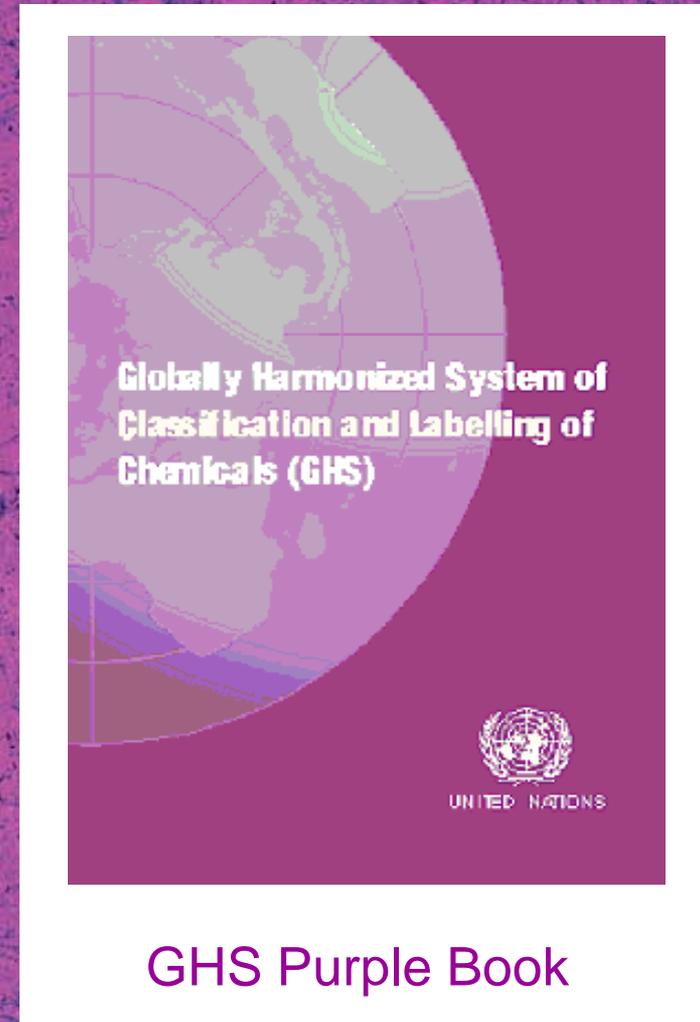


# The Globally Harmonized System (GHS) of Classification & Labeling of Chemicals

OSHA GHS NPRM



GHS Purple Book

*Michele Sullivan, Ph.D.*  
Sulliva1@aol.com  
703-527-2596

# OSHA's GHS NPRM

- The GHS approach is designed to improve comprehensibility, and thus the effectiveness of the HCS, and help to further reduce illnesses and injuries
- OSHA has sought to maintain or enhance the protections provided by the current rule
  - The scope and application is basically unchanged, maintaining practical accommodations made by OSHA
  - Written hazard communication program requirements, worker training, and trade secret provisions are all largely unchanged from the existing rule
- The NPRM maintains consistency with the GHS as negotiated/adopted
  - harmonization is best served by aligning with the GHS as negotiated and minimizing country-specific deviations

## (c) Definitions

- propose to remove from the current HCS definitions:
  - Combustible liquid; explosive; flammable; organic peroxide; oxidizer; pyrophoric; unstable (reactive); and water-reactive
  - Flashpoint; hazard warning; and MSDS
- proposed revisions to be consistent with the GHS
  - Chemical; chemical name; hazardous chemical; health hazard; label; mixture; physical hazard; and trade secret
- proposed additions to the definitions
  - Classification; hazard category; hazard class; hazard statement; label element; pictogram; precautionary statement; product identifier; Safety Data Sheet (SDS); signal word; substance; and **unclassified hazard**

# Unclassified Hazards

- **Unclassified hazard** means a chemical for which there is scientific evidence identified during the classification process that it may pose an adverse physical or health effect when present in a workplace under normal conditions of use or in a foreseeable emergency, but the evidence does not currently meet the specified criteria for physical or health hazard classification in this section. This does not include adverse physical and health effects for which there is a hazard class addressed in this section.
- 2 examples of HCS hazards that are not classified by GHS are combustible dust & simple asphyxiants
- There may be other such hazards as well

