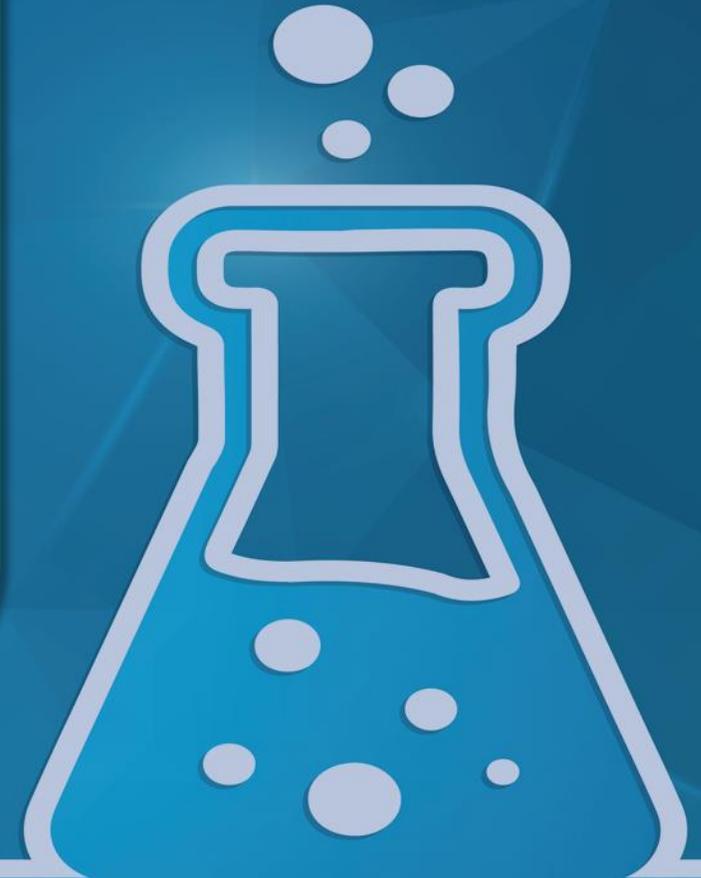


HazCom Labeling Challenges – An Industry Perspective

Ann Johnson

SCHC Annual Meeting 2021





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Environmental, Health, and Safety
Product Stewardship

Labeling Challenges - An Industry Perspective

Ann Johnson

Sr Manager, Global Hazard Communication

November 5, 2021



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Overview



Regulatory progress - From...To...



Labeling challenges



Labeling for global markets



Label management options – pros and cons



Conclusions - what's next?



Labeling – Where we came from...

The challenge...



OSHA Hazard Communication Standard (1987)

- Industrial products
- Performance-oriented



Dangerous Substances (1967) and Dangerous Preparations (1999) Directives

- Industrial and consumer products
- Provided classification criteria and mixture rules



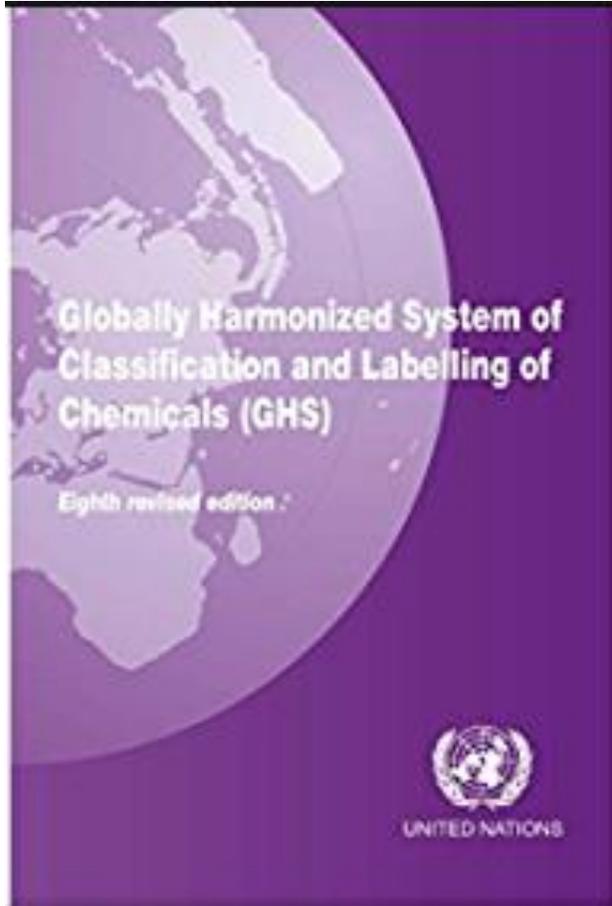
+...

