

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

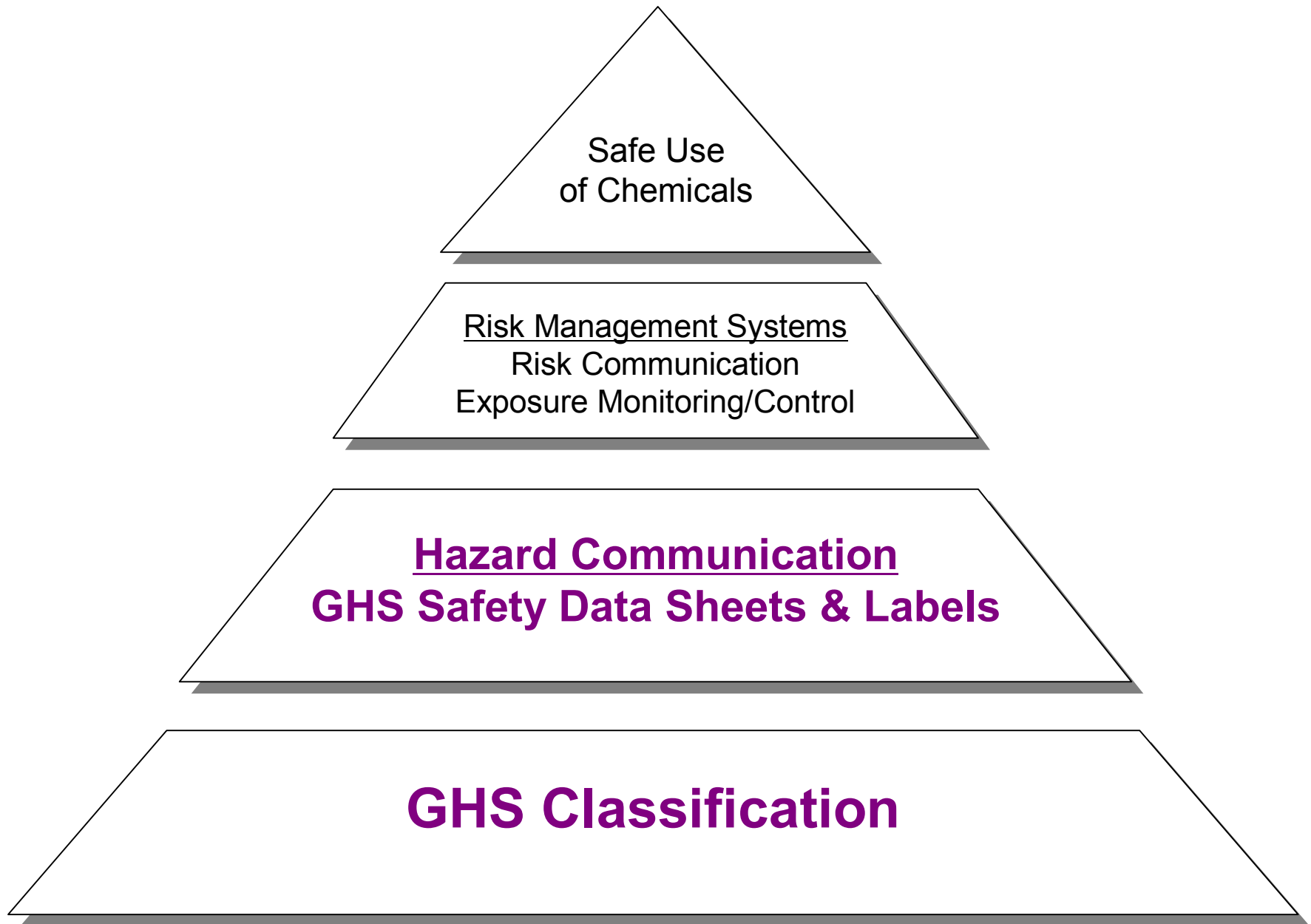
GHS Update



GHS Purple Book





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Sound Management Of Chemicals






The GHS Harmonized Elements (Building Blocks)

- **Classification Criteria**

-  Physical Hazards
-  Health Hazards
-  Environmental Hazards
-  Mixtures

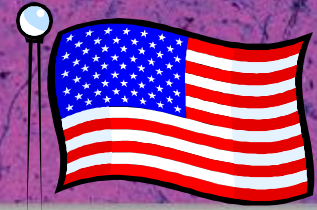
- **Hazard Communication**

-  Labels
 - Symbols/pictograms
 - Signal Words
 - Hazard Statements (e.g., H200)
 - Precautionary information (e.g., P201)
 - Product identifier/ingredient disclosure
-  MSDS / Safety Data Sheets
-  Risk-based labeling for chronics in consumer uses

OSHA's GHS NPRM – 30 Sept 2009 Federal Register

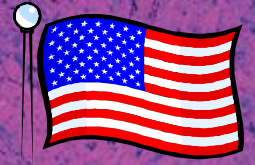
- OSHA's Notice of Proposed Rulemaking (NPRM) maintains consistency with the GHS as negotiated/adopted – GHS Rev 3
 - Terminology was made consistent with the UN GHS
 - Harmonization is best served by aligning with the GHS as negotiated and minimizing country-specific deviations
 - Very few USA specific provisions
 - Maintain consistency with major trading partners' GHS implementation, where appropriate
 - **No** GHS classification list
- The major change is the switch from performance-oriented requirements to specified requirements.
- OSHA sought to maintain/enhance the protection provided by the current rule
 - Scope and application are basically unchanged, maintaining practical accommodations made by OSHA