# Hazard Determination Hazard Classification

- Chemical manufacturers and importers must classify each chemical they produce or import:
  - Determine the appropriate hazard classes and associated hazard categories
  - Base this on an evaluation of the full range of available data/evidence on the chemical (no testing is required)
  - Use Appendix A for health hazard criteria and Appendix B for physical hazard criteria
  - The introduction to Appendix A provides the general approach to classification, including bridging principles for mixtures
- NTP, IARC and OSHA carcinogens are removed
- The HCS “floor” of chemicals is removed

# Hazard Determination Hazard Classification

- The proposed modifications introduce the concept of severity of response in the criteria
  - Each type of hazard covered is considered a “hazard class”— such as acute toxicity, carcinogenicity
  - However, most of these hazard classes are also subdivided into “hazard categories” to reflect the degree of severity of the effect
  - This is the concept of “classification”—rather than just determining that there is a hazardous effect (carcinogenicity), there is also a finding of how severe that effect might be (Category 1 or 2)

# ACUTE ORAL TOXICITY - Annex 1

	Category 1	Category 2	Category 3	Category 4	Category 5
LD <sub>50</sub>	≤ 5 mg/kg	> 5 ≤ 50 mg/kg	> 50 ≤ 300 mg/kg	> 300 ≤ 2000 mg/kg	> 2000 ≤ 5000 mg/kg
Pictogram					No pictogram
Signal word	 <b>Danger</b>	 <b>Danger</b>	 <b>Danger</b>	<b>Warning</b>	<b>Warning</b>
Hazard statement	<b>Fatal if swallowed (H300)</b>	<b>Fatal if swallowed (H300)</b>	<b>Toxic if swallowed (H301)</b>	<b>Harmful if swallowed (H302)</b>	<b>May be harmful if swallowed (H303)</b>

# OSHA NPRM GHS – Physical Hazards (Building Blocks)

## Hazard Class

## Hazard Category

	Unstable Explosives	Div 1.1	Div 1.2	Div 1.3	Div 1.4	Div 1.5	Div 1.6
Explosives							
Flammable Gases	1	2					
Flammable Aerosols	1	2					
Oxidising Gases	1						
Pressurised Gases							
Compressed Gases	1						
Liquefied Gases	1						
Refrigerated Liquefied Gases	1						
Dissolved Gases	1						
Flammable Liquids	1	2	3	4			
Flammable Solids	1	2					
Self-reactive Substances	Type A	Type B	Type C	Type D	Type E	Type F	Type G
Pyrophoric Liquids	1						
Pyrophoric Solids	1						
Self-heating Substances	1	2					
Water Reactive → Flammable Gases	1	2	3				
Oxidising Liquids	1	2	3				
Oxidising Solids	1	2	3				
Organic Peroxides	Type A	Type B	Type C	Type D	Type E	Type F	Type G
Corrosive to Metals							

High Hazard  Low Hazard

FLAMMABLE / COMBUSTIBLE LIQUID				
OSHA	Flammable FP < 100°F Appropriate hazard warning		Combustible FP > 100°F < 200°F Appropriate hazard warning	
FIFRA	I FP ≤ 20°F Extremely flammable. Keep away from fire, sparks, and heated surfaces.	II FP > 20°F ≤ 80°F Flammable. Keep away from heat and open flame.	III FP > 80°F ≤ 150°F Combustible. Do not use or store near heat or open flame.	IV FP > 150°F
CPSC	Extremely flammable FP ≤ 20°F Danger Extremely Flammable Liquid And Vapor	Flammable FP > 20°F < 100°F Warning Or Caution Flammable Liquid And Vapor	Combustible FP ≥ 100°F ≤ 150°F Warning Or Caution Combustible Liquid And Vapor	
DOT	Class 3: Pkg 1 / Pkg 2 FP < 73°F 		Class 3 Pkg 3 FP ≥ 73°F ≤ 141°F 	Combustible FP > 141°F ≤ 200°F
EU	Extremely flammable FP < 32°F; BP ≤ 95°F Extremely flammable 	Highly flammable FP < 70°F Highly flammable 	Flammable FP ≥ 70°F ≤ 131°F Flammable	
WHMIS	B2: Flammable liquid FP < 100°F Appropriate risk phrase 		B3: Combustible FP > 100°F < 200°F Appropriate risk phrase 	
GHS	Categories 1 FP < 23°C/73°F BP ≤ 35 C/95°F  or  Danger Extremely flammable liquid and vapor	Category 2 FP < 23°C/73°F BP > 35 C/95°F  or  Danger Highly flammable liquid and vapor	Category 3 FP ≥ 23 C/73°F ≤ 60 C/140°F  or  Warning Flammable liquid and vapor	Category 4 FP > 60 C/140°F ≤ 93°C/200°F  No symbol  Warning Combustible liquid

