           | g) Safety Data Sheets                |
| b) Scope and Application             | h) Employee Information and Training |
| c) Definitions                       | i) Trade Secrets                     |
| d) Hazard Classification             | j) Effective Dates                   |
| e) Written Haz Com Program           | k) Appendices A-F                    |
| f) Labels and Other Forms of Warning |                                      |

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## (d) Hazard Classification

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### Evaluation of chemicals

- Manufacturer, importer, distributor
- Employers (if choosing not to rely on manufacturer, importer or distributor)
- Determine hazard class and category

### Identify and consider potential hazards

- Full range of scientific literature
- Other evidence
- Use of appendices A and B
- No requirement to test chemicals

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## (d) Hazard Classification

Chemical manufacturers and importers are required to perform a **“hazard classification”** of all chemicals they produce or import (Criteria in Appendices A and B).

**Identify:** hazard class under health, physical and environmental\* hazards

**Categorize:** hazard categories (degree of severity) are a sub-division of the hazard class

**Inform:** place hazard information for each hazard class and category on the label and in SDS

\*Not regulated by MIOSHA. Contact EGLE at 800-662-9278

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## (d) Hazard Classification: Health

Health Hazards				
Hazard Class	Hazard Category			
Acute toxicity	1	2	3	4
Skin Corrosion/Irritation	1A	1B	1C	2
Serious Eye Damage/Eye Irritation	1	2A	2B	
Respiratory or Skin Sensitization	1			
Germ Cell Mutagenicity	1A	1B	2	
Carcinogenicity	1A	1B	2	
Reproductive Toxicity	1A	1B	2	Lactation
Specific Target Organ Toxicity – Single Exposure	1	2	3	
Specific Target Organ Toxicity – Repeated Exposure	1	2		
Aspiration	1			
Simple Asphyxiants	Single Category			

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## (d) Hazard Classification: Health Categories

**Hazard Classes** are divided into hazard categories.  
**Hazard Categories** states severity within the class.

Example - Acute Toxicity Hazard Categories				
Exposure Route	Cat. 1	Cat. 2	Cat. 3	Cat. 4
Oral (mg/kg)	$\leq 5$	$> 5$ and $\leq 50$	$> 50$ and $\leq 300$	$> 300$ and $\leq 2000$
Dermal (mg/kg)	$\leq 5$	$> 50$ and $\leq 200$	$> 200$ and $\leq 1000$	$> 1000$ and $\leq 2000$
Inhalation – Gases (ppmV)	$\leq 100$	$> 100$ and $\leq 500$	$> 500$ and $\leq 2500$	$> 2500$ and $\leq 20000$
Inhalation – Vapors (mg/l)	$\leq 0.5$	$> 5$ and $\leq 2.0$	$> 2.0$ and $\leq 10.0$	$> 10.0$ and $\leq 20.0$
Inhalation – Dusts and Mists (mg/l)	$\leq 0.05$	$> 0.05$ and $\leq 0.5$	$> 0.5$ and $\leq 1.0$	$> 1.0$ and $\leq 5.0$

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## (d) Hazard Classification: 2012 Haz Com and GHS Differences

Classifications in GHS **not** in 2012 Haz Com:

- Acute Toxicity Category 5
- Skin Corrosion/Irritation Category 3
- Aspiration Category 2

Note: Consumer products may include these categories in their classification requirements for labeling. May also appear in SDS.

Unclassified Hazards (not in GHS, in 2012 Haz Com)

- Simple Asphyxiants (health hazard category)
- Pyrophoric Gases (physical hazard category)
- Combustible Dust (physical hazard category)
- Hazards Not Otherwise Classified (HNOC)

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## (d) Hazard Classification: Physical

Physical Hazards							
Hazard Class	Hazard Category						
Explosives	Unstable Explosives	Div 1.1	Div 1.2	Div 1.3	Div 1.4	Div 1.5	Div 1.6
Flammable Gases	1	2					
Flammable Aerosols	1	2					
Oxidizing Gases	1						
Gases under Pressure							
Compressed gases	1						
Liquefied gases							
Refrigerated liquefied gases							
Dissolved gases							
Flammable Liquids	1	2	3	4			
Flammable Solids	1	2					
Self-Reactive Chemicals	Type A	Type B	Type C	Type D	Type E	Type F	Type G
Pyrophoric Liquids	1						
Pyrophoric Solids	1						
Pyrophoric Gases	Single Category						
Self-Heating Chemicals	1	2					
Chemicals in which contact with water emit flammable gases	1	2	3				
Oxidizing Liquids	1	2	3				
Oxidizing Solids	1	2	3				
Organic Peroxides	Type A	Type B	Type C	Type D	Type E	Type F	Type G
Corrosive to Metals	1						
Combustible Dust	Single Category						

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## (d) Hazard Classification: Physical Categories

Example – Flammable Liquids Hazard Categories

	Cat. 1	Cat. 2	Cat. 3	Cat. 4
Flash Point	< 73 F (23°C)	< 73 F (23°C)	≥ 73 F (23°C) and ≤ 140°F (60°C)	>140°F (60°C) and ≤ 200°F (93°C)
Initial Boiling Point	≤ 95°F (35°C)	> 95°F (35°C)	N/A	N/A

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## (d) Hazard Classification – Carcinogens

### Refer to Appendix F

Part D. Table Relating Approximate Equivalences among IARC, NTP RoC, and GHS Carcinogenicity Classifications

Approximate Equivalences Among Carcinogen Classification Schemes		
IARC	GHS	NTP RoC
Group 1	Category 1A	Known
Group 2A	Category 1B	Reasonably Anticipated
Group 2B	Category 2	

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## (d) (3) Hazard Classification - Mixtures

Chemical manufacturers, importers, or employers evaluating chemicals:

Follow the procedures in Appendices A and B to classify the hazards of the chemicals – specific notes for mixtures are included

Determinations when mixtures of the classified chemicals are covered by Haz Com

May rely on the information provided on the current safety data sheets of the individual ingredients\*

\*Do not use ingredient SDS when classifying mixture if the SDS misstates or omits required information.

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## (d) (3) Hazard Classification - Mixtures

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GHS uses tiered approach within each hazard class:

- Step 1: Use available test data on the mixture, as a whole, to classify the mixture based on the substance criteria.
- Step 2: Use bridging principles to extrapolate from other data (e.g. dilution principle for acute toxicity).
- Step 3: Estimate hazards based on known information regarding ingredients of the mixture (cut-offs may be applied) exception for chronic hazards.

