

Global Harmonization

An Introduction



What is it?

- “A common and coherent approach to defining and classifying hazards, and communicating information on labels and safety data sheets.”
- New label formats on packaging
- New pictograms
- Pictograms on consumer products
- Changed MSDSs



Application:

- All hazardous chemicals (pure, diluted, and mixtures)
- Pharmaceuticals, food additives, cosmetics, and pesticide residues in food: only in transport and where workers may be exposed



Why is it called

“Global Harmonization”?

- Will be implemented in every country in the world (i.e. "global")
- Makes labeling, product classification, and safety documentation the same in every country (i.e. "harmonizes" them)
- Provides the underlying infrastructure for establishment of national, comprehensive chemical safety programs.



Who is promoting it and pushing it forward?

United Nations agencies:

- International Labor Organization
- Organization for Economic Cooperation and Development
- Food and Agriculture Organization



What is the intent of GHS?

Purpose of the GHS

- Provides an international system for hazard communication
- Provides a framework for countries without any system
- Reduces the need to classify chemicals in every country (and “harmonizes” the classification)

Example of the Differences

- Prior to the GHS harmonization effort, the EU had a cut-off for acute toxicity of 200 mg/kg (oral), while the US used 500 mg/kg.
- All chemicals between 200 and 500 mg/kg were classified differently as a result.

GHS covers all chemicals

but not biological agents or
radioactive materials.

Target audiences:

consumers, workers, transport
workers, emergency responders.

Target audience needs

- Consumers – labels
- Workers – labels and safety data sheets
- Transport workers – labels, placards, transport documents
- Emergency responders – labels, placards transport documents, safety data sheets

**What about the existing
DOT placarding and
package labeling system?**

Absolutely no change

Nothing

Nada

Niente

Nix

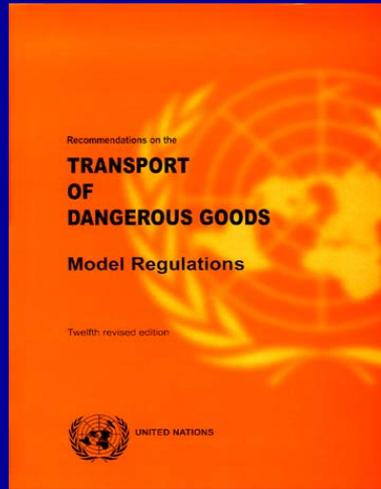


**What about the UN
placarding system?**

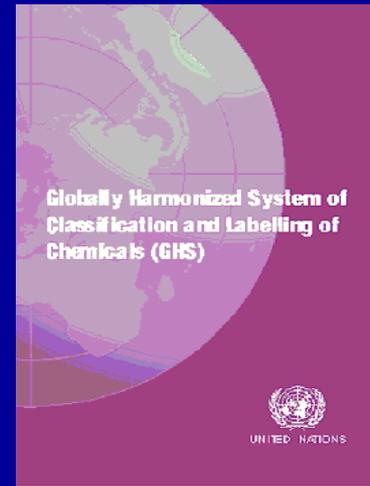
Stays the same!

But: 14th edition of the UN Model Regulations on Transport of Dangerous Goods have been harmonized with the GHS





Sub-Committee
on TDG



Sub-Committee
on GHS

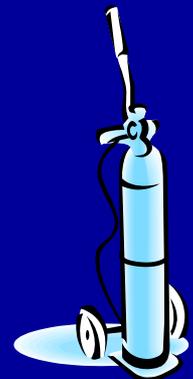
UN Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System for the Classification and Labeling of Chemicals

How far does the new labeling system go re packages – industrial or domestic products?

Where must labels be used?

On all packages of regulated substances:

- Bulk (e.g. tank in a factory)
- Medium (e.g. drum)
- Small packaging (e.g. bottle)
- Consumer Products (e.g. aerosol can)



Key harmonized label elements

- Product identifier / ingredient disclosure
- Symbols / pictograms
- Signal Words
- Hazard Statements
- Precautionary information

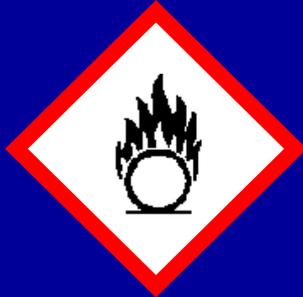


Symbols/pictograms in the GHS



- Same symbols (where there is commonality) and pictogram shape for transportation and GHS (square on point)
- Transportation pictograms will use the background and symbol colour specified in the DOT regulations
- GHS pictograms will contain a black symbol on a white background with a red frame

GHS pictograms



What will a GHS label look like?

