

OSC 12
Ohio Safety Congress & Expo

WELL AT HOME. SAFE AT WORK.

331 GHS: The Next Step in the HSC Evolution

Kami Blake

Wednesday, March 28, 8:15 to 9:15 a.m.

Ohio Bureau of Workers' Compensation

3E COMPANY

GHS: The Next Step in the HCS Evolution

Ohio Safety Congress
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3E Company

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Agenda

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1. Overview
2. Status Update
3. Economic Analysis
4. Downstream Market Concerns
5. Operational Readiness
6. Questions

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GHS Overview

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Globally harmonized system of Classification and Labelling of Chemicals

- A common approach to defining and classifying hazards of chemical substances and mixtures, and conveying information about those hazards on labels and Safety Data Sheets (SDS)
- Criteria for hazard classification and hazard communication (Labels and SDSs) are harmonized and standardized.
- One system for workers, consumers, transport workers, and emergency responders.
- Provides the underlying infrastructure for establishment of national, comprehensive chemical safety programs.

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Risks and Costs of Non-Compliance Rising as the Regulatory Environment Becomes Increasingly Onerous

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1970's	1980's	1990's	Now	Next
Major EHS rules and regulations published	Check-list dependent	BAT and precautionary principle	Global Security	Sustainability/Resilience Initiatives
Authority Control based approach	Responsible care & local community relations	Green chemistry (EU)	Public reporting	Stakeholder Councils and EHS Platforms
Hazard label regulations	MSDS/SDS regulations	ISO and EMAS certifications	Corporate Social Responsibility (CSR)	Integrated Social Responsibility (ISR)
		Quality management	ESG & Trade related activities	Regulatory, Technical, and Operational Requirements (RTO)
		End user influence	Operational Risk and Compliance	Advanced Chemical Management (ACM)
			Total enterprise activities	Global Harmonized System (GHS)

EH&S compliance needs are pervasive and persistent across geographies and verticals

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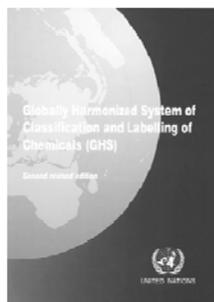
Vast and Complex Regulatory Landscape

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<p>Chemical</p> <p>Global Harmonization System</p> <p>REACH European Chemicals Agency</p> <p>Registration, Evaluation, Authorization and Restriction of Chemicals</p>	<p>Workplace</p> <p>Regulatory Platform: National Jurisdictions (Commonalities)</p> <p>OSHA Health & Safety Commission, US</p>	<p>Transportation</p> <p>Transport Canada</p> <p>ADR</p>
<p>Environmental</p> <p>Environment Canada</p> <p>Umwelt Bundes Amt</p>	<p>Security</p> <p>OSHA</p>	<p>Local</p> <p>CAL OSHA</p>
		<p>Criminal</p> <p>Department of Justice</p>

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United Nations Purple Book ...where GHS began in 2003



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GHS Overview



Transition to GHS Format and Content

Classification	Reclassify Physical, Health and Environmental standards to new GHS standard
Labeling	Apply new hazard symbols to reclassifications
MSDS to SDS	Mandatory 16-section format with new required data elements and expanded information

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Current Status



- October 25, 2011, OSHA sent its final rule on GHS to the Office of Management and Budget (OMB). OMB had 90 days to review and finalize with the option to extend (up to 30 days).
- Late 2011, publication was expected in the CFR in early 2012.
- January 24, 2012, OMB extended its review period for OSHA's GHS final rule.
- On February 21, 2012, OMB completed its review, concluding that OSHA's revised HCS was "Consistent with Change," and agreeing with the intent of the rule, but noting it may require some "substantive" revision before promulgation.
- Final promulgation is expected in March/April.
- Full implementation of the OSHA-GHS will be 3 years and one month (from the date of promulgation)

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Current Status



Media Advisory Connect with ECOL at info@ecol.com

U.S. Department of Labor **For Immediate Release** March 16, 2012
 Office of Public Affairs **Contact:** Mary Brandenberger Egan Reich
 Washington, D.C. **Phone:** 202-693-4631 202-693-4800
 Release Number: 12-481-NAT **Email:** mary.brandenberger@dol.gov
reich.egan@dol.gov

