HazCom and Global Harmonization Are You In Compliance?

BISC
June, 2018

Objectives

- To provide an overview of the GHS Standard
  - Contents of the OSHA standard
  - Hazard Classification
  - Required Training
  - Chemical Labels
  - Safety Data Sheets
  - Understanding Chemicals
  - Exposures
  - Prevention

HazCom and GHS

- OSHA created the Hazard Communication Standard in 1983.
- Ensures that employers inform employees about hazardous chemicals.

Your Right To Know!

- This regulation gives employees the right to know:
  - Chemicals that are used in the workplace
  - Possible dangers employees are being exposed to
  - How to protect employees and others

The “Old” HazCom Standard

- Material safety data sheets and labels were:
  - Inconsistent
  - Incomplete
  - Difficult to read

HazCom and GHS

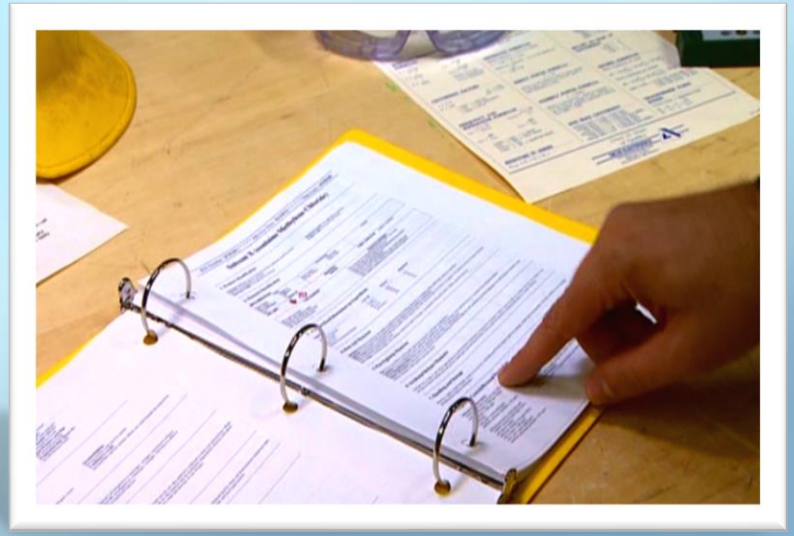
- In 2012, OSHA aligned the HazCom Standard with the United Nation's Globally Harmonized System (GHS).

HazCom and GHS

- OSHA adopted the GHS:
  - Hazard definitions
  - Safety data sheet format
  - Labeling format

The Revised HazCom Standard

- The revised Standard:
  - Chemical manufacturers create GHS-style safety data sheets (SDSs) and labels for each chemical it produces.
  - SDSs and labels are built using consistent and easily understood elements.



Major Changes

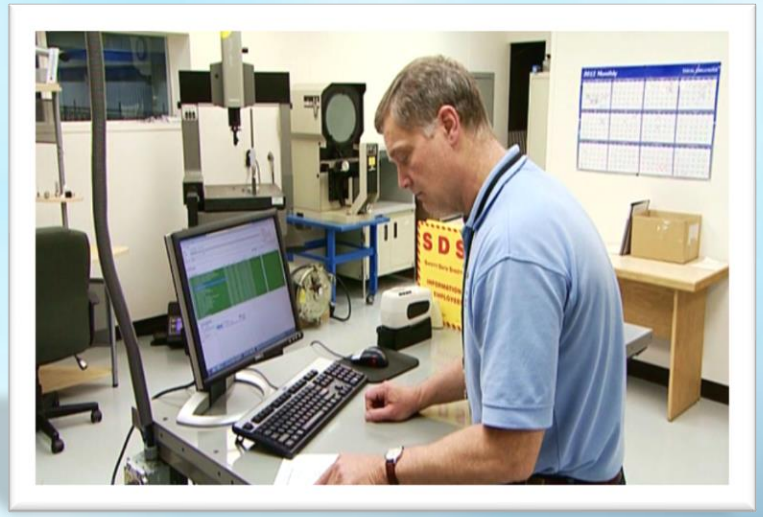
- Revised criteria for classification of hazards
- Revised labeling provisions that include requirements for standardized:
  - Signal words
  - Pictograms
  - Hazard statements
  - Precautionary statements
  - Product Identifier