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## Classification of Chemicals Activity 2

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For this activity, refer to:

- Activity #2
- Haz Com Standard Appendices A and B

This activity will guide you through a simple classification process for a chemical using the Haz Com Standard Appendices A and B.

You may work with a partner to complete this activity.

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## Review Results Activity 2

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What were the categories identified for each health hazard classification?

What was the category identified for the physical hazard classification?

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## (e) Written Hazard Communication Program

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Develop, implement, and maintain at each workplace, a written Haz Com program to include:

- Labels and other forms of warning
- SDSs
- Information and training
- List of chemicals
- Non-routine tasks
- Contents of pipes conveying hazards
- Multi-employer worksites
- Program must be site specific
- Written program must be available to employees or their representative



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# Written Hazard Communication Program

Failure to maintain a written hazard communication program is frequently cited by compliance

Sample program available for download at: [mi.gov/ghs](http://mi.gov/ghs) or [Labor and Economic Opportunity - Hazard Communication / GHS Training \(michigan.gov\)](http://mi.gov/ghs)

Michigan Department of Labor and Economic Opportunity  
Michigan Occupational Safety and Health Administration  
Consultation Education and Training Division

## Suggested Format for a Written Hazard Communication Program

### General

The following hazard communication program has been established for \_\_\_\_\_ (company name). This program will be available for review by all employees.

### Hazard Classification

Chemical manufacturers or importers shall evaluate chemicals they produced or import to classify the chemicals in accordance with the revised Hazard Communication Standard.

**Effective June 1, 2015** - For each chemical, the chemical manufacturer or importer shall determine the hazard classes, and where appropriate, the category of each class that apply to the chemical being classified. This information will be placed in the Safety Data Sheet (SDS) and on the product label.

\_\_\_\_\_ (company name) \_\_\_\_\_ will rely on SDSs obtained from product suppliers to determine which chemicals are classified as hazardous for employees.

### Labeling

A. \_\_\_\_\_ (name or job title) \_\_\_\_\_ will be responsible for seeing that all containers entering the workplace from a manufacturer, importer or distributor are properly labeled.

B. All labels shall be checked for:

1. Product identifier;
2. Signal word;
3. Hazard statement(s);
4. Pictogram(s);
5. Precautionary statement(s); and,
6. Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party.

C. Each \_\_\_\_\_ (employee or supervisor) \_\_\_\_\_ shall be responsible for ensuring that all secondary workplace containers used in their work area are labeled with the appropriate product identifier and provide employees with information regarding the physical and health hazards of the hazardous chemical.

Note: Workplace labeling. The employer shall ensure that each container of hazardous chemicals in the workplace is labeled, tagged or marked with either:

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## (e) Written Hazard Communication Program: List of Hazardous chemicals

Have you done a physical inventory?

Compared the inventory to purchasing documents?

Compare to MSDS/SDS on file?

Have you determined if there are any consumer products used the same way and quantity as in a household? If used differently or greater quantity, MUST have SDS and included in the Haz Com Program.

Include the list of chemicals in the program and may also be used as an index to the MSDS/SDS book, file or electronic folder.

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## (e) Written Hazard Communication Program – Multi-Employer Worksites

Employers who:

Produce, Use, or

Store hazardous chemicals at a workplace

In such a way that the employees of other employer(s) may be exposed.



Example: Contractors that perform janitorial services

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## (e) Written Hazard Communication Program – Multi-Employer Worksites

Multi-Employer worksites document methods used to:

- Provide onsite access to SDSs
- Inform other employers/employees of precautionary measures:
  - During normal operations
  - During foreseeable emergencies
- Inform other employers/employees of workplace labeling system used



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## (f) Labels and other forms of warning

There are three types of containers described in the Haz Com Standard:

- Shipped Containers or original manufacturer's container
- Workplace Containers or secondary containers
- Portable Containers or transfer/personal use containers

Each have specific requirements and exceptions.



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## (f) Labels and other forms of warning

Shipped containers to be labeled with:

- Product identifier
- Signal word
- Hazard Statement
- Pictograms
- Precautionary Statements
- Responsible party

Sample Outer Container Label  
(55 gallon/200 liter drum)

PRODUCT IDENTIFIER	HAZARD PICTOGRAMS
<b>CODE</b> Product Name _____	
<b>SUPPLIER IDENTIFICATION</b> Company Name _____ Street Address _____ City _____ State _____	<b>SIGNAL WORD</b> <b>Danger</b>
Postal Code _____ Country _____ Emergency Phone Number _____	<b>HAZARD STATEMENT</b> <b>Highly flammable liquid and vapor.</b> <b>May cause liver and kidney damage.</b>
<b>PRECAUTIONARY STATEMENTS</b> Keep container tightly closed. Store in cool, well ventilated place that is locked. Keep away from heat/sparks/open flame. No smoking. Only use non-sparking tools. Use explosion-proof electrical equipment. Take precautionary measure against static discharge. Ground and bond container and receiving equipment. Do not breathe vapors. Wear Protective gloves. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Dispose of in accordance with local, regional, national, international regulations as specified.	<b>SUPPLEMENTAL INFORMATION</b> <b>Directions for use</b> _____ _____ Fill weight: _____ Lot Number _____ Gross weight: _____ Fill Date: _____ Expiration Date: _____
<b>In Case of Fire:</b> use dry chemical (BC) or Carbon dioxide (CO <sub>2</sub> ) fire extinguisher to extinguish. <b>First Aid</b> If exposed call Poison Center. If on skin (on hair): Take off immediately any contaminated clothing. Rinse skin with water.	<b>Pictograms within DOT label</b>  <b>DOT Shipping</b> Flammable liquids, toxic, n.o.s. (contains XYZ) UN 1992

[www.osha.gov/Publications/HazComm\\_QuickCard\\_Labels.html](http://www.osha.gov/Publications/HazComm_QuickCard_Labels.html)

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## (f) Labels and other forms of warning- Signal Words

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Word used to indicate the severity of the hazard and alert the reader to the potential hazard.

- **"DANGER"** (more severe hazard)
- **"WARNING"** (less severe hazard)

### Appendix C

- Specifies what is required to be on the label (Cookbook for labeling)
- Lists label elements required based on:
  - Hazard Class
  - Hazard Category

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## (f) Labels and other forms of warning - Hazard Statements

*Hazard statements* describe the hazards associated with a chemical.