Secretary of Labor Hilda L. Solis to announce updates to OSHA's Hazard Communication Standard during March 20 teleconference

WASHINGTON – Secretary of Labor Hilda L. Solis, joined by Assistant Secretary of Labor for Occupational Safety and Health Dr. David Michaels, will host a press teleconference on March 20 to announce a final rule updating the Occupational Safety and Health Administration's Hazard Communication Standard. To better protect workers from hazardous chemicals and help American businesses compete in a global economy, OSHA has revised the Hazard Communication Standard so that it is in alignment with the United Nations' Globally Harmonized System of Classification and Labeling of Chemicals. Other OSHA officials also will participate in the call to answer questions on the updated standard and the globally harmonized system.

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Current Status



US – OSHA Finalizes Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

On March 20, 2012, the Occupational Safety and Health Administration's (OSHA) promulgated its new Hazard Communication Standard (HCS), which adopts the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS). The final rule is scheduled to be published in the Federal Register next Monday, March 26th

http://www.ofr.gov/OFRUpload/OFRData/2012-04826_P1.pdf

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New Rule Published



US – OSHA Publishes Hazard Communication Standard 2012 in the FR

On March 26, 2012, the Occupational Safety and Health Administration (OSHA) published its new Hazard Communication Standard (HCS), which adopts the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS) in the Federal Register. The final rule becomes effective on May 25, 2012.

<http://www.gpo.gov/fdsys/pkg/FR-2012-03-26/pdf/2012-4826.pdf>

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New Rule Published



Effective Dates

- As of December 1, 2013, employers will be required to train employees on the new label elements and Safety Data Sheet (SDS) format.
- As of June 1, 2015, chemical manufacturers, importers, distributors and employers will be required to comply with all modified provisions of the final rule, with the exception of distributors, which may ship products labeled by manufacturers under the old system until December 1, 2015.

Notable Changes (from the draft version)

- Classification of pyrophoric gas, simple asphyxiants and combustible dust as physical and health hazards. Will require additional classification criteria and data on labels and the SDS to ensure conformance with HazCom 2012.
- Pictograms on labels are to be outlined in a red square and set at a point. This is a variation from the UN's GHS, which recommends a black pictogram for domestic distribution.
- Unused (empty) diamonds NOT permitted

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Issues of Concern



Unclassified Hazards...Questions raised by CSB Chairman Rafael Moure-Eraso

The inclusion of an "unclassified hazards" category would substantially improve the ability of the GHS system to provide crucial information to workers and employers about serious hazards that might otherwise not be included in safety data sheets because they do not fit into the current classification categories of the GHS.

Over the past eight years, the CSB has conducted five major investigations and one safety study of *fatal combustible dust explosions and flash fires*. We have found this hazard to be far too common in industry, yet the GHS would be unable to effectively provide information about its presence or prevention without an "unclassified hazards" category. Indeed, both in its own investigations and in many other instances, the CSB found that a large proportion of safety data sheets for combustible dusts did not warn of their explosion hazards.

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Issues of Concern



The addition of Pyrophoric gas, Simple Asphyxiants and Combustible dust to the Physical and Health hazards is very significant as these are not hazards as defined by GHS

C.4.29 Label elements for OSHA defined hazards:

Hazard	Signal word	Hazard statement	Pictogram
Pyrophoric Gas	Danger	Can ignite spontaneously if exposed to air	
Simple Asphyxiant	Warning	May displace oxygen and cause rapid asphyxiation	
Combustible dust ²	Warning	May form combustible dust concentrations in air	

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Economic Analysis



GHS Authoring Costs: OSHA vs. Industry Analysis

- OSHA's Estimated Metrics
 - \$100 million in labor cost to revise 400,000 (OSHA concedes that it may be as high as 800,000) affected MSDS to GHS format
 - An average time of 5.14 hours to update each document
 - \$47 per hour labor rate
 - This translates into roughly \$250 per MSDS
- Industry Estimates
 - Consumer & industrial paints – 7 hours per SDS at cost of \$750 minimum
 - Global chemical mfr – approx 8-20 hours per SDS at cost of \$400-1,000
 - Paint and coatings formulator – 5 hours at cost of \$300-1,000
 - Global petrochemical mfr - 6 hours at cost of \$375
- A Tale of Two Estimates
 - OSHA: 400K MSDS / 5.14 hours per doc / \$250 per MSDS / estimated total cost \$100M
 - Mfgs: >400K MSDS / 9.2 hours per doc / >\$600 per MSDS / estimated total cost \$250M