Major Changes, continued…

- Specified format for safety data sheets (SDSs)
- Related revisions to definitions
- Requirements for employee training on safety data sheets and labels

Written HazCom Program

- Documents, in detail, your employer's plans for communicating chemical hazards.
- Employees have a right to review the written HazCom program whenever they want.



Training

- Employees must receive training on:
  - HazCom Standard requirements
  - Hazard chemical locations
  - Chemical inventory
  - Safety Data Sheets
  - Labels
  - Written HazCom program

Hazard Communication Program

- HazCom Program Elements
  - Employee Right to Know chemical hazards
  - Hazard chemical locations and conditions
  - Chemical inventory
    - Updated regularly
  - Safety Data Sheets
    - available during work shift
  - Labeling
  - Written HazCom program
    - available during work shift

1. Chemical Inventory

- When a chemical arrives at your company, hazard information is passed along with it.
- This information is added to your company's chemical inventory.
- OSHA requires that each company keep an inventory on all its hazardous chemicals.

2. Safety Data Sheets

- Explain what you need to know to safely work with a chemical
- Must have the GHS-specified 16 section format
- Must include certain types of information in each section
- Help ensure that employers and employees understand the chemical
- Must be readily accessible to employees in the work area during each work shift

Role of Safety Data Sheets in GHS

- The SDS should provide comprehensive information about a chemical substance or mixture.
- Primary Use: The Workplace
- Employers and workers use the SDS as a source of information about hazards and to obtain advice on safety precautions.

SDS Format:16 headings

1. Identification
2. Hazard(s) identification
3. Composition/information on ingredients
4. First-aid measures
5. Fire-fighting measures
6. Accidental release measures
7. Handling and storage
8. Exposure control/personal protection

Format: 16 headings (cont.)

9. Physical and chemical properties
10. Stability and reactivity
11. Toxicological information
12. Ecological information
13. Disposal considerations
14. Transport information
15. Regulatory information
16. Other information

1: Identification

- Product name
- Other common names
- Description
- Uses
- Supplier identification
- Emergency number

2: Hazard ID

- Classification
- Signal Word
- Hazard Statement

3: Ingredients

- Ingredients
- Chemical name
- Common names
- CAS number
- Concentration

4: First-Aid

- What to do until responders arrive
- Immediate and delayed symptoms
- When to seek immediate help

5: Fire fighting

- What to do if there is a fire
- How to extinguish
- What could happen
- What firefighters need

6: Accidental Release

- What to do for spills or leaks
- How to contain and clean-up
- Who to call for help

7: Handling

- How to safely handle the product
- Protective measures to take during use
- Safe storage conditions

8: Exposure/PPE

- Permissible exposure limits
- Engineering controls
- Personal Protective Equipment

9: Properties

- Details on chemical properties (vapor density, flashpoint, pH)
- Appearance
- Color
- Odor
- Viscosity

10: Stability

- Reactivity
- Chemical stability
- Incompatible materials
- Conditions to avoid

11: Toxicology Info

- How chemical gets into the body
- Exposure effects
- Exposure symptoms

12: Ecology Info

- Impact on the environment
- Effects on water and soil
- Other assessments

13: Disposal

- How to safely dispose
- Ways to recycle the product
- What to do with the container

14: Transportation

- Classification for shipping
- Packaging info
- Special Precautions

15: Regulatory Info

- Provides info on environmental, safety or health regulations not already mentioned