OSHA GHS NPRM Definitions



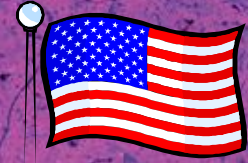
- Propose to remove from the current HCS definitions:
 - Combustible liquid; explosive; flammable; organic peroxide; oxidizer; pyrophoric; unstable (reactive); and water-reactive
 - Flashpoint; hazard warning; and MSDS
- Proposed revisions to be consistent with the GHS
 - Chemical; chemical name; hazardous chemical; health hazard; label; mixture; physical hazard; and trade secret
 - **Chemical: any substance, or mixture of substances**
- 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**
 - **Product identifier: the name or number used for a hazardous chemical on a label or in the SDS.**

OSHA NPRM 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 rule.
 - 2 examples of HCS hazards that are not classified by GHS are **combustible dust** & **simple asphyxiants**
 - Information to be provided on labels under supplementary information & SDS Section 2 and in worker training

OSHA GHS NPRM Appendices



- Appendix A, Health Hazard Criteria (Mandatory) (New)
 - GHS Rev 3: Chapter 1, Part 3
- Appendix B, Physical Hazard Criteria (Mandatory)(New)
 - GHS Rev 3 Part 2
- Appendix C, Allocation of Label Elements (Mandatory) (New)
 - GHS Rev 3: Chapter 1, Annex 3
- Appendix D, Safety Data Sheets (Mandatory) (New)
 - GHS Rev 3 Table 1.5.2
- Appendix E, Definition of “Trade Secret” (Mandatory)
- Appendix F, Guidance for Hazard Classifications re: Carcinogenicity (Non-Mandatory) (New)
 - GHS Rev 3 Part 3 Chapter 3.6

OSHA GHS NPRM– Health Hazards (Building Blocks)

GHS Rev4 Hazard Class

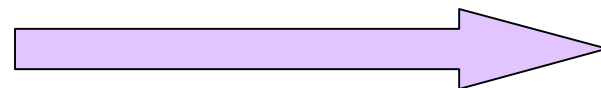
Hazard Category

Acute Toxicity, Oral
 Acute Toxicity, Dermal
 Acute Toxicity, Inhalation
 Aspiration hazard

 Skin Corrosion/Irritation
 Eye Corrosion /Irritation
 Respiratory Sensitisation
 Skin Sensitisation
 Germ Cell Mutagenicity
 Carcinogenicity
 Reproductive Toxicity - Fertility
 Reproductive Toxicity - Development
 SpecTargetOrganTox – Single Dose
 SpecTargetOrganTox – 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	2		
1A	1B	2	Lactation	
1A	1B	2		
1	2	3		
1	2			

High Hazard



Low Hazard

OSHA GHS NPRM– Physical Hazards (Building Blocks)

GHS Rev4 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/Unstable Gases	1	2	A	B				
Aerosols	1	2	3					
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	1							

High Hazard  Low Hazard

OSHA GHS NPRM– Environmental Hazard (Building Blocks)

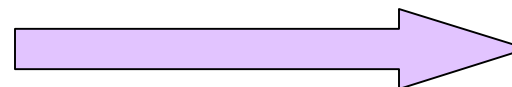
GHS Rev4 Hazard Class

Acute Aquatic Toxicity
Chronic Aquatic Toxicity
Hazardous To The Ozone Layer

Hazard Category

1	2	3	
1	2	3	4
1			

High Hazard



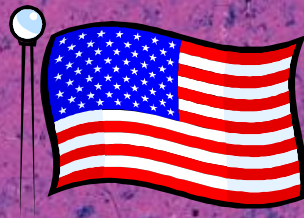
Low Hazard

OSHA Mixture Summary

	HCS	OSHA NPRM
Acute toxicity	≥ 1%	ATE; ≥ 1 % Or < 1 % where relevant
Skin corrosion/ irritation	≥ 1%	Calculation, cutoffs; ≥ 1 % Or < 1 % where relevant
Eye Damage/Irritation	≥ 1%	Calculation, cutoffs; ≥ 1 % Or < 1 % where relevant
Skin sensitization		
Cat 1		≥ 0.1%
Cat 1A	≥ 1%*	≥ 0.1%
Cat 1B		≥ 1.0%
Respiratory sensitization		
Cat 1		≥ 0.1%
Cat 1A	≥ 1%*	≥ 0.1%
Cat 1B		≥ 1.0 % [≥ 0.2% for gases]
Mutagenicity: Cat 1		≥ 0.1% Cat 1 = SDS/label
Category 2	≥ 1%	≥ 1% Cat 2 = SDS/label
Carcinogenicity:		
Category 1		≥ 0.1% Cat 1 = SDS/label
Category 2	≥ 0.1%	≥ 0.1% < 1% Cat 2 = SDS (optional label) ≥ 1% Cat 2 = SDS/label
Reproductive toxicity:		
Cat. 1 / Lactation	≥ 1%	≥ 0.1% Cat 1 = SDS/label
Category 2		≥ 0.1% Cat 2 = SDS/label
STOT:		
Category 1		≥ 1% Cat 1 = Cat 1 SDS/label
Category 2	≥ 1%	≥ 1% Cat 2 = Cat 2 SDS/label
Aspiration:		
Category 1	≥ 1%	≥ 10% of Cat 1 and kinematic viscosity ≤ 20.5 mm ² /s @ 40°C

