




Houghton International

GHS Tales from the Frontline

Implementing HCS 2012 from the Perspective of
Small Lubricant Manufacturers:
A Panel Presentation

A decorative graphic at the bottom of the slide consisting of several overlapping, wavy lines in shades of orange, green, and purple, creating a sense of movement and flow.

April 19, 2016
Ria Scheuren
Global VP – EHS & PS

Introduction

- Who am I/Who is Houghton?
 - ✓ Ria Scheuren – Global V.P. of EHS & Product Stewardship
 - ✓ 28+ years experience with 20+ years in variety of positions in specialty and petrochemical industries
- Objectives
 - ✓ Provide some perspective from the field post-GHS deadline
 - ✓ Provide examples or typical scenarios encountered
 - ✓ Q&A









Houghton at a Glance

- Houghton was founded in 1865 and is headquartered in Valley Forge, PA
- Formulates, manufactures and markets Metalworking Fluid (“MWF”) products and services
- Serving established customers across diverse and growing industry segments in a \$7.6B+ global Metalworking Fluids industry
- 11 manufacturing facilities in 10 countries across 5 continents
- Over 2000 employees in 33 countries with sales in 79 countries

Houghton’s Global Facilities



Houghton markets a diverse, global portfolio of mission-critical products

Product Category	Fluid Functionality		
Metal Removal	<ul style="list-style-type: none"> Lubricates and cools the contact point between the metal surface and work tool (e.g. cutting, grinding or drilling operation) 		
Metal Forming	<ul style="list-style-type: none"> Lubricates and cools in processes involving changing the shape of metal (e.g. drawing, stamping, rolling or bending) 		
Specialty Hydraulics	<ul style="list-style-type: none"> Used for hydraulic machine operation 		
Heat Treatment	<ul style="list-style-type: none"> Alters metal properties via controlled heating and cooling processes (e.g. hardness, stiffness or elasticity) 		
Metal Finishing	<ul style="list-style-type: none"> Chemicals for anodizing architectural aluminum surfaces and conversion coatings for metal surfaces 		
Metal Protecting	<ul style="list-style-type: none"> Temporarily protects metal from undesired effects caused by exposure to water, air or other substances 		
Metal Cleaning	<ul style="list-style-type: none"> Removes soils and other contaminants from equipment and metal surfaces 		
Other	<ul style="list-style-type: none"> Ancillary products and services 		

Broad Product Offering Addresses the Full Range of Customer Applications



Long-standing Relationships with Diverse, Blue-chip Customers

Automotive



Aerospace



Metal Rolling



Mining



Auto Components



Machinery & Metal



Offshore Energy



Equipment



- Worldwide customer base across a broad range of end markets
- Long-standing relationships, often spanning decades
- Strategically positioned globally to grow with customers in emerging markets



Approach – Global Implementation

- Implemented a global SDS authoring system
- Standardized/harmonized global components
- Harmonized raw material specifications
- Harmonized formulations that can be used in multiple GHS templates
- Multiple GHS classifications per formulation based on country/regional templates
- Language translations



Comments from the field...

- Isn't there a simple conversion tool?
- Can't you just add the pictogram to match the current ANSI description?
- If it has pictograms on it, it must be correct or GHS compliant.
- If it has a US GHS SDS, it can be shipped anywhere in the world.
- We do not understand how this change can occur; going from a slight hazard to serious hazard when referencing HMIS/NFPA (not understanding the new NFPA/HMIS ratings)
- It has a corrosive pictogram, it must be shipped as a DOT corrosive.



Comments from the field...

- How can the product be non-hazardous?
- I won't accept it if it does not have a pictogram.
- Product B is practically the “same” as Product A, how can it have a different classification?



