



# GHS Update

**PSS**

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# Today's definitions (flammable)

Organization/ Country/ Regulation or	Flash point (°F)			
Standard	0	----- 20 -----	73 ----- 100 ----- 140 -----	< 200
ANSI/US/Z129.1	Extremely Flammable FP ≤ 20°F	Flammable FP ≤ 141°F & BP > 95°F		Combustible FP > 141°F & < 200°F
	Extremely Flammable FP ≤ 141°F & BP ≤ 95°F			
OSHA/US/HCS	Flammable FP < 100°F		Combustible FP ≥ 100°F & < 200°F	
DOT/US	Flammable Packing Group I: BP ≤ 35°C (90°F) Packing Group II: FP < 23°C (73°F) & BP > 35°C (90°F)	Flammable Packing Group III: FP ≥ 23°C (73°F) & ≤ 60.5°C (141°F) & BP > 35°C (90°F)	Combustible FP > 60.5°C (141°F) & < 93°C (200°F) OR ≥ 100°F < 200°F	
TDG/CA IMDG/International IATA/International	Flammable Packing Group I: BP ≤ 35°C (90°F) Packing Group II: FP < 23°C (73°F) & BP > 35°C (90°F)	Flammable Packing Group III: FP ≥ 23°C (73°F) & ≤ 60.5°C (141°F) & BP > 35°C (90°F)	Not Regulated	
WHMIS/Canada	Flammable (B2) FP < 100°F		Combustible (B3) FP ≥ 100°F & < 200°F	
GHS	Extremely / Highly Flammable FP < 23°C (73°F) & BP ≤ 35°C (90°F) OR FP < 23°C (73°F) & BP > 35°C (90°F)	Flammable FP ≥ 23°C (73°F) & ≤ 60°C (140°F)	Combustible FP > 60°C (140°F) & ≤ 93°C (200°F)	
NFPA 704 (assumes fire is present)	4: FP < 22.8°C (73°F) & BP < 37.8°C (100°F) 3: FP < 22.8°C (73°F) & BP ≥ 37.8°C (100°F) OR FP ≥ 23°C (73°F) & BP < 37.8°C (100°F)	2 FP ≥ 37.8°C (100°F) & < 93.4°C (200°F)	NFPA 704 (assumes fire is present)	

# The Future: One global definition

Flash point < 23°C and initial boiling point ≥ 35°C	Flash point < 23°C and initial boiling point > 35°C	Flash point ≤ 23°C and ≥ 60°C	Flash point > 60°C and ≥ 93°C
<b>Extremely Flammable</b>	<b>Highly Flammable</b>	<b>Flammable</b>	<b>Combustible</b>

# Today's definitions (oral toxicity)

Organization/ Country/ Regulation or Standard	High* Hazard Low			
	0 -----	≤ 50 -----	≤ 500 -----	≤ 5,000 -----
ANSI/US/Z129.1	≤ 50 Highly toxic	> 50 ≤ 500 Toxic	> 500 ≤ 2,000 Harmful	
OSHA/US/HCS	≤ 50 Highly toxic	> 50 ≤ 500 Toxic		
EPA/US/FIFRA	≤ 50 Toxicity Category I	> 50 ≤ 500 Toxicity Category II	> 500 ≤ 5,000 Toxicity Category III	> 5,000 Toxicity Category IV
CPSC/US/FHSA	≤ 50 Highly toxic	> 50 ≤ 5,000 Toxic		
DOT/US	≤ 5 Packing Group 1	> 5 ≤ 50 Packing Group II	> 50 ≤ 200 (solid) Packing Group I > 50 ≤ 500 (liquid) Group III	
NFPA/US	≤ 5 Hazard category 4	> 5 ≤ 50 Hazard category 3	> 50 ≤ 500 Hazard category 2	> 500 ≤ 2,000 Hazard category 1  > 2,000 Hazard category 0
NPCA/US/ HMIS	≤ 1 Toxicity rating 4	> 1 ≤ 50 Toxicity rating 3	> 50 ≤ 500 Toxicity rating 2	> 500 ≤ 5,000 Toxicity rating 1  > 5,000 Toxicity rating 0
EEC/Europe/ 7 <sup>th</sup> Amendment	≤ 25 Very Toxic	> 25 ≤ 200 Toxic	> 200 ≤ 2,000 Harmful	
WHMIS/ Canada	≤ 50 Very toxic WHMIS Class D, Division 1, Subdivision A	> 50 ≤ 500 Toxic WHMIS Class D, Division 1, Subdivision B		

# A few more ...

Australia/ NOHSC	≤ 25 Very toxic	> 25 ≤ 200 Toxic	> 200 ≤ 2,000 Harmful		
Mexico	< 1 Extremely toxic	>20<50 Highly toxic	>50 < 500 Moderately toxic	>500 < 5,0 00 Mildly toxic	> 5,000 mg/kg Minimally toxic
Malaysia	<25 Very toxic	25 to 200 Toxic	200 to 500 Harmful		
Japan	≤ 30 Poisonous		300 to 3,000 Powerful		
Korea	≤ 25 Very Toxic	>50 ≤ 200 Toxic	>200≤2,000 Harmful		

# Under GHS, one definition...

<b>LD50 ≤ 5</b>	<b>LD50 &gt; 5 ≤ 50</b>	<b>LD50 &gt; 50 ≤ 300</b>	<b>LD50 &gt; 300 ≤ 2,000</b>	<b>LD50 &gt; 2,000 ≤ 5,000</b>
<b>Category 1</b>	<b>Category 2</b>	<b>Category 3</b>	<b>Category 4</b>	<b>Category 5</b>