Various labeling requirements; not well-defined

- Allow label formats from other countries
- Translation of US label
- Allow English label

Labeling – Present

The solution(?)...



- Provides a common and coherent approach to define and classify hazards of chemical substances and mixtures



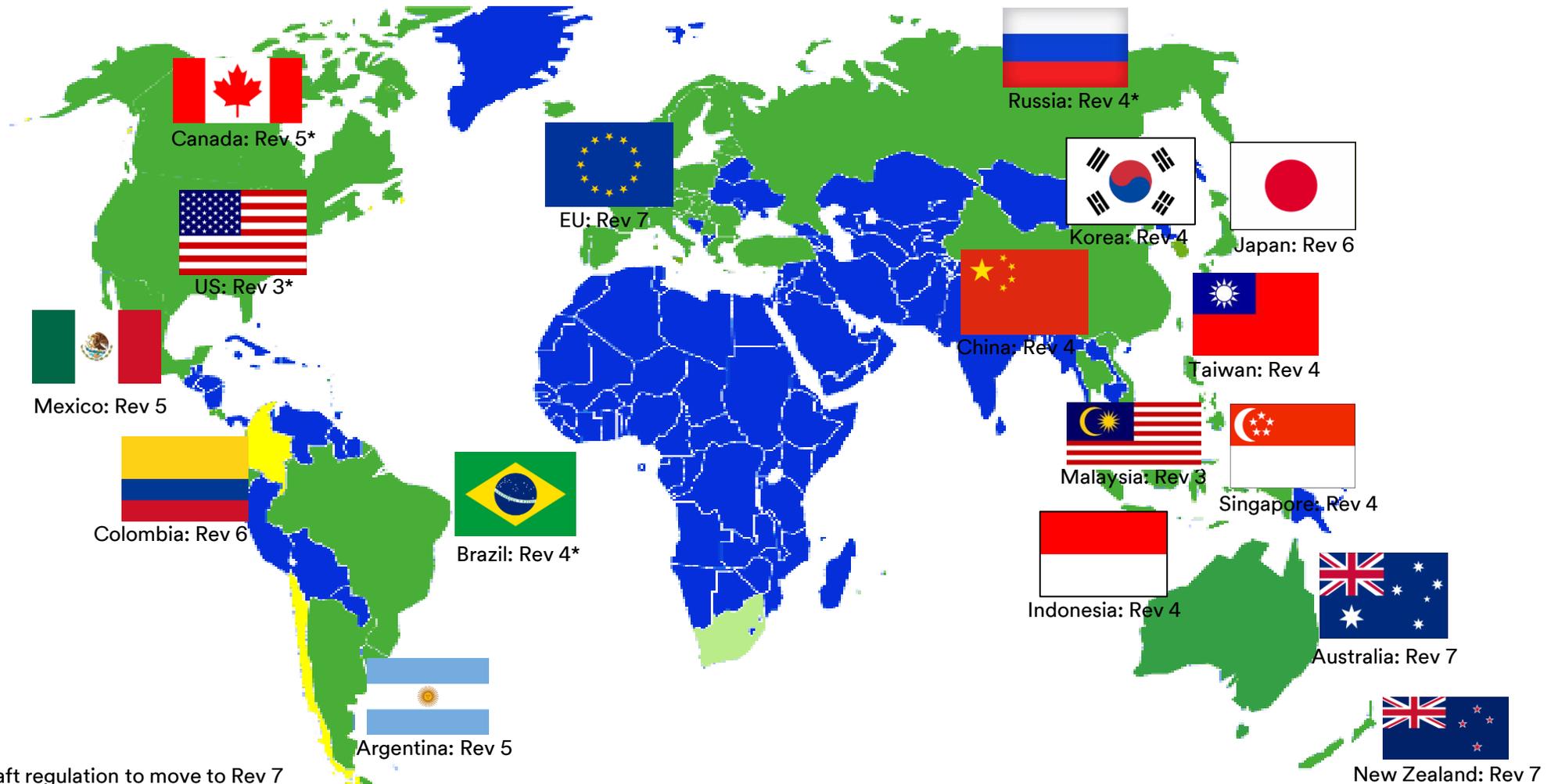
- Provides underlying infrastructure for establishing national, comprehensive chemical safety programs



- Kept relevant - updated every 2 years: First edition published in 2003; currently on Rev 9 (2021)

Continued Challenges - Global GHS Implementation

■ : Countries/regions that have already implemented GHS.
 ■ : Countries/regions where GHS is voluntary.
 ■ : Countries/regions that are in the process of implementing GHS.
 ■ : Countries/regions where GHS is not implemented or not available.