16: Other

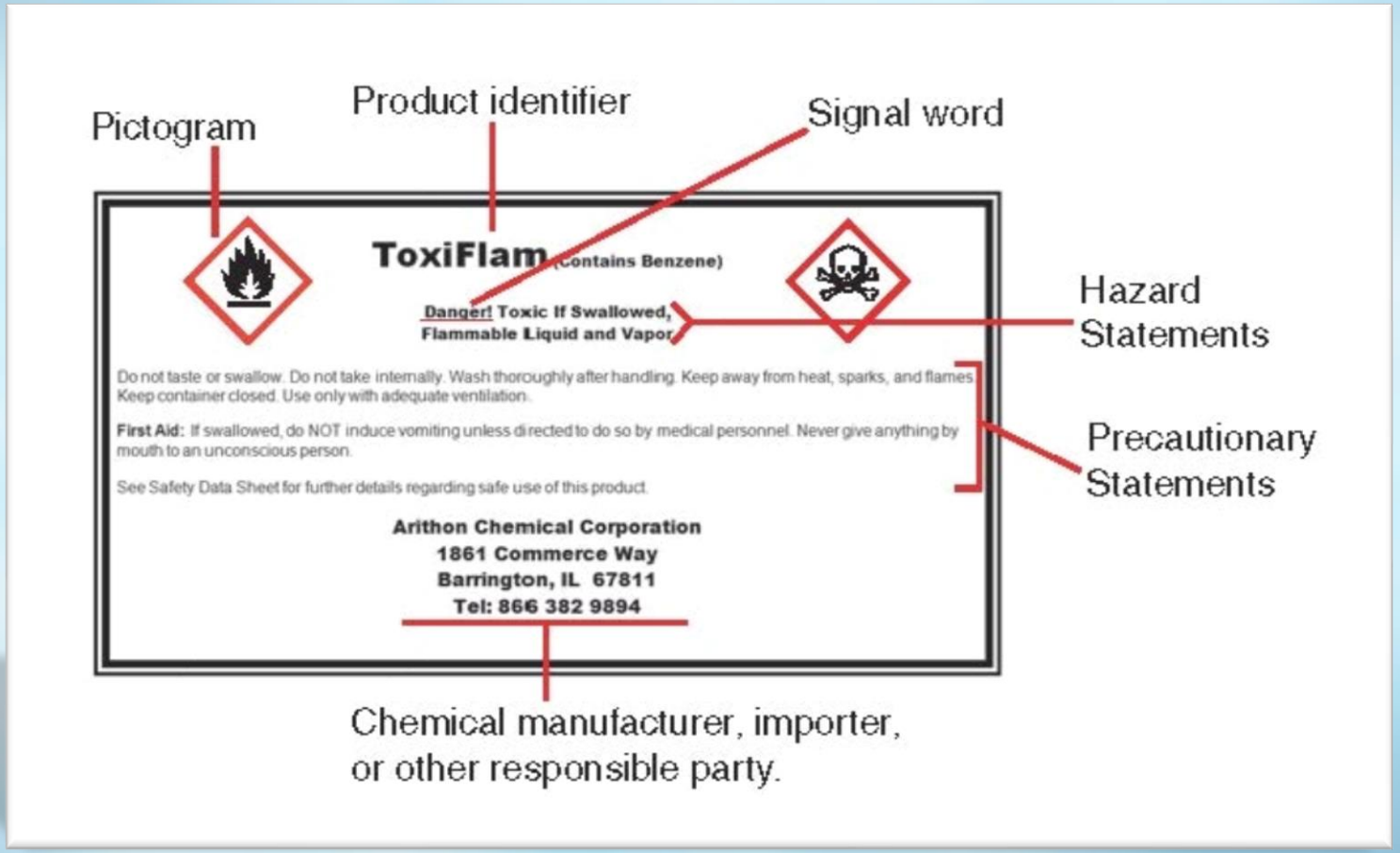
- Acronyms
- SDS revisions
- Any changes or additional versions

Employees MUST Read the Label & Safety Data Sheet

Employees need to read both BEFORE using hazardous material to understand:

1. What am I working with?
2. Can it hurt me?
3. How do I protect myself?
4. What do I do if something goes wrong?

3. Labels


Pictogram
Product identifier
Signal word
ToxiFlam (Contains Benzene)
Danger! Toxic If Swallowed,
Flammable Liquid and Vapor
Hazard Statements
Do not taste or swallow. Do not take internally. Wash thoroughly after handling. Keep away from heat, sparks, and flames. Keep container closed. Use only with adequate ventilation.
First Aid: If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.
See Safety Data Sheet for further details regarding safe use of this product.
Precautionary Statements
Arithon Chemical Corporation
1861 Commerce Way
Barrington, IL 67811
Tel: 866 382 9894
Chemical manufacturer, importer, or other responsible party.