Examples:

- Flammable liquid and vapor
- Causes skin irritation
- May cause cancer

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## (f) Labels and other forms of warning – Precautionary Statements

*Precautionary statements* describe recommended measures related to:

- Prevention
- Response
- Storage
- Disposal

Examples:

- Wear respiratory protection
- Wash with soap and water
- Store in a well-ventilated place



Not a mandate for employers/employees to follow

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## “Wear Respiratory Protection”

Chemical hazard classes and categories require respiratory protection precautionary statements:

- Acutely toxic by inhalation
- Respiratory sensitizers

Complete the exposure assessments as required by Part 451 Respiratory Protection Standard if reasonable possibility of employee overexposure.



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## “Wear Respiratory Protection”

### Hazard Classification and Respirator Precautionary Statement in Haz Com Standard

Hazard Class	Hazard Category	Precautionary Statement
Acute Toxicity Inhalation	Category 1	Prevention: [In case of inadequate ventilation] wear respiratory protection (Appendix C.4.3)
Acute Toxicity Inhalation	Category 2	Prevention: [In case of inadequate ventilation] wear respiratory protection (Appendix C.4.3)
Sensitization Respiratory	Category 1 (Including both sub-categories 1A and 1B)	Prevention: [In case of inadequate ventilation] wear respiratory protection (Appendix C.4.6)

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## (f) Labels and other forms of warning - Pictograms

A symbol plus other graphic elements intended to convey hazards.

In the final rule, MIOSHA adopted eight of nine pictograms.

All pictograms have red borders.

All red diamonds (square on point) printed on a label or SDS must have a pictogram inside (no blank diamonds for label).



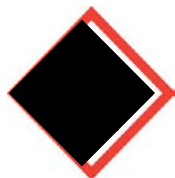
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## (f) Labels and other forms of warning - Pictograms

Blacked out pictogram borders are compliant with the requirements as they are not a "square red frame set at a point without a hazard symbol".

However, if a blank red frame is not fully covered or filled in, the label would not be in compliance.



Unacceptable



Acceptable

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## (f) Labels and other forms of warning - Pictograms Defined











Physical Hazard				
Oxidizers	Flammables Self Reactives Pyrophorics Self-Heating Emits Flammable Gas Organic Peroxides	Explosives Self Reactives Organic Peroxides	Corrosive to Metal	Gases Under Pressure
Health Hazard			Environmental Hazard	
Acute toxicity (severe)	Irritant (skin and eye) Dermal Sensitizer Acute toxicity (harmful) Narcotic Effects Respiratory Tract Irritation Ozone Depleting (EPA)	Carcinogen Respiratory Sensitizer Reproductive Toxicity Target Organ Toxicity Mutagenicity Aspiration Toxicity	Skin Corrosion/Burns Serious Eye Damage	Environmental Toxicity (acute and chronic)

60

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## (f) Labels and other forms of warning - Pictograms Defined

Physical Hazard				
				
Oxidizers	Flammables Self Reactives Pyrophorics Self-Heating Emits Flammable Gas Organic Peroxides	Explosives Self Reactives Organic Peroxides	Corrosive to Metal	Gases Under Pressure
Health Hazard			Environmental Hazard	
				
Acute toxicity (severe)	Irritant (skin and eye) Dermal Sensitizer Acute toxicity (harmful) Narcotic Effects Respiratory Tract Irritation Ozone Depleting (EPA)	Carcinogen Respiratory Sensitizer Reproductive Toxicity Target Organ Toxicity Mutagenicity Aspiration Toxicity	Skin Corrosion/Burns Serious Eye Damage	Environmental Toxicity (acute and chronic)

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## (f) Labels and other forms of warning - Pictograms Defined (continued)

Example: Label Information (Acute Oral Toxicity)				
	Category 1	Category 2	Category 3	Category 4
<b>LD<sub>50</sub></b>	≤ 5 mg/kg	> 5 < 50 mg/kg	50 < 300 mg/kg	300 < 2000 mg/kg
<b>Pictogram</b>				
<b>Signal word</b>	Danger	Danger	Danger	Warning
<b>Hazard statement</b>	Fatal if swallowed	Fatal if swallowed	Toxic if swallowed	Harmful if swallowed




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## (f) Labels and other forms of warning - Pictograms Defined (continued)

Example: Label Information for Flammable Liquids

Table 3: GHS Label Elements for Flammable (and Combustible) Liquids

	Category 1	Category 2	Category 3	Category 4
Symbol				No symbol
Signal Word	Danger	Danger	Warning	Warning
Hazard Statement	Extremely flammable liquid and vapor	Highly flammable liquid and vapor	Flammable liquid and vapor	Combustible liquid

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## (f) Labels and other forms of warning: DOT Shipping Label

Effective Dec. 1, 2015 all shipping labels were required to have all GHS label elements



Sample Outer Container Label  
(55 gallon/200 liter drum)

**PRODUCT IDENTIFIER**

CODE \_\_\_\_\_  
Product Name \_\_\_\_\_

**SUPPLIER IDENTIFICATION**

Company Name \_\_\_\_\_  
Street Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_  
Postal Code \_\_\_\_\_ Country \_\_\_\_\_  
Emergency Phone Number \_\_\_\_\_



**PRECAUTIONARY STATEMENTS**

Keep container tightly closed. Store in cool, well ventilated place that is locked.  
Keep away from heat/sparks/open flame. No smoking.  
Only use non-sparking tools.  
Use explosion-proof electrical equipment.  
Take precautionary measure against static discharge.  
Ground and bond container and receiving equipment.  
Do not breathe vapors.  
Wear Protective gloves.  
Do not eat, drink or smoke when using this product.  
Wash hands thoroughly after handling.  
Dispose of in accordance with local, regional, national, international regulations as specified.

**In Case of Fire:** use dry chemical (BC) or Carbon dioxide (CO<sub>2</sub>) fire extinguisher to extinguish.

**First Aid**  
If exposed call Poison Center.  
If on skin (on hair): Take off immediately any contaminated clothing. Rinse skin with water.