OSHA GHS NPRM

Hazard Communication: Labels



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OSHA NPRM Labels on Shipped Containers

OSHA HCS (performance)

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












OSHA NPRM (specified)

- 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
 - × *percent of the mixture consists of ingredient(s) of unknown toxicity*
 - Supplemental information

Specified

GHS Pictograms & Hazard Classes

<p><u>Flame over circle</u></p>  <ul style="list-style-type: none"> • Oxidizers 	<p><u>Flame</u></p>  <ul style="list-style-type: none"> • Flammables • Pyrophorics • Self-Heating • Emits Flammable Gas • Self Reactives • Organic Peroxides 	<p><u>Exploding bomb</u></p>  <ul style="list-style-type: none"> • Explosives • Self Reactives • Organic Peroxides
<p><u>Skull and crossbones</u></p>  <ul style="list-style-type: none"> • Acute toxicity (severe) 	<p><u>Corrosion</u></p>  <ul style="list-style-type: none"> • Corrosives 	<p><u>Gas cylinder</u></p>  <ul style="list-style-type: none"> • Gases under pressure
<p><u>Health Hazard</u></p>  <ul style="list-style-type: none"> • Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration Toxicity 	<p><u>Environment</u></p>  <ul style="list-style-type: none"> • Aquatic Toxicity 	<p><u>Exclamation mark</u></p>  <ul style="list-style-type: none"> • Irritant • Skin Sensitizer • Acute Toxicity (harmful) • Narcotic effects • Respiratory Tract Irritation • Hazardous to Ozone Layer

Current OSHA HCS:

ToxiFlam
TOXIC
COMBUSTIBLE LIQUID AND VAPOR
My Company, My Street, MyTown NJ 00000

Product Identifier required

Ingredient disclosure not required

OSHA 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.

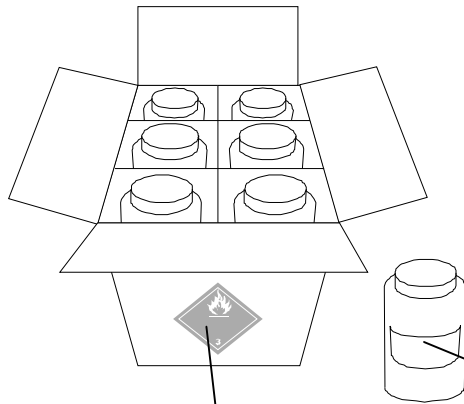
IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

In case of fire, use water fog, dry chemical, CO2, or “alcohol” foam.

Read Safety Data Sheet Before Use

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

Label Configuration For a Combination Package



The transport label would be shown on the outer packaging

The GHS label would be on the inner package

A diagram of a single inner container, a small cylindrical jar, with a GHS label affixed to its side. A line points from this label to the text 'The GHS label would be on the inner package'.