What's on the Label?

Labels must have five things:

1. Product Identifier – **what is this chemical**
2. Signal words – **to tell us about the danger level**
3. Hazard Statement – **what kind of harm could the chemical cause**
4. Pictograms – **a symbol that tells us about the hazards**
5. Precautionary Statement – **what do we need to do to be safe around this chemical.**

Product Identifier

ISOPROPYL ALCOHOL 99% ANHYDROUS

UN 1219, ISOPROPYL ALCOHOL

24 Hour EMERGENCY
NUMBER 444/555-6666

NET WEIGHT:
32.00 LBS
14.51 KGS

Danger: Highly flammable liquid and vapor. Causes serious eye irritation. May cause drowsiness and dizziness.

PREVENTION
Keep away from sources of ignition - No smoking. Avoid contact with skin and eyes. Avoid breathing mist and vapors. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Take precautionary measures against static discharges.

RESPONSE
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Avoid breathing. Wear protective gloves/eye protection/face protection. Wash hands thoroughly after handling.

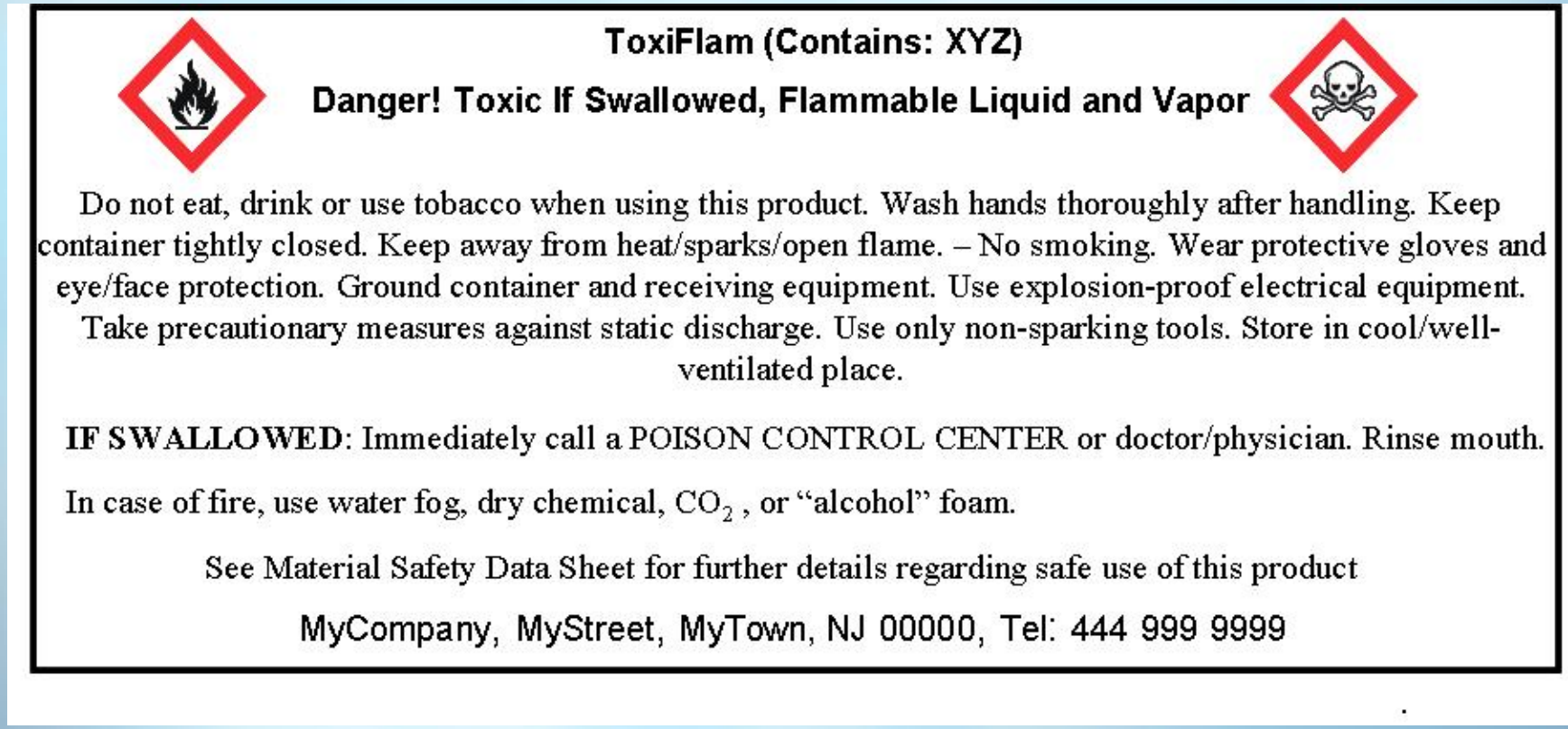
STORAGE
Store in a well-ventilated place. Keep cool. Store locked up. Keep container tightly closed. Keep away from sources of ignition - No smoking

