

# Globally Harmonized System of Classification and Labeling of Chemicals

Recently Adopted OSHA Regulations

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# Final Rule Promulgated by OSHA

▶ March 26, 2012

"OSHA's 1983 Hazard Communication Standard gave workers the right to know. As one participant expressed during our rulemaking process, this update will give them the right to understand, as well,"

Dr. David Michaels  
Assistant Secretary of Labor



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# Global Harmonization System

Single international framework for classification and compatible labeling systems, including material safety data sheets and easily understandable symbols.



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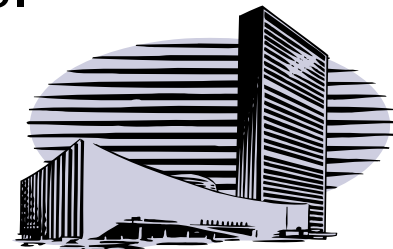
# Regulatory Background

- ▶ Hazard Communication Standard
  - Adopted in 1983
  - Originally intended to apply only to manufacturing workplaces
  - Expanded to all industries in 1989.



# Harmonization Efforts

- ▶ 1992 – *United Nations Conference on Environment and Development* issued mandate calling for development of a globally harmonized chemical classification and labeling system with a goal for implementation by 2000.
- ▶ GHS was formally adopted by the new *United Nations Committee of Experts on the Transport of Dangerous Goods and the Globally Harmonized System of Classification and Labelling of Chemicals* in December 2002.
- ▶ Countries encouraged to adopt GHS by 2008.

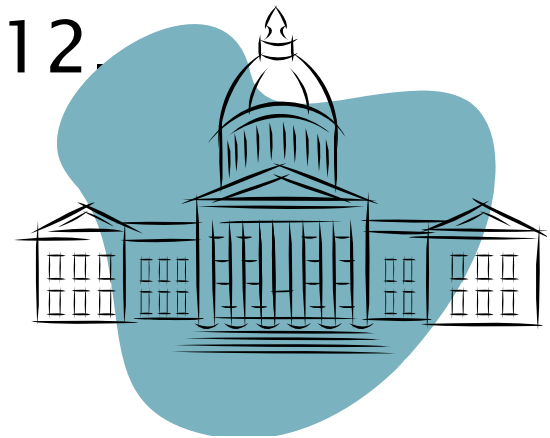


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# OSHA Adoption

- ▶ ANPR published September of 2006.
- ▶ Proposed rule published in September 2009.
- ▶ Comment period ended in May 2010.
- ▶ Final Rule published March 2012.



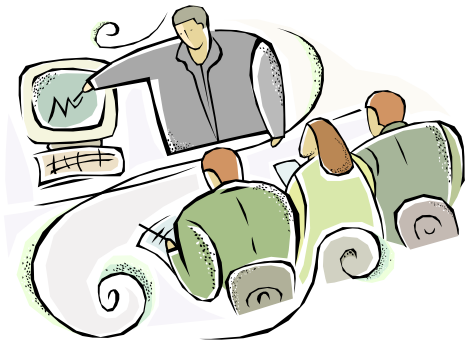
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# Major Impacts of the Final Rule

- ▶ Employee training requirement
- ▶ Revision of MSDSs and product labels to meet GHS requirements
- ▶ Replacement of workplace warning signs

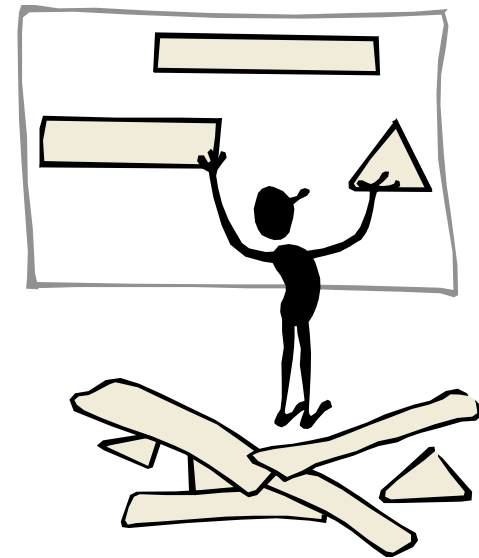


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# 29 CFR 1910 Changes– Subpart H

- ▶ Hazardous Materials
  - Flammable Liquids
  - Spray finishing with Flammable Materials
  - Process Safety Management
  - HAZWOPER
  - Dipping and Coating Operations





# Before and After May 25, 2012

Existing Flammable and Combustible Classes				Global Harmonization Standard Flammable Categories					
	Class	°F	°C		Category	°F	°C		
Combustible	IIIB	FP ≥ 200	≥ 93.3	Flammable	4	140 < FP ≤ 199.4	60 < FP ≤ 93		
	IIIA	140 ≤ FP < 200	60 ≤ FP < 93.3						
	II	100 ≤ FP < 140	37.8 ≤ FP < 60						
Flammable	IC	73 ≤ FP < 100	22.8 ≤ FP < 37.8		3	73.4 ≤ FP ≤ 140	23 ≤ FP ≤ 60		
	IB	FP < 73 and BP ≥ 100	FP < 22.8 and BP ≥ 37.8						
	IA	FP < 73 and BP < 100	FP < 22.8 and BP < 37.8						
				2	FP < 73.4 and BP > 95	FP < 23 and BP > 35			
							1	FP < 73.4 and BP ≤ 95	FP < 23 and BP ≤ 35