General GHS Challenges

- Lack of understanding of finer points for GHS classification
 - Pictogram precedence rules (e.g., including both the exclamation point and health hazard pictogram for a skin and respiratory sensitization when the health hazard pictogram should take precedence)
 - Strict adherence to pH values for corrosivity without consideration for acid/alkaline reserves, buffering capacity, etc.
- Changes in GHS classification impacts alternative labelling schemes (HMIS, NFPA, etc.)
 - ✓ Lack of understanding that HMIS and NFPA guidance has changed along with GHS
- Employees not confident in explaining new hazards and risk mitigation factors to customers
 - Leads to 'fear factor' – (Health hazard – exploding chest pictogram)
 - Effects via lactation – Resulting in HMIS Health rating 4



General GHS Challenges

- Jumping to the conclusion that the formula changed due to a change in hazard classification (lack of understanding the paradigm shift in classification methodology)
- Changes in GHS classifications impact other regulatory schemes
 - ✓ Skin corrosivity classification → DOT corrosive
 - ✓ Corrosive to metals classification → DOT corrosive
 - ✓ Environmental classification → potential marine pollutants
- Anticipation that US GHS SDS will be identical to Mexico or Canada GHS.



Supplier SDS Challenges

- GHS – not really global or harmonized
- Many suppliers not prepared for GHS (less than 30% to 40% GHS compliant by the June 2015 deadline)
- Various levels of completeness and competency (some required significant validation)
 - ✓ Conflicting data from different suppliers for same components
 - ✓ Surprises – additional/new disclosures from suppliers
 - ✓ Frequently missing or incomplete regulatory data, especially at state or country level
 - ✓ Comprehensive transport regulatory information is often not provided or incomplete
 - ✓ Inconsistent CAS # by supplier



Supplier SDS Challenges

- Had to identify alternative methods for classifying raw materials (e.g., ECHA, LOLI, publically available data)
- Still receiving new GHS classification data from suppliers potentially resulting in significant re-authoring (one RM in multiple formulations)



Real World Examples – One global GHS SDS

Notice to reader

The company operates a world-wide system for hazard communication. Some hazards shown in Section 2 may apply to non-EU countries and may not result in classification and labeling in the EU. Please see Sections 3 and 15 for country specific classification information, and Section 11 for additional details.

US & Canada only classification

EU only classification

Europe: The preparation is classified as dangerous according to Directive 1999/45/EC and its amendments.
Australia: HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

Primary hazards and critical effects : WARNING!
 CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION.
 MAY CAUSE ALLERGIC SKIN REACTION

Physical/chemical hazards : COMBUSTIBLE - United States and Canada
 VAPOR MAY CAUSE FLASH FIRE.

Environmental hazards : Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Hazardous Material Information System (U.S.A.)

Health	2
Fire hazard	2
Reactivity	0

GHS Classification

Hazard classification : FLAMMABLE LIQUIDS - Category 4
 SKIN CORROSION/IRRITATION - Category 2
 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2B SKIN SENSITIZATION - Category 1
 AQUATIC TOXICITY (CHRONIC) - Category 2

Symbol :  

Signal word : Warning

Hazard statements :
 Combustible liquid. Causes skin irritation. Causes eye irritation.
 May cause an allergic skin reaction.
 Toxic to aquatic life with long lasting effects.



Real World Examples – Inaccurate or Incomplete Data

Suppliers providing insufficient information (Hazardous product classification with no components disclosed. Components with aspiration toxicity or flammability properties, but no product viscosity or flash provided.

Section 3:

Ingredient Name	CAS Number	% vol
Severely Hydrotreated Heavy Naphthenic Petroleum Oil	64742-52-5	100.0

Section 9: (No viscosity or Flash)

Physical State: Liquid	Water Solubility: Nil
Appearance: Clear & bright	Boiling Point: 500-1100°F (260-595°C)
Color: Amber	Melting Point: 15°F (-9°C)
Odor: Mild Petroleum Odor	% Volatile: Nil (LVP-VOC)
Odor Threshold: Not determined	Evaporation Rate: Not available
Vapor Pressure: Not applicable	pH: Not applicable
Vapor Density (Air=1): > 5	
Specific Gravity (H₂O=1): 0.92	



Real World Examples – Contradictory Statements – Example 1

Supplier has provided a new classification (Section 2), but Section 11 still contains ANSI wording, 'May cause irritation, May cause allergy/asthma etc...')

