

Global Harmonization and Hazard Communication

HAZARD COMMUNICATION

Major changes to the Hazard Communication Standard

- **Hazard classification:** Chemical manufacturers and importers are required to determine the hazards of the chemicals they produce or import. Hazard classification under the new, updated standard provides specific criteria to address health and physical hazards as well as classification of chemical mixtures.
- **Labels:** Chemical manufacturers and importers must provide a label that includes a signal word, pictogram, hazard statement, and precautionary statement for each hazard class and category.

Major changes to the Hazard Communication Standard

- **Safety Data Sheets:** The new format requires 16 specific sections, ensuring consistency in presentation of important protection information.
- **Information and training:** To facilitate understanding of the new system, the new standard requires that workers be trained by December 1, 2013 on the new label elements and safety data sheet format, in addition to the current training requirements.

What you need to do & when

- **Chemical users:** Continue to update safety data sheets when new ones become available, provide training on the new label elements and update hazard communication programs if new hazards are identified.
- **Chemical Producers:** Review hazard information for all chemicals produced or imported, classify chemicals according to the new classification criteria, and update labels and safety data sheets.

Benefits of the new rule

- Enhance worker comprehension of hazards, especially for low and limited-literacy workers, reduce confusion in the workplace, facilitate safety training, and result in safer handling and use of chemicals
- Provide workers quicker and more efficient access to information on the safety data sheets

HAZCOM

is known as the

“RIGHT-TO-KNOW”

Regulation

Now it will also be known as the

“RIGHT-TO-UNDERSTAND”

Regulation

Elements of a Written Hazcom Program

- How to obtain and access SDSs and List of Hazardous Chemicals
- Hazards of non-routine tasks
- Hazards of chemical products found in unlabeled pipes
- Workplace labeling system

Elements of a Written Hazcom Program

- Access is provided to
 - Written Chemical Hazard Communication program
 - List of Hazardous Chemicals
 - SDS for chemicals you work with
- Training on how to detect presence or release of hazardous chemicals

GHS – WHAT IS IT?

What is GHS?

- Globally Harmonized System of Classifying and Labeling Chemicals
- An international systematic approach to:
 - Defining and classifying hazards
 - Communicating health and safety information on labels and Safety Data Sheets
- Developed so all countries will eventually describe chemical hazard information in the same way

Scope of GHS

- Applies to all hazardous chemical substances and mixtures including:
 - Pesticides
 - Pharmaceuticals
 - Explosives
 - Food additives
 - Cleaners
 - Etc.

Exemptions

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

Rationale for U.S. adoption of GHS

- American companies are major importers of chemicals as well as exporters, and missing or incomplete information on chemicals we import may lead to reduced protections for workers and public.
- Large number of varying requirements around the world create potential barriers to trade in chemicals, particularly for small businesses.
- A harmonized and consistent approach has benefits both in terms of protection and trade.

**RECOGNIZE THE COMPONENTS OF
LABELS**

Components of a Label

- **Product identifier** = name of product from SDS
- **Signal word** = DANGER or WARNING
- **Hazard statement:** from Section 2 of SDS - describes nature of hazards
- **Pictograms:** use a drawing to represent specific message
- **Precautionary statement** explains how to handle, store, and dispose of hazard
- Name, address and telephone number of **responsible party**

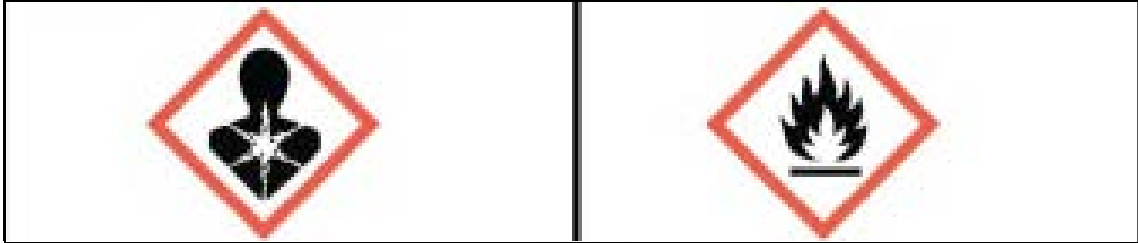
Sample of GHS Label

Product identifier → *ZZZ Red Paint*

Hazard statements → May damage fertility or the unborn child
Highly flammable liquid and vapor
**Contains lead pigments and cellosolve acetate