FP= Flashpoint

BP= Boiling Point

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# 29 CFR 1910 Changes – Subpart Q

- ▶ Welding, Brazing and Cutting
  - General Requirements
  - Material Container Labeling



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# 29 CFR 1910 Changes – Subpart Z

- ▶ Asbestos
- ▶ Carcinogens
- ▶ Vinyl Chloride
- ▶ Inorganic Arsenic
- ▶ Lead
- ▶ Chromium (VI)
- ▶ Cadmium
- ▶ Benzene
- ▶ Coke oven emissions
- ▶ Cotton Dust
- ▶ DBCP
- ▶ Acrylonitrile
- ▶ Ethylene Oxide
- ▶ Formaldehyde
- ▶ Methylenedianiline
- ▶ 1,3-Butadiene
- ▶ Methylene Chloride
- ▶ Laboratory Exposures

# Laboratory Implications

- ▶ Hazard definitions in 29 CFR 1910.1450 updated to match GHS definitions.



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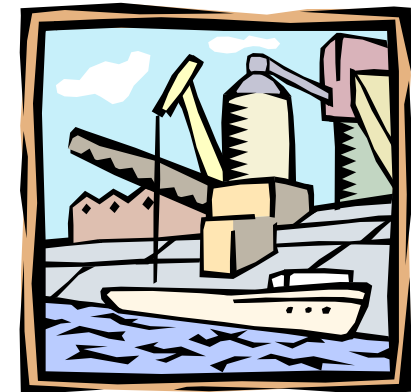
# Laboratory Implications

- ▶ Revises warning text and symbols for workplace signage for chemicals regulated in Subpart Z.



# Other changes to 29 CFR

- ▶ Other rules changed to reflect GHS adoption:
  - 29 CFR 1915 – Shipyard Employment
  - 29 CFR 1917 – Marine Terminals
  - 29 CFR 1918 – Longshoring
  - 29 CFR 1926 – Construction



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# Three Main Changes

Hazard  
Classification

Labeling

SDS  
Requirements

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# »» New Hazard Classifications

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# Physical Hazard Classifications

- ▶ Physical Hazards:
  - Explosives
  - Flammable Gases
  - Flammable Aerosols
  - Oxidizing Gases
  - Gases Under Pressure
  - Flammable Liquids
  - Flammable Solids
  - Self-reactive Chemicals
  - Pyrophoric Liquids
  - Pyrophoric Solids
  - Self-Heating Chemicals
  - Chemicals Which, In Contact with Water, Emit Flammable Gases
  - Oxidizing Liquids
  - Oxidizing Solids
  - Organic Peroxides
  - Corrosive to Metals



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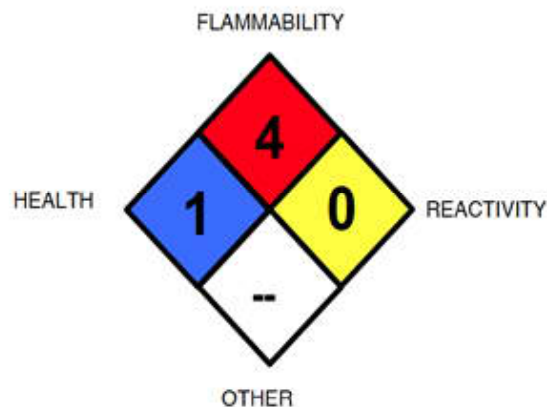
# Health Hazard Classifications

- ▶ Health Hazard Classes:
  - Acute Toxicity
  - Skin Corrosion/Irritation
  - Serious Eye Damage/Irritation
  - Respiratory or Skin Sensitization
  - Germ Cell Mutagenicity
  - Carcinogenicity
  - Reproductive Toxicity
  - Single-Target Organ Toxicity Single Exposure
  - Single-Target Organ Toxicity Repeated/Prolonged Exposure
  - Aspiration Hazard



# Hazard Categories

- ▶ Range from 1 (severe) to 5 (minimal)
  - Not all hazard classes have 5 categories.
- ▶ Opposite from HMIS/NFPA Categories
  - 0 (minimal) to 4 (severe)



## HAZARDS IDENTIFICATION

### OSHA Hazards

Flammable liquid, Target Organ Effect, Irritant

### Target Organs

Nerves., Kidney, Cardiovascular system.,  
Gastrointestinal tract, Liver

### GHS Classification:

Flammable liquids (Category 2)  
Skin irritation (Category 3)  
Eye irritation (Category 2A)  
Specific target organ toxicity - single exposure  
(Category 3)

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# Hazard Classification Example

- ▶ Isopropyl Alcohol
  - Flashpoint: 12° C (53.6° F)
  - Boiling Point: 82° C (180° F)
  - Skin Irritant
  - Eye Irritant
  - Narcotic Effects



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# Isopropanol – Flammability