# OSHA NPRM GHS – Health Hazards (Building Blocks)

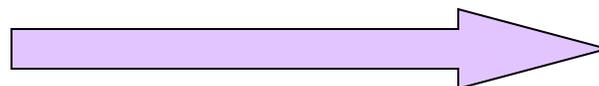
## Hazard Class

## Hazard Category

Acute Toxicity, Oral  
 Acute Toxicity, Dermal  
 Acute Toxicity, Inhalation  
 Aspiration hazard  
 Skin Corrosion/Irritation (Dermal  
     Corrosion = Eye Corrosion)  
 Eye Irritation  
 Respiratory Sensitisation  
 Skin Sensitisation  
 Germ Cell Mutagenicity  
 Carcinogenicity  
 Reproductive Toxicity - Fertility  
 Reproductive Toxicity - Development  
 Target Organ SysTox – Single Dose  
 Target Organ SysTox – Repeat Dose

1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2			
1 (Corrosion)			Irritation	
1A	1B	1C	2	3
1	2(A)	2(B)		
1	(1A)	(1B)		
1	(1A)	(1B)		
1A	1B	2		
1A	1B			
1A	1B	2	Lactation	
1A	1B	2		
1	2	3		
1	2			

High Hazard



Low Hazard

### ACUTE ORAL TOXICITY

<b>OSHA</b>	<b>Highly Toxic</b> LD <sub>50</sub> ≤ 50 mg/kg Appropriate Hazard Warning		<b>Toxic</b> LD <sub>50</sub> > 50 ≤ 500 mg/kg Appropriate Hazard Warning		
<b>ANSI</b>	<b>Highly Toxic</b> LD <sub>50</sub> ≤ 50 mg/kg  <b>POISON</b> <b>DANGER</b> May Be Fatal If Swallowed		<b>Toxic</b> LD <sub>50</sub> > 50 ≤ 500 mg/kg <b>WARNING</b> Harmful if swallowed		<b>Harmful</b> LD <sub>50</sub> > 500 ≤ 2,000 mg/kg <b>CAUTION</b> May be harmful if swallowed
<b>FIFRA</b>	<b>I</b> LD <sub>50</sub> ≤ 50 mg/kg  <b>POISON</b> <b>DANGER</b> Fatal if swallowed		<b>II</b> LD <sub>50</sub> > 50 ≤ 500 mg/kg No symbol <b>WARNING</b> May be fatal if swallowed		<b>III</b> LD <sub>50</sub> > 500 ≤ 5000 mg/kg No symbol <b>CAUTION</b> Harmful if swallowed
<b>CPSC</b>	<b>Highly Toxic</b> LD <sub>50</sub> ≤ 50 mg/kg  <b>POISON</b> <b>DANGER</b> Fatal If Swallowed		<b>Toxic</b> LD <sub>50</sub> > 50 ≤ 5000 mg/kg No symbol <b>WARNING</b> or <b>CAUTION</b> Harmful If Swallowed		
<b>DOT</b>	<b>PKG 1</b> LD <sub>50</sub> < 5 	<b>Packing Group II</b> LD <sub>50</sub> > 5 ≤ 50 	<b>Packing Group III</b> LD <sub>50</sub> > 50 ≤ 500 mg/kg (liquid); > 50 ≤ 200 mg/kg (solid) 		
<b>EU</b>	<b>Very Toxic</b> LD <sub>50</sub> ≤ 25 Very toxic if swallowed (R28) 		<b>Toxic</b> LD <sub>50</sub> > 25 ≤ 200 Toxic if swallowed (R25) 		<b>Harmful</b> LD <sub>50</sub> > 200 ≤ 2,000 Harmful if swallowed (R22) 
<b>WHMS</b>	<b>Class D1A, Very Toxic</b> LD <sub>50</sub> ≤ 50 Appropriate risk phrase 		<b>Class D1B, Toxic</b> LD <sub>50</sub> > 50 ≤ 500 Appropriate risk phrase 		
<b>GHS</b>	<b>Category 1</b> LD <sub>50</sub> ≤ 5 mg/kg  or  <b>Danger</b> Fatal if swallowed	<b>Category 2</b> LD <sub>50</sub> > 5 < 50 mg/kg  or  <b>Danger</b> Fatal if swallowed	<b>Category 3</b> LD <sub>50</sub> ≥ 50 < 300 mg/kg  or  <b>Danger</b> Toxic if swallowed	<b>Category 4</b> LD <sub>50</sub> ≥ 300 < 2000 mg/kg  <b>Warning</b> Harmful if swallowed	<b>Category 5</b> LD <sub>50</sub> ≥ 2000 < 5000 mg/kg No symbol <b>Warning</b> May be harmful if Swallowed