DISPOSAL
Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.

Red River Chemicals 4568 Front Street Riverdale, Illinois 44444
Emergency Phone Number: 444-555-6666

Signal Words – Danger or Warning

Used to discriminate between levels of hazard



ToxiFlam (Contains: XYZ)

Danger! 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.

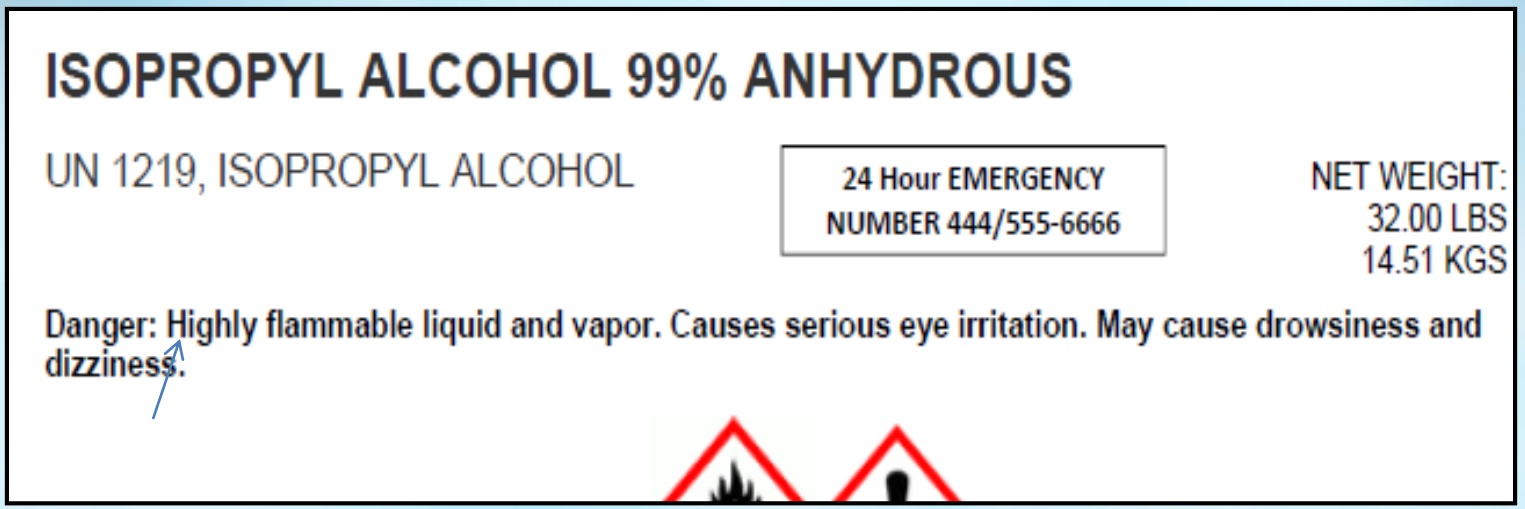
IF SWALLOWED: Immediately call a POISON CONTROL CENTER or doctor/physician. Rinse mouth.