- Product identifier: "GREAT-STUFF"
contains X, Y, Z

- Symbol



- Signal Word



- Hazard Statement: "Fatal if swallowed"
- Precautionary information

Example of a GHS label with the transport label included

Single packaging using 3 adjacent panels to convey multiple hazards.

Product classified as (1) Category 2 flammable liquid, (2) Category 4 acute toxicity by inhalation, and (3) Category 3 target organ/systemic toxicity, repeat exposure.

CODE

PRODUCT NAME

COMPANY NAME

Street Address
City, State, Postal Code, Country
Phone Number
Emergency Phone Number

DIRECTIONS FOR USE:
XXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXX

Fill weight: XXXX
Gross weight: XXXX

Lot Number: XX
Fill Date: XXXX
Expiration Date: XXXXXX



Danger
Keep out of the reach of children.
Read label before use.

Highly flammable liquid and vapor.
Harmful if inhaled.
May cause liver and kidney damage through prolonged or repeated exposure.

Keep container tightly closed.
Keep away from heat/sparks/open flame.
No smoking.
Use only outdoors or in a well-ventilated area.
Avoid breathing fumes.
Wear protective gloves and eye/face protection [as specified....]
Ground/bond container and receiving equipment.

IN CASE OF FIRE use [as specified] for extinction

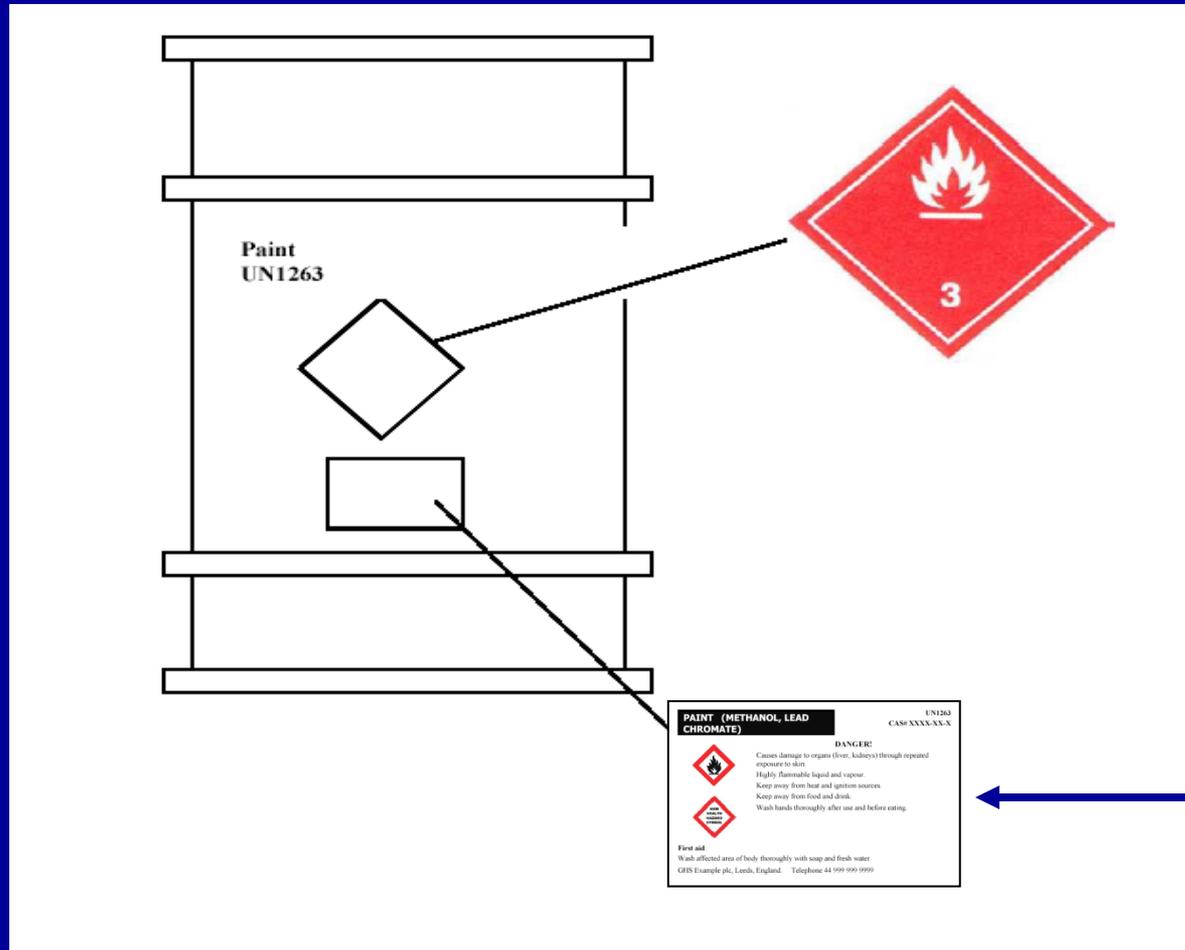
FIRST AID
IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
Call a Poison Control Center or doctor.

