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**COMMITTEE OF EXPERTS ON THE TRANSPORT OF  
DANGEROUS GOODS AND ON THE GLOBALLY  
HARMONIZED SYSTEM OF CLASSIFICATION  
AND LABELLING OF CHEMICALS**

Sub-Committee of Experts on the  
Globally Harmonized System of Classification  
and Labelling of Chemicals  
(Fourth session, 9-11 December 2002  
agenda item 2)

**GLOBALY HARMONIZED SYSTEM OF CLASSIFICATION  
AND LABELLING OF CHEMICALS (GHS)**

**Submitted by the GHS Editorial Group**

**Annex 1**










**Allocation of label elements**



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## ANNEX 1



### Allocation of label elements









A1.1 For the GHS, the assigned pictogram, signal word and hazard statement are given in that order for each hazard category of the hazard class. Where the hazard class and or categories are covered under the *UN Recommendations on the Transport of Dangerous Goods, Model Regulations*, the assigned corresponding pictogram is given for each category below the GHS requirements.







EXPLOSIVES					
Unstable/ Division 1.1	Division 1.2	Division 1.3	Division 1.4	Division 1.5	Division 1.6
			1.4 * Warning Fire or projection hazard	1.5 * Warning May explode in fire	1.6 *
Danger Explosive; mass explosion hazard	Danger Explosive; severe projection hazard	Danger Explosive; fire, blast or projection hazard	* Apply only to substances or mixtures subject to <i>UN Recommendations on the Transport of Dangerous Goods, Model Regulations</i> , requirements (see also par. 1.4.10.5.1 (d) (ii))		
					
<p><b>Notes on colours of <i>UN Recommendations on the Transport of Dangerous Goods, Model Regulations</i>, pictogram elements:</b></p> <p>(1) For Divisions 1.1, 1.2 and 1.3: Symbol exploding bomb: black; background: orange; figure "1" in bottom corner.</p> <p>(2) For Divisions 1.4, 1.5, 1.6: Background: orange; Figures: black; figure "1" in bottom corner.</p>					





FLAMMABLE GASES				
Category 1	Category 2	-	-	Note
 <b>Danger</b> <b>Extremely flammable gas</b>	<b>No symbol</b>  <b>Warning</b> <b>Flammable gas</b>			<b>Under the UN Recommendations on the Transport of Dangerous Goods, Model Regulations, the symbol, number and border line may be shown in black instead of white. The background colour stays red in both cases.</b>
 <b>2</b>	<b>Not required under the UN Model Regulations</b>			










FLAMMABLE AEROSOLS				
Category 1	Category 2	-	-	Note
 <b>Danger</b> <b>Extremely flammable aerosol</b>	 <b>Warning</b> <b>Flammable aerosol</b>			<b>Under the UN Recommendations on the Transport of Dangerous Goods, Model Regulations, the symbol, number and border line may be shown in black instead of white. The background colour stays red in both cases.</b>
 <b>2</b>	 <b>2</b>			



OXIDIZING GASES				
Category 1	-	-	-	Note
 <b>Danger</b> May cause or intensify fire; oxidizer				
				<b>Pictogram colours:</b> <b>Symbol and number: black.</b> <b>Background: yellow.</b>



GASES UNDER PRESSURE				
Compressed gas	Liquefied gas	Refrigerated liquefied gas	Dissolved gas	Note Under the <i>UN Recommendations on the Transport of Dangerous Goods, Model Regulations</i> , pictogram elements:
 <b>Warning</b> Contains gas under pressure; may explode if heated	 <b>Warning</b> Contains gas under pressure; may explode if heated	 <b>Warning</b> Contains refrigerated gas; may cause cryogenic burns or injury	 <b>Warning</b> Contains gas under pressure; may explode if heated	(1) Not required for toxic or flammable gases.  (2) The symbol, number and border line may be shown in white instead of black. The background stays green in both cases.
				