**HAZARD PICTOGRAMS**

**SIGNAL WORD**  
**Danger**


**HAZARD STATEMENT**  
**Highly flammable liquid and vapor. May cause liver and kidney damage.**

**SUPPLEMENTAL INFORMATION**

**Directions for use**  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Fill weight: \_\_\_\_\_ Lot Number \_\_\_\_\_  
Gross weight: \_\_\_\_\_ Fill Date: \_\_\_\_\_  
Expiration Date: \_\_\_\_\_

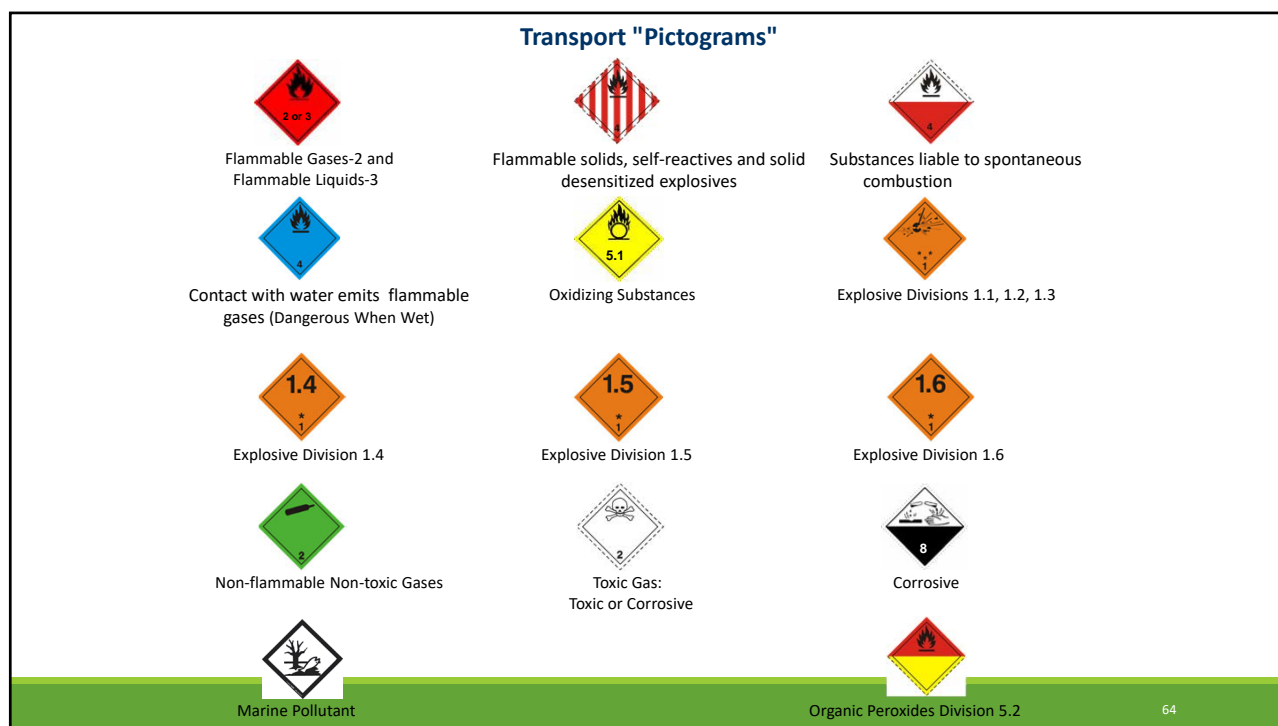
**Pictograms within DOT label**

**DOT Shipping**  
Flammable liquids, toxic, n.o.s. (contains XYZ)  
UN 1992



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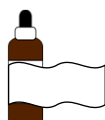
65

## Small Package Labeling

Label elements must be affixed to the immediate container holding the chemical (not the outside packaging – some exceptions case-by-case).

Tags, pull-out labels or fold-back labels can be used to label small containers.

Must be legible.



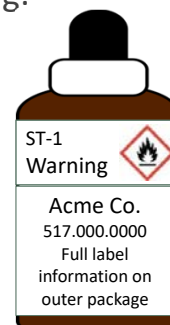
66

66

## Small Containers Accommodation

The shipped small container (i.e., the actual container holding the hazardous chemical), at a minimum, must contain the following:

- Product identifier
- Appropriate pictogram(s)
- Signal word
- Manufacturer's name and phone number
- A statement indicating the full label information for the chemical is provided on the outside package



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## Small Container – Outside Package

### The outside packaging must:

Have all required label elements

Be the object (e.g., bag, box) into which the immediate product container is placed

NOT be the exterior shipping container

Be clearly marked

Clearly inform users that the small container must be stored in the outer fully labeled container

The complete label must be maintained on the outer package



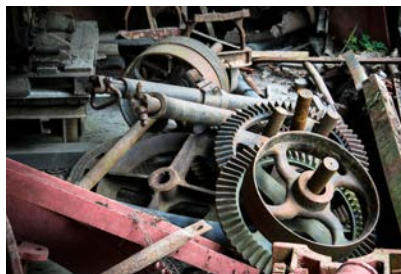
67

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## (f) Labels and other forms of warning

### (4) Solid material (i.e., metal castings):

- Required for solids that are not “articles”
- Label may be transmitted to user at time of initial shipment
- Not required for subsequent shipments unless info on label changes
- Exception is only for solid material



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## (f) Labels and other forms of warning - Hazards Not Otherwise Classified

MIOSHA/OSHA includes a “Hazards not otherwise Classified” (HNOC) hazard class.

Warnings must be provided for those hazards that are not included in GHS (See Appendix C).

- Combustible dust\*
- Simple asphyxiants
- Pyrophoric gas
- Misc. HNOCs



\*3/25/2013 OSHA Letter of interpretation has further clarification on labeling combustible dust. [CPL 03-00-008.pdf \(osha.gov\)](#)

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## Other Label Provisions: Import/Export

---

Imports – duty to label begins when the importer takes control;  
when the first employee is exposed

Exports – Depends on scenario

- Sent out immediately to country of destination
- Stored on-site before shipping
- Stored off-site (e.g., company or third-party warehouse) before shipping

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## Other Label Provisions: Updating Labels

---

Labels shall not be removed or defaced unless the container is  
immediately marked with the required information.

Labels must be legible in English (additional languages may be added).

Within six months: Received new and significant information about  
hazards.

NO partial implementation (e.g., hybrid of old and new label).

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## (f) Workplace/Secondary Container Labels

Excerpt from the Haz Com Standard:

(6) Workplace labeling. Except as provided in paragraphs (f)(7) and (f)(8) of this section, the employer shall ensure that each container of hazardous chemicals in the workplace is labeled, tagged or marked with **either**:

(i) The information specified under paragraphs (f)(1)(i) through (v) of this section for labels on shipped containers [GHS Label]; **or**,

(ii) Product identifier **and** words, pictures, symbols, or combination thereof, which provide at least general information regarding the hazards of the chemicals, and which, in conjunction with the other information immediately available to employees under the Haz Com program, will provide employees with the specific information regarding the physical and health hazards of the hazardous chemical [e.g. HMIS, NFPA or other label system].

