Managing Global GHS Labeling Challenges

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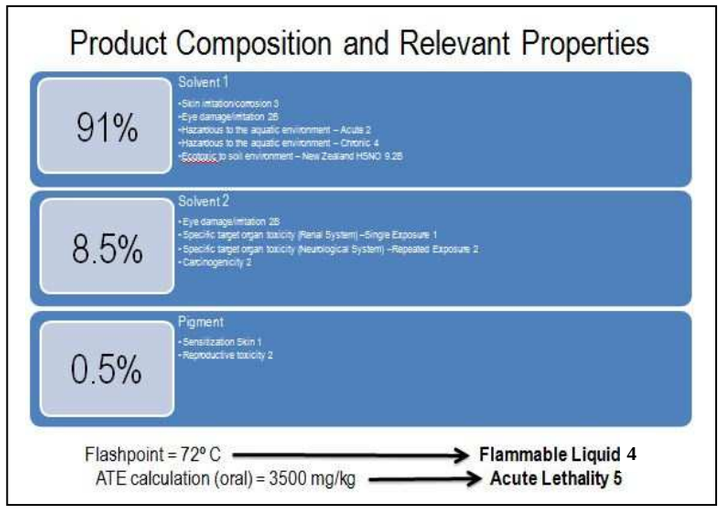
Introduction

The framework of the Globally Harmonized System (GHS) provided by the United Nations was created with the intent to harmonize chemical hazard communication among all countries that choose to adopt and implement this system. While it has proven to simplify and harmonize hazard communication by unifying symbols, hazard statements, and precautionary statements that appear for a given classification between countries, one major challenge of the GHS lies in that classification differences may still be present among mixture classifications due to the "building block approach" outlined in its framework. This approach allows each country the flexibility of adopting different classifications, or "building blocks," along with the option of adopting different concentration cutoff thresholds for select hazard classifications. Thus, the same mixture may be classified differently if it is shipped and sold into multiple countries. In this poster, we provide label examples and discuss the potential classification differences associated with a single mixture.

Another concern in response to GHS implementation is the difficulty in applying a large amount of precautionary phrases prescribed by the GHS for multiple mixture classifications on product labels where space may be very limited. The European Chemicals Agency (ECHA) responded to this concern after the implementation of the Classification, Labeling, and Packaging (CLP) directive for substances in the European Union by issuing detailed guidance on precedence for precautionary phrases on product labels to reduce confusion and conserve label space. This poster will also discuss the possibility of applying this reduced precautionary phrase guidance on a global scale.



Corresponding GHS Classification Labels

3M New Zealand HSNO Classification and Label Information

Classified as hazardous according to the New Zealand, Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001 as amended.

HSNO classification
3.1D Combustible liquid
6.1E Acute toxicity
6.3B Irritating to the skin
6.4A Irritating to the eye
6.5B Skin sensitiser
6.7B Suspected human carcinog
6.8B Suspected human reproduc
6.9A Toxic to human target orga
6.9B Harmful to human target o
9.1D Aquatic toxicity
9.2C Soil environment toxicity

2.2. Label elements
SIGNAL WORD
DANGER!

Symbols:
Health Hazard | Exclamation ma

Pictograms

HAZARD STATEMENTS:

H227	Combustible liquid.
H303	May be harmful if swallowed
H320	Causes eye irritation.
H316	Causes mild skin irritation.
H317	May cause an allergic skin rea
H361	Suspected of damaging fer
H351	Suspected of causing cancer.
H370	Causes damage to organs: kidney/urinary tract
H373	May cause damage to organs nervous system |
H401	Toxic to aquatic life.
H413	May cause long lasting harmful effects to aquatic life.
H422	Toxic to the soil environment.

3M US Industrial/Intermediate Classification and Label information

Signal word
Danger

Hazard Statements
Combustible liquid.
Causes eye irritation.
May cause an allergic skin reaction.
Suspected of damaging fertility or the unborn child.
Suspected of causing cancer.
Causes damage to organs: kidney/urinary tract |
May cause damage to organs through prolonged or repeated exposure:
nervous system

Pictograms

3M Korea GHS Classification and Label Information
Classification of the substance or mixture
Carcinogenicity: Category 2.
Specific Target Organ Toxicity (single exposure): Category 2.
Chronic Aquatic Toxicity: Category 4.

SIGNAL WORD
Warning

Symbols
Health Hazard |

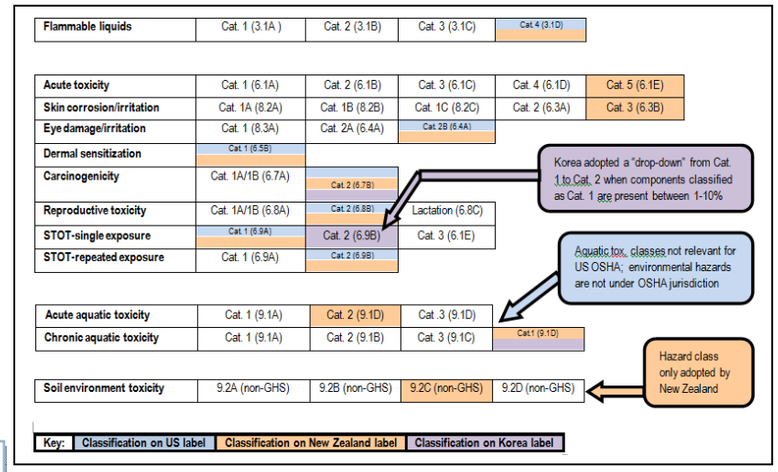
Pictograms

HAZARD STATEMENTS

H351	Suspected of causing cancer.
H371	May cause damage to organs: kidney/urinary tract |
H413	May cause long lasting harmful effects to…

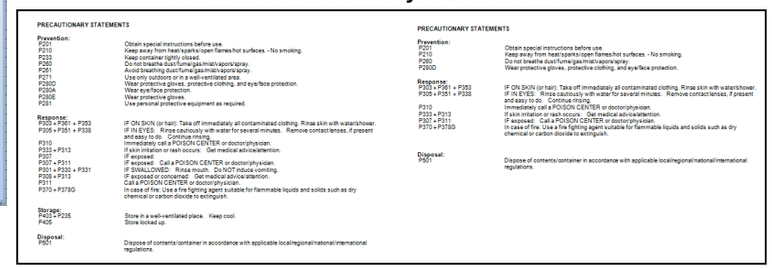
The same product is classified per GHS in three countries, but the label information looks different for each. What is the reason for this?

- Countries adopted different building blocks
- Countries adopted different cut-off thresholds for select building blocks
- Some countries adopted Specific Target Organ Toxicity (STOT) step-downs, and some did not
- The US EPA does not require environmental classifications on the SDS
- New Zealand has additional environmental classifications



The figure above lists the hazard classes (and highlighted hazard categories – see key for explanation of color-coding) represented in the three example product labels. The differences in hazard categories listed on the three labels can be attributed to the differences in building blocks and thresholds adopted by the three countries.

Reduced Precautionary Phrase Guidance



- One solution to preserve label space is to adopt the CLP reduced p-phrase guidance published by ECHA.
- The reduced p-phrase guidance provides recommendations based on precedence and also whether the product is sold to the consumer and/or industrial markets.
- Our example shows the difference in precautionary phrases for the same industrial product before and after the reduction, illustrating the potential space that can be conserved on a label.
- If it is concluded that this guidance does not conflict with a country's adoption of the GHS, this guidance can be used outside of the European Union.