* Current draft regulation to move to Rev 7

Continued Challenges – Building Blocks

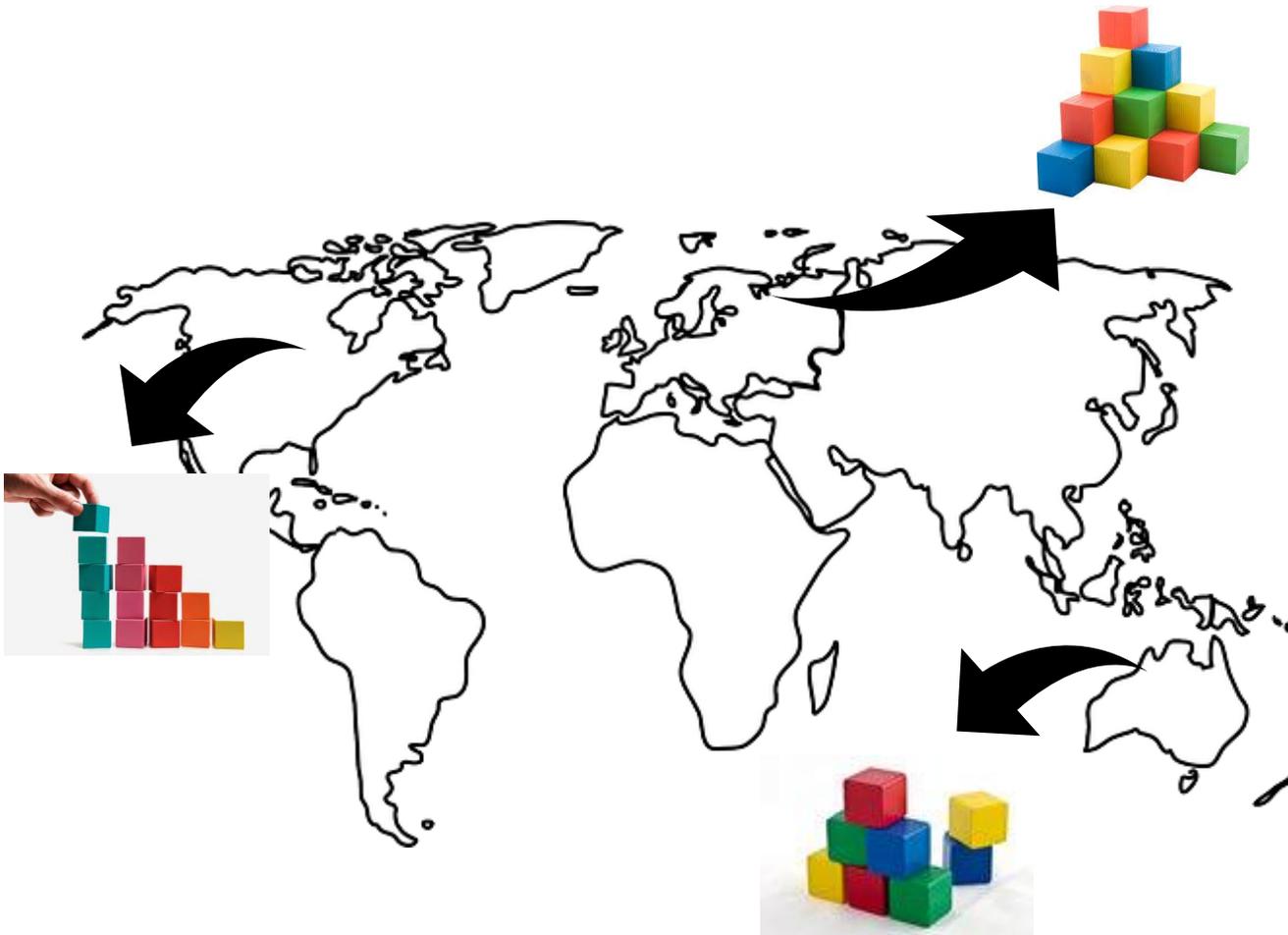


Table 2.6.2: Label elements for flammable liquids

| | Category 1 | Category 2 | Category 3 | Category 4 |
|--------|------------|------------|------------|------------|
| Symbol | Flame | Flame | Flame | No symbol |