Category	Criteria
1	Flashpoint $< 23^{\circ}\text{C}$ and initial boiling point $\leq 35^{\circ}\text{C}$ ( $95^{\circ}\text{F}$ )
2	Flashpoint $< 23^{\circ}\text{C}$ and initial boiling point $> 35^{\circ}\text{C}$ ( $95^{\circ}\text{F}$ )
3	Flashpoint $\geq 23^{\circ}\text{C}$ and $\leq 60^{\circ}\text{C}$ ( $140^{\circ}\text{F}$ )
4	Flashpoint $\geq 60^{\circ}\text{C}$ and $\leq 93^{\circ}\text{C}$ ( $200^{\circ}\text{F}$ )

Isopropanol – Category 2

# Isopropanol – Skin Irritation/Corrosion

Category	Criteria
1A to 1C	Skin Corrosion (Animal Studies)
2A to 2C	Skin Irritant (Animal Studies)

Isopropanol – Category 2



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# Isopropanol – Serious Eye Damage/Eye Irritation

Category	Criteria
1	(a) at least in one tested animal, effects on the cornea, iris or conjunctiva that are not expected to reverse or have not fully reversed within an observation period of normally 21 days; and/or (b) at least in 2 of 3 tested animals, a positive response of: (i) corneal opacity $\geq 3$ ; and/or (ii) iritis $> 1.5$ ; calculated as the mean scores following grading at 24, 48 and 72 hours after instillation of the substance.
2A to 2B	(i) corneal opacity $\geq 1$ ; and/or (ii) iritis $\geq 1$ ; and/or (iii) conjunctival redness $\geq 2$ ; and/or (iv) conjunctival edema (chemosis) $\geq 2$ calculated as the mean scores following grading at 24, 48 and 72 hours after instillation of the substance, and which fully reverses within an observation period of normally 21 days.

## Isopropanol – Category 2A



# Isopropanol – Single Target Organ Toxicity – Single Exposure

Category	Criteria
1	Substances that have produced significant toxicity in humans, or that, on the basis of evidence from studies in experimental animals can be presumed to have the potential to produce significant toxicity in humans following single exposure
2	Substances that, on the basis of evidence from studies in experimental animals, can be presumed to have the potential to be harmful to human health following single exposure
3	Transient target organ effects

Isopropanol – Category 3  
(Narcotic Effects)



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# Classification Change Implications

- ▶ Chemical Manufacturers and Distributors
  - Significant changes in hazard classification process will require re-classification of product hazards.
- ▶ Chemical Users
  - May no longer be able to rely on SDSs to provide NFPA/HMIS classifications for signage and/or secondary container labeling.

# Hazard Classification

Questions?



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# »» New Labeling Requirements

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# Required Label Elements

- ▶ Product Identifier
- ▶ Signal Word (Danger or Warning)
- ▶ Hazard Statement(s)
- ▶ Pictograms
- ▶ Precautionary Statement(s)
- ▶ Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

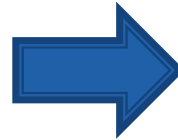


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# Product Identifier

The name or number used for a hazardous chemical on a label or in the SDS.



**TOLUENE / Toluène / Tolueno**  
 CAS # / No. CAS / No CAS 108-88-3  
 Annex VI Index / Numéro index, annexe VI / No Índice del Anexo VI # 601-021-00-3

**DANGER**  
 Highly flammable liquid and vapour. May be fatal if swallowed and enters airways. Causes skin irritation. May cause drowsiness or dizziness. Suspected of damaging the unborn child. May cause damage to organs through prolonged or repeated exposure.

Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Ground/bond container and receiving equipment. Wear protective gloves and eye/face protection. Do not breathe dust/fume/gas/mist/vapours/spray. IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting. Store in a well-ventilated place. Keep cool. Dispose of contents/container to special waste disposal facility.

**DANGER!**  
 Liquide et vapeurs très inflammables. Peut être mortel en cas d'ingestion et de pénétration dans les voies respiratoires. Provoque une irritation cutanée. Peut provoquer somnolence ou vertiges. Susceptible de nuire au fœtus. Risque présumé d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée.

Tenir à l'écart de la chaleur/des étincelles/des flammes nues/des surfaces chaudes. — Ne pas fumer. Mise à la terre/liaison équipotentielle du récipient et du matériel de réception. Porter des gants de protection et un équipement de protection des yeux/du visage. Ne pas respirer les poussières/fumées/gaz/brouillards/vapeurs/aérosols. EN CAS DE CONTACT AVEC LA PEAU: laver abondamment à l'eau et au savon. En cas d'irritation cutanée: consulter un médecin. EN CAS D'INHALATION: transporter la victime à l'extérieur et la maintenir au repos dans une position où elle peut confortablement respirer. Appeler un CENTRE ANTIPOISON ou un médecin en cas de malaise. EN CAS D'INGESTION: appeler immédiatement un CENTRE ANTIPOISON ou un médecin. NE PAS faire vomir. Stocker dans un endroit bien ventilé. Tenir au frais. Éliminer le contenu/récipient dans un dépôt de déchets spéciaux.