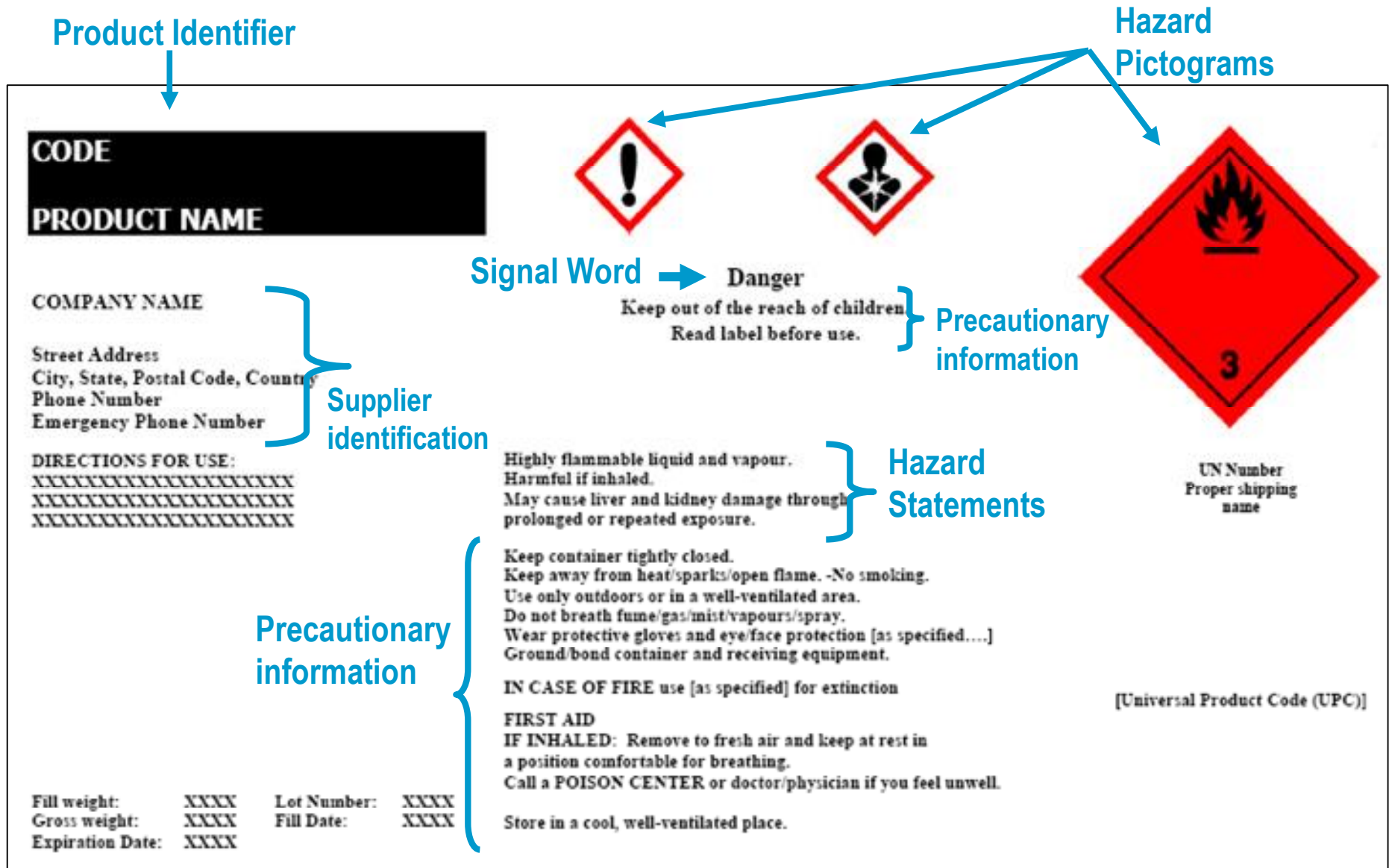
PAINT (METHYLOME) UN1263
CAS# XXXX-XX-X

DANGER!

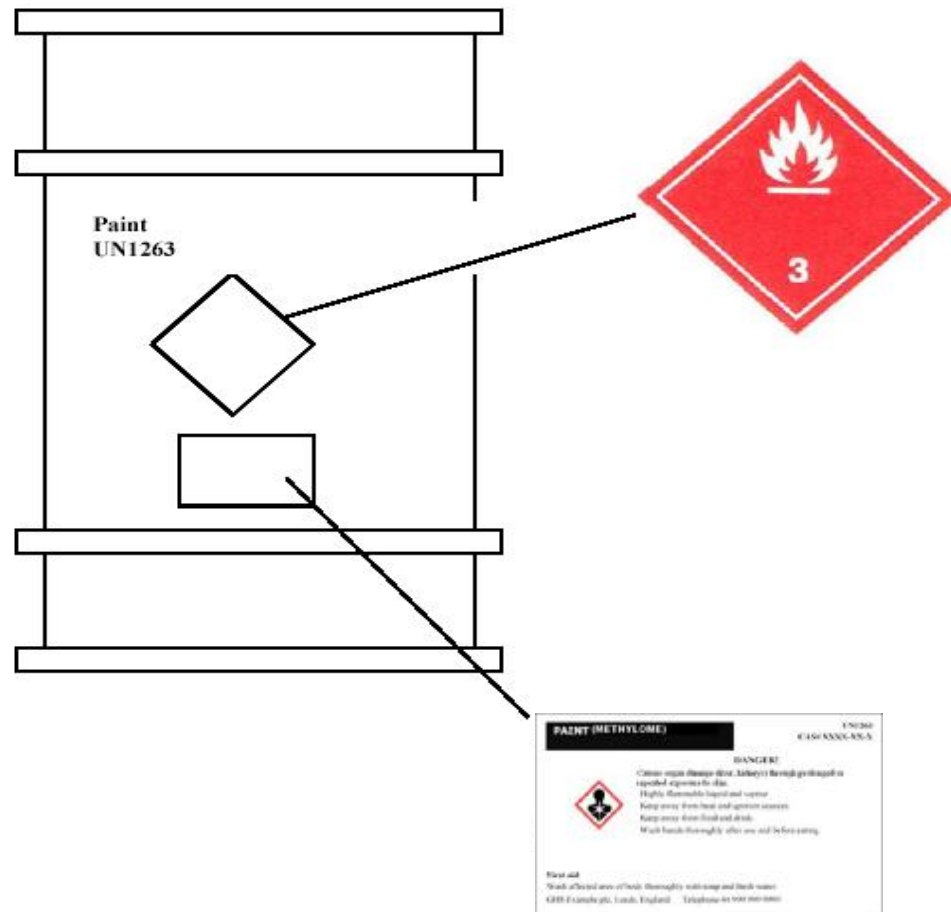
Causes organ damage (liver, kidneys) through prolonged or repeated exposure to skin.
Highly flammable liquid and vapour.
Keep away from heat and ignition sources.
Keep away from food and drink.
Wash hands thoroughly after use and before eating.