Table 2.3.2: Label elements for aerosols

| | Category 1 | Category 2 | Category 3 |
|-------------|-----------------------------|-------------------|-----------------------|
| Symbol | Flame | Flame | No symbol |
| Signal word | Danger | Warning | Warning |
| Hazard | Extremely flammable aerosol | Flammable aerosol | Pressurized container |



Table 3.1.3: Label elements for acute toxicity

| | Category 1 | Category 2 | Category 3 | Category 4 | Category 5 |
|-------------------|----------------------|----------------------|----------------------|----------------------|-----------------------------|
| Symbol | Skull and crossbones | Skull and crossbones | Skull and crossbones | Exclamation mark | No symbol |
| Signal word | Danger | Danger | Danger | Warning | Warning |
| Hazard statement: | | | | | |
| --Oral | Fatal if swallowed | Fatal if swallowed | Toxic if swallowed | Harmful if swallowed | May be harmful if swallowed |

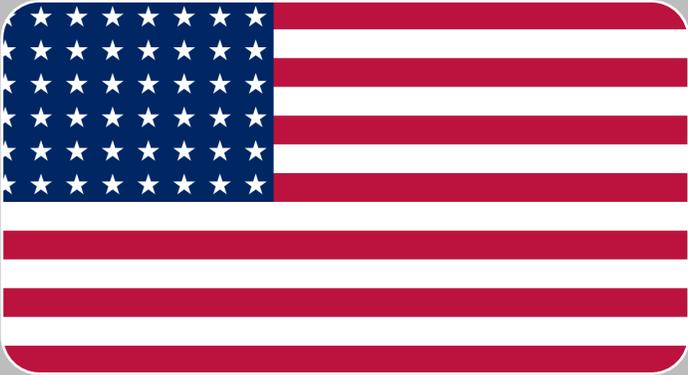
Table 4.1.6: Label elements for hazardous to the aquatic environment

SHORT-TERM (ACUTE) AQUATIC HAZARD

| | Category 1 | Category 2 | Category 3 |
|------------------|----------------------------|-----------------------|-------------------------|
| Symbol | Environment | No symbol | No symbol |
| Signal word | Warning | No signal word | No signal word |
| Hazard statement | Very toxic to aquatic life | Toxic to aquatic life | Harmful to aquatic life |



Continued Challenges – Additional hazards



HNOCs

1910.1200(f)(1) -
Hazards not otherwise
classified do not have
to be addressed on the
container...



Additional hazard classes, HHNOCs, and PHNOCs

HPR Part 3: Labelling -
... information elements [*for
additional hazard classes,
PHNOCs, and HHNOCs*],
including symbols, hazard
statements, and precautionary
statements, are required on
the label...



Supplemental label information

CLP Art 25:
Supplemental
information on labels –
Statements shall be
included...on the label...

Continued Challenges - Classification Lists

Mandatory Classification Lists



EU
-Annex VI to CLP
(Regulation 1272/2008 on Classification, Labeling, and Packaging of Substances and Mixtures)



China
-Catalogue of Hazardous Chemicals
(State Administration of Work Safety- SAWS)



Korea
-Listed "toxic" chemicals
(National Institute for Environmental Research; MOE)



Malaysia
-ICOP Part I classified chemicals
(Industry Code of Practice; DOSH)

Advisory/Non-Mandatory Classification Lists



Australia: GHS Hazardous Chemical Information List from Safe Work Australia



Canada: Hazardous Substance Assessment technical documents from Health Canada



Japan: GHS classifications from National Institute of Technology and Evaluation (NITE)



Korea: Advisory classifications from Korea Occupational Health & Safety Agency (KOSHA)



Taiwan: GHS classification list from the Occupational and Health Administration

Continued Challenges – large amounts of label text

3M™ Scotch-Weld™ Urethane Adhesive 3549 B/A and 3M™ Scotch-Weld™ Urethane Adhesive DP640, Part A

Signal word
Danger

Pictograms



Hazard Statements

Causes serious eye irritation. Causes skin irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. May cause respiratory irritation. Causes damage to organs through prolonged or repeated exposure: respiratory system.