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## (f) Labels and Other Forms of Warning - Workplace Labeling for Workplace/Secondary Containers

Secondary labeling systems are required.

Must be consistent with the revised Haz Com.

No conflicting hazard warnings or pictograms.

May use written materials (e.g., signs, placards, etc.) in lieu of affixing labels to individual stationary process containers.

Employer can use GHS compliant labels (same as shipping).



NFPA Label



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## (f) Labels and Other Forms of Warning - Workplace Labeling for Workplace/Secondary Containers: Example



Product identifier/chemical name

Use Haz Com/GHS pictograms from the manufacturer's container to represent the hazards

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## (f) Labels and Other Forms of Warning - Workplace Labeling for Workplace/Secondary Containers: Example

### HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)® LABELING SYSTEM

Designed by American Coating Association

Used 0-4 rating with four being most severe

Includes \* in health area to note chronic hazard

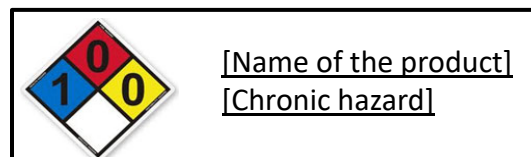


### NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) LABELING SYSTEM

Designed for fire fighters

Used 0-4 rating with four being most severe

Does not incorporate chronic hazards so supplemental information must be added to comply with Haz Com

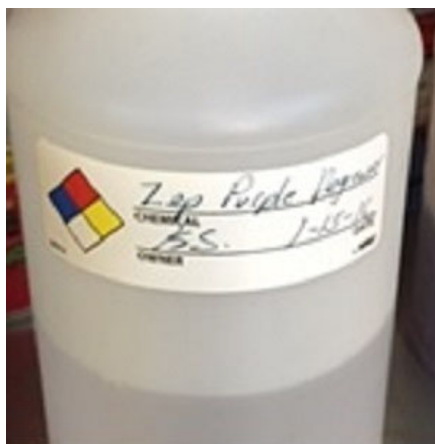


76

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Not Quite...



77

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Keep trying...



78

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## Photos from MI Employers

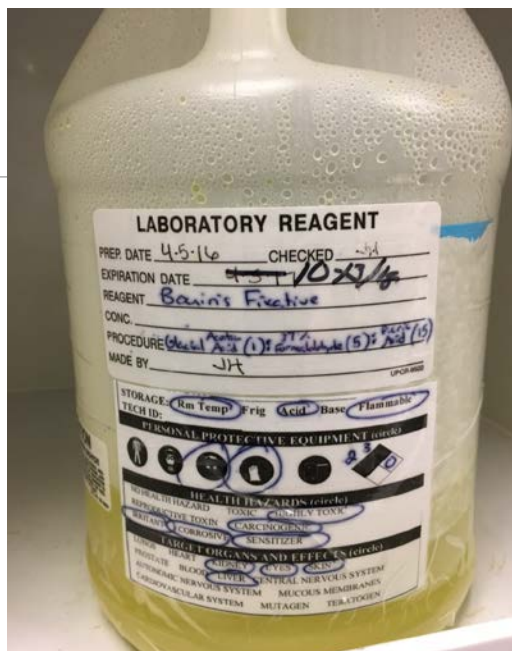


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## Lab Chemical

Use Part 431 – Hazardous Work in Laboratories Standard



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Oh where, oh where have  
the labels gone?

Avoid using food containers  
for chemicals



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## Portable Container or Transfer/Personal Use Container

What is a portable or transfer/personal use container?

Container that is used by an employee to transfer chemical from the original container and intended for immediate use by that employee.

Examples:

Mop bucket

Windshield washer fluid at motor pool

Hydraulic oil dispensed from a drum



Note: Cannot be “abandoned” with chemical inside or given to another employee to use.

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## Objective 3

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Classify chemicals using the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) using the appendices of the Haz Com Standard.



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## Classification Continued: Activity 3

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For this activity, refer to:

- Activity #2 and 3
- Haz Com Standard Appendix C

This activity will guide you through a simple classification process for a chemical using the Haz Com Standard Appendices C.

You may work with a partner to complete this activity.

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## Review Results from Activity 3A

---

What were the **signal words** associated with each hazard class category?

What were the **hazard statements** associated with each hazard class category?

What was the name of the **pictogram** associated with each hazard class category?

85

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## Create a Label: Activity 3B

---

For this activity, refer to:

- Activity 3B and completed Activities 2 and 3A
- Haz Com Standard Appendices C

This activity will guide you through creating a label based on the information from Activity 2 and the classification process completed in Activity 3A.

*Note: the Precautionary Statements and Supplemental Information portion of the label will not be completed for this activity.*

You may work with a partner to complete this activity.

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## Review Results from Activity 3B

What is the name of the product (Product Identifier)?

Who is the manufacturer (Supplier ID)?

What are the Hazard Statements?

What pictogram(s) should appear on the label?

What signal word(s) should appear on the label?

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## Label Issues with GHS and Haz Com Example of Non-compliance



HCS is based on the GHS Revision 3 (2009)

May I use current GHS revision (i.e., Rev 4)?

No, if it contradicts or casts doubt on required Haz Com information

Example – Aerosols

- GHS Rev. 3 = Label elements included gas under pressure (cylinder) pictogram
- GHS Rev. 4 = New category 3 (nonflammable) do not require pictogram

This would be a violation!

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## Minor Difference: GHS Revision 3 vs 4



An example of a minor change that would not result in a citation would be regarding the precautionary statement for Flammable Aerosols.

HCS uses "Pressurized container: do not pierce or burn, even after use," and

GHS Revision 4 states "do not pierce or burn, even after use."

No citation for using the GHS Rev 4 revised precautionary statement.

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## Objective 4

Evaluate chemical labels and safety data sheets



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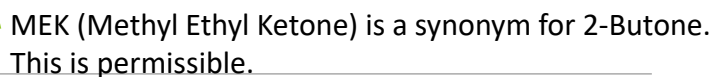
90



## 91



## 92



No extra “diamonds” without containing pictogram symbol are permitted.

Damaged label





## What's wrong with this label?

If this is a primary manufacturer's label?

If this is a secondary (workplace) label?



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## What's wrong with this label?

If this is a primary manufacturer's label?

