

Hazard Communication Training Program (including GHS revisions)

Prepared by

Consultation Education & Training (CET) Division
Michigan Occupational Safety & Health Administration
Michigan Department of Licensing and Regulatory Affairs

www.michigan.gov/miosha

(517) 322-1809

(Revised: 03/21/13)



Agenda

- Overview of changes to the MIOSHA Part 42, 92 and 430: Hazard Communication Standard (Haz Com)
- Labeling requirements
- Safety Data Sheets (SDS) format – 16 sections
- Supplemental Employee Training (to be provided by employer)

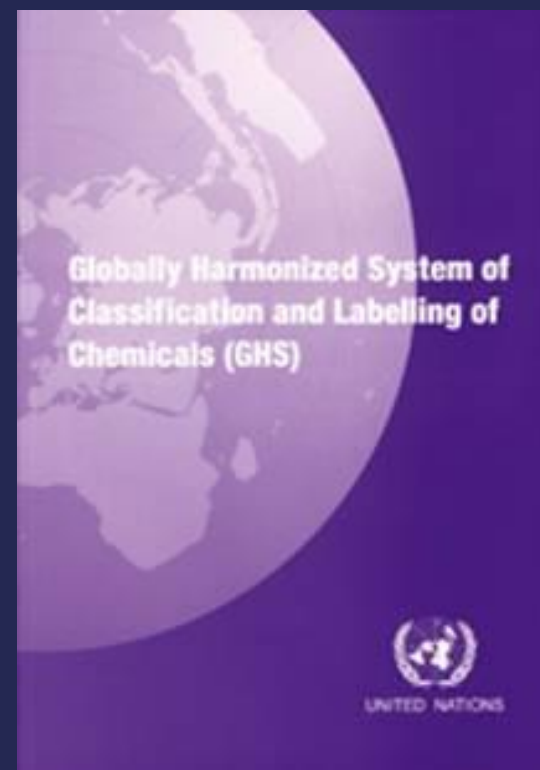
Supplemental Employee Training

Details of the **facility specific** hazard communication program:

- Location and availability of written program and SDSs
- Physical hazards, health hazards and hazards not otherwise classified (HNOC) of the chemicals in the work area
- Chemical list, location and use of hazardous chemicals
- Secondary container labeling system
- Specific procedures to protect employees from the chemical hazards
- Methods used to detect the presence or release of hazardous chemicals (sensor alarms, odors, visual other monitoring devices)

Why the Change to Haz Com?

- To align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) adopted by 67 nations
- To provide a common and coherent approach to classifying chemicals
- Reduce confusion and increase understanding of the hazards
- Facilitate training
- Help address literacy problems



Who is Affected?

- Manufacturers, Distributors, Importers
 - Change SDS information and format
 - Change container labeling



- Employers

Training employees on changes to:

- SDS (change from MSDS to SDS and 16-section format)
- Container Labels (including secondary containers)

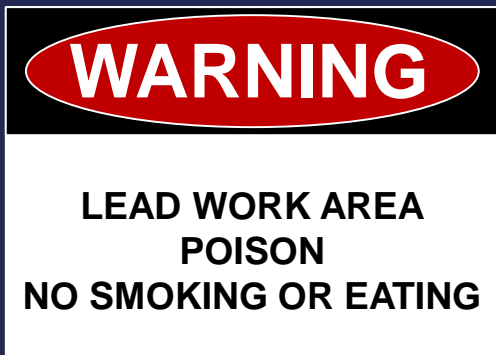
- Employees

Recognize and understand hazards based on:

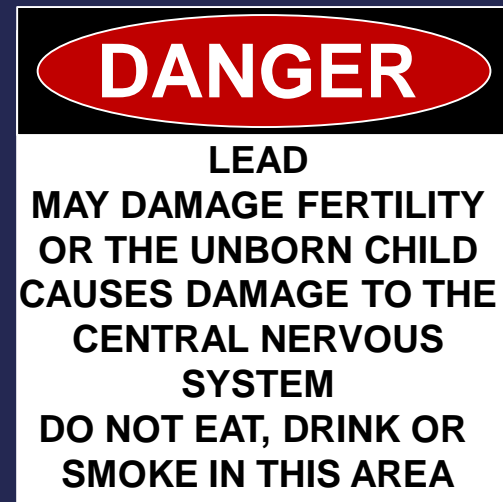
- Information in new SDS format
- Pictograms on container labels
- Precautionary and hazard statements

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"



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

Effective Dates and Requirements

Effective Completion Date	Requirement(s)	Responsible Party
December 1, 2013	Train employees on the new label elements and SDS format	Employers
June 1, 2015	Compliance with all modified provisions of the final rule except:	Chemical manufacturers, importers, distributors, and employers
December 1, 2015	The distributor shall not ship containers labeled by the chemical manufacturer or importer unless it is a GHS label	Distributor
June 1, 2016	Update alternative workplace labeling and hazard communication program as necessary, and provide additional employee training for newly identified hazards [and affected vertical standard specific signage]	Employer
Transition Period: 12/2012 to the effective completion dates noted above	May comply with either MIOSHA Part 42, 92 and 430 (final standard), or the current standard, or both	Chemical manufacturers, importers, distributors, and employers

Chemical Classifications

Chemicals will be classified using a harmonized system that provides standardized language for:

- Health Hazard Categories
- Physical Hazard Categories
- Environmental Hazard Categories*



*Not regulated by MIOSHA.

Chemical Classifications:

Health Hazards

- Acute Toxicity
- Skin Corrosion/Irritation
- Respiratory or Skin Sensitization
- Germ Cell Mutagenicity
- Carcinogenicity
- Reproductive Toxicity
- Specific Target Organ Toxicity – Single Exposure
- Specific Target Organ Toxicity – Repeated Exposure
- Aspiration
- Simple Asphyxiants

Chemical Classifications:

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			

Chemical Classifications: Physical Hazards

- Explosives
- Flammable Aerosols
- Oxidizing Gases
- Gases under Pressure
 - Compressed Gases
 - Liquefied Gases
 - Refrigerated Liquefied Gases
 - Dissolves Gases



Chemical Classifications:

Physical Hazards (continued)

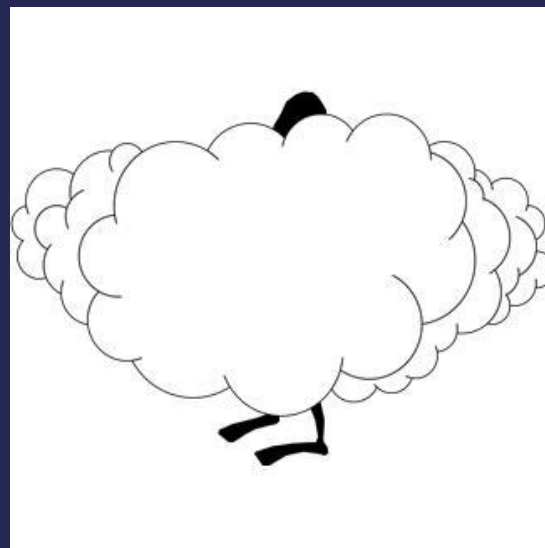
- Flammable Liquids
- Flammable Solids
- Self-Reactive Chemicals
- Pyrophoric Liquids
- Pyrophoric Solid
- Pyrophoric Gases
- Self-heating Chemicals
- Chemicals, which in contact with water, emit flammable gases



Chemical Classifications:

Physical Hazards (continued)

- Oxidizing Liquids
- Oxidizing Solid
- Organic Peroxides
- Corrosive to Metals
- Combustible Dusts



Chemical Classifications:


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 Liquefied gases Refrigerated liquefied gases Dissolved gases	1						
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						