Precautionary Statements

Prevention:

Do not breathe dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. In case of inadequate ventilation wear respiratory protection. Wear protective gloves and eye/face protection. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

Response:

IF INHALED: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. Get medical advice/attention if you feel unwell.

Storage:

Keep container tightly closed. Store locked up in a well-ventilated place.

Disposal:

Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

Contains:

Urethane Prepolymer (NJTS Reg. No. 04499600-5770P) (Trade Secret); Higher Oligomers of MDI (9016-87-9); Talc (14807-96-6); [p,p'-Methylenebis\(phenyl isocyanate\)](#) (101-68-8); Diphenylmethane Diisocyanate (MDI) (26447-40-5); Zeolites (1318-02-1)

| | |
|---------------|---|
| MANUFACTURER: | 3M |
| DIVISION: | Industrial Adhesives and Tapes Division |
| ADDRESS: | 3M Center, St. Paul, MN 55144-1000, USA |
| Telephone: | (800)364-3577 or (651)737-6501 |



Continued Challenges

Ingredient disclosure

- All hazardous ingredients vs. those that contribute to classification

Not all labeling regulations aligned with GHS



Global distribution channels



Local language requirements

Fatal if swallowed

吞咽致命

Mortel en cas d'ingestion

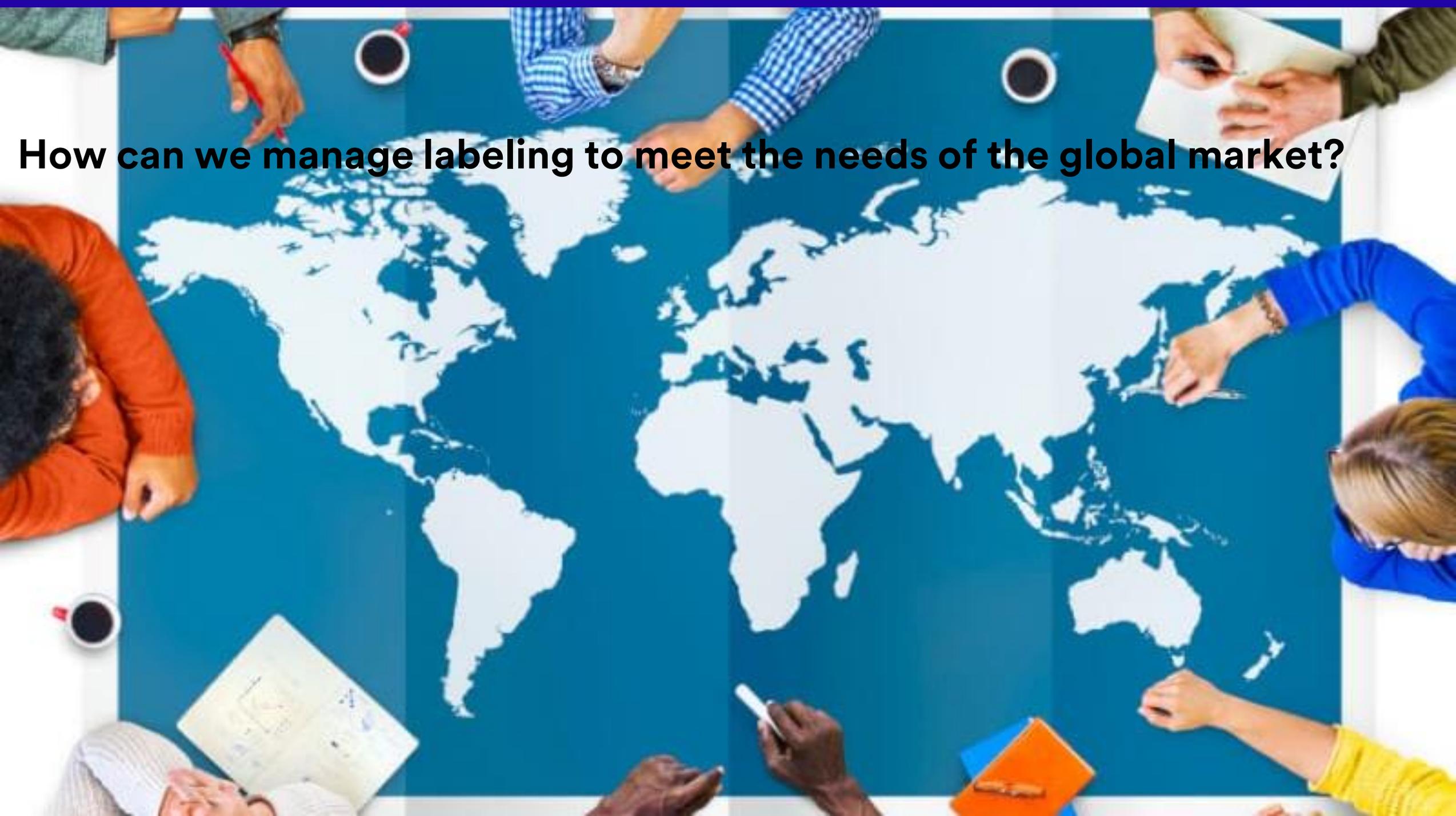
Смертельно при проглатывании

Mortal en caso de ingestión

Precautionary Statements

- All assigned per hazards
- Remove redundant stmts
- No more than 6

How can we manage labeling to meet the needs of the global market?