Signal word ← **Danger!**

Pictograms



Keep away from heat and ignition sources. Keep away from food and drink. Avoid contact with skin and eyes and inhalation of vapor. Wash hands thoroughly after use and before eating

FIRST AID ← **Precautionary statements**

For skin contact, remove contaminated clothing and wash affected area thoroughly with water. If irritation develops, seek medical attention. For eye contact, immediately flush eyes with flowing water for at least 15 minutes and seek medical attention.









GHS Example PLC, Leeds, England. Telephone 44 999 999 9999 ← **Responsible party**

Classes of Hazards

- Physical Hazards
 - Explosives, Flammables, Oxidizers, High Pressure Gases, Pyrophoric, Corrosive, Reactive
- Health Hazards
 - Acute Toxicity, Skin Corrosion, Eye Damage, Respiratory Sensitizers, Carcinogenic, Mutagenic, Reproductive Toxicity, Specific Target Organ Toxicity (STOT)
- Environmental Hazards
 - Acute or Chronic Aquatic Toxicity

Pictograms

- There are a total of nine pictograms. OSHA adopted all but Environmental since they don't have jurisdiction. That one is optional but recommended.

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

“Health Hazard”



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

“Flame”



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

“Exclamation Mark”



- Irritant (skin and eye)
- Skin Sensitizer
- Acute Toxicity
- Narcotic Effects
- Respiratory Tract Irritant
- Hazardous to Ozone Layer (Non-Mandatory)

“Gas Cylinder”

- Gases Under Pressure



“Corrosion”

- Skin Corrosion/Burns
- Eye Damage
- Corrosive to Metals

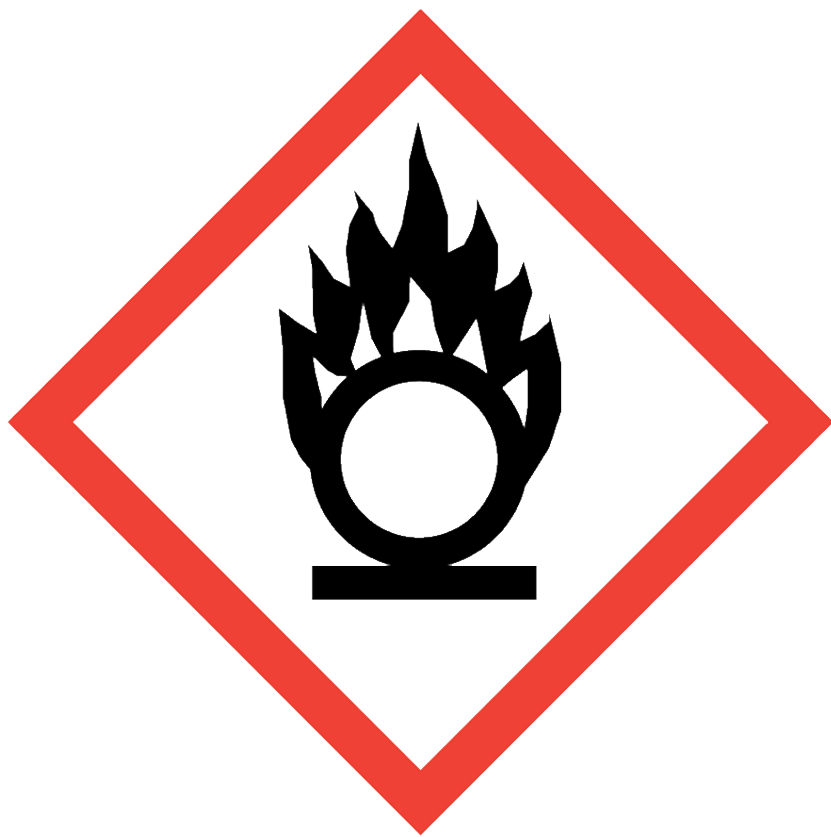


“Exploding Bomb”

