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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

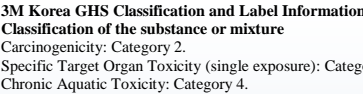
- 3.1D Combustible liquid
- 6.1E Acute toxicity
- 6.3B Irritating to the skin
- 6.4A Irritating to the eye
- 6.5B Skin sensitizer
- 6.7B Suspected human carcinogen
- 6.8B Suspected human reproductive toxicant
- 6.9A Toxic to human target organs
- 6.9B Harmful to human target organs
- 9.1D Aquatic toxicity
- 9.2C Soil environment toxicity

### 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

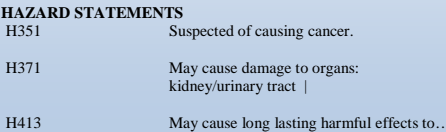
## Pictograms



**SIGNAL WORD**  
Warning

**Symbols**  
Health Hazard

## Pictograms



effects to aquatic life.

## Product Composition and Relevant Properties

**Solvent 1**

- Skin irritation/corrosion 3
- Eye damage/irritation 2B
- Hazardous to the aquatic environment – Acute 2
- Hazardous to the aquatic environment – Chronic 4
- Ecotoxic to soil environment – New Zealand HSNO 9.2B

**Solvent 2**

- Eye damage/irritation 25
- Specific target organ toxicity (Renal System) –Single Exposure 1
- Specific target organ toxicity (Neurological System) –Repeated Exposure 2
- Carcinogenicity 2

- Sensitization Skin 1
- Reproductive toxicity 2

Flashpoint = 72° C → Flammable Liquid 4  
ATE calculation (oral) = 3500 mg/kg → Acute Lethality 5

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

## Reduced Precautionary Phrase Guidance

PRECAUTIONARY STATEMENTS		PRECAUTIONARY STATEMENTS	
<b>Prevention:</b> P001 P002 P003 P004 P005 P006 P007 P008 P009 P010 P011 P012 P013 P014 P015 P016 P017 P018 P019 P020 P021 P022 P023 P024 P025 P026 P027 P028 P029 P030 P031 P032 P033 P034 P035 P036 P037 P038 P039 P040 P041 P042 P043 P044 P045 P046 P047 P048 P049 P050 P051 P052 P053 P054 P055 P056 P057 P058 P059 P060 P061 P062 P063 P064 P065 P066 P067 P068 P069 P070 P071 P072 P073 P074 P075 P076 P077 P078 P079 P080 P081 P082 P083 P084 P085 P086 P087 P088 P089 P090 P091 P092 P093 P094 P095 P096 P097 P098 P099 P100 P101 P102 P103 P104 P105 P106 P107 P108 P109 P110 P111 P112 P113 P114 P115 P116 P117 P118 P119 P120 P121 P122 P123 P124 P125 P126 P127 P128 P129 P130 P131 P132 P133 P134 P135 P136 P137 P138 P139 P140 P141 P142 P143 P144 P145 P146 P147 P148 P149 P150 P151 P152 P153 P154 P155 P156 P157 P158 P159 P160 P161 P162 P163 P164 P165 P166 P167 P168 P169 P170 P171 P172 P173 P174 P175 P176 P177 P178 P179 P180 P181 P182 P183 P184 P185 P186 P187 P188 P189 P190 P191 P192 P193 P194 P195 P196 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P997 P998 P999 P1000	<p>Obtain special instructions before use.</p> <p>Keep away from heat/sparks/open flames/surfaces. No smoking.</p> <p>Keep container tightly closed.</p> <p>Do not breathe dust/fume/gas/aerosol.</p> <p>Avoid breathing dust/fume/gas/aerosol/spray.</p> <p>Use only outdoors or in a well-ventilated area.</p> <p>Wear protective gloves, protective clothing, and eye/face protection.</p> <p>Use eye protection.</p> <p>Wear protective gloves.</p> <p>Use adequate protective equipment as required.</p> <p>IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/hot soap and water.</p> <p>IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>IF ON CLOTHING: Rinse immediately with water for several minutes. Remove contaminated clothing and shoes.</p> <p>IF INHALED: Rinse mouth.</p> <p>IF EXPOSED: Call POISON CENTER or doctor/toxicologist.</p> <p>IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.</p> <p>IF EXPOSED TO CONTAINER: Do not breathe vapour.</p> <p>IF EXPOSED TO CONTAINER: Do not breathe vapour.</p> <p>IF EXPOSED TO CONTAINER: Do not breathe vapour.</p> <p>IF EXPOSED TO CONTAINER: Do not breathe vapour.</p> <p>IF EXPOSED TO CONTAINER: Do not breathe vapour.</p> <p>IF EXPOSED TO CONTAINER: Do not breathe vapour.</p> <p>IF EXPOSED TO CONTAINER: Do not breathe vapour.</p> <p>IF EXPOSED TO CONTAINER: Do not breathe vapour.</p> <p>IF EXPOSED TO CONTAINER: Do not breathe vapour.</p> <p>IF EXPOSED TO CONTAINER: Do not breathe vapour.</p> <p>IF EXPOSED TO CONTAINER: Do not breathe vapour.</p> <p>IF EXPOSED TO CONTAINER: Do not breathe vapour.</p> <p>IF EXPOSED TO CONTAINER: Do not breathe vapour.</p> <p>IF EXPOSED TO CONTAINER: Do not breathe vapour.</p> <p>IF EXPOSED TO CONTAINER: Do not breathe vapour.</p> <p>IF EXPOSED TO CONTAINER: Do not breathe vapour.</p> <p>IF EXPOSED TO CONTAINER: Do not breathe vapour.</p> <p>IF EXPOSED TO CONTAINER: Do not 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- 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.