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Implementation Timelines



Table XIII-5. Effective Dates and Requirements

Effective Completion Date	Requirement(s)	Who
December 1, 2013	Train employees on the new label elements and SDS format	Employers
June 1, 2015	Compliance with all modified provisions of this final rule, except:	Chemical manufacturers, importers, distributors and employers
December 1, 2015	The Distributor shall not ship containers labeled by the chemical manufacturer or importer unless it is a CMDS label	
June 1, 2016	Update alternative workplace labeling and hazard communication programs as necessary, and provide additional employee training for newly identified physical or health hazards.	Employers
18 months Period (SENSITIVE DATE 60 DAYS AFTER PUBLIC ADOPTION) to the effective completion dates noted above	May comply with either 29 CFR 1910.1200 (the final standard), or the current standard, or both	Chemical manufacturers, importers, distributors, and employers

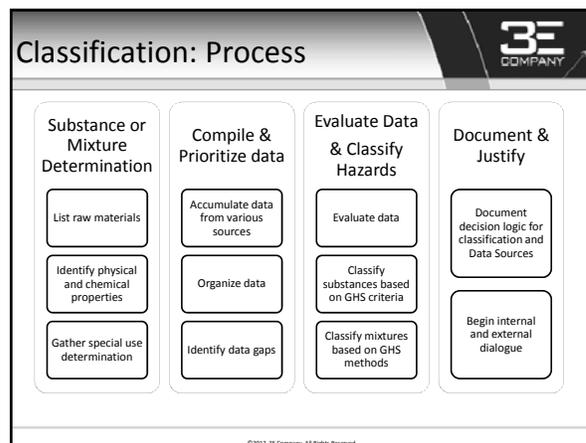
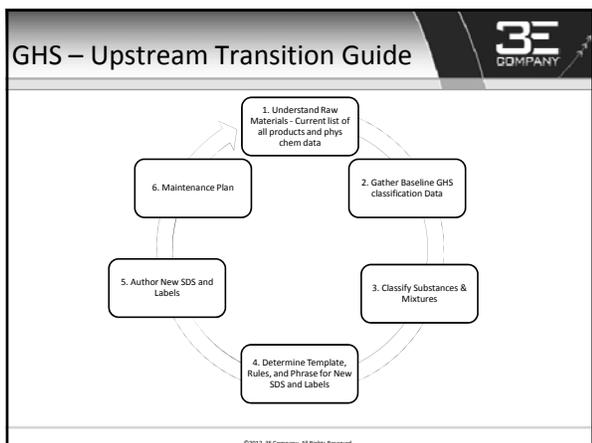
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GHS Adoption Responsibilities



Category	Manufacturer (upstream)	Employer/Workplace (downstream)
Hazard Classification	Classify hazards to GHS categories	Evaluate impact of GHS classification
Hazard Communication	Update SDS and product labels to GHS standards	<ul style="list-style-type: none"> Ensure updated SDS are available to employees for every product onsite Update secondary container labels Train workers

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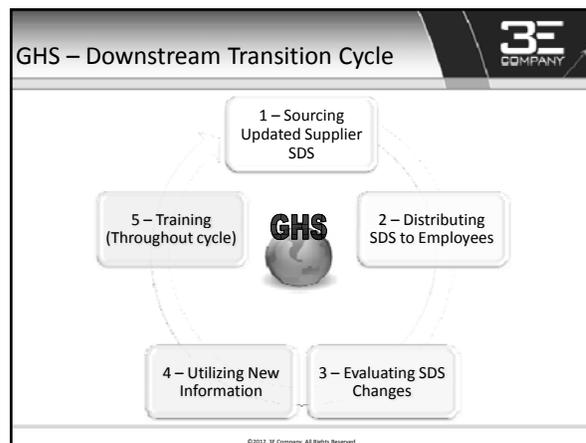