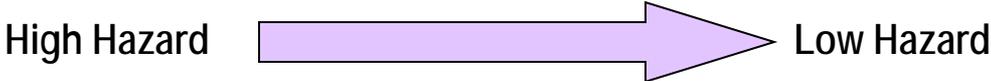
# OSHA NPRM GHS – Environmental Hazard (Building Blocks)

## Hazard Class

Acute Aquatic Toxicity  
Chronic Aquatic Toxicity  
Hazardous To The Ozone Layer

## Hazard Category

1	2	3	
1	2	3	4
1			



# Labels on Shipped Containers

HCS



GHS NPRM

- containers of hazardous chemicals
  - Identity of hazardous chemical(s)
  - Appropriate hazard warnings
  - Name/address of chemical manufacturer, importer, or other responsible party.

- containers of classified hazardous chemicals
  - Product identifier
  - Signal word
  - Hazard statement(s)
  - Pictogram(s)
  - Precautionary statement(s)
  - Name, address, telephone number of responsible party
  - In some cases,
    - Unclassified hazards
    - *x percent of the mixture consists of ingredient(s) of unknown toxicity*
    - Supplemental information

**OSHA HCS:**

ToxiFlam

**TOXIC**

**COMBUSTIBLE LIQUID AND VAPOR**

My Company, My Street, MyTown NJ 00000

Tel: 444 999 9999

## GHS/NPRM Inner Container Label



**ToxiFlam (Contains: XYZ)**



**Danger!** Toxic if swallowed. Flammable liquid and vapor

Keep container tightly closed. Keep away from ignition sources such as heat/sparks/open flame– No smoking. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Wear protective gloves and eye/face protection. Ground/Bond container and receiving equipment. Use explosion-proof electrical/ventilating/ lighting/equipment. Take precautionary measures against static discharge. Use only non-sparking tools. Store in cool/well-ventilated place. Store locked up. Dispose of contents/container to in accordance with local/regional/national/international regulation.

### **FIRST AID**

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

**IF ON SKIN (or hair):** Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

In case of fire, use water fog, dry chemical, CO<sub>2</sub>, or “alcohol” foam.

Read Safety Data Sheet Before Use

My Company, MyStreet, MyTown, NJ 00000 Tel: 444.999.9999



# NPRM SDS Format

Use the 16 Section headings as follows:

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 controls/personal protection (PELs)
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

A new Appendix D, Safety Data Sheets, provides the details of what is to be included in each section