Nothing is correct!

Must have the following:

- Product Identification
- Correct Pictogram(s)
- Signal Word
- Hazard Statements
- Precautionary Statements
- Supplier/Manufacturer Identification



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## What's wrong with this label?

If this is a secondary (workplace) label?

Need name of product/chemical.

Need correct pictogram for acute toxicity (square-on-point not triangle).

Ensure that all hazards are represented (acute, chronic health hazards and any physical hazards) in words, pictures, symbols, or combination.



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## What's wrong with this label?



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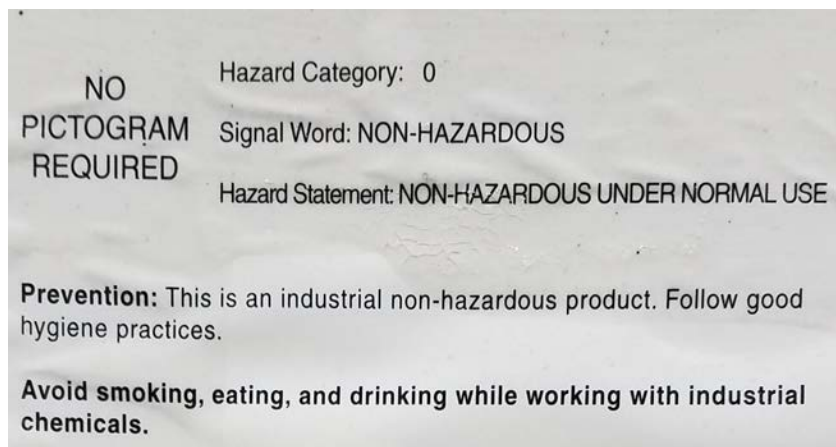
## What's wrong with this label?



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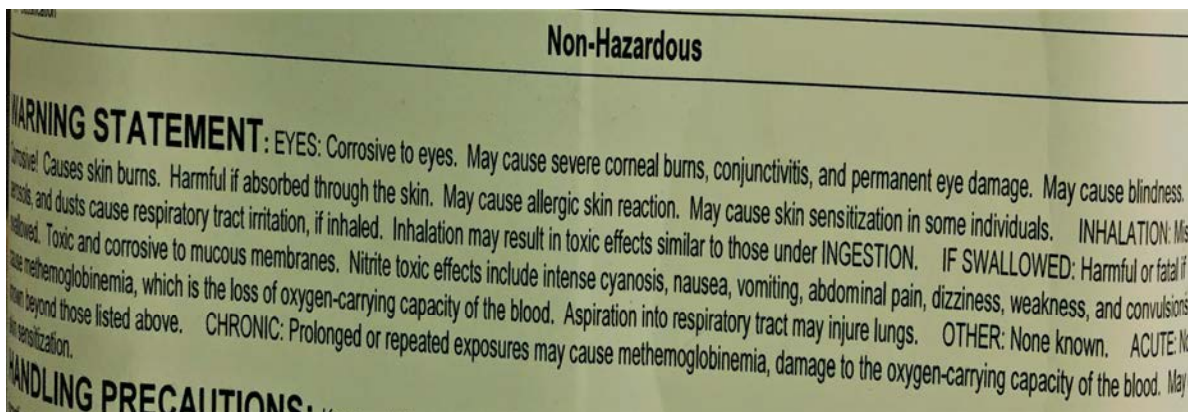
## How about this label?



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## What's wrong with this label?



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## Label Review Activity

### AMMONIA

DANGER! TOXIC IF INGESTED

Wash hands thoroughly after handling. Keep container tightly closed when not in use. Keep away from heat, sparks and open flames - may explode when exposed to high heat. Use in an open area that is well-ventilated. Breathing in ammonia is irritating and corrosive. Wear protective gloves and safety goggles to prevent burns and irritation. See Safety Data Sheet for further details regarding safe use of this product.

**IF SWALLOWED: Immediately call Poison Control or doctor/physician. Drink water or milk to dilute ammonia.**



Look at pictograms

Review Hazard Statements

Review Appendix C for statements associated with the following pictograms:

- Skull and crossbones
- Corrosion
- Flame

What's missing?

100

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## What's wrong with this label?



### Synthetic Mixture

- **PREVENTION**
  - Do not handle until all safety precautions have been read and understood
  - Do not breathe dust
  - Wash hand and exposed skin thoroughly after handling
  - Do not eat, drink or smoke when using this product
  - Use only outdoors or in well-ventilated area
- **RESPONSE**
  - IF IN EYES: Rinse cautiously with water for several minutes
  - Immediately call a POISON CENTER or doctor
  - IF ON SKIN: Wash skin with plenty of water
  - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- **STORAGE**
  - Store locked up
- **DISPOSAL**
  - Recycle and/or dispose of contents/containers in accordance with local, regional, national and international regulations.

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## What's wrong with this label – SDS Section 2 for Synthetic Mixture

### 2.2 Label elements:



Danger.

H318: Causes serious eye damage.

H350: May cause cancer by inhalation.

H372: Causes damage to lungs through prolonged or repeated exposure by inhalation.

H315: Causes skin irritation.

H335: May cause respiratory irritation.

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## What's wrong with this label – Corrected label



### Hazard Statements

#### Danger

Causes serious eye damage.  
May cause cancer by inhalation.  
Causes damage to organs (lungs, immune system, kidney) through prolonged or repeated exposure if inhaled.  
Causes skin irritation.  
May cause respiratory irritation.

#### Prevention

Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Do not breathe dusts.  
Wash hands and exposed skin thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Use only outdoors or in a well-ventilated area.  
Wear protective gloves, protective clothing and eye protection or face protection.

#### Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Immediately call a POISON CENTER or doctor.  
IF ON SKIN: Wash skin with plenty of water.  
Specific treatment: Caustic burns must be treated promptly by a doctor.  
If skin irritation occurs: Get medical advice.  
Take off contaminated clothing and wash it before reuse.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
Call a poison center or doctor if you feel unwell.

#### Storage

Store locked up.

#### Disposal

Recycle and or dispose of contents/containers in accordance with local, regional, national and international regulations.

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## What's wrong with this label?

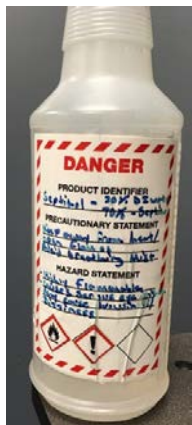


Workplace/Secondary Container

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## What's wrong with this label?