**PELIGRO!**  
 Líquido y vapores muy inflamables. Puede ser mortal en caso de ingestión y penetración en las vías respiratorias. Provoca irritación cutánea. Puede provocar somnolencia o vértigo. Se sospecha que daña al feto. Puede provocar daños en los órganos tras exposiciones prolongadas o repetidas.


Mantener alejado de fuentes de calor, chispas, llama abierta o superficies calientes. — No fumar. Conectar a tierra/enlace equipotencial del recipiente y del equipo de recepción. Llevar guantes de protección y equipo para proteger los ojos/la cara. No respirar el polvo/el humo/el gas/los neblinas/vapores/el aerosol.

EN CASO DE CONTACTO CON LA PIEL: Lavar con agua y jabón abundantes. En caso de irritación cutánea: consultar a un médico. EN CASO DE INHALACIÓN: Transportar a la víctima al exterior y mantenerla en reposo en una posición confortable para respirar. Llamar a un CENTRO de información toxicológica o a un médico en caso de malestar. EN CASO DE INGESTIÓN: Llamar inmediatamente a un CENTRO de información toxicológica o a un médico. NO provocar el vómito.

Almacenar en un lugar bien ventilado. Mantener en lugar fresco. Eliminar el contenido/el recipiente en una instalación para la eliminación de desechos especiales.

**REFER TO SAFETY DATA SHEET**

icc ComplianceCenter  
 Mississauga Ontario Dorval Quebec Edmonton Alberta Houston Texas Niagara Falls New York

CODE:	LOT #:	NET WEIGHT:	DEPOSIT:
 Product Code	<b>24743</b>	<b>220 KG</b>	<b>\$50.00</b>

# Signal Word

Used to indicate the relative level of severity of hazard and alert the reader to a potential hazard on the label.

- ▶ **Danger: Severe Hazard**
- ▶ **Warning: Less Severe Hazard**

# Hazard Statement

“A statement assigned to a hazard class and category that describes the nature of the hazard(s) of a chemical, including, where appropriate, the degree of hazard.”



# Example Hazard Statements










- ▶ Acute Oral Toxicity
  - Fatal if swallowed (Categories 1 & 2)
  - Toxic if swallowed (Category 3)
  - Harmful if swallowed (Category 4)
  
- ▶ Flammable Liquids
  - Extremely flammable liquid and vapor (Category 1)
  - Highly flammable liquid and vapor (Category 2)
  - Flammable liquid and vapor (Category 3)
  - Combustible liquid (Category 4)



# Isopropanol – Flammability

Category	Criteria	Signal Word	Hazard Statement
1	Flashpoint <23° C and initial boiling point ≤ 35° C (95° F)	Danger	Extremely flammable liquid and vapor
2	Flashpoint <23° C and initial boiling point >35° C (95° F)	Danger	Highly flammable liquid and vapor
3	Flashpoint ≥23° C and ≤ 60° C (140° F)	Warning	Flammable liquid and vapor
4	Flashpoint ≥60° C and ≤ 93° C (200° F)	Warning	Combustible liquid