**Table D.1--Minimum Information for an SDS**

<p><b>1. Identification</b></p>	<p>(a) Product identifier used on the label;                  (b) Other means of identification;                  (c) Recommended use of the chemical and restrictions on use;                  (d) Name, address, and telephone number of the manufacturer, importer, or other responsible party;                  (e) Emergency phone number.</p>
<p><b>2. Hazard(s) identification</b></p>	<p>(a) Classification of the chemical in accordance with paragraph (d) of this section;                  (b) Signal word, hazard statement(s), symbol(s) and precautionary statement(s) in accordance with paragraph (f) of this section. (Hazard symbols may be provided as graphical reproductions or the name of the symbol, e.g., flame, skull and crossbones);  <b>(c) Unclassified hazards (e.g., combustible dust or dust explosion hazard);</b>  <b>(d) Where an ingredient with unknown acute toxicity is used in a mixture at a concentration <math>\geq 1\%</math>, a statement that x percent of the mixture consists of ingredient(s) of unknown toxicity is required.</b></p>
<p><b>3. Composition/information on ingredients</b></p>	<p>Except as provided for in paragraph (i) of this section on trade secrets:  <i>For Substances</i>                  (a) Chemical name;                  (b) Common name and synonyms;                  (c) CAS number and other unique identifiers;                  (d) Impurities and stabilizing additives which are themselves classified and which contribute to the classification of the substance.  <i>For Mixtures</i>                  The chemical name and concentration or concentration ranges of all ingredients which are classified as health hazards in accordance with paragraph (d) of this section.  <b><i>For All Chemicals Where a Trade Secret is Claimed</i></b>  <b>Where a trade secret is claimed in accordance with paragraph (i) of this section, a statement that the specific chemical identity and/or percentage of composition has been withheld as a trade secret is required.</b></p>
<p><b>4. First-aid measures</b></p>	<p>(a) Description of necessary measures, subdivided according to the different routes of exposure, i.e., inhalation, skin and eye contact, and ingestion;                  (b) Most important symptoms/effects, acute and delayed.                  (c) Indication of immediate medical attention and special treatment needed, if necessary.</p>
<p><b>5. Fire-fighting measures</b></p>	<p>(a) Suitable (and unsuitable) extinguishing media.                  (b) Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products).                  (c) Special protective equipment and precautions for fire-fighters.</p>
<p><b>6. Accidental release measures</b></p>	<p>(a) Personal precautions, protective equipment, and emergency procedures.                  (b) Methods and materials for containment and cleaning up.</p>
<p><b>7. Handling and storage</b></p>	<p>(a) Precautions for safe handling.                  (b) Conditions for safe storage, including any incompatibilities.</p>
<p><b>8. Exposure controls/personal protection</b></p>	<p>(a) <b>OSHA permissible exposure limit (PEL) and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet.</b>                  (b) Appropriate engineering controls.                  (c) Individual protection measures, such personal protective equipment.</p>

9. Physical and chemical properties	<ul style="list-style-type: none"> <li>(a) Appearance (physical state, color, etc.);</li> <li>(b) Odor;</li> <li>(c) Odor threshold;</li> <li>(d) pH;</li> <li>(e) Melting point/freezing point;</li> <li>(f) Initial boiling point and boiling range;</li> <li>(g) Flash point;</li> <li>(h) Evaporation rate;</li> <li>(i) Flammability (solid, gas);</li> <li>(j) Upper/lower flammability or explosive limits;</li> <li>(k) Vapor pressure;</li> <li>(l) Vapor density;</li> <li>(m) Relative density;</li> <li>(n) Solubility(ies);</li> <li>(o) Partition coefficient: n-octanol/water;</li> <li>(p) Auto-ignition temperature;</li> <li>(q) Decomposition temperature;</li> <li>(r) Viscosity.</li> </ul>
10. Stability and reactivity	<ul style="list-style-type: none"> <li>(a) Reactivity;</li> <li>(b) Chemical stability;</li> <li>(c) Possibility of hazardous reactions;</li> <li>(d) Conditions to avoid (e.g., static discharge, shock, or vibration);</li> <li>(e) Incompatible materials;</li> <li>(f) Hazardous decomposition products.</li> </ul>
11. Toxicological information	<p>Description of the various toxicological (health) effects and the available data used to identify those effects, including:</p> <ul style="list-style-type: none"> <li>(a) information on the likely routes of exposure (inhalation, ingestion, skin and eye contact);</li> <li>(b) Symptoms related to the physical, chemical and toxicological characteristics;</li> <li>(c) Delayed and immediate effects and (also chronic effects from short and long term exposure;</li> <li>(d) Numerical measures of toxicity (such as acute toxicity estimates).</li> </ul>
12. Ecological information (Non-mandatory).	<ul style="list-style-type: none"> <li>(a) Ecotoxicity (aquatic and terrestrial, where available);</li> <li>(b) Persistence and degradability;</li> <li>(c) Bioaccumulative potential;</li> <li>(d) Mobility in soil;</li> <li>(e) Other adverse effects (such as hazardous to the ozone layer).</li> </ul>
13. Disposal considerations (Non-mandatory).	<p>Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging.</p>
14. Transport information (Non-mandatory).	<ul style="list-style-type: none"> <li>(a) UN number;</li> <li>(b) UN proper shipping name;</li> <li>(c) Transport hazard class(es);</li> <li>(d) Packing group, if applicable;</li> <li>(e) Environmental hazards (e.g., Marine pollutant (Yes/No));</li> <li>(f) Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code);</li> <li>(g) Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises.</li> </ul>
15. Regulatory information (Non-mandatory)	<p>Safety, health and environmental (regulations specific for the product in question.</p>
16. Other information including date of last change to it.	<p>The date of preparation of the SDS or the preparation or last revision.</p>