Labels

There are several new label elements:

- Symbols called “Pictograms”
- Signal Words
- Hazard Statements
- Precautionary Statements
- Product Identification
- Supplier/Manufacturer Identification

SAMPLE LABEL	
PRODUCT IDENTIFIER CODE _____ Product Name _____	HAZARD PICTOGRAMS 
SUPPLIER IDENTIFICATION Company Name _____ Street Address _____ City _____ State _____ Postal Code _____ Country _____ Emergency Phone Number _____	SIGNAL WORD Danger
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.	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: _____
In Case of Fire: use dry chemical (BC) or Carbon dioxide (CO ₂) 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.	

Labels: Shipping

Effective June 1, 2015 all shipping labels will be required to have all GHS label elements



Shipping 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 (CO₂) 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.

SIGNAL WORD

Danger

HAZARD STATEMENT

Highly flammable liquid and vapor.

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**



Transport "Pictograms"



Flammable Liquid Flammable Gas
Flammable Aerosol



Flammable solid Self-Reactive Substances Pyrophorics (Spontaneously Combustible)
Self-Heating Substances



Substances, which in contact with water,
emit flammable gases (Dangerous When
Wet)



Oxidizing Gases Oxidizing Liquids
Oxidizing Solids



Explosive Divisions 1.1, 1.2, 1.3



Explosive Division 1.4



Explosive Division 1.5



Explosive Division 1.6



Compressed Gases



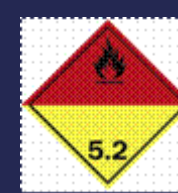
Acute Toxicity (Poison): Oral, Dermal,
Inhalation



Corrosive



Marine Pollutant



Organic Peroxides

Labels: Pictograms

- There are 9 pictograms. Only 8 are regulated by MIOSHA
 - Health Hazards
 - Physical Hazards
 - Environmental Hazards (Regulated by DEQ)



Labels: Pictograms – Health Hazards



Acute toxicity (Severe)

Acute = short-term effect



Acute toxicity (Less Severe):

Irritant

Dermal sensitizer

Acute toxicity (harmful)

Narcotic effects

Respiratory tract irritation

Labels: Pictograms – Health Hazards (continued)



Skin corrosion
Serious eye damage/
Eye irritation



Carcinogen
Respiratory sensitizer
Reproductive toxicity
Target organ toxicity
Mutagenicity
Aspiration Hazard

Labels: Pictograms – Physical Hazards



Explosives
Self reactives
Organic peroxides



Flammables
Self reactives
Pyrophorics
Self heating
Emits flammable gas
Organic peroxides

Labels: Pictograms – Physical Hazards (continued)



Corrosive to Metals



Oxidizer



Gases under Pressure

Labels: Signal Word

These are words used to indicate the severity of the hazard and alert employees to the potential hazard.

Only 2 signal words will appear:

- **“DANGER”** (more severe hazard)
- **“WARNING”** (less severe hazard)

Not all labels will have a signal word. Some chemicals are not hazardous enough to require that a signal word appear on the label.

Labels: Hazard Statement

There are specific hazard statements that must appear on the label based on the chemical hazard classification.

Examples:

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

Label: Precautionary Statements

- Precautionary statements describe *recommended* measures that should be taken to protect against hazardous exposures, or improper storage or handling of a chemical.

Examples:

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



- Not necessarily a mandate for employees to follow.