FLAMMABLE LIQUIDS				
Category 1	Category 2	Category 3	Category 4	Note
 <b>Danger</b> Extremely flammable liquid and vapour	 <b>Danger</b> Highly flammable liquid and vapour	 <b>Warning</b> Flammable liquid and vapour	No symbol  Warning Combustible liquid	Under the <i>UN Recommendations on the Transport of Dangerous Goods, Model Regulations</i> , the symbol, number and border line may be shown in black instead of white. The background colour stays red in both cases.
			Not required under the <i>UN Recommendations on the Transport of Dangerous Goods Model Regulations</i>	





FLAMMABLE SOLIDS				
Category 1	Category 2	-	-	Note
 <b>Danger</b> Flammable solid	 <b>Warning</b> Flammable solid			Colours for pictogram under the <i>UN Recommendations on the Transport of Dangerous Goods, Model Regulations</i> : Symbol and figure: black. Background: white with seven vertical red stripes.
				







SELF-REACTIVE SUBSTANCES				
Type A	Type B	Types C and D	Types E and F	Type G
 <b>Danger</b> Heating may cause an explosion	  <b>Danger</b> Heating may cause a fire or explosion	 <b>Danger</b> Heating may cause a fire	 <b>Warning</b> Heating may cause a fire	No label elements are allocated for this category
Same as for explosives (follow same symbol selection process)	 			Not required under the <i>UN Recommendations on the Transport of Dangerous Goods, Model Regulations</i>
<p><b>Notes:</b> (1) For Type B, under the <i>UN Recommendations on the Transport of Dangerous Goods, Model Regulations</i>, special provision 181 may apply (Exemption of explosive label with competent authority approval. See Chapter 3.3 of UN Model Regulations for more details).</p> <p>(2) For colours of UN Model Regulations pictograms see descriptions for Flammable Solids and Explosives.</p>				







PYROPHORIC LIQUIDS				
<p><b>Category 1</b></p>  <p><b>Danger</b></p> <p>Catches fire spontaneously if exposed to air</p> 	-	-	-	<p><b>Note</b></p> <p>Colours of <i>UN Recommendations on the Transport of Dangerous Goods, Model Regulations</i>, pictogram: Symbol and figure: black. Background: upper half: white; lower half: red.</p>







PYROPHORIC SOLIDS				
<p><b>Category 1</b></p>  <p><b>Danger</b></p> <p>Catches fire spontaneously if exposed to air</p> 	-	-	-	<p><b>Note</b></p> <p>Colours of <i>UN Recommendations on the Transport of Dangerous Goods, Model Regulations</i>, pictogram: Symbol and figure: black. Background: upper half: white; lower half: red.</p>














SELF-HEATING SUBSTANCES				
<p><b>Category 1</b></p>  <p><b>Danger</b></p> <p>Self-heating; may catch fire</p> 	<p><b>Category 2</b></p>  <p><b>Warning</b></p> <p>Self-heating in large quantities; may catch fire</p> 	<p>-</p>	<p>-</p>	<p><b>Note</b></p> <p><i>Colours of UN Recommendations on the Transport of Dangerous Goods, Model Regulations, pictogram:</i></p> <p><b>Symbol and figure: black.</b> <b>Background: upper half: white; lower half: red.</b></p>








SUBSTANCES, WHICH IN CONTACT WITH WATER, EMIT FLAMMABLE GASES				
<b>Category 1</b>  <b>Danger</b> In contact with water releases flammable gases which may ignite spontaneously 	<b>Category 2</b>  <b>Danger</b> In contact with water releases flammable gases 	<b>Category 3</b>  <b>Warning</b> In contact with water releases flammable gases 	-	<b>Note</b> Under the <i>UN Recommendations on the Transport of Dangerous Goods, Model Regulations</i> , the symbol, number and border line may be shown in black instead of white. The background stays blue in both cases.