# SDS Section 2: ToxiFlam

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## 2. HAZARD(S) IDENTIFICATION

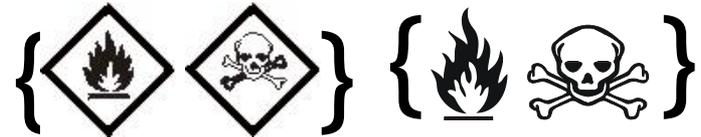
**Classification:** Flammable liquid, Category 3  
Acute Toxicity, Category 3

**Labeling:**

**Symbol(s):** Flame, Skull & crossbones

**Signal word:** Danger

**Hazard statement(s):** Flammable liquid and vapor.  
Toxic if swallowed



**Precautionary statements:**

Keep container tightly closed. Keep away from ignition sources such as heat/sparks/open flame—No smoking. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Wear protective gloves and eye/face protection. Ground/Bond container and receiving equipment. Use explosion-proof electrical/ventilating/ lighting/equipment. Take precautionary measures against static discharge. Use only non-sparking tools. Store in cool/well-ventilated place. Store locked up. Dispose of contents/container to in accordance with local/regional/national/international regulation. In case of fire, use water fog, dry chemical, CO<sub>2</sub>, or “alcohol” foam.

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

IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

## (h) Employee Information and Training

- proposed revision to employee training to clarify what must be included in the training:
  - details of the hazard communication program
    - explanation of the labels on shipped containers and the workplace labeling system used by the employer
    - the SDS
      - the order of information and
      - how employees can obtain & use the appropriate hazard information.
- Employers have to train employees on the new label system/SDS format to ensure the information is comprehensible
- NIOSH is developing on-line GHS pictogram training
- UNITAR is developing GHS training materials.

# HMIS/NFPA Numerical Ratings

Currently, the HMIS/NFPA and GHS hazard criteria are different.



## HMIS/NFPA Hazard Ratings

- 0 = Minimal Hazard
- 1 = Slight Hazard
- 2 = Moderate Hazard
- 3 = Serious Hazard
- 4 = Severe Hazard



## GHS Hazard Categories



- Cat. 1 ~ 'Severe Hazard'
- Cat. 2 ~ 'Serious Hazard'
- Cat. 3 ~ 'Moderate Hazard'
- Cat. 4 ~ 'Slight Hazard'
- Cat. 5 ~ 'Minimal Hazard'



# Chemical users

- Bulk of the technical requirements in Appendixes, rather than in the primary paragraphs of the regulatory text
  - Most of these technical requirements apply to preparers of labels/SDS, and not to users of chemicals
  - Simplifies the regulatory text for those who do not have to classify chemical hazards, or prepare labels and SDSs
- Primary requirements for users of chemicals
  - retain the new labels and SDSs
  - train on the new approach

## (i) Trade Secrets

- To be consistent with GHS, the trade secret provisions would apply to composition percentages in addition to specific chemical identity information

## (j) Effective Dates

- OSHA is proposing:
  - Employees be trained within two years of the completion of the final rule.
  - All other provisions to be in effect in three years after completion.
- During the 3-year transition period after the final rule is promulgated, either the current rule or the new final rule can be followed

