GHS AND SUPPLY CHAIN IMPACT

December 2015 STLE Meeting

Monica Jefferson – Lubes Regulatory Compliance Coordinator
AGENDA

• GHS Overview
  – Background
  – Intent
  – Application
  – A Global View on Harmony
  – North American Perspective

• Supply Chain
  – Impact
  – Challenges
  – Key Learnings
The Globally Harmonized System of Classification and Labeling of Chemicals (GHS) – internationally agreed-upon system, created by the United Nations and designed to replace the various classification and labeling standards used in different countries by using consistent criteria on a global level.
GHS – INTENT & APPLICATION

Intent

Provide Standardization for Hazardous Chemicals
• Hazardous Classification (Substances & Mixtures)
• Hazardous Communication
  • Labels
  • Safety Data Sheets

Application

Building Block Approach for competent authorities
• Authorities decide how to apply elements of GHS
• Risk Assessment is NOT harmonized [Hazards X Exposure = Risk]

GHS format is used throughout industry for non-hazardous material
GHS INTENT - HAZARD CLASSIFICATION

Hazard Classification

Substances & Mixtures

Physical Hazard
Explosive, Flammable, oxidizing, etc.

Health Hazard
Acute toxicity, Skin/Eye Irritant, Aspiration, etc.

Environmental Hazard
Aquatic toxicity, Bioaccumulation, etc.
### Safety Data Sheets

1. **Identification**
2. **Hazard(s) identification**
3. **Composition**
4. **First-aid measures**
5. **Fire-fighting measures**
6. **Accidental release measures**
7. **Handling and storage**
8. **Exposure controls/personal protection**
9. **Physical and chemical properties**
10. **Stability and reactivity**
11. **Toxicological information**
12. **Ecological information**
13. **Disposal information**
14. **Transport information**
15. **Regulatory information**
16. **Other information**

GHS APPLICATION & ALIGNMENT

September 2015 – 6th Revision publicly available

Source: http://www.unece.org/trans/danger/publi/ghs/implementation_e.html#c25871
# GHS ADOPTION DIFFERENCES

<table>
<thead>
<tr>
<th>Supplier Identifier</th>
<th>United States (Rev 3)</th>
<th>Canada (Rev 5)</th>
<th>EU (Rev 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The responsible party need not have a U.S. address; however, the telephone number must be a U.S. number.</td>
<td>A Canadian supplier identifier must appear on the label and SDS. -- Not required for Distributors and Importers</td>
<td>the name, address and telephone number of the supplier; -- (Can be EU manufacturer, importer, downstream user or distributor)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Labels on kit outer containers</th>
<th>United States (Rev 3)</th>
<th>Canada (Rev 5)</th>
<th>EU (Rev 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Only the inner containers are required to be labelled. The outer container of a kit does not need to be labeled.</td>
<td>Outer container of a kit (containing at least two different hazardous products) must be labeled. (There are exemptions)</td>
<td>If subject to both the transport and the CLP rules. The CLP labeling/pictogram does not need to appear.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Consumer Use</th>
<th>United States (Rev 3)</th>
<th>Canada (Rev 5)</th>
<th>EU (Rev 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does not apply</td>
<td>Does not apply</td>
<td>Applies</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>16 Section SDS</th>
<th>United States (Rev 3)</th>
<th>Canada (Rev 5)</th>
<th>EU (Rev 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outside of OSHA Jurisdiction</td>
<td>#12-15</td>
<td>#12-15 Optional</td>
<td>ALL 16 Mandatory</td>
</tr>
</tbody>
</table>

GHS APPLICATION & ALIGNMENT

Source: http://www.unece.org/trans/danger/publi/ghs/implementation_e.html#c25871
### GHS NORTH AMERICA

<table>
<thead>
<tr>
<th>Authority</th>
<th>United States</th>
<th>Canada</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OSHA</strong> (Occupational Safety &amp; Health Administration)</td>
<td>Health Canada</td>
<td>STPS (Secretariat of Labor and Social Welfare)</td>
<td></td>
</tr>
<tr>
<td><strong>GHS</strong></td>
<td>HCS 2012 (Rev 3)</td>
<td>WHMIS 2015 (Rev 5)</td>
<td>NOM-018-STPS-2015 (Rev 5)</td>
</tr>
<tr>
<td><strong>Languages</strong></td>
<td>English</td>
<td>English/French</td>
<td>Spanish</td>
</tr>
</tbody>
</table>
GHS (HCS 2012) – UNITED STATES

Dec 1, 2013

Employers: Train employees on new Label and SDS Format

Jun. 1, 2015

Manufactures, importers, Distributors, employers: Compliance with all modified provisions of this final rule, except: The Distributor shall not ship containers labeled by the chemical manufacturer or importer unless it is a GHS label

Dec. 1, 2015

Distributors: Begin Shipping containers labeled by the chemical manufacturer or importer with GHS labels.

Dec. 1, 2015

Employers: Update alternative workplace labeling and hazard communication program as necessary, and provide additional employee training for newly identified physical or health hazards.