Transitioning MSDS to SDS

- SDS require Section numbers, headings and associated info as defined in Appendix D to 1910.1200
 1. Identification
 2. Hazard(s) identification
 3. Composition/information on ingredients
 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 (non-mandatory)
 13. Disposal considerations (non-mandatory)
 14. Transport information (non-mandatory)
 15. Regulatory information (Non-mandatory)
 16. Other information, including date of preparation or last revision

Section 12-15 will not be enforced by OSHA but "To be consistent with the GHS, an SDS must also include" Section 12-15

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GHS classification Impacts Downstream

Category	Impact	Action
Raw Material Classification	Finished goods may become more/less hazardous to manufacturer, store, use, transport, and dispose of. This is the GREAT X-FACTOR that is seldom raised.	<ul style="list-style-type: none"> Reclassified hazards could have significant workplace safety impacts, especially when hazards increase (e.g. CMR) Evaluation system for identification of less hazardous use chemicals and consumables may need to be developed.
Regulatory Reporting	Hazard re-classifications will impact regulatory reporting responsibilities – A new 'carcinogen' may create reporting requirements at a state or federal level that did not previously exist.	Access to revised regulatory lists will be critical to capture all impacts. Analysis of revised lists with product level ingredients (CAS# and % range) will be of significant value.
Waste Disposal	Product reclassified as more hazardous	Waste holders/generators may need to consider the concentrations of any newly re-classified dangerous substances for use, storage, and disposal
Purchasing	Product classification impacts purchasing decisions as it impacts storage, PPE, disposal, finished goods, and training requirements, amongst others.	<ul style="list-style-type: none"> Ability to analyze alternative, less hazardous products may need to be applied to vendor and product selection s Assess quantity limitations that may drive compliance requirements GHS information can be funneled into the emerging sustainability and green purchasing strategies to help companies buy less toxic and harmful products
Training & Awareness	GHS classification is very different to current methods used within each country.	Stakeholder awareness and training is necessary to educate employees and other downstream users to understand new information, and impacts.

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Update Labels to GHS

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Current OSHA Template

- Identity of hazardous chemical
- Hazard warnings
- Contact information for manufacturer/importer/responsible party.

GHS Template

- Product Identifier
- Pictograms
- Signal word
- Precautionary Statements
- Hazardous Statements
- Supplemental Information
- Supplier Identification

Downstream Concerns

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- **GHS Adoption Awareness & Timing:**
 - OSHA's proposed 3-year adoption period will create a number of downstream challenges with regard to
 - Employee training (December 31, 2013)
 - Document management
 - Data management
 - EH&S systems/process upgrades
 - Suppliers will not all update SDS at the same time or on time
 - 3E estimates a workload spike at the beginning (early adopters) and end (stragglers) with a handful of organizations missing the deadline

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Downstream Concerns

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- **Cost/Resources: Money, time, and tools**
 - "Do I even know what products I have on site?" ...absent an accurate chemical inventory list, it will be difficult to assess GHS impacts
 - Increased updating effort and tracking volume of inbound SDS
 - Hazard reclassification challenges
 - Some products that currently do not require an MSDS now, may in the future
 - Increased hazards may result in increased compliance requirements
 - Hazard reclassification analysis tools
 - Immediate notification of products with revised hazards
 - Electronic integration with revised regulations, at an ingredient level
 - Immediate and accurate regulatory impact analysis at ingredient, product, site inventory levels, with all applicable revised regs
 - Where/how to store, manage and retrieve GHS documents and data as it arrives

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Compliance Strategies

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- **Actions: "....And now what, and with what?"**
 - Outline your compliance framework NOW, predetermining
 - Roles and responsibilities at a corporate, site, field level
 - # of employees to be trained / estimated training hours required
 - # of work sites impacted
 - # of plant managers and safety professionals involved / estimated time requirement
 - # of product MSDS to be revised
 - Develop a capacity plan to address the transition and all required changes
 - Conduct a resource assessment
 - Develop a draft training plan
 - Analyze required infrastructure revisions and upgrades
 - Expanded data fields
 - GHS symbols/pictograms
 - New label templates for internal containers
 - Analyze required internal process changes
 - Evaluate impact of GHS re-classification
 - Analyze and confirm vendor capabilities to improve compliance

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Questions?

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