OXIDIZING LIQUIDS				
<b>Category 1</b>  <b>Danger</b> May cause fire or explosion; strong oxidizer 	<b>Category 2</b>  <b>Danger</b> May intensify fire; oxidizer 	<b>Category 3</b>  <b>Warning</b> May intensify fire; oxidizer 	-	<b>Note</b> Under the <i>UN Recommendations on the Transport of Dangerous Goods, Model Regulations</i> , pictogram colours: Symbol and number: black. Background: yellow.








OXIDIZING SOLIDS				
<p><b>Category 1</b></p>  <p><b>Danger</b></p> <p>May cause fire or explosion; strong oxidizer</p> 	<p><b>Category 2</b></p>  <p><b>Danger</b></p> <p>May intensify fire; oxidizer</p> 	<p><b>Category 3</b></p>  <p><b>Warning</b></p> <p>May intensify fire; oxidizer</p> 	-	<p><b>Note</b></p> <p><i>Under the UN Recommendations on the Transport of Dangerous Goods, Model Regulations, pictogram colours: Symbol and number: black. Background: yellow.</i></p>








ORGANIC PEROXIDES				
Type A	Type B	Types C and D	Types E and F	Type G
 <b>Danger</b> Heating may cause An explosion	  <b>Danger</b> Heating may cause a fire or explosion	 <b>Danger</b> Heating may cause a fire	 <b>Warning</b> Heating may cause a fire	There are no label elements allocated to this hazard class.
Same as for explosives (follow same symbol selection process)	 			Not required under the <i>UN            Recommendations            on the Transport of            Dangerous Goods,            Model Regulations.</i>
<b>Notes:</b> (1) For Type B, under the <i>UN Recommendations on the Transport of Dangerous Goods, Model Regulations</i> , special provision 181 may apply (Exemption of explosive label with competent authority approval. See Chapter 3.3 of UN Model Regulations for more details). (2) UN Model Regulations pictogram colours: See tables for Oxidizing liquids and Explosives.				



CORROSIVE TO METALS				
<p><b>Category 1</b></p>  <p><b>Warning</b></p> <p>May be corrosive to metals</p> 	-	-	-	<p><b>Note</b></p> <p><i>Under the UN Recommendations on the Transport of Dangerous Goods, Model Regulations, pictogram colours:</i>  <b>Symbol: black</b>  <b>background: upper half: white; lower half: black with white border;</b>  <b>Figure 8: white.</b></p>


ACUTE TOXICITY: ORAL				
Category 1	Category 2	Category 3	Category 4	Category 5
 <p><b>Danger</b></p> <p>Fatal if swallowed</p>	 <p><b>Danger</b></p> <p>Fatal if swallowed</p>	 <p><b>Danger</b></p> <p>Toxic if swallowed</p>	 <p><b>Warning</b></p> <p>Harmful if swallowed</p>	<p>No symbol</p> <p><b>Warning</b></p> <p>May be harmful if swallowed</p>
			<p>Not required the <i>UN Recommendations on the Transport of Dangerous Goods, Model Regulations</i></p> <p><b>Note:</b>  For gases and aerosols under the UN Model Regulations, replace the number 6 in the bottom corner of the pictogram by 2. UN Model Regulations pictogram colours:  <b>Symbol and figure: black.</b>  <b>Background: white.</b></p>	

ACUTE TOXICITY: SKIN				
Category 1	Category 2	Category 3	Category 4	Category 5
 <b>Danger</b> <b>Fatal in contact with skin</b>	 <b>Danger</b> <b>Fatal in contact with skin</b>	 <b>Danger</b> <b>Toxic in contact with skin</b>	 <b>Warning</b> <b>Harmful in contact with skin</b>	<b>No symbol</b>  <b>Warning</b> <b>May be harmful in contact with skin</b>
			<b>Not required under the <i>UN Recommendations on the Transport of Dangerous Goods, Model Regulations.</i></b> <b>Note:</b> <b>For gases and aerosols under the UN Model Regulations, replace the number 6 in the bottom corner of the pictogram by 2.</b> <b>For UN Model Regulations pictogram colours:</b> <b>Symbol and figure: black.</b> <b>Background: white.</b>	

