

# Effect of GHS on Hazcom Programs



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# Agenda

- GHS: Goals and Objectives
- U.S. Participation
- Hazard Communication Standard
  - Proposed Standard vs. Existing Rule
  - Definitions
  - Exemptions
  - Labels
  - (M)SDS
- Impact on Business
- Challenges Ahead

# What are the GHS Goals?

- Target: Establish consistent infrastructure to control chemical exposure and protect people and the environment
  - Streamlined hazard communication requirements
  - Consistent classification and labeling content
- Offer flexibility: Countries can choose to implement GHS in its entirety or implement only certain parts (“building block” approach)
- Develop a harmonized system for the classification of materials and for hazard communication (labels and SDS) by the end of 2000 and begin implementation in 2008
- One system for workers, consumers, transport workers, and emergency responders
- Provide the underlying infrastructure for establishment of national, comprehensive chemical safety programs

# The Need for Standardization

- Substance of 257 mg/kg of LD<sub>50</sub>

## Pre-GHS

EU : Harmful  
 US : Toxic  
 Canada : Toxic  
 AU: Harmful  
 India: Non-toxic  
 Japan: Toxic  
 Malaysia: Harmful  
 Thailand: Harmful  
 New Zealand: Hazardous  
 China: Not Dangerous  
 Korea: Toxic

## GHS standard

<Acute Toxicity>

Hazard Category 3  
 Toxic

Category 1: LD<sub>50</sub> ≤ 5 mg/kg

Category 2: 5 < LD<sub>50</sub> ≤ 50 mg/kg

Category 3: 50 < LD<sub>50</sub> ≤ 300  
 mg/kg

# U.S. Participation

- Support and active participation
  - Commitment in the preamble (1983)
  - Years of bilateral trade negotiations
  - International mandate adopted in 1992
  - Negotiations to complete the GHS in multiple international organizations over the next 10 years
  - System available for implementation (in part or total / phased or full) NOW
- Stakeholder participation from agency, industry and labor in the negotiation and implementation processes



## Proposal:

- To modify the current HCS to conform with the GHS system of Classification and Labeling of Chemicals “GHS released by OSHA September 2009
- Not all hazard classes and categories proposed are adopted
  - Excluded: Acute Toxicity Category 5 for oral, dermal, or inhalation exposures; Skin Corrosion/ Irritation Category 3; and Aspiration Hazard Category 2.
- “Unclassified Hazards” – Hazard information must appear in MSDS, but no harmonized labeling elements
- The HCS “floor” of chemicals as well as NTP, IARC, and OSHA carcinogens are removed.

## Timeline:

- Public comments to be submitted by **December 29, 2009**
- Minimum of **18 months** before the final rule is promulgated
- **3 years** from promulgation comply (2 years for training)
- EU GHS labels are accepted NOW provided conformance with the current OSHA standard

# HCS – Proposed vs. Existing

## Existing Rule

- Performance oriented providing guidance (defining and determining hazards) but no specific approach to follow
- Does not specify format or language (specific words or phrases) to convey hazards and other information on MSDS and labels

## Proposed Standard

- Uniform approach for the classification and presentation of hazard information through labeling and safety data sheets
- Contains specific criteria for each health and physical hazard
- Terminology standardization
  - From “hazard determination” to “hazard classification”
  - From “material safety data sheet” to “safety data sheet”

# HCS - Definitions

The HCS proposal has made the following definition adjustments:

- Added: classification, hazardous chemical, hazardous class, hazard statement, label elements, pictogram, precautionary statement, product identifier, signal word, substance and unclassified hazard
- Removed: combustible liquid, compressed gas, explosive, flammable, flashpoint, hazard warning, identity, organic peroxide, oxidizer, pyrophoric, unstable (reactive) and water-reactive
- Revised: chemical, chemical name, health hazard, label, mixture and physical hazard

# HCS - Exemptions

The HCS (and GHS) does not apply to:

- Hazardous waste when regulated by the EPA under RCRA
- Tobacco or tobacco products
- Wood or wood products
- Articles
- Food, drugs, cosmetics or alcoholic beverages in retail establishments packaged for sale to consumers
- Consumer products used in the same manner
- Drugs in a solid, final form intended for patient administration