In case of fire, use water fog, dry chemical, CO_2 , or "alcohol" foam.

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

MyCompany, MyStreet, MyTown, NJ 00000, Tel: 444 999 9999

Hazard Statement



- Describes what kind of hazards this chemical has, such as:
  - Highly flammable liquid.
  - Causes serious eye irritation
  - May cause drowsiness and dizziness.

Hazard Statements

- A single harmonized hazard statement for each level of hazard within each hazard class
  - Example: Flammable liquids
    - Category 1: Extremely flammable liquid and vapor
    - Category 2: Highly flammable liquid and vapor
    - Category 3: Flammable liquid and vapor
    - Category 4: Combustible liquid

Global Harmonizing System Pictograms

Flame over circle  • Oxidizers	Flame  • Flammables • Pyrophorics • Self-Heating • Emits Flammable Gas • Self Reactives • Organic Peroxides	Exploding bomb  • Explosives • Self Reactives • Organic Peroxides
Skull and crossbones  • Acute toxicity (severe)	Corrosion  • Corrosives	Gas cylinder  • Gases under pressure
Health Hazard  • Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration Toxicity	Environment  • Aquatic Toxicity	Exclamation mark  • Irritant • Skin Sensitizer • Acute Toxicity (harmful) • Narcotic effects • Respiratory Tract Irritation • Hazardous to Ozone Layer

Precautionary Statements

PREVENTION
Keep away from sources of ignition - No smoking. Avoid contact with skin and eyes. Avoid breathing mist and vapors. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Take precautionary measures against static discharges.

RESPONSE
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Avoid breathing. Wear protective gloves/eye protection/face protection. Wash hands thoroughly after handling.

STORAGE
Store in a well-ventilated place. Keep cool. Store locked up. Keep container tightly closed. Keep away from sources of ignition - No smoking

DISPOSAL
Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.