Label Management



- Multiple SKUs to manage labeling



- Over-labeling in distribution centers to meet local requirements



- Multilingual labels

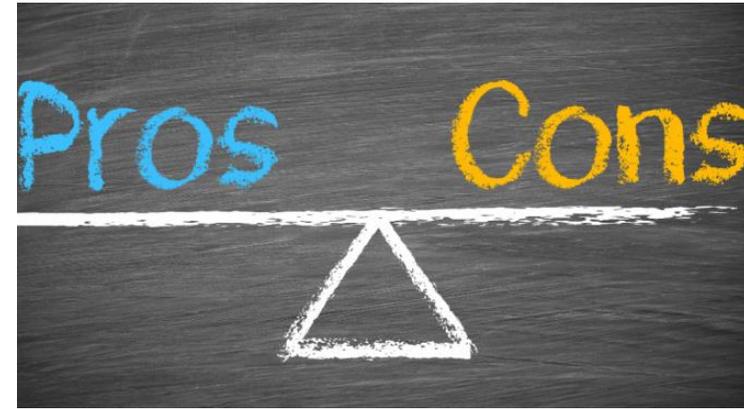


- On-demand labeling



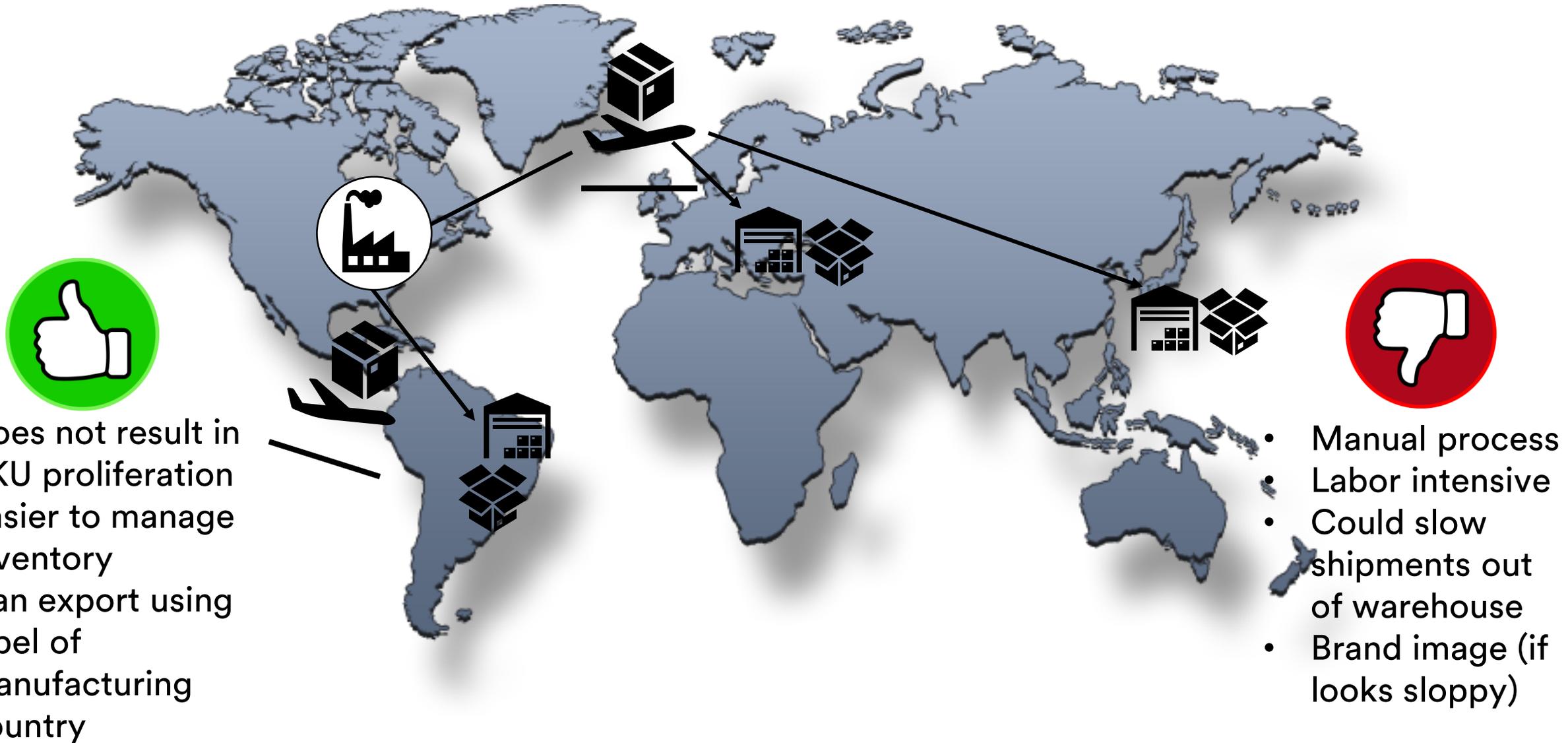
- Control of sales through ERP system or at point of sale

Multiple SKUs



- Create SKU for specific jurisdiction, market, and/or language(s)
- Allows for easier product identification for specific country or region
- Costly to manage
- More difficult to forecast sales
- More complex warehouse management

Over-labeling



Multilingual Labeling



- Good option for same regulatory jurisdiction
- Allows SKU consolidation
- Fold-out/Wrap-around labels – provide additional label space

- EU CLP ≠ OSHA HCS ≠ Canada HPR – different versions of GHS; different endpoints adopted; etc.
- Label legibility- consider font size
- Supplemental information and additional hazard classes
- Differences in labeling exemptions – HNOCs on label? Carc 2 statement on label?
- Fold-out/Wrap-around labels – expensive; can only be pre-printed
- If different regulatory jurisdictions, could lead to customer questions (most regulations allow additional information if it does not “cast doubt” on required label content)

On-Demand Labeling

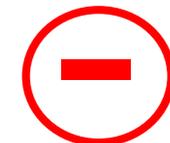
Pre-printed label workflow



On-demand label workflow



- Allows sites to easily switch between label files
- Print what is needed to fill an order
- Prevent waste when labels are updated (versus pre-printed labels)
- Linkage with SDS/label software allows most up-to-date information to be immediately available



- Label durability, quality, and adhesive strength
- Cost of ink (especially if needing to print in color)
- Printer error/malfunction

Sales Restrictions or Controls



- e-Commerce sites specifically for b2b sales
- Restrictions of sales only to existing accounts (verify industrial customer)
- Self-certification checkboxes

amazon business

Reach millions
of business customers

With tools that make selling to businesses more efficient, Amazon Business can help you grow your B2B sales and reach new buyers.

Large Volume Order

For industrial/occupational use only. Not for consumer sale or use.

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- Online sales – point of sale language to communicate intended (or unintended) market segments

Conclusions

- 1 GHS has provided a consistent framework for classification and labeling
- 2 Global implementations (or lack of implementation) of GHS still result in significant labeling challenges
- 3 Numerous options exist to manage global labeling, each with pros and cons
- 4 Companies need to decide which labeling options work best for their products, markets, and sales models
- 5 Continuing to see additional variations from GHS that will pose more challenges