- Explosives
- Self-Reactives
- Organic Peroxides



“Flame Over Circle”



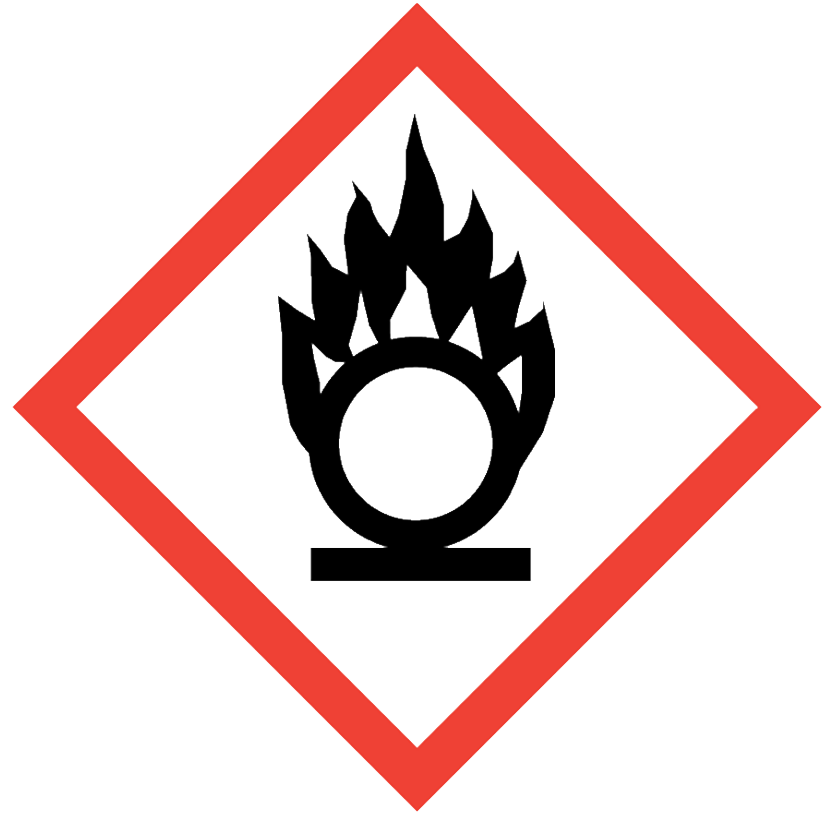
- Oxidizers
- Please note the differences between this pictogram and “Flame” pictogram