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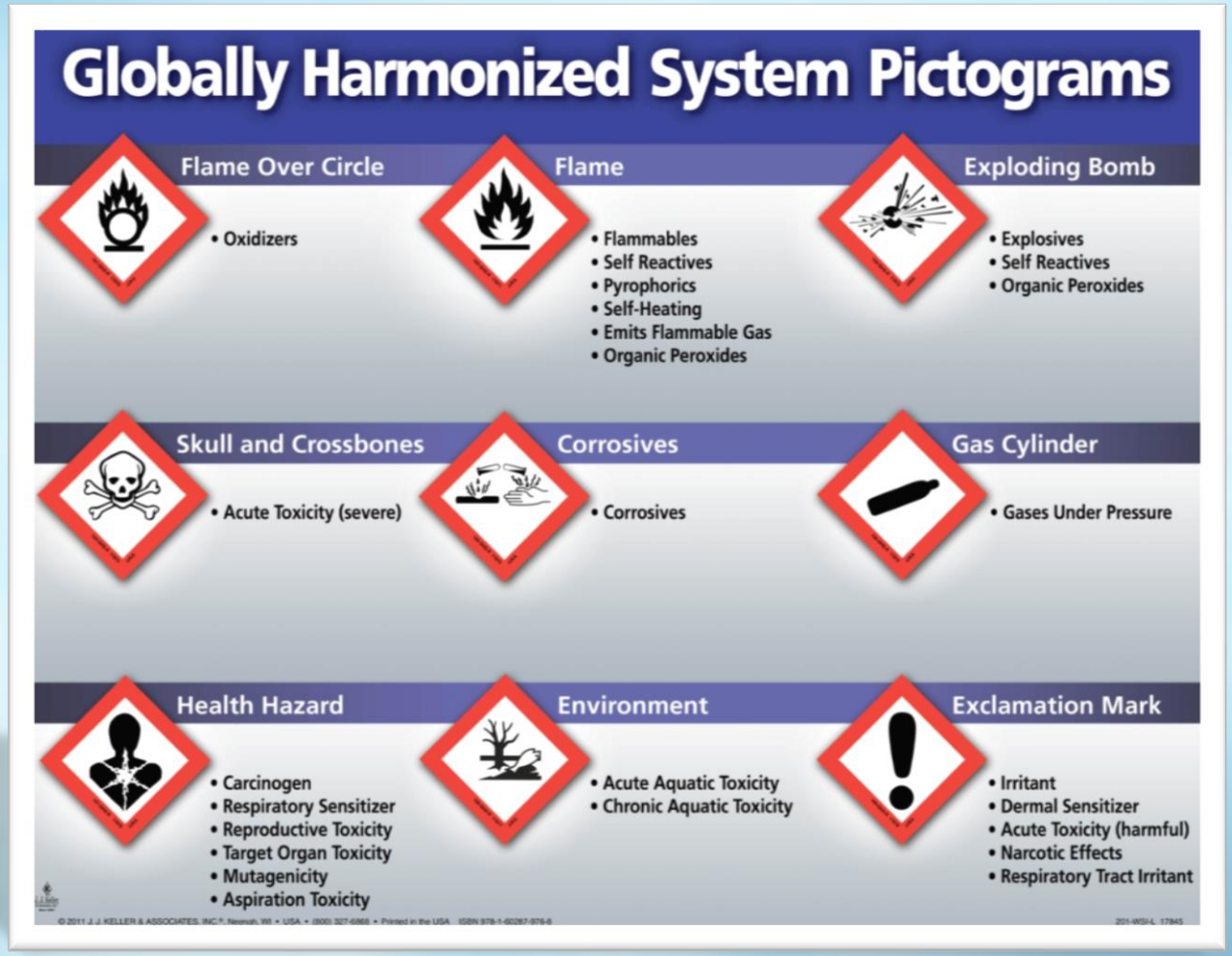
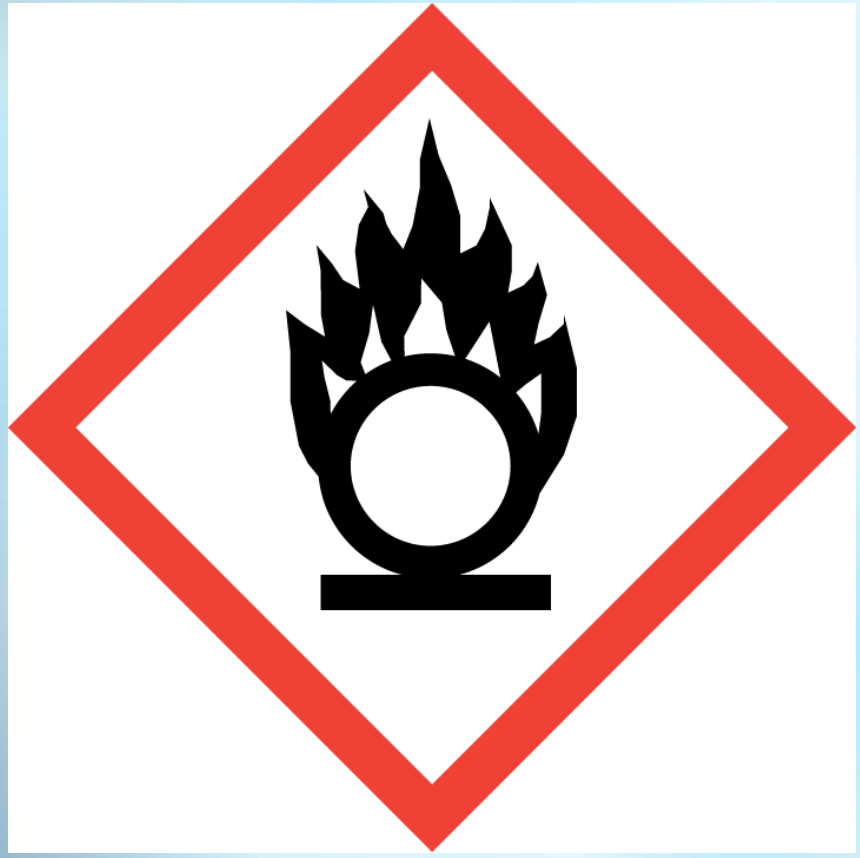
Pictograms