# HCS PICTOGRAMS & HAZARDS

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

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# Corrosive



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# Gas Under Pressure

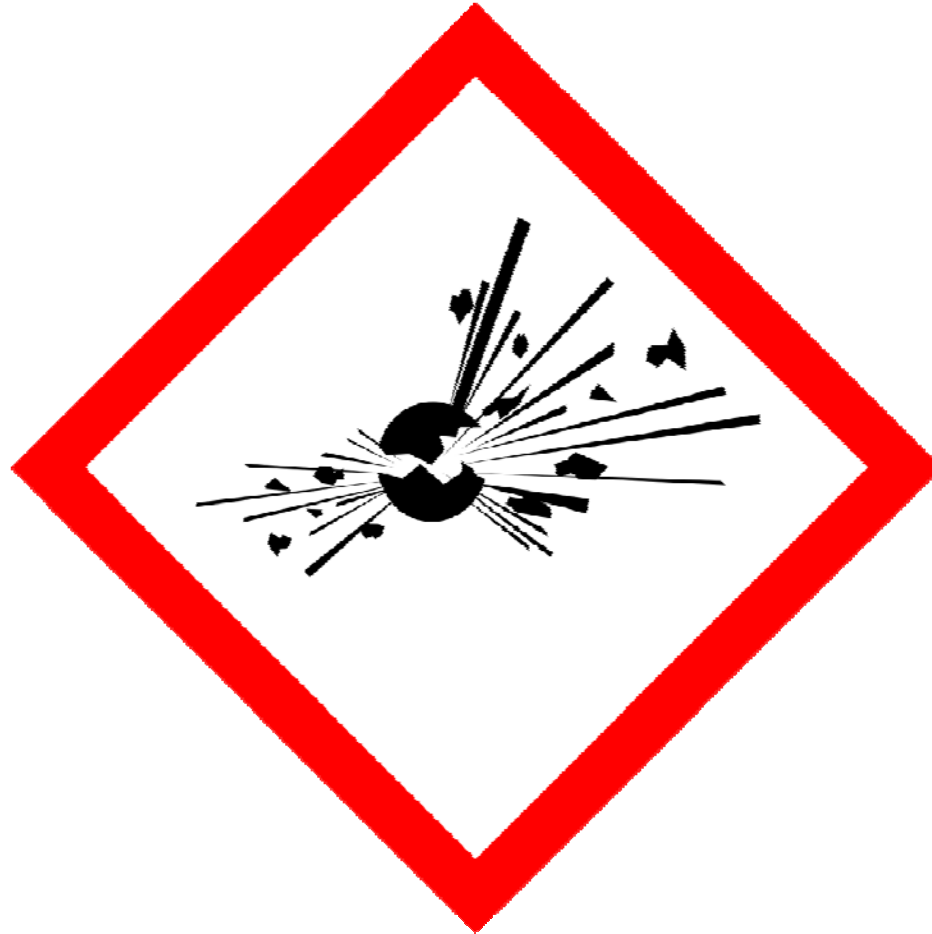


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# Explosive



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# Flammable

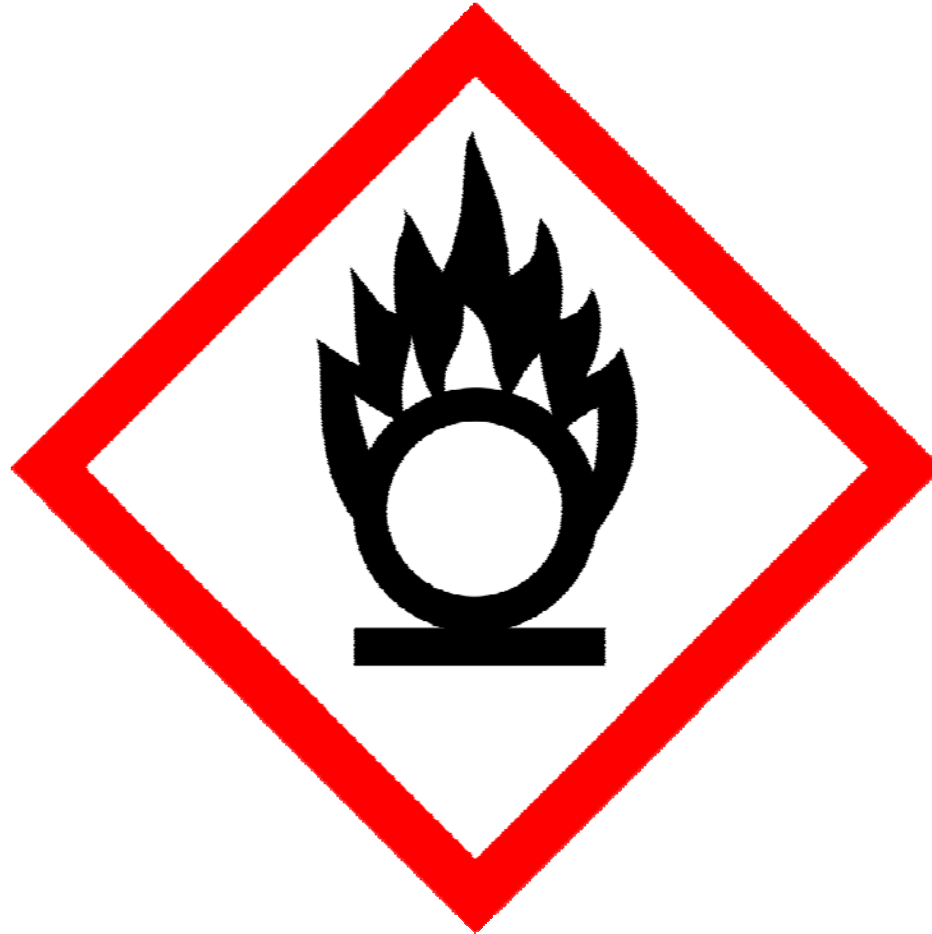


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# Oxydizers



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# Acute Toxicity



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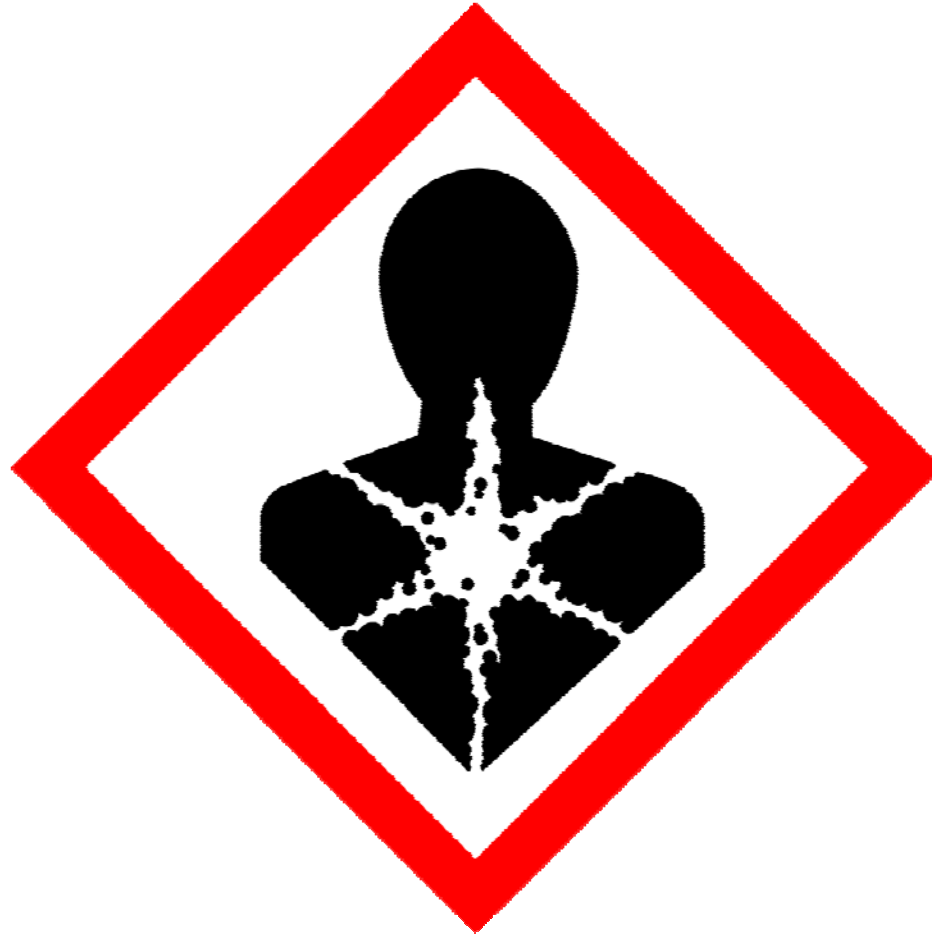