Note the Differences

Flame Pictogram

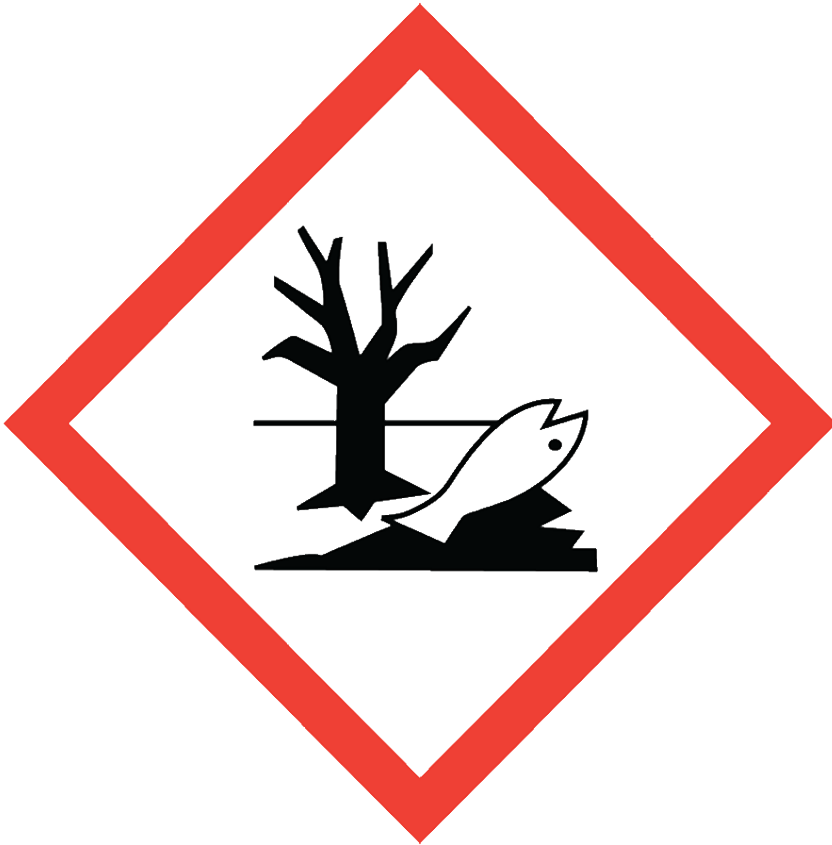


Flame over Circle Pictogram



“Environment”

- Aquatic Toxicity
- Not required by OSHA



“Skull & Crossbones”

- Acute Toxicity (fatal or toxic)



Pictograms

- For more information on Pictograms go to
 - http://www.osha.gov/Publications/HazComm_QuickCard_Pictogram.html

Remember!!

A label with any pictogram that has the word

DANGER

is more hazardous than the same pictogram
with the word

WARNING

SDS – SAFETY DATA SHEET

What is an SDS

- 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.
 - An SDS for a substance is not primarily intended for use by the general consumer, focusing instead on the hazards of working with the material in an occupational setting.

Elements of an SDS

- Section 1, Identification includes product identifier; manufacturer or distributor name, address, phone number; emergency phone number; recommended use; restrictions on use.
- Section 2, Hazard(s) identification includes all hazards regarding the chemical; required label elements.

Elements of an SDS

- Section 3, Composition/information on ingredients includes information on chemical ingredients; trade secret claims.
- Section 4, First aid measures includes important acute or delayed symptoms/effects; required treatment.

Elements of an SDS

- Section 5, Fire-fighting measures lists suitable extinguishing techniques/equipment; chemical hazards from fire.
- Section 6, Accidental release measures lists emergency procedures; protective equipment; proper methods of containment and cleanup.

Elements of an SDS

- Section 7, Handling and storage lists precautions for safe handling and storage, including incompatibilities.
- Section 8, Exposure controls/personal protection lists OSHA's Permissible Exposure Limits (PELs); Threshold Limit Values (TLVs); appropriate engineering controls; personal protective equipment (PPE).

Elements of an SDS

- Section 9, Physical and chemical properties lists the chemical's characteristics.
- Section 10, Stability and reactivity lists chemical stability and possibility of hazardous reactions.
- Section 11, Toxicological information includes routes of exposure; related symptoms, acute and chronic effects; numerical measures of toxicity.

Elements of an SDS

- Section 12, Ecological information.
- Section 13, Disposal considerations.
- Section 14, Transport information.
- Section 15, Regulatory information.
- Section 16, Other information includes the date of preparation or last revision.

Comments

- OSHA does not enforce Sections 12 through 15, so an SDS may not have complete information in these sections.
- The SDS will indicate if there is no relevant information available within a Section.
- Although the SDS must be in English, employer may have copies in other languages as well.