Globally Harmonized System Pictograms
Flame Over Circle
• Oxidizers
Flame
• Flammables
• Self Reactives
• Pyrophorics
• Self-Heating
• Emits Flammable Gas
• Organic Peroxides
Exploding Bomb
• Explosives
• Self Reactives
• Organic Peroxides
Skull and Crossbones
• Acute Toxicity (severe)
Corrosives
• Corrosives
Gas Cylinder
• Gases Under Pressure
Health Hazard
• Carcinogen
• Respiratory Sensitizer
• Reproductive Toxicity
• Target Organ Toxicity
• Mutagenicity
• Aspiration Toxicity
Environment
• Acute Aquatic Toxicity
• Chronic Aquatic Toxicity
Exclamation Mark
• Irritant
• Dermal Sensitizer
• Acute Toxicity (harmful)
• Narcotic Effects
• Respiratory Tract Irritant

Oxidizers



- Flame over the letter “O”
- Oxidizers can cause organic materials to combust
- Oxygen is most common

Flammables

- Solids, liquids and gases
- May react with other substances to cause a fire
- Could burn on its own simply by coming in contact with air

Explosives

- Explosive materials
- Self-reactive or self-heating
- Pyrophoric – burns if it contacts air
- Organic peroxide – burns or explodes

Acute Toxicity

- Severe hazard
- Can be fatal
- Extremely toxic

Corrosives

- Can cause skin burns
- Will damage eyes
- Can damage metals or other materials

Gases Under Pressure

- May be flammable, oxidizing or reactive compressed gasses
- Accidental release causes cylinder to rocket
- Liquid contents may cause skin to freeze

Health Hazard

- Could cause cancer
- Can impact breathing and may cause asthma
- May cause reproductive problems and birth defects
- May be toxic to organs and damage lungs
- Mutagenicity

Environmental Toxicity

- Harms plants or animals
- Impacts air or water quality
- Could contaminate soil

Irritant

- Indicates Irritants or Skin Sensitizers
- Can cause problems with skin, eyes and respiratory system
- Generally short-term (acute) irritations or rashes upon contact
- May cause dizziness

Re-Labeling

- Re-labeling can take place when:
  - Your employer chooses to use an OSHA-approved label in your workplace.
  - A large quantity of a chemical is broken down into smaller ones to use in different areas.

  - An unlabeled container should not be used

SUMMARY

- OSHA has kept the framework of its traditional Hazard Communication Standard.
- The major changes are
  - Revised criteria for classification of hazards
  - Revised labeling provisions that include requirements for the standardization
    - Signal words
    - Pictograms
    - Hazard statements
    - Precautionary Statements
    - Product Identifier
    - Specific format for Safety data sheets- easy to read format, 16 Sections
    - Related revisions to definitions
    - Requirements for employee training on safety data sheets and labels

SUMMARY

- Read the label and Safety Data Sheet **before** using a chemical or substance.
- Make sure employees understand:
  - What am I working with?
  - Can it hurt me?
  - How do I protect myself?
  - What do I do if something goes wrong?

QUESTIONS

OTHER TIPS

Recordkeeping
Reporting
July 1 deadline