Label: Identification

- Product identification (i.e. name of product)
- Supplier identification:
 - Address
 - Telephone number



Label: Other information

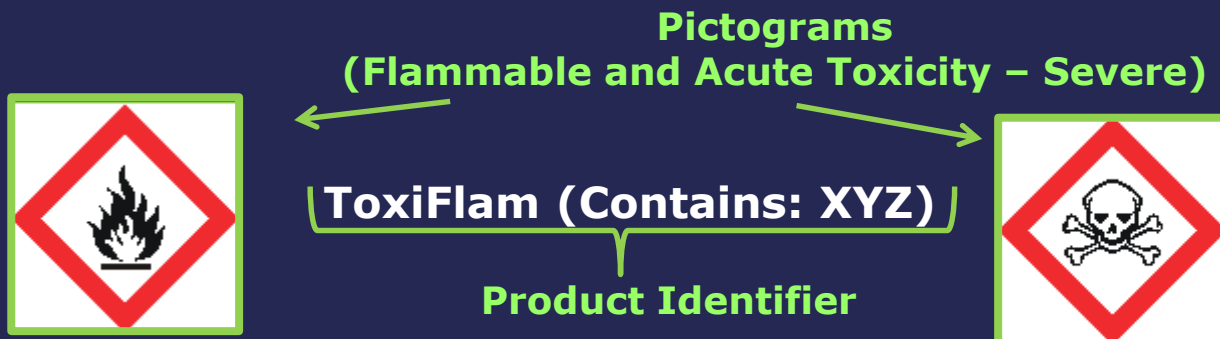
Other information that may be included on the label:

- Physical state
- Color
- Hazards not otherwise classified
- Route of exposure
- Storage and disposal
- Hazard prevention and emergency response instructions



Label: Sample

Can you identify each label component?



Signal Word

Danger!

Hazard Statements
Toxic If Swallowed, Flammable Liquid and Vapor

Do not eat, drink or use tobacco when using this product. Wash hands thoroughly after handling. Keep container tightly closed. Keep away from heat/sparks/open flame. - No smoking. Wear protective gloves and eye/face protection. Ground container and receiving equipment. Use explosion-proof electrical equipment. Take precautionary measures against static discharge.
Use only non-sparking tools. Store in cool/well-ventilated place.

IF SWALLOWED: Immediately call a POISON CONTROL CENTER or doctor/physician. Rinse mouth.
Precautionary Statements In case of fire, use water fog, dry chemical, CO₂, or "alcohol" foam.

Supplemental Information

See Safety Data Sheet for further details regarding safe use of this product.

MyCompany, MyStreet, MyTown NJ 00000, Tel: 444 966 6666 **Supplier Identification**

(f) Secondary Container Labels

Excerpt from the Hazard Communication 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 hazard communication 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].

Labels: Secondary containers

- Must be consistent with the revised Haz Com standard
- 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).

HMIS Label

HEALTH	<input type="checkbox"/>
FIRE	<input type="checkbox"/>
PHYSICAL HZ	<input type="checkbox"/>
PPE	

NFPA Label



Safety Data Sheets

- Under the new Haz Com Standard, Material Safety Data Sheets (MSDS) are now called Safety Data Sheets (SDS).
- All SDSs will have a consistent 16-section format.
- Employers must ensure that SDSs are readily accessible to employees.



(g) Safety Data Sheets (SDSs)

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

Section 1 – Identification

Section 2 – Hazard(s) identification

Section 3 – Composition / Information
on Ingredients

Section 4 – First-aid Measures

Section 5 – Fire-fighting Measures

Section 6 – Accidental Release
Measures

Section 7 – Handling and Storage

Section 8 – Exposure Controls /
Personal Protection

Section 9 – Physical and Chemical
Properties

Section 10 – Stability and Reactivity

Section 11 – Toxicological Information

Section 12 – Ecological Information*

Section 13 – Disposal Consideration*

Section 14 – Transport Information*

Section 15 – Regulatory Information*

Section 16 – Other information
including date of preparation of last
revision

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

Safety Data Sheets (continued)

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.

Safety Data Sheets (continued)

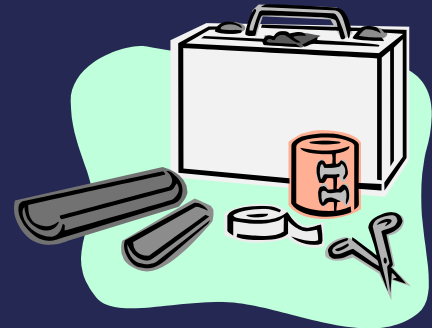
Section 3 – Composition / Ingredients:

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.