Jun. 1, 2016

Source: https://www.osha.gov/dsg/hazcom/effectivedates.html
• Hazardous Products Regulations (HPR) - WHMIS 2015
• Effective Feb. 11, 2015
• Three-stage transition period
  – June 1, 2017
• Bilingual GHS label/SDS

<table>
<thead>
<tr>
<th>Phases</th>
<th>Timing</th>
<th>Manufacturers &amp; Importers</th>
<th>Distributors</th>
<th>Employers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1</td>
<td>Current to May 31, 2017</td>
<td>WHMIS 1988 or 2015</td>
<td>WHMIS 1988 or 2015</td>
<td>WHMIS 1988 or 2015</td>
</tr>
</tbody>
</table>

**Product K1 / Produit K1**

**Danger**

Fatal if swallowed. Causes skin irritation.

Precautions:
-acerate protective gloves.
-acerate thoroughly after handling and eating.
-nnot eat, drink, or smoke.
-note handwashing.

Measures of emergency responders:
-pret treatment.

First aid measures:
-igital treatment.
-ontact medical attention.
-ontact medical attention in case of accident or unaware.

Company XYZ, 123 Rue Main St, Mytown, ON, N0M 0N0 (123) 456-7890
<table>
<thead>
<tr>
<th>Phases</th>
<th>Timing</th>
<th>Manufacturers &amp; Importers</th>
<th>Distributors</th>
<th>Employers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1</td>
<td>Current to May 31, 2017</td>
<td>WHMIS 1988 or 2015</td>
<td>WHMIS 1988 or 2015</td>
<td>WHMIS 1988 or 2015</td>
</tr>
<tr>
<td>Phase 2</td>
<td>Jun 1, 2017 to May 31, 2018</td>
<td>WHMIS 2015</td>
<td>WHMIS 1988 or 2015</td>
<td>WHMIS 1988 or 2015</td>
</tr>
</tbody>
</table>
## GHS – CANADA

<table>
<thead>
<tr>
<th>Phases</th>
<th>Timing</th>
<th>Manufacturers &amp; Importers</th>
<th>Distributors</th>
<th>Employers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1</td>
<td>Current to May 31, 2017</td>
<td>WHMIS 1988 or 2015</td>
<td>WHMIS 1988 or 2015</td>
<td>WHMIS 1988 or 2015</td>
</tr>
<tr>
<td>Phase 2</td>
<td>Jun 1, 2017 to May 31, 2018</td>
<td>WHMIS 2015</td>
<td>WHMIS 1988 or 2015</td>
<td>WHMIS 1988 or 2015</td>
</tr>
<tr>
<td>Phase 3</td>
<td>Jun 1, 2018 to Nov 30, 2018</td>
<td>WHMIS 2015</td>
<td>WHMIS 2015</td>
<td>WHMIS 1988 or 2015</td>
</tr>
<tr>
<td>Completion</td>
<td>December 1, 2018</td>
<td>WHMIS 2015</td>
<td>WHMIS 2015</td>
<td>WHMIS 2015</td>
</tr>
</tbody>
</table>

• Mexican Official Standard, NOM 018-STPS-2015
  – Oct 9, 2015: Adopts 5th Revised Edition of the UN Purple Book

• Transitional Period 3 years
  – Post publication in the Mexican Official Gazette (DOF) (Oct. 2018)
    • NOM 018-STPS-2000 (Mandatory Non-GHS Standard)
    • NOM 018-STPS-2014 (Voluntary GHS Standard)

Source: https://chemicalwatch.com/43085/mexico-enacts-mandatory-ghs-standard
SUPPLY CHAIN
GHS – SUPPLY CHAIN IMPACT

- Transition periods to:
  - allow suppliers, employers, and workers time to adjust and;
  - move old labels and SDS out of the supply chain.

CHALLENGES to achieve compliance

Can present complexity and additional challenges for Small Businesses within the Supply Chain
GHS – SUPPLY CHAIN CHALLENGES

Changes in Global Regulatory Compliance
- GHS Adoption & Building Block Approach
- OTHER REGULATIONS - Chemical Control List (e.g., REACH, K-REACH, )
- Export Requirements (product specific, country requirements)

Documentation / Maintain Paperwork
- Track changes – document, document, document
- Ensure appropriate distribution of SDS
- Label Documentation (Consumer vs GHS)

Communication
- IT investment or adapt systems for compliance (Data Integration & Cost)
- Multilingual Requirements (translation cost)

Inventory
- Label Process: 30 Days Art Work ➔ 30-60 Days Approvals ➔ 60+ Plate Manufacturing
- Print on Demand Labels (less inventory) vs. Pre-Printed (More Inventory and Obsolete potential)
PHILLIPS 66 LESSONS LEARNED

- Communication / Collaboration
- Product Evaluation / Integrate consistency
- Comprehensive approach for SDS authoring
- Adaptation of existing IT systems for integration