ACUTE TOXICITY: INHALATION				
Category 1	Category 2	Category 3	Category 4	Category 5
 <b>Danger</b> <b>Fatal if inhaled</b>	 <b>Danger</b> <b>Fatal if inhaled</b>	 <b>Danger</b> <b>Toxic if inhaled</b>	 <b>Warning</b> <b>Harmful if inhaled</b>	<b>No symbol</b>  <b>Warning</b> <b>May be harmful if inhaled</b>
			<b>Not required under the UN recommendations on the Transport of Dangerous Goods, Model Regulations.</b> <b>Note:</b> <b>For gases and aerosols under the UN Model Regulations, replace the number 6 in the bottom corner of the pictogram by 2.</b> <b>For UN Model Regulations pictogram colours:</b> <b>Symbol and figure: black.</b> <b>Background: white.</b>	


SKIN CORROSION/IRRITATION				
Category 1A	Category 1B	Category 1C	Category 2	Category 3
 <b>Danger</b> <b>Causes severe skin burns and eye damage</b>	 <b>Danger</b> <b>Causes severe skin burns and eye damage</b>	 <b>Danger</b> <b>Causes severe skin burns and eye damage</b>	 <b>Warning</b> <b>Causes skin irritation</b>	<b>No symbol</b>  <b>Warning</b> <b>Causes mild skin irritation</b>
			<b>Not required under the UN Recommendations on the Transport of Dangerous Goods, Model Regulations.</b> <b>Note:</b> <b>UN Model Regulations pictogram colours:</b> <b>Symbol: black</b> <b>background: upper half: white; lower half: black with white border;</b> <b>Figure 8: white.</b>	

<b>SERIOUS EYE DAMAGE/ EYE IRRITATION</b>				
<b>Category 1</b>	<b>Category 2A</b>	<b>Category 2B</b>	-	-
		No symbol		
<b>Danger</b>	<b>Warning</b>	<b>Warning</b>		
Causes serious eye damage	Causes serious eye irritation	Causes eye irritation		
Not required under the UN <i>Recommendations on the Transport of Dangerous Goods, Model Regulations.</i>				

<b>RESPIRATORY SENSITIZATION *</b>				
<b>Category 1</b>	-	-	-	-
				
<b>Danger</b>				
May cause allergy or asthma symptoms or breathing difficulties if inhaled				
Not required under the <i>UN Recommendations on the Transport of Dangerous Goods, Model Regulations.</i>				




\* Further work is included in the work programme of the Sub-Committee of Experts on the GHS.









SKIN SENSITIZATION*				
Category 1	-	-	-	-
 <b>Warning</b> <b>May cause an allergic skin reaction</b>				
<b>Not required under the UN Recommendations on the Transport of Dangerous Goods, Model Regulations.</b>				



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\* *Further work is included in the work programme of the Sub-Committee of Experts on the GHS.*


GERM CELL MUTAGENICITY				
Category 1A	Category 1B	Category 2	-	-
				
<b>Danger</b>	<b>Danger</b>	<b>Warning</b>		
<b>May cause genetic defects</b> <i>(state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard )</i>	<b>May cause genetic defects</b> <i>(state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)</i>	<b>Suspected of causing genetic defects</b> <i>(state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)</i>		
<b>Not required under the</b> <i>UN Recommendations on the Transport of Dangerous Goods, Model Regulations.</i>				



CARCINOGENICITY				
Category 1A	Category 1B	Category 2	-	-
				
<b>Danger</b>	<b>Danger</b>	<b>Warning</b>		
<b>May cause cancer</b> <i>(state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard )</i>	<b>May cause cancer</b> <i>(state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard )</i>	<b>Suspected of causing cancer</b> <i>(state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard )</i>		
<b>Not required under the</b> <i>UN Recommendations on the Transport of Dangerous Goods, Model Regulations.</i>				