Workplace/Secondary Container

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## What's wrong with this label?



Workplace/Secondary Container

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## What's wrong with this label?



Waste container

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## 1910.1200 (g) Safety Data Sheets (SDSs)

### New 16-section standardized SDS format required (ANSI Z400.1)

Section 1 – Identification	Section 10 – Stability and Reactivity
Section 2 – Hazard(s) identification	Section 11 – Toxicological Information
Section 3 – Composition / Information on Ingredients	Section 12 – Ecological Information*
Section 4 – First-aid Measures	Section 13 – Disposal Consideration*
Section 5 – Fire-fighting Measures	Section 14 – Transport Information*
Section 6 – Accidental Release Measures	Section 15 – Regulatory Information*
Section 7 – Handling and Storage	Section 16 – Other information including date of preparation of last revision
Section 8 – Exposure Controls / Personal Protection (includes PEL/TLV)	
Section 9 – Physical and Chemical Properties	

\*Sections outside of MIOSHA jurisdiction but inclusion of these sections is necessary for a GHS compliant SDS

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## Safety Data Sheet Sections

### Section 1 – Identification:

Identifies the chemical on the SDS as well as the recommended uses. It also provides the essential contact information of the supplier.

### Section 2 - Hazards Identification:

Hazards of the chemical presented on the SDS.

Appropriate warning information associated with those hazards.

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## Safety Data Sheet Sections

### Section 3 – Composition / Ingredients:

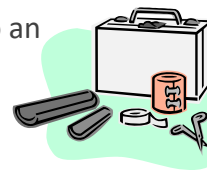
Identifies the ingredient(s) contained in the product indicated on the SDS, including:

impurities and stabilizing additives

information on substances, mixtures, and all chemicals where a trade secret is claimed

### Section 4 - First-Aid Measures:

Describes the initial care that should be given by untrained responders to an individual who has been exposed to the chemical.



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## Safety Data Sheet Sections

### Section 5 – Fire-Fighting Measures:

Provides recommendations for fighting a fire caused by the chemical.



### Section 6 - Accidental Release Measures:

Provides recommendations:

Appropriate response to spills, leaks, or releases, (e.g. containment and cleanup practices)

Response for large vs. small spills, if different

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## Safety Data Sheet Sections

### Section 7 – Handling and Storage:

Provides guidance on the safe handling practices and conditions for safe storage of chemicals.

### Section 8 – Exposure Controls / Personal Protection:

Indicates the exposure limits, engineering controls, and personal protective measures that can be used to minimize worker exposure.



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## Safety Data Sheet Sections

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### **Section 9 – Physical and Chemical Properties:**

Identifies physical and chemical properties associated with the substance or mixture.

### **Section 10 – Stability and Reactivity**

Describes the reactivity hazards of the chemical and the chemical stability information. Includes: reactivity, chemical stability, and other.



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## Safety Data Sheet Sections

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### **Section 11 - Toxicological Information:**

Identifies toxicological and health effects information or indicates if data unavailable.

### **Section 12 – Ecological Information\***

### **Section 13 – Disposal Consideration\***

### **Section 14 – Transport Information\***

### **Section 15 – Regulatory Information\***

\*Sections are outside of MIOSHA jurisdiction but must be included for a GHS compliant SDS.

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# Safety Data Sheet Sections

## Section 16 – Other Information

Indicates when the SDS was prepared or when the last known revision was made.

The SDS may also state where the changes have been made to the previous version.

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## Methanol SDS (Sigma Aldrich)

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

##### OSHA Hazards

Flammable liquid, Target Organ Effect, Toxic by ingestion, Toxic by skin absorption, Irritant

##### Target Organs

Eyes, Kidney, Liver, Heart, Central nervous system Eyes, Kidney, Liver, Heart, Central nervous system

##### GHS Classification

Flammable liquids (Category 2)

Acute toxicity, Oral (Category 3)

Acute toxicity, Dermal (Category 3)

Skin irritation (Category 2)

Eye irritation (Category 2A)

Specific target organ toxicity - single exposure (Category 1)

##### GHS Label elements, including precautionary statements

##### Pictogram



##### Signal word

Danger

##### Hazard statement(s)

H225

Highly flammable liquid and vapour.

H301 + H311

Toxic if swallowed or in contact with skin

H315

Causes skin irritation.

H319

Causes serious eye irritation.

H370

Causes damage to organs.

##### Precautionary statement(s)

P210

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P260

Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

P280

Wear protective gloves/ protective clothing.

P301 + P310

IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

#### Secondary Container Labeling (Section 2 continued)

HMIS Classification

Health hazard: 2

Chronic Health Hazard: \*

Flammability: 3

Physical hazards: 0

NFPA Rating

Health hazard: 2

Fire: 3

Reactivity Hazard: 0

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## g) Safety Data Sheets (SDS)

Chemical manufacturers and importers shall obtain or develop a safety data sheet for each hazardous chemical they produce or import.

Employers shall have an SDS in the workplace for each hazardous chemical which they use.

MIOSHA Part 470 Employee Medical Records and Trade Secrets:

- SDS is an exposure record.
- Must be kept for 30 years after use of the product is discontinued.\*

\*Exception: Record of the identity of the substance or agent, such as the chemical name if known, where and when it was used may be kept for 30 years in lieu of SDS.

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## Employer Responsibility: Maintain MSDS/SDS

If the manufacturer has gone out of business, the employer's responsibility is to maintain the SDS (or MSDS) for that product and not to create a new SDS

Employers may contact manufacturers, importers or distributors of products they have previously ordered from to request new SDSs, and if they do so, the manufacturer or importer must provide the SDS

Must maintain MSDS/SDS received

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## Is the MSDS/SDS current?

Employers must maintain the most current version of the MSDS/SDS provided by the manufacturer, importer or distributor based on ship date

If the employer has not ordered the product after June 1, 2015, they must maintain the most current MSDS

May request new SDS before next shipment

If manufacturer, importer or distributor is out-of-business, maintain current MSDS/SDS

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## Same Chemical; Different Manufacturer

Must maintain SDS for each manufacturer **NOT** for each chemical.

[CPL\\_02-02-079.pdf \(osha.gov\)](#)



Must have two SDSs for bleach: Acme and Ace

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## (h) Employee Information and Training

Haz Com training must include:

Signal words

Pictograms

Hazard classes and categories

- Physical hazards
- Health hazards
- Hazards not otherwise classified

Labels received on shipped containers

Safety data sheet (SDS)

- Including the order/format of information



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## h) Employee Information and Training

(h)(1) Effective training must be provided:

- To all employees exposed or potentially exposed to hazardous chemicals.
- Provided at the time of initial assignment.
- Whenever a new physical or health hazard is introduced into work area.\*
- Site-specific.