# HCS - Labels

Labeling provision represent the biggest difference between HCS and GHS

- Harmonization of classification standards to identify hazard class and category
- Specific, harmonized provisions for pictograms, hazard statements and signal words.
- Proposed standardization of precautionary statements (not yet harmonized)...more to negotiation to follow
- GHS uses 9 pictograms / HCS requires 8, excluding the environmental pictogram

# Labels: Pre-GHS and GHS

[산업안전보건법 제41조 규정에 의한 경고표지]

**혼합물 A**



고인화성물질



독성물질  
변이원성물질  
생식독성물질



자극성물질

유해위험성에 따른 조치사항

- 취급장소에는 국소배기장치를 가동할 것
- 취급시 방독마스크, 보호안경, 보호의, 보호장갑 등 개인보호구를 착용할 것
- 주위에 점화원 등을 제거하고 화재시 입자상 분말소화약재 또는 이산화탄소 소화기를 사용할 것

대전광역시 유성구 문지동 산업안전보건연구원  
 기타 자세한 사항은 물질안전보건자료(MSDS)를 참조할 것



**테트라에틸 납 (Cas No. 78-00-2)**







위험

<b>유해위험 문구</b>	상기면 치명적인 피부와 점막을 유독함 흡입하면 치명적인 피부에 자극을 일으킬 눈에 강한 자극을 일으킬 잠을 일으킬 수 있음 · 대야 또는 청동용기에 손상을 일으킬 것으로 의심될 (용구신체)에 손상을 일으킬 · 호흡기에 자극을 일으킬 수 있음·정기적인 또는 비복합을 되면 (신경계)에 손상을 일으킬 · 수생생물에 매우 유독함·장기적인 영향에 의해 수생생물에 고독성이 있음
<b>예방조치 문구</b>	모든 안전 데이터시트를 읽고 이해하기 전에는 취급하지 마시오. 취급 후에는 손을 잘 씻어 주시오. · 관공으로 배출하지 마시오. 보호장갑 보호의 보안경 ... 안전보호구를 착용하십시오. 즉시 · 의복기생의사의 진찰을 받으시오. 오염된 모든 의복은 벗거나 제거하십시오. 흡입하면 신선한 · 공기기가 있는 곳으로 옮기고 호흡하기 쉬운 자세로 안정을 취하십시오. 눈에 붙으면 몇 분간 · 물로 조심해서 씻으시오. 가능한 한 콘택트렌즈를 제거하십시오. 계속 있으시오. 발동하여 · 저장하십시오. 용기는 환기가 잘 되는 곳에 단단히 밀폐하여 저장하십시오. (관련 법규에 명시된 · 내용에 따라내용물용기를 폐기하십시오.

인천광역시 부평구 기능대학길 25 산업안전교육원 (000-000-0000)

## Pre-GHS system

- Chemical name
- 7 Pictograms
- Classification  
(i.e: "Mixture A")
- Cautions/measures

## GHS System

- Product information
- 8 Pictograms
- Signal word
- Precautionary Statements
- Hazardous Statements
- Supplier information

# HCS – Safety Data Sheets

- GHS specifies the order of information that is presented
- Consistent with current industry approaches (ANSI and ISO)
- Designed for improvement
  - Ease of use
  - Comprehensibility
  - Accuracy of information



# Impact – Chemical Manufacturing & Distribution



- Analyze existing formulations
- Source the capability to:
  - Re-classify substances and mixtures
  - Develop new SDS and labeling documentation
  - Evaluate compliance with new notification requirements (UNECE – REACH)
- Meet differing requirements where the GHS classification and the labeling of a chemical substance/mixture may vary from country to country

# Impact – Use and Transport

- The Notice of Proposed Rule Making (NPRM) indicates that new classification, labeling and SDS information and formats must be discussed in training.
- All employers are required to conduct additional training
- Secondary container labeling considerations
- Identification of non-compliant SDS
- Remediation/Immediate action to account for non-compliant SDS

# Still challenges ahead...

Compliance will be:

- Labor intensive, costly & time consuming, especially initially
- Confusing
  - Conflicting regulatory approaches (countries, agencies)
  - Countries are in varying degrees of adoption and implementation
  - Transition occurring over a period of months/years (Either / Or compliance)
- GHS is not completely “*harmonized*” yet

# Thank you!

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