TOXIC TO REPRODUCTION				
Category 1A	Category 1B	Category 2	Additional Category	-
			<p><b>Effects on or via lactation</b></p> <p><b>May cause harm to breast-fed children.</b></p>	
<p><b>Danger</b></p> <p><b>May damage fertility or the unborn child</b> <i>(state specific effect if known) (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard )</i></p>	<p><b>Danger</b></p> <p><b>May damage fertility or the unborn child</b> <i>(state specific effect if known)(state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard )</i></p>	<p><b>Warning</b></p> <p><b>Suspected of damaging fertility or the unborn child</b> <i>(state specific effect if known)(state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard )</i></p>		
<p><b>Not required under the</b> <i>UN Recommendations on the Transport of Dangerous Goods, Model Regulations.</i></p>				

TARGET ORGAN SYSTEMIC TOXICITY (SINGLE EXPOSURE)				
Category 1	Category 2	-	-	-
				
<b>Danger</b>	<b>Warning</b>			
<p><b>Causes damage to</b>  <i>(state all organs affected, or use a general statement where there is no definite evidence that other organs are not affected ) if (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard )</i></p>	<p><b>May cause damage to</b>  <i>(state all organs affected, or use a general statement where there is no definite evidence that other organs are not affected ) if (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard )</i></p>			
<p><b>Not required under the</b>  <i>UN Recommendations on the Transport of Dangerous Goods, Model Regulations.</i></p>				

TARGET ORGAN SYSTEMIC TOXICITY (REPEATED EXPOSURE)				
Category 1	Category 2	-	-	-
				
<b>Danger</b>	<b>Warning</b>			
<p><i>Causes (state all organs affected, or use a general statement where there is no definite evidence that other organs are not affected ) damage through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard )</i></p>	<p><i>May cause (state all organs affected, or use a general statement where there is no definite evidence that other organs are not affected ) damage through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard )</i></p>			
<p><b>Not required under the UN Recommendations on the Transport of Dangerous Goods, Model Regulations.</b></p>				

<b>AQUATIC TOXICITY (ACUTE)</b>				
<b>Category 1</b>	<b>Category 2</b>	<b>Category 3</b>	<b>-</b>	<b>Note</b>
 <p><b>Warning</b> <b>Very toxic to aquatic life</b></p>	<p><b>No symbol</b></p> <p><b>No signal word</b></p> <p><b>Toxic to aquatic life</b></p>	<p><b>No symbol</b></p> <p><b>No signal word</b></p> <p><b>Harmful to aquatic life</b></p>		<p><b>Presently not covered under the UN Recommendations on the Transport of Dangerous Goods, Model Regulations if the substance presents any other hazards covered by UN Model Regulations . If no other hazard is presented, the UN Model Regulations Class 9 label is applicable. The UN Model Regulations requirements are being revised.</b></p>

AQUATIC TOXICITY (CHRONIC)				
Category 1	Category 2	Category 3	Category 4	Note
 <p><b>Warning</b></p> <p><b>Very toxic to aquatic life with long lasting effects</b></p>	 <p><b>No signal word</b></p> <p><b>Toxic to aquatic life with long lasting effects</b></p>	<p><b>No symbol</b></p> <p><b>No signal word</b></p> <p><b>Harmful to aquatic life with long lasting effects</b></p>	<p><b>No symbol</b></p> <p><b>No signal word</b></p> <p><b>May cause long lasting harmful effects to aquatic life</b></p>	<p><b>Presently not covered under the UN Recommendations on the Transport of Dangerous Goods , Model Regulations if the substance presents any other hazards covered by UN Model Regulations . If no other hazard is presented, UN Model Regulations Class 9 label is applicable. The UN Model Regulations requirements are being revised.</b></p>