Section 2:

HAZARD CLASSIFICATION.....	Not Assessed.
SIGNAL WORD.....	Not Assessed.
Hazard Statements	Not Assessed.
Precautionary Statements.....	Not Assessed.
Other Hazards.....	Not Assessed.

Section 11:

EYE CONTACT.....	May cause eye irritation. Avoid eye contact.
INHALATION.....	May cause irritation of nose, throat or respiratory tract. Avoid inhalation.
INGESTION.....	Not expected to be a health hazard. Do not ingest.
MEDICAL CONDITIONS AFFECTED BY	Pre-existing respiratory disease may be aggravated by this material.
EXPOSURE	
SIGNS OF OVER EXPOSURE.....	Prolonged, excessive exposure to dust may cause chronic pulmonary disease.
TOXICITY EFFECTS ON ANIMALS.....	No additional remark.
TOXIC EFFECTS ON HUMANS.....	May cause eye irritation. May cause irritation to respiratory tract. Ingestion and inhalation may cause CNS effects such as dizziness, drowsiness and unconsciousness.



Real World Examples – Contradictory Statements – Example 2

Section 2:

Label Elements
GHS-US Labeling
No labeling required

Section 11:

Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects.



Real World Examples – Contradictory Statements – Example 3

Section 2:

This product is NOT classified as hazardous according to 29 CFR 1910, amended to conform to the United Nations' Globally Harmonized System of Classification and Labelling of Chemicals (OSHA / GHS); SOR/88-66, the Canadian Controlled Products Regulations (CPR); and/or NOM-002-SCT-2003 (Mexico).

Section 11:

Inhalation	May cause allergic respiratory reaction. Health injuries are not known or expected under normal use.
Ingestion	May produce an allergic reaction. Large oral doses may result in gastrointestinal disturbance.



Real World Examples – Different CAS #s in Different Regions

Global suppliers using different CAS #s in different regions – to ensure maximum inventory compliance for each location

Section 3:

Chemical Name	EC-No	REACH Registration Number	CAS-No
Hydrocarbons, C11-C12, isoalkanes, <2% aromatics	918-167-1	01-2119472146-39	^

Section 15:

International Inventories	
Related CAS	90622-58-5 90622-57-4 64742-48-9 68551-17-7



Real World Examples – HMIS and NFPA

Suppliers not using new NFPA and HMIS classification schemes

2.1 HAZARD STATEMENTS: (CAT = Hazard Category)
(H200s) PHYSICAL: Flammable liquids(CAT:2)
H226 COMBUSTIBLE LIQUID (North America);
FLAMMABLE LIQUID AND VAPOR (Elsewhere)
(H300s) HEALTH: Acute Toxicity, Oral(CAT:5)
H303 MAY BE HARMFUL IF SWALLOWED.
(H300s) HEALTH: Skin Corrosion/Irritation(CAT:1)
H314 CAUSES SEVERE SKIN BURNS AND EYE DAMAGE (When Heated).
(H300s) HEALTH: Serious Eye Damage/Eye Irritation(CAT:2)
H318 CAUSES SEVERE EYE BURNS (When Heated).
(H300s) HEALTH: Acute Toxicity, Inhalation(CAT:4)
H332 HARMFUL IF INHALED.



16.1 HAZARD RATINGS:
HEALTH (NFPA): 1, HEALTH (HMIS): 1, FLAMMABILITY: 2, PHYSICAL HAZARD: 0



Label Challenges

- Difficulties in fitting all required data on one label resulting in the need for multiple labels or relabeling as the product moves through the supply chain
- Misinterpretation of specific GHS elements
 - Precautionary statements can be added or deleted *ad libitum*; they are not prescriptive (especially with label text)
 - Equating hazard classifications with incorrect pictograms
- Customers/distributors/tollers concerned about insufficient information on the labels.
 - Change from large amounts of text guidance on the label, to restricted regulatory content only.
- Belief that labels for nonhazardous/non-classified products should still contain precautionary statements and if they don't, they are non-compliant or "blank"
- Belief that there is no need to relabel a product when it put on the market in other countries.



Questions?