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

GHS/NPRM Outer Container Label Elements



Label Configuration For a Single Package

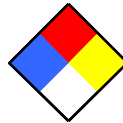


NPRM Labels - § (f) workplace labeling

- Maintains the approach allowing employers to use workplace-specific labeling systems as long as they provide the required information
 - **Product identifier** and words, pictures, symbols, or combination thereof, which provide **general information on the hazards**
 - Signs, placards, process sheets, batch tickets, operating procedures, or other written materials
- Such workplace label systems will have to be **updated** to make sure the information is consistent with the new classifications

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



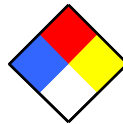
GHS Hazard Categories

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



HMIS/NFPA Numerical Ratings

HMIS/NFPA should arrange NPRM hazard criteria to fit the order of the HMIS/NFPA ratings



HMIS/NFPA Hazard Ratings

GHS Hazard Categories/Criteria

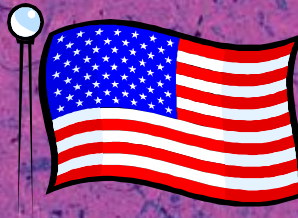
0 = Minimal Hazard	←	Cat. 5 GHS Hazard Criteria
1 = Slight Hazard	←	Cat. 4 GHS Hazard Criteria
2 = Moderate Hazard	←	Cat. 3 GHS Hazard Criteria
3 = Serious Hazard	←	Cat. 2 GHS Hazard Criteria
4 = Severe Hazard	←	Cat. 1 GHS Hazard Criteria

OSHA GHS NPRM

Hazard Communication: SDSs

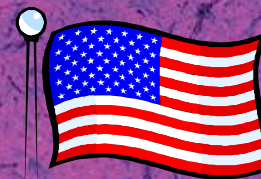
Safety data sheets

Trade secrets



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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>1. Identification</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>2. Hazard(s) identification</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); (c) Unclassified hazards (e.g., combustible dust or dust explosion hazard); (d) Where an ingredient with unknown acute toxicity is used in a mixture at a concentration \geq 1%, a statement that x percent of the mixture consists of ingredient(s) of unknown toxicity is required.</p>
<p>3. Composition/information on ingredients</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. <i>For All Chemicals Where a Trade Secret is Claimed</i> 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.</p>
<p>4. First-aid measures</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>5. Fire-fighting measures</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>6. Accidental release measures</p>	<p>(a) Personal precautions, protective equipment, and emergency procedures. (b) Methods and materials for containment and cleaning up.</p>
<p>7. Handling and storage</p>	<p>(a) Precautions for safe handling. (b) Conditions for safe storage, including any incompatibilities.</p>
<p>8. Exposure controls/personal protection</p>	<p>(a) 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) Appropriate engineering controls. (c) Individual protection measures, such as personal protective equipment.</p>

SDS Section 2: ToxiFlam

2. HAZARD(S) IDENTIFICATION

(a) **Classification:** Flammable liquid, Category 3
Acute Toxicity, Category 3

(b) **Labeling:**

Signal word: Danger

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

Symbol(s): Flame, Skull & crossbones



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, CO2, or “alcohol” foam.

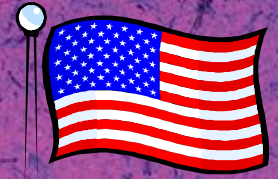
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth.

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

(c) **Unclassified Hazards:** None

9. Physical and chemical properties	<ul style="list-style-type: none"> (a) Appearance (physical state, color, etc.); (b) Odor; (c) Odor threshold; (d) pH; (e) Melting point/freezing point; (f) Initial boiling point and boiling range; (g) Flash point; (h) Evaporation rate; (i) Flammability (solid, gas); (j) Upper/lower flammability or explosive limits; (k) Vapor pressure; (l) Vapor density; (m) Relative density; (n) Solubility(ies); (o) Partition coefficient: n-octanol/water; (p) Auto-ignition temperature; (q) Decomposition temperature; (r) Viscosity.
10. Stability and reactivity	<ul style="list-style-type: none"> (a) Reactivity; (b) Chemical stability; (c) Possibility of hazardous reactions; (d) Conditions to avoid (e.g., static discharge, shock, or vibration); (e) Incompatible materials; (f) Hazardous decomposition products.
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"> (a) information on the likely routes of exposure (inhalation, ingestion, skin and eye contact); (b) Symptoms related to the physical, chemical and toxicological characteristics; (c) Delayed and immediate effects and (also chronic effects from short and long term exposure); (d) Numerical measures of toxicity (such as acute toxicity estimates).
12. Ecological information (Non-mandatory).	<ul style="list-style-type: none"> (a) Ecotoxicity (aquatic and terrestrial, where available); (b) Persistence and degradability; (c) Bioaccumulative potential; (d) Mobility in soil; (e) Other adverse effects (such as hazardous to the ozone layer).
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"> (a) UN number; (b) UN proper shipping name; (c) Transport hazard class(es); (d) Packing group, if applicable; (e) Environmental hazards (e.g., Marine pollutant (Yes/No)); (f) Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code); (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.
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>