Store in a cool, well-ventilated place.

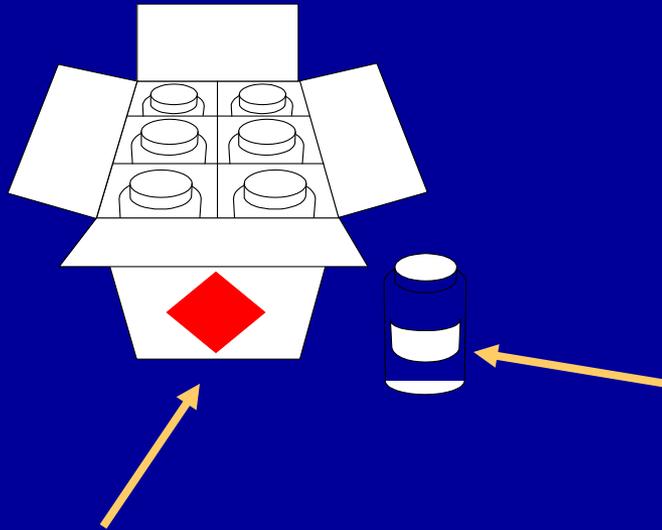
UN Number
Proper shipping name

[ADD UPCs]

Label Configuration For a Single Package



Label Configuration For a Combination Package



The GHS label is on the inner package

The transport label is on the outer packaging, as per DOT regs

PAINT (METHANOL, LEAD CHROMATE) UN1263
CAS# XXXX-XX-X

DANGER!

Causes damage to organs (liver, kidneys) through repeated exposure to skin.
Highly flammable liquid and vapour.
Keep away from heat and ignition sources.
Keep away from food and drink.
Wash hands thoroughly after use and before eating.

First aid:
Wash affected area of body thoroughly with soap and fresh water.
GHS Example plc, Leeds, England. Telephone 44 999 999 9999

The label features two hazard pictograms: a flame in a red diamond and a red diamond with the text 'NEW HEALTH HAZARD SYMBOL'.

Consumer Labeling Issues

- Sole source of information for consumer
- Risk Communication:
 - Likelihood of Injury
 - Product's Hazards (under R-T-K)
- Consumer education is difficult
- Keep it simple and comprehensible
- Language: Words or Pictograms?

Goodbye MSDS, Hello SDS



Material Safety Data Sheets

Country A

- Hazardous Ingredients
- Product Information
- Physical Data
- Fire/Explosion Hazard
- Reactivity Data
- Toxicological Data
- Preventive Measures
- First Aid Measures
- Preparation Info

Country B

- Manufacturer Info
- Hazardous Ingredients
- Physical/Chemical Characteristics
- Fire/Explosion Hazard
- Reactivity Data
- Health Hazard Data
- Safe Handling and Use
- Control Measures

Safety Data Sheets

1. Identification
2. Hazard(s) Identification
3. Composition/Ingredients
4. First-aid Measures
5. Firefighting Measures
6. Accidental Release Measures
7. Handling and Storage
8. Exposure Control/PPE
9. Physical and Chemical Properties
10. Stability and Reactivity
11. Toxicological Info
12. Ecological Information
13. Disposal Considerations
14. Transport Information
15. Regulatory Information
16. Other Information

**Who will be the
regulating and enforcing
agency in the USA?**

US Regulatory Agencies:

- For the workplace: OSHA
- For pesticides and environmental issues: EPA
- In transportation: DOT
- For consumer products (other than pesticides): CPSC