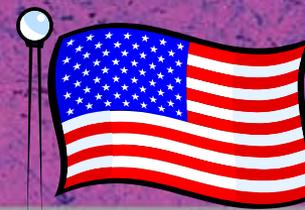
# Health Standards

- Substance-specific standards (benzene, MC, formaldehyde, etc.)
  - generally pre-date the current HCS
  - do not have a comprehensive approach to hazard communication
- The proposal includes references to the HCS in each of these standards to ensure they have all the protections of the rule
- In addition, OSHA has updated the provisions regarding what is to be communicated to workers to ensure the health effects are consistent with the GHS criteria

# Safety Standards

- OSHA is updating some safety standards to be consistent with the revised HCS
  - Approaches varied dependent on the provisions of the standard being considered
- Proposed integration of the physical hazards criteria would:
  - Incorporate GHS definitions of flammable liquid/gas into PSM and health hazard into Hazardous Waste Operations and Emergency Response (HAZWOPER);
  - Change flammable/combustible liquids to conform in categories, terminology, FP and BP to the GHS
  - Incorporate definition of flammable aerosols into the Flammable and Combustible Liquids Standard, 1910.106
- OSHA sought to minimize the impact on the scope or substantive provisions of the standards that were updated

# USA OSHA Implementation



- Next steps
  - Comment period: until December 29, 2009
    - A list of issues/questions posed by OSHA is included at the beginning of the preamble to help guide those who wish to provide written comments
  - Public hearings in 2010: DC, (?)
    - most likely late winter/early spring
    - Post-hearing comment period
  - Analyze all information received
  - Administrative review within OSHA, DOL, OMB
  - Publish Final GHS Standard in Federal Register
    - At least 18 months, could be more
- Then the compliance/transition period begins

# USA DOT Implementation



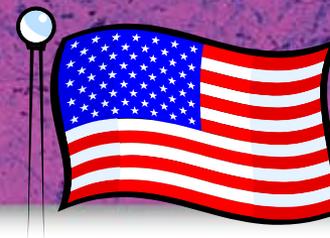
U.S. Department  
of Transportation

Pipeline and  
Hazardous Materials  
Safety Administration

- Actions to Align Transport with GHS
  - Flammable Aerosols
  - Acute Toxicity
  - Flammable liquids
  - Environmentally hazardous materials
- 49 CFR aligned with 14th edition UN model regulations and international modal regulations
  - Revision of the Organic Peroxide label and placard.
  - classification criteria for Class 3 PG III flammable liquids.
  - classification criteria and packing groups for Division 6.1
  - mandatory on 1/1/2008
  - Transition period: Class 3/Division 6.1 classification criteria and packing group assignments in effect on 12/31/2006 can continue until 1/1/2012
  - Materials listed by name in Orange Book/HMR 172.101 have not been reviewed against new GHS criteria
- Environmentally hazardous substances: required 1/1/2010
  - Maintain current marine pollutant criteria/list; Permit use of GHS Aquatic Toxicity criteria adopted by the IMDG Code (Acute Cat.1, Chronic Cat. 1 & 2)
  - Adopt new marking for marine pollutants consistent with the marking adopted within the IMDG Code



# USA Implementation



- EPA

- Impacts Pesticides – including sanitizers, disinfectants, and cleaners
- Federal Register notice Aug. 25, 2004
  - White paper
  - Situational analysis (side-by-side comparison)
- Stakeholder consultation ongoing, pursuing voluntary pilot activities, outreach
- Scope of hazards to be covered not finally determined
  - Not expected to include chronic hazards
  - White paper did not include chronic health classes/categories
  - White paper did not include chronic aquatic classes/categories
- Ozone Depleting Substances – in GHS 2009 3<sup>rd</sup> Ed.