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# New Pictograms – Special Hazard



# New Pictograms – Health Hazard

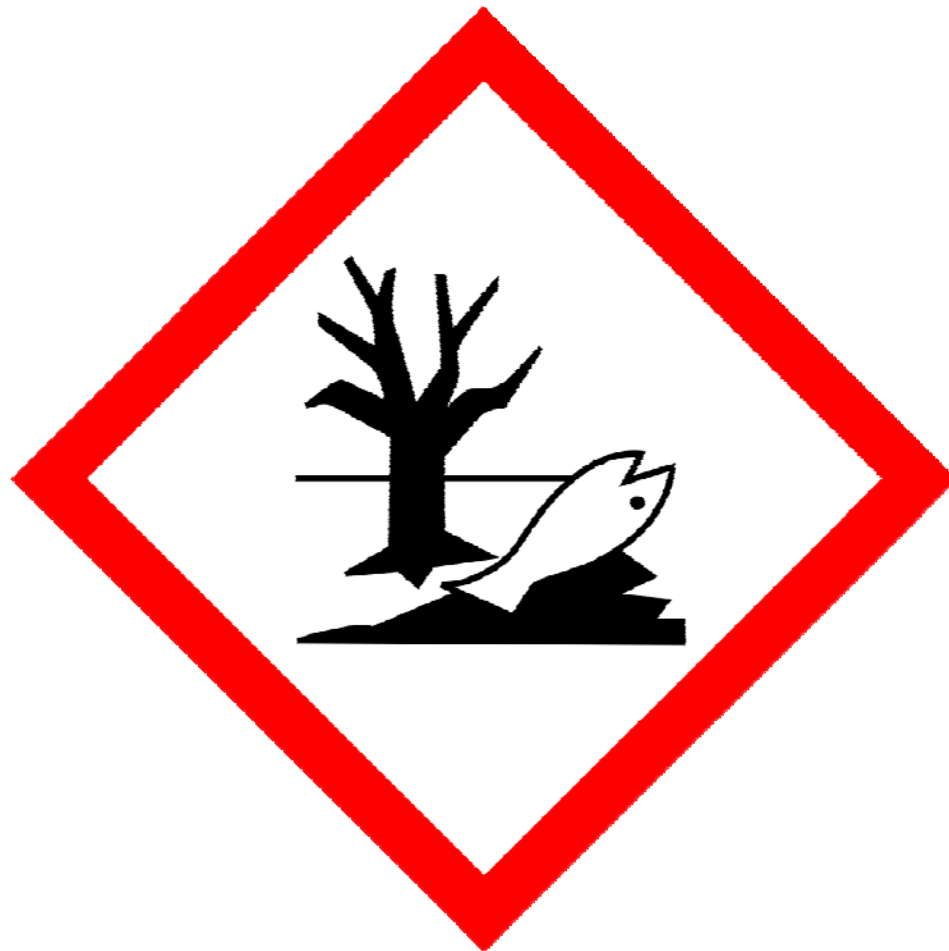


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# New Pictograms – Environmental Hazard



# The GHS Label


Product Identifier →

Signal Word →

Hazard Statement(s) →

Supplier identifier →

**Product J**  
(abc chemical)



**Danger**  
Fatal if swallowed  
Causes skin irritation

**Precautions:**  
Wear protective gloves.  
Take off contaminated clothing and wash before reuse.  
Wash hands thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Store locked up.  
Dispose of contents/containers in accordance with local regulations.

