



# The Globally Harmonized System (GHS) for Hazard Classification and Labelling

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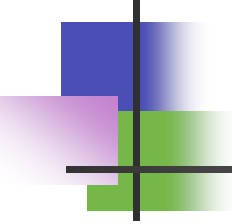
Development of a Worldwide System for Hazard Communication



# Why is the GHS needed?

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- No country has the ability to identify and specifically regulate every hazardous chemical product.
- For example, in the United States, there are an estimated 650,000 such products.
- Adoption of requirements for information to accompany the product helps address protection needs.



## Why? (cont.)

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- Countries with systems have different requirements for hazard definitions as well as information to be included on a label or material safety data sheet.
- For example, a product may be considered flammable or toxic in one country, but not in another to which it is being shipped. (ex: Flammables)



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**HAZCOM** was known as

**“RIGHT-TO-KNOW”**

**GHS** is known as

**“RIGHT-TO- UNDERSTAND”**



# The GHS Elements

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## Classification Criteria

- Health Hazards
- Physical Hazards
- Environmental Hazards
- Mixtures

## Hazard Communication

- Labels
- Safety Data Sheets (SDS)



# Exemptions

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- RCRA & CERCLA hazardous waste
- Tobacco products
- Wood products
- Food & alcoholic beverages
- Cosmetics
- Pharmaceuticals



# Comprehensibility

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## **Guiding principles:**

- Information should be conveyed in more than one way.
- The components of the system should take account of existing studies and evidence gained from testing.
- The phrases used to indicate the degree (severity) of hazard should be consistent across different hazard types.

# Key Label Elements

Product identifier  
Supplier identifier  
Chemical identity  
Hazard pictograms\*  
Signal words\*  
Hazard statements\*  
Precautionary information

\* Standardized

SAMPLE LABEL	
<b>PRODUCT IDENTIFIER</b> CODE Product Name	<b>HAZARD PICTOGRAMS</b> 
<b>SUPPLIER IDENTIFICATION</b> Company Name Street Address City_State _____ Postal Code_Country _____ Emergency Phone Number _____	<b>SIGNAL WORD</b> Danger
<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>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>HAZARD STATEMENT</b> Highly flammable liquid and vapor. May cause liver and kidney damage. <b>SUPPLEMENTAL INFORMATION</b> Directions for use _____ _____ _____ Fill weight Lot Number _____ Gross weight Fill Date _____ Expiration Date: _____



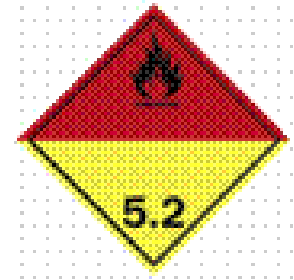
# Pictogram Shape and Colour



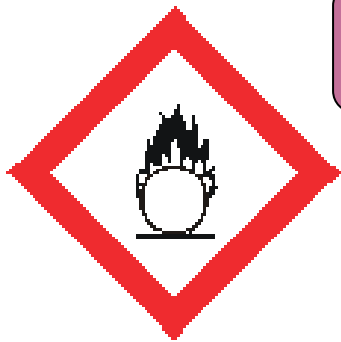
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- For transport, pictograms will have the background and symbol colours currently used.
- For other sectors, new pictograms will have a black symbol on a white background with a red diamond frame. A black frame may be used for shipments within one country.
- Where a transport pictogram appears, the GHS pictogram for the same hazard should not appear.

# Transport Pictograms



# GHS Pictograms



- Oxidizers

Note the  
difference



- Flammables
- Self Reactives
- Pyrophorics
- Self-Heating
- Emits Flammable Gas
- Organic Peroxides



- Explosives
- Self Reactives
- Organic Peroxides

# GHS Pictograms



•Acute toxicity (severe)



•Corrosives



•Gases Under Pressure

# GHS Pictograms



- Carcinogen
- Respiratory Sensitizer
- Reproductive Toxicity
- Target Organ Toxicity
- Mutagenicity
- Aspiration Toxicity



- Irritant
- Dermal Sensitizer
- Acute toxicity (harmful)
- Narcotic Effects
- Respiratory Tract
- Irritation



- Environmental Toxicity
- *NOTE: not enforced by OSHA*



# Signal Words

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## **“Danger”** or **“Warning”**

- Used to emphasize hazard and discriminate between levels of hazard.



# Remember!!

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A label with any pictogram with the word

**DANGER**

is more hazardous than the same pictogram  
with the word

**WARNING**



# Role of the Safety Data Sheet

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- 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

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



Emergency  
Information



# Format: 16 headings (cont.)

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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

**Sections 12-15  
not enforced  
by OSHA**



# Implementation Timeline

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- **March 20, 2012:** Final OSHA Rule Published
- **December 1, 2013:** Train employees on the new label elements and SDS format.
- **June 1, 2015:** Chemical manufacturers, importers, distributors, and employers must comply with all modified provisions of the final rule
- **December 1, 2015:** The Distributor may only ship containers labeled with a GHS label
- **June 1, 2016:** Update alternative workplace labeling and hazard communication program as necessary, and provide additional employee training for newly identified physical or health hazards.

# Questions?