OSHA NPRM Trade Secrets/CBI

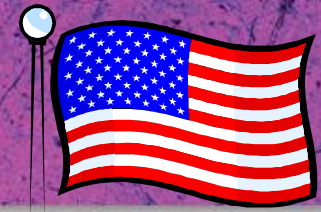


- To be consistent with GHS, the trade secret provisions would apply to **composition percentages** in addition to **specific chemical identity** information
- Trade secret provisions only apply to SDSs, as chemical names for classified hazards are not required on labels

(h) Employee Information and Training

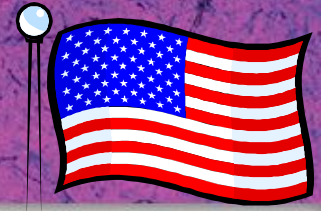
- Proposed revision to employee training to clarify what must be included in the training:
 - Details of the hazard communication program
 - Explanation of the labels on shipped containers and the workplace labeling system used by the employer
 - SDS
 - the order of information and
 - how employees can 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.

OSHA NPRM Effective Dates



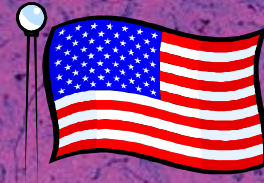
- OSHA is proposing:
 - Employees be trained within **two years** of the completion of the final rule. (~2014?)
 - All other provisions to be in effect in **three years** after completion. (~2015?)
- During the **3-year transition** period after the final rule is promulgated, either the **current rule** or the **new final rule** can be followed
 - Many stakeholders requesting a tiered phase-in
 - Substances then mixtures
- Per OSHA Fall Regulatory Agenda, final rule is planned for February 2012
 - Sent to Office of Management and Budget (OMB) for review October 25, 2011
 - ~90 days for OMB review – cleared OMB Feb. 21st
 - Final rule anticipated in 2012

OSHA GHS Implementation





- Next steps
 - OMB
 - Sent to OMB October 25, 2011
 - On January 24, 2012 OMB review extended for 30 days
 - Cleared OMB on February 21, 2012
 - Publish Final GHS Standard in Federal Register
 - Publication will likely be in 2012 [March 2012?]
- Then the compliance/transition period begins