IF ON SKIN: Rinse skin with water/shower.  
IF IN EYES: Rinse cautiously with water.  
IF SWALLOWED: Immediately call a Poison Center or doctor/physician. Do not induce vomiting.

ABC Chemical Co., 123 Anywhere St., (123) 456-7890  
See the SDS for more information

← Hazard Pictogram(s)

← Precautionary Statements

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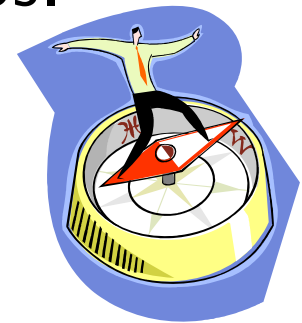
# Isopropanol Example

- ▶ Product Identifier: Isopropanol
- ▶ Signal Word: Danger
- ▶ Hazard Statements:
  - Highly flammable liquid and vapor
  - Causes mild skin irritation
  - Causes serious eye irritation
  - May cause drowsiness or dizziness
- ▶ Precautionary Statements:
  - Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
  - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
  - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.



# Labeling Change Implications

- ▶ Chemical Manufacturers and Distributors
  - Product labels will need to be re-designed and placed on all shipped products by June 1, 2015.
- ▶ Chemical Users
  - Labels on secondary containers do not need to be modified as long as the container contains a product identifier and a description of the primary hazard. Product identifiers must be able to be cross-referenced with GHS-compliant SDSs.
  - Employee training in new GHS label content will be needed.



# Labeling

Questions?



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# »» New SDS Information Requirements

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# MSDS vs. SDS

- ▶ Fixed Format
- ▶ Heading Sections Standardized
- ▶ Information of primary concern to exposed employees and emergency responders placed at beginning of document
- ▶ Consistent with ANSI Z400.1

SAFETY DATA SHEET		Page: 1
Solvent Wipe #120		Printed: 06/26/01 Revision: 001/2/008
<b>1. Product and Company Identification</b>		
Product Code:	SOLVENT #120	
Product Name:	Solvent Wipe #120	
Reference #:	ANSI 124014	
Company Name:	Standardized Sanitation Systems, Inc. 141 Middlesex Turnpike Burlington, MA 01803	
Emergency Contact Information:	Emergency (800)422-2071 (817)273-2020	
Product Category:	Solvents	
<b>2. Hazards Identification</b>		
Flammable Liquids, Category 2		
Severe Eye Damage Eye Irritation, Category 2A		
Target Organ Systemic Toxicity (single exposure), Category 3		
	Danger Warning	
GHS Hazard Phrases:	H025: Highly flammable liquid and vapor H319: Causes serious eye irritation H336: May cause respiratory irritation	
GHS Precaution Phrases:	P223: Keep container tightly closed. P210: Keep away from [heats/parks/open flames/hot surfaces] - No smoking. P280: Wear protective gloves/protective clothing and eye/face protection as specified by the manufacturer/supplier or the competent authority. P240: Ground/bond container and receiving equipment - if the explosive is electrically sensitive. P241: Use explosion-proof electrical/ventilating/lighting/... equipment - other specified by the manufacturer/supplier or the competent authority - if dust clouds can occur. P243: Take precautionary measures against static discharge. P242: Use only non-sparking tools. P264: Wash hands thoroughly after handling. P271: Use only outdoors or in a well-ventilated area. P281: Avoid breathing dust/fume/gas/mist/spray/vapor.	
GHS Response Phrases:	P370+378: In case of fire, use ... for extinction - appropriate media specified by the manufacturer/supplier or the competent authority - if water increases risk. P303+361+353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P303+313: If eye irritation persists, get medical advice/attention. P309+311: Call a POISON CENTER or doctor/physician if exposed or you feel unwell. P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.	
GHS Storage and Disposal Phrases:	P403+233: Store in cool/well-ventilated place. P501: Dispose of contents/container to ... (in accordance with local/regional/national/international regulations). P405: Store locked up. P403+233: Store container tightly closed in well-ventilated place - if product is as volatile as to generate hazardous atmosphere.	
MDS SDS, (S)AV Systems, Inc. <span style="float: right;">GHS Format</span>		

# SDS Requirements

1. Identification
2. Hazard Identification
3. Composition
4. First Aid Measures
5. Fire-fighting Measures
6. Accidental Release Measures
7. Handling and Storage
8. Exposure controls/PPE
9. Physical and Chemical Hazards
10. Stability and Reactivity
11. Toxicological Information

12. Ecological Information
13. Disposal Consideration
14. Transport
15. Regulatory
16. Other Information

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

According to Regulation (EC) No1272/2008

Flammable liquids (Category 2)

Acute toxicity, Inhalation (Category 4)

Acute toxicity, Dermal (Category 4)

Acute toxicity, Oral (Category 4)

Serious eye damage/eye irritation (Category 2)

According to European Directive 67/548/EEC as amended.

Highly flammable. Harmful by inhalation, in contact with skin and if swallowed. Irritating to eyes.

### Label elements

Pictogram



Signal word

Danger

Hazard statement(s)

H225

Highly flammable liquid and vapour.

H302

Harmful if swallowed.

H312

Harmful in contact with skin.