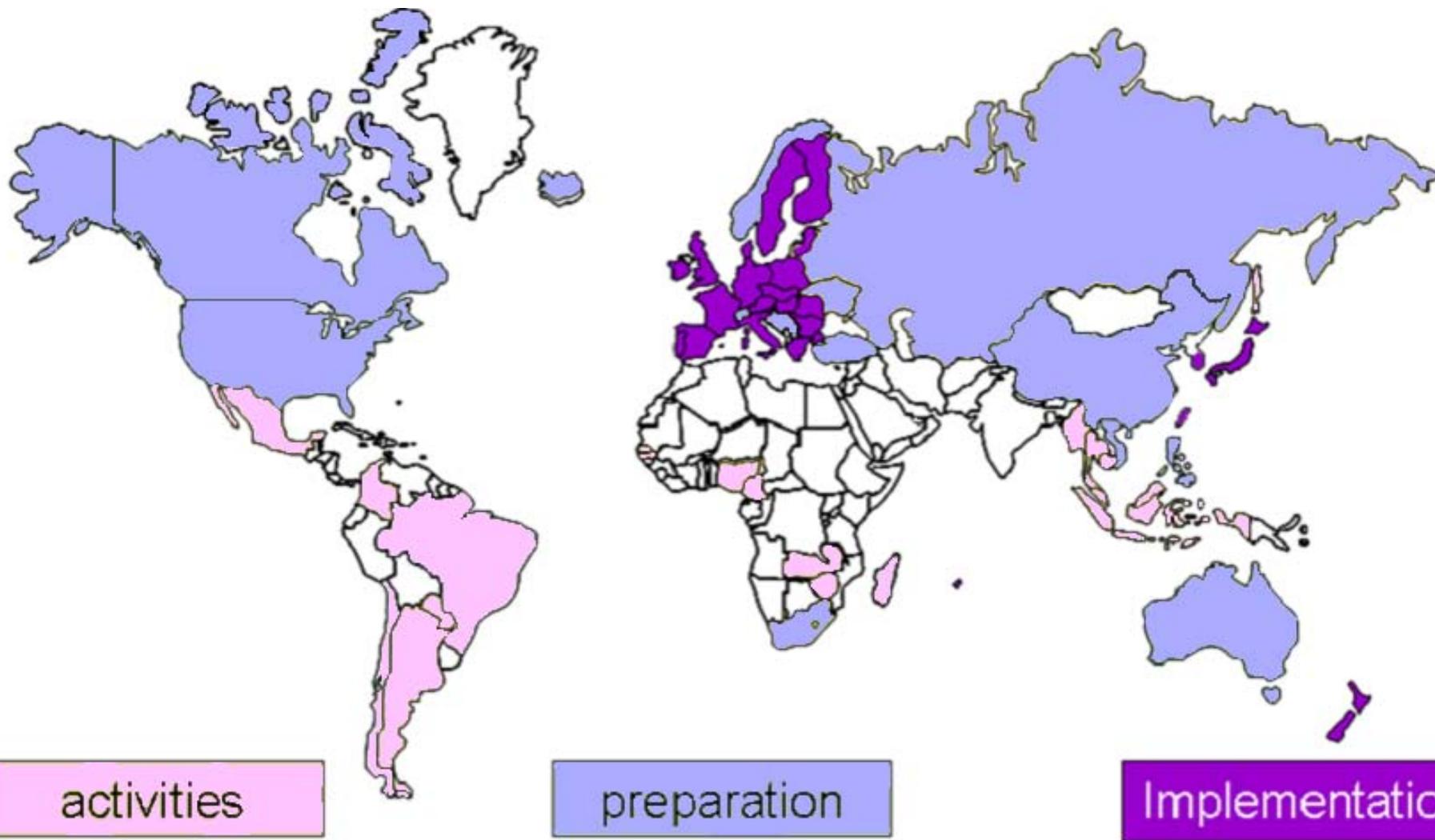


- Consumer Product Safety Commission (CPSC)

- Implementation of the GHS for FHSA is currently on hold
- Situational analysis nearly complete.
- Scope of hazards to be covered not finally determined
  - Not expected to include environmental hazard classes
- Implementation likely to involve both regulatory & statutory amendment
- Formal Commission decision required to implement
- Commission intends to follow the **risk based labeling** option specified in Annex 5 of the GHS.



# Global GHS Implementation – October 2009



**Thank You**

**Questions?**

*Michele R. Sullivan, Ph.D.*

**Sulliva1@aol.com**

**703-527-2596**