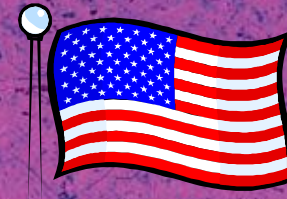
USA DOT Implementation



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  

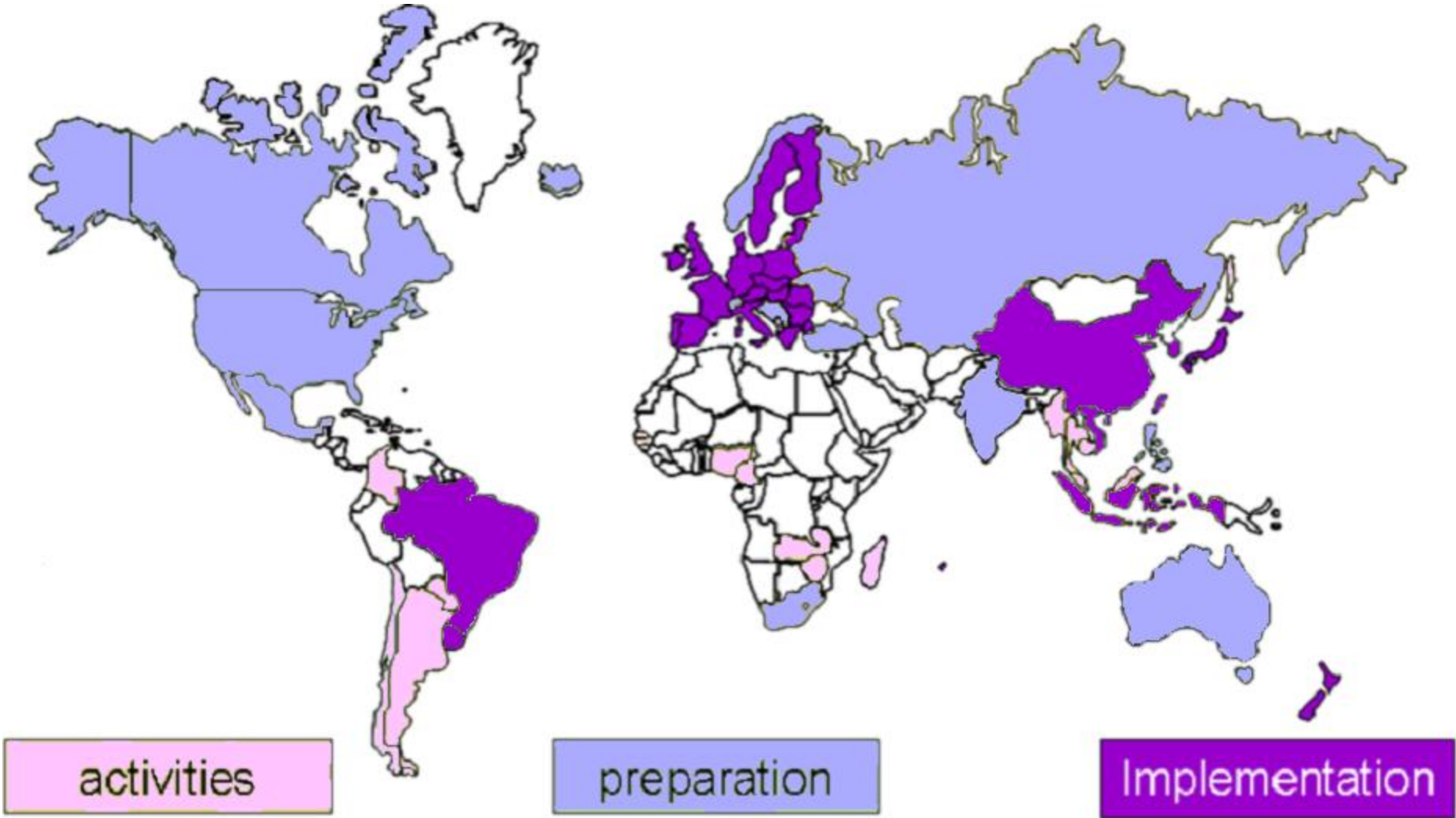
USA Implementation



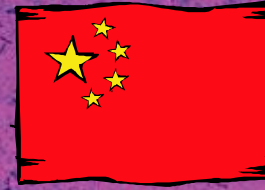
- **Environmental Protection Agency (EPA)**
 - Impacts Pesticides – including sanitizers, disinfectants, and cleaners
 - Federal Register notice Aug. 25, 2004
 - White paper
 - Situational analysis (side-by-side comparison)
 - Stakeholder consultation ongoing, pursuing voluntary pilot activities, outreach
 - 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 3rd Ed.
 - **Align SNUR HazCom with the OSHA GHS final rule**
- **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 – February 2012



China



- Tiers/Levels of Legal & Regulatory Instruments:
 - Revised Decree No. 591: Regulations on the Control over Safety of Hazardous Chemicals – highest level
 - **Dec 1, 2011 Eif**
 - GB 20576 – GB 20602: 26 Technical standards for chemical classification and label [26 GHS hazards]
 - Mandatory; published in 2006; effective Dec 31, 2008
 - GB 15258: General rules for preparation of precautionary label for industrial chemicals
 - Mandatory; **Implementation 5/1/2010, 1 year transition 5/1/2011**
 - GB13690: General rule for classification and hazard communication of chemicals
 - Mandatory; **Implementation 5/1/2010**
 - GB/T16483-2008: SDS for Chemical Products - Content and Order of Sections
 - Voluntary; effective Feb.1, 2009
 - GB/T 22234-2008: Labelling of Chemicals Based on GHS
 - Voluntary; Effective Feb.1, 2009

EU Implementation



- Dec 31, 2008 EU published the GHS Regulation (EC) No. 1272/2008 (**CLP**) which came into force 20 days after publication (1/20/2009)
 - Transition period:
 - Until December 1, 2010 for substances
 - Until June 1, 2015 for mixtures
 - Dual classifications on SDS until 2015
 - 1st ATP to GHS/CLP - binding 12/1/2010
 - 2nd ATP: substances from 12/1/2012, mixtures from 6/1/2015
 - 3rd draft ATP
- Scope
 - Classification & Labeling of Substances & Mixtures, including **Workplace**, **Consumer Products**, **Plant Protection Products** & **Biocides**
 - Regulation: binding in its entirety & directly applicable in all Member States
 - Focuses on labels and classification, not SDSs
 - Table 3.1: GHS classifications
 - Table 3.2: New Annex I with EU classifications