Safety Data Sheets (continued)

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.

Safety Data Sheets (continued)

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.



Safety Data Sheets (continued)

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.



Safety Data Sheets (continued)

Section 11 - Toxicological Information:

Identifies toxicological and health effects information or indicates is 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.

Safety Data Sheets (continued)

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.

Revised Posters – MSDS to SDS

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) 322-1831
Construction Safety & Health Division
(517) 322-1856
www.michigan.gov/miosha
MIOSHA/CET #2105 (Rev. 10/12)



LARA
LICENSING AND REGULATORY AFFAIRS
CUSTOMER DRIVEN. BUSINESS MINDED.

SDS(s) For This Workplace Are Located At

Location(s)

Location(s)

Person(s) responsible for SDS(s)

Phone

As Required by the Michigan Right To Know Law



TO BE POSTED THROUGHOUT THE WORKPLACE NEXT TO SDS LOCATION POSTERS

New or Revised SDS

New or Revised Title

Receipt Date

Posting Date

Location of New or Revised SDS

LARA
LICENSING AND REGULATORY AFFAIRS
CUSTOMER DRIVEN. BUSINESS MINDED.

Michigan Department of Licensing and Regulatory Affairs
Michigan Occupational Safety & Health Administration
Construction, Education & Training Division
(517) 322-1809

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Federal OSHA funds.
MIOSHA/CET #2106 (Revised 10/12)

For further information, visit our website at:
www.michigan.gov/miosha



Have I completed the training?

- Almost.....

Final Steps to complete training

Supplemental Training (to be provided by employer)

Employers must provide employees with the details of the **facility specific** hazard communication program:

- Location and availability of written program and SDSs
- Specific information related to chemicals in the facility:
 - Physical Hazards;
 - Health Hazards;
 - Hazards not otherwise classified.

Final Steps (continued)

Supplemental Training (to be provided by employer)

- Chemical list, location and use of hazardous chemicals
- Secondary container labeling system
- Specific procedures to follow to protect employees from the chemical hazard
- Methods used to detect the presence or release of hazardous chemicals (sensor alarms, odors, visual other monitoring devices)



Federal OSHA Resources

Haz Com Web Page - www.osha.gov/dsg/hazcom/index.html

Regulatory

- Haz Com 2012 Final Rule
- Haz Com Comparison: Haz Com 1994 and 2012
 - Side-by-side
 - Redline Strikeout of the Regulatory Text
- FAQs

Guidance

- OSHA Briefs
 - Fact Sheet
 - Quick Cards
 - Labeling
 - Safety Data Sheets
 - Pictograms
 - Effective Dates
 - OSHA Guide to GHS
- www.osha.gov/dsg/hazcom/ghs.html
- GHS documents (links to purple book)



MIOSHA Resources

GHS Webpage on MIOSHA Website

www.michigan.gov/lara/0,4601,7-154-61256_11407-284831--,00.html

- Employee Training PowerPoint

CET library handouts:

- CET-5531 - *GHS Overview of Major Changes*
- CET-5532 – *Lists other affected Standards*
- CET-5533 – *Signage Changes*

CET DVDs/Video Lending library services

State-wide Outreach seminars

Guidance documents & Revised posters

Training Summary

Today's training program included:

- Overview of changes to the MIOSHA Part 42, 92 and 430: Hazard Communication Standard (Haz Com)
- Labeling requirements
- Safety Data Sheets (SDS) format – 16 categories
- Details of the facility specific hazard communication program
- Resources

Questions

Contact MIOSHA for information or assistance:

MIOSHA Consultation Education and Training

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(517) 322-1809

www.michigan.gov/miosha