H319

Causes serious eye irritation.

H332

Harmful if inhaled.

Precautionary statement(s)

P210

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P280

Wear protective gloves/protective clothing/eye protection/face protection.

P303 + P361 + P353

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing.

Rinse skin with water/shower.

Hazard symbol(s)

F

Highly flammable

Xn

Harmful

R-phrases)

R11

Highly flammable.

R20/21/22

Harmful by inhalation, in contact with skin and if swallowed.

R36

Irritating to eyes.

S-phrases)

S16

Keep away from sources of ignition - No smoking.

S36/37

Wear suitable protective clothing and gloves.

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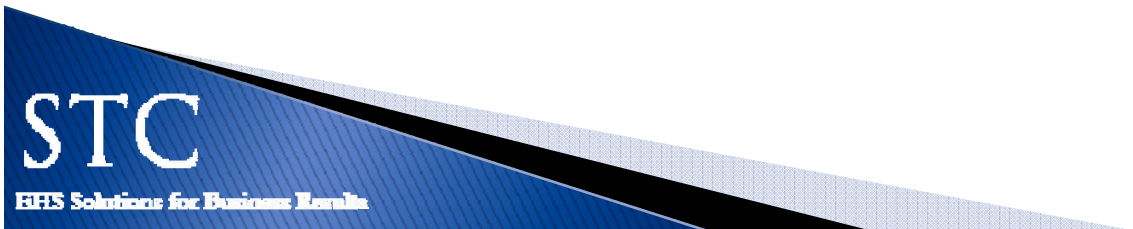
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# SDS Change Implications

- ▶ Chemical Manufacturers and Distributors
  - Revised Safety Data Sheets for all products needed by June 1, 2015.
  - Number of customer requests for SDSs can be expected to increase.
- ▶ Chemical Users:
  - New SDS libraries will need to be compiled.
  - Training will be needed to familiarize employees with new SDS format.

# Effective Dates and Requirements

Date	Requirement	Who
December 1, 2013	Train employees on the new label elements and SDS format.	Employers
June 1, 2015	Comply with final rule except chemical distributors may ship containers without GHS labels	Chemical manufacturers, importers, distributors, and employers
December 1, 2015	Shipment of containers without GHS labels prohibited	Chemical manufacturers, importers, distributors, and employers
June 1, 2016	Update alternative workplace labeling and hazard communication program as necessary, and provide additional employee training for newly identified physical or health hazards.	Employers
Transition period 5/12 – dates noted above	May comply with either 29 CFR 1910.1200 (revised) or current standard (or both)	Chemical manufacturers, importers, distributors, and employers



# » Transition Management

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# Written Hazard Communication Program Requirements

- ▶ No major changes made to 29 CFR 1910.1200 (e).
  - Revised definitions
  - Product identifier defined
  - MSDS references changed to SDS
- ▶ Changes would only be needed in written programs that contained specific hazard determinations made in lieu of those provided in supplier MSDS sheets.



# Activities for Chemical Users

- ▶ Incorporate GHS changes into hazard communication training materials
- ▶ Review existing training management systems to insure all employees receive revised training prior to December 1, 2013.



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# Activities for Chemical Users

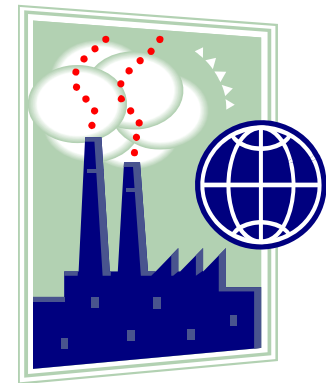
- ▶ Review SDS update process – Ensure GHS-compliant SDSs in place by June 1, 2015.
- ▶ Identify and modify workplace signage by June 1, 2015.
- ▶ Consider refresher training in 2015.





# Additional Activities for Chemical Manufacturers/Distributors

- ▶ Review and/or obtain safety data for raw materials and revise hazard classifications as necessary for product SDS sheets and labels.
- ▶ Produce revised SDS sheets and labels for manufactured product shipments by June 1, 2015.
- ▶ Distributors may ship containers with non-GHS compliant labels until December 1, 2015.

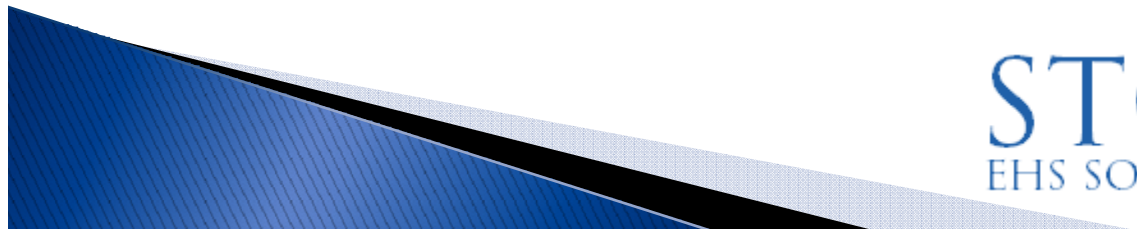


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# Questions?



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Thank You!



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