**\*NOTE: There is no “annual” refresher training requirement.**

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## h) Employee Information and Training

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(h)(2) Information must include:

Requirements of the section.

Operations where hazardous chemicals are present.

Location and availability of the site-specific written program, including list of hazardous chemicals and location of SDSs.



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## h) Employee Information and Training

---

How do I identify hazards that require training?

- Look at raw materials?
- SDSs?
- What by-products may be released?
- What are the usual cleaning or maintenance procedures?
- Is exposure to these materials affecting my employees?

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## h) Employee Information and Training –

### By-products and introduced chemicals:

- Training required if hazardous chemical introduced by another employer exposing employees of the host employer.
  - Retail grocery clerks exposed to floor stripping chemicals from a janitorial subcontractor.
- Training required for hazardous by-products created by a chemical process.
  - Example, carbon monoxide created by burning of fossil fuels.

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## (i) Trade Secrets

No major changes to the definition and process.

Trade secret status can now be claimed for percentage composition.

Where a trade secret is claimed, a statement that the specific chemical identity and percentage of composition has been withheld as a trade secret is required.



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## Appendices A-F

**Appendix A** – Health Hazard Criteria (mandatory)

**Appendix B** – Physical Hazard Criteria (mandatory)

**Appendix C** – Allocation of Label Elements (mandatory)

**Appendix D** – Safety Data Sheets (mandatory)

**Appendix E** – Definitions of “Trade Secrets” (mandatory)

**Appendix F** – Guidance for the Hazard Classification

Re: Carcinogens (non-mandatory)

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## Other Standards Affected – Health (signage requirements)

Asbestos

Carcinogens

Vinyl Chloride

Inorganic Arsenic

Lead

Cadmium

Benzene

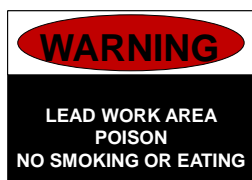
Coke Oven Emissions

Acrylonitrile

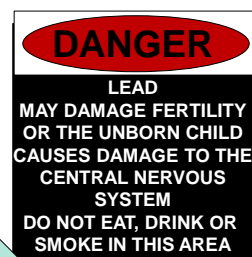
Ethylene Oxide

Formaldehyde

Methylenedianiline



New Sign  
“LEAD”



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## Other Standards Affected



Flammable and Combustible Liquids  
Spray Finishing using Flammable and Combustible Materials  
Process Safety Management of Highly Hazardous Chemicals (PSM)  
Hazardous Waste Operations and Emergency Response (HAZWOPER)  
Hazardous Work In Laboratories  
Dipping and Coating Operations  
Welding, Cutting and Brazing  
Employee Medical Records and Trade Secrets

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### MIOSHA

Michigan Occupational Safety and Health Administration  
Department of Licensing and Regulatory Affairs (LARA)

DOCUMENT IDENTIFIER:

MIOSHA-STD-04-1R2

**SUBJECT: Hazard Communication Standards – Inspection Procedures**

### AGENCY INSTRUCTION

DATE:

January 4, 2016

- MIOSHA previously had a Michigan specific instruction covering this topic and has now adopted the federal OSHA CPL 02-02-079.



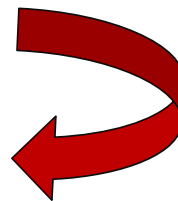
## OSHA INSTRUCTION

U.S. DEPARTMENT OF LABOR

Occupational Safety and Health Administration

DIRECTIVE NUMBER: CPL 02-02-079 EFFECTIVE DATE: July 9, 2015

SUBJECT: Inspection Procedures for the Hazard Communication Standard (HCS 2012)



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## Additional Toxicology Resources

NIH - PubChem - Comprehensive, peer-reviewed toxicology data for about 5,000 chemicals:

<https://pubchem.ncbi.nlm.nih.gov/>

ECHA website (Dossiers submitted to EU for REACH registration):

<https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

eChemPortal:

<https://www.echemportal.org/echemportal/>

New Jersey Fact Sheets - [Right to Know Hazardous Substance Fact Sheets \(state.nj.us\)](http://www.state.nj.us/health/ohrt/RighttoKnowHazardousSubstanceFactSheets.html)

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## Federal OSHA Resources

Haz Com Webpage - [www.osha.gov/dsg/hazcom/index.html](http://www.osha.gov/dsg/hazcom/index.html)

### Regulatory

Haz Com 2012  
Final Rule

FAQs

Hazard Communication Directive

### Guidance

OSHA Memos

OSHA Briefs

Fact Sheet

Quick Cards

Small Entity Guide

OSHA Guide to GHS

Small Entity Compliance Guide

Hazard Classification Guidance for Manufacturers,  
Importers, and Employers



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## MIOSHA Resources

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Website and CET library materials:

DVDs on GHS and Haz Com

PowerPoint programs for employers to use for training

Guidance documents including sample written haz com program

Revised posters

Links to Federal OSHA documents and UN purple book (GHS)

Dedicated webpage:

[www.michigan.gov/ghs](http://www.michigan.gov/ghs)

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## Summary

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Describe purpose and scope of the Hazard Communication (Haz Com) Standard including recognized exemptions.

Identify the requirements for compliance with the Haz Com Standard.

Classify chemicals using the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) from the appendices of the Haz Com Standard.

Evaluate chemical labels and safety data sheets.

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## Assessment

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The purpose of this assessment is to validate the knowledge learned in class.

Passing score of 70% correct is required.

Class reference materials/books are not allowed to be used during the assessment.

Collaboration/discussion with others is not allowed during the assessment.

Answers will be reviewed after everyone completes and submits their assessment.

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Thank you.

**Don't Forget to Take the Survey**



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Michigan Department of Labor and Economic Opportunity  
Michigan Occupational Safety and Health Administration  
Consultation Education and Training Division  
525 W. Allegan St., P.O. Box 30643  
Lansing, Michigan 48909-8143

For further information or to request consultation, education and training services  
call 517-284-7720

or

visit our website at [www.michigan.gov/miosha](http://www.michigan.gov/miosha)

[www.michigan.gov/leo](http://www.michigan.gov/leo)

LEO is an equal opportunity employer/program.