# Supply (Container) Symbols



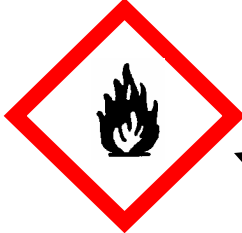

# Labels will look different..

## Typical ANSI Label

<b>WARNING!</b>	<b>Methyl Enigma</b>
<b>FLAMMABLE LIQUID AND VAPOR CAUSES SKIN AND EYE IRRITATION</b>	
<b>Avoid sources of ignition. Avoid contact with skin and eyes. Wash thoroughly after using.</b>	
<b>First Aid:.....</b>	
<b>In case of fire:.....</b>	
<b>In case of spill:.....</b>	
<b><i>Environmental Hazards.....</i></b>	
<b>Storage and Handling:.....</b>	
<b><i>Disposal Considerations or prohibitions??</i></b>	<b>F.P 123F</b>
<b>For additional information, see MSDS.</b>	
<b>Phantom Chemical- Kneecap, AL.</b>	

# Under GHS

Typical ANSI Label Modified for GHS

<p><b>WARNING!</b> <b>FLAMMABLE LIQUID AND VAPOR</b> <b>CAUSES SKIN AND EYE IRRITATION</b> Keep container tightly closed. Avoid ignition sources. Wear protective glove and eye protection. Wash thoroughly after using. First Aid:..... In case of fire:..... In case of spill:..... Environmental Hazards..... Storage and Handling:..... <i>Disposal Considerations</i> <i>or prohibitions??</i> For additional information, see MSDS. Phantom Chemical- Kneecap, AL.</p>	<h2>Methyl Enigma</h2>   <p>F.P 123F</p>
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# Who is doing what?

- United States:
  - **OSHA** issued it's ANPR (advanced notice of proposed rulemaking) on 9/12/2006, comment were due by 10/13/2006.
    - OSHA Hazcom Standard (29CFR1910.1200)
    - Flammable Storage Classes (29CFR1910.106)
    - Substance-specific rules? For example....
      - **Lead 29CFR1910.1025**
  - As of today there is formal response from OSHA to the comments to the ANPR.
    - > 160 comment received, most from large organizations
    - OSHA has hired a contractor to do an 'exhaustive analysis' of the financial and work practice impacts.

# Who is doing what?

- **CPSC (Consumer Product Safety Commission)**
  - February, 2006 is last official posting on the CPSC web page regarding GHS implementation policy.
  - CPSC intends to retain “risk based” hazard evaluations as permitted in Annex 5 of the GHS
  - Comments submitted to GHS working groups regarding emerging definitions, etc.
    - For example: October, 2006 comments on “strong sensitizer definitions...”
  - No ANPR or other rule making so far...

# Who is doing what?

- **EPA** has targeted 2008 for pesticides (with a long transition period....)
  - FIFRA Labeling Guidance (Labeling Manual)
  - Comparison shown in EPA document at [http://www.epa.gov/oppfead1/cb/csb\\_page/updates/ghs-labels.htm](http://www.epa.gov/oppfead1/cb/csb_page/updates/ghs-labels.htm)

# Who is doing what?

- **DOT** is adopting definitions, etc. from the UN Committee of Experts
  - 49CFR
    - **Classification of substances in table**
    - **Classification of n.o.s. by criteria**
- Proposed rule changing definitions of explosives issued 4-13-2007
- Final rule published 5-3-2007 to harmonized parts of 49 CFR. (effective on 10-1-2007)
- DOT is keeping pace with international changes...

# Who is doing what?

- Canada:
  - GHS info is posted on Health Canada web site: [www.healthcanada.ca/ghs](http://www.healthcanada.ca/ghs)
  - Technical consultations are underway but..
  - It is unlikely that Canada would adopt GHS in significant advance of it's largest trading partner, the United States.
- Mexico
  - Mexico is unlikely to implement before U.S. but consultations are under way.

# Who is doing what?

- EU:
  - Represents 25 countries
  - Proposed legislation issued in 9/2006
  - REACH legislation:
    - GHS format for all new/revised SDSs starting 6/1/2007 **BUT** subtle changes made to GHS without consultation with the UN or any other GHS “player”. Can result in problems and may negate some of the potential benefits.....
    - Labeling required by 2010 for substances, by 2015 for preparations (mixtures). Dual labeling till 2015 is current issue.
- Australia:
  - Anticipated implementation by 2008.

# Who is doing what?

- Japan:
  - Started limited implementation 1/1/2007
- New Zealand
  - Limited implementation underway.
- South America:
  - GHS identified as a high priority in many of the larger South American economies
- Southeast Asia:
  - Implementation programs are underway.
  - Some nations may be ‘ahead of the curve’

# Finding Information

- **OSHA Website**
  - <http://www.osha.gov/SLTC/hazardcommunications/global.html>
- **UN's GHS Web Page**
  - [http://www.unece.org/trans/danger/publi/ghs/ghs\\_welcome\\_e.html](http://www.unece.org/trans/danger/publi/ghs/ghs_welcome_e.html)
  - Full text, presentations, symbol files, etc.
  - Country by country summary of activity
- **SCHC Website's Events Page**
  - <http://www.schc.org/schcnewsite/events.php>
  - Search for past GHS presentations (including REACH-SDS presentation from April, 2007.)