EU Timeline/Transition Period for CLP & REACH

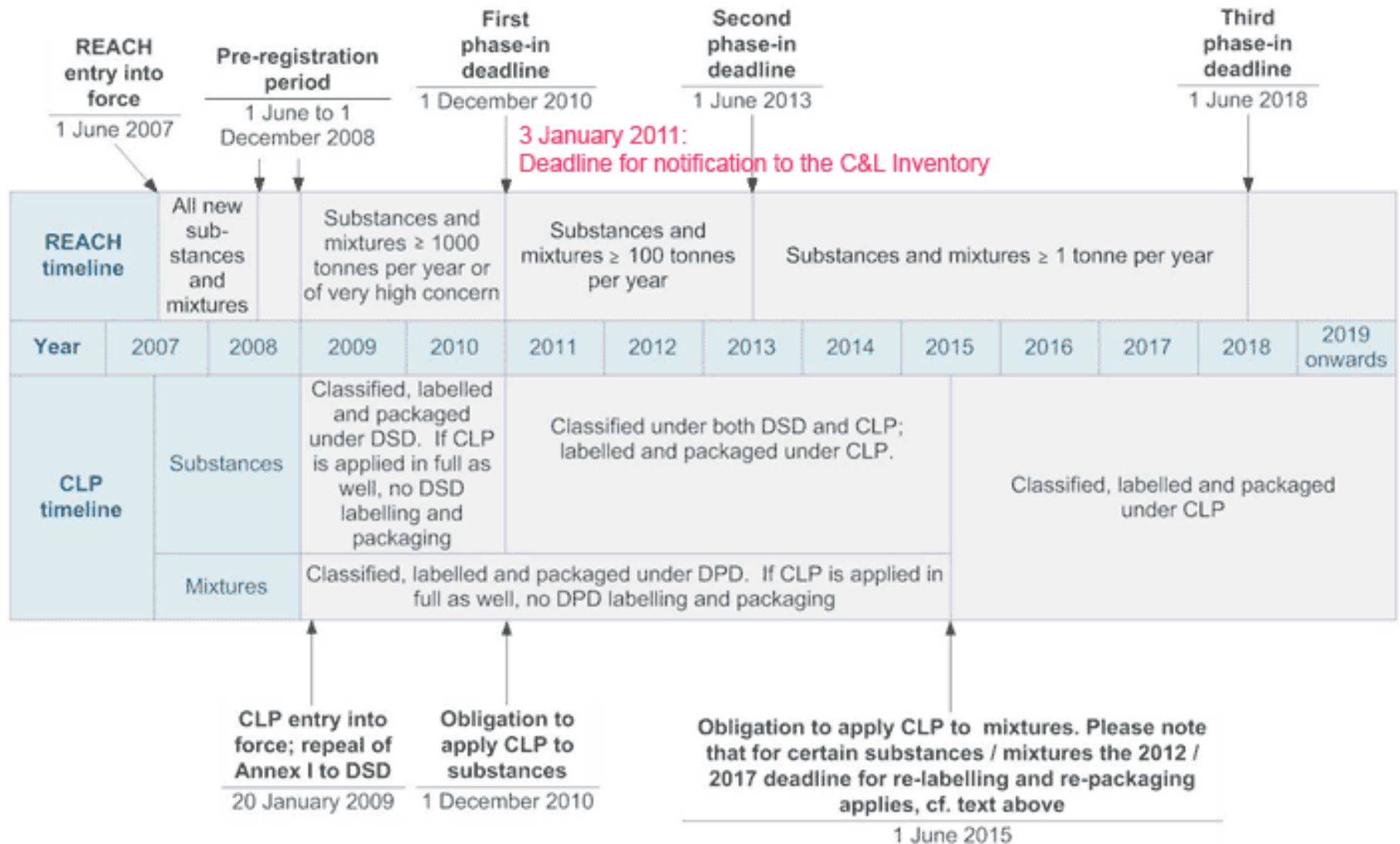
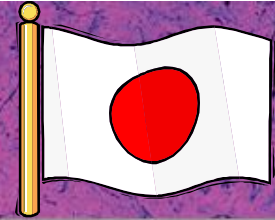


Table from ECHA website

Japan Implementation



- GHS Introduced to Industrial Safety and Health Law (ISHL)
- GHS **labeling** for ISHL as of Dec 1, 2006
 - ~100 listed chemicals
 - transition period ended Nov 30, 2008
- ISHL GHS **SDS** Amendment
 - ~640 listed chemicals
 - transition period ended Nov 30, 2008
 - Old JIS standard (JIS Z 7250:2000) can be used until 12/31/2010
- GHS classification of ~2,100 currently regulated chemicals (non-mandatory list)
- Guidance Document: Risk Evaluation Procedure on Consumer Products for GHS Labelling

NPRM References

OSHA GHS NPRM Federal Register Notice 74:50280-50549 (2009, September 30).

<http://edocket.access.gpo.gov/2009/pdf/E9-22483.pdf>

Side-by-side comparison of the current HCS to the Proposed Rule

www.osha.gov/dsg/hazcom/hcs_side_by_side_draft_100109.pdf

Proposed Appendix A: Health Hazard Criteria (Mandatory)

www.osha.gov/dsg/hazcom/appendix_a.pdf

Proposed Appendix B: Physical Hazard Criteria (Mandatory)

www.osha.gov/dsg/hazcom/appendix_b.pdf

Proposed Appendix C: Allocation of Label Elements (Mandatory)

www.osha.gov/dsg/hazcom/appendix_c.pdf

Proposed Appendix D: Safety Data Sheets (Mandatory)

www.osha.gov/dsg/hazcom/appendix_d.pdf

Proposed Appendix E (Existing Appendix D): Definition of Trade Secret (Mandatory)

www.osha.gov/dsg/hazcom/appendix_e.pdf

Proposed Appendix F: Guidance for Hazard Classifications Regarding Carcinogenicity

www.osha.gov/dsg/hazcom/appendix_f.pdf

Docket: www.regulations.gov/search/Regs/home.html#docketDetail?R=OSHA-H022K-2006-0062

GHS Information

UN GHS Purple Book

www.unece.org/trans/danger/publi/ghs/ghs_rev03/03files_e.html

UN GHS Implementation Status of Countries/Regions

www.unece.org/trans/danger/publi/ghs/implementation_e.html

GHS Guide

www.osha.gov/dsg/hazcom/ghsguideoct05.pdf

USA

DOT: <http://hazmat.dot.gov/regs/intl/globharm.htm>

EPA: www.epa.gov/oppfead1/international/globalharmon.htm

OSHA: www.osha.gov/dsg/hazcom/global.html

www.osha.gov/dsg/hazcom/index.html

CPSC: www.cpsc.gov/phth/GHSpolicy.html

Canada

www.hc-sc.gc.ca/ahc-asc/intactiv/ghs-sgh/index_e.html

Thank You

Questions?

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