

CLP Labelling and Transport Labelling for Substances and Mixtures in Europe



Product Identifier

Maleic Anhydride

CAS number: 108-31-6 EC number: 200-659-6
300 tons

Index-No: 603-001-00-X
Manufactured by or supplied by
xxx, The Netherlands
Tel: +31-6525499xx
www.cxxxchemicals.com



Danger

Harmful if swallowed.
Causes severe skin burns and eye damage.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.

Do not eat, drink or smoke when using this product.
If swallowed: Call a poison center or doctor/physician if you feel unwell.
If inhaled: Remove victim to fresh air and keep at rest

*Enabling Chemical Compliance
for A Safer World*

29 August 2011, Yunbo Shi

Email: yunbo.shi@cirs-reach.com



Questions?

- What does a CLP label look like?
- How to prepare a CLP label?
- What is the size requirement of a CLP label?
- What is the relationship between CLP labelling and transport labelling?

Elements of A CLP Label

- Supplier info: name, address, telephone no, etc;
- Product identifiers: name, CAS, EC;
- Nominal quantity: for public users only;
- Hazard pictograms: precedence rules
- Signal word: danger or warning
- Hazard statement: no limit
- Precautionary statement: 6-p statements rule
- Supplemental information: obligatory vs non-obligatory

CLP Label - Example

CH3OH
 1L = 0.79kg
 M = 32.04 g/mol

Specification:

purity(GC)	≥	9.9	%
Identity (IR)			conforms
Residue on evaporation	≤	2.0	mg/l
Water	≤	0.02	%
Colour	≤	1	Hazen
Density(20°C)		0.791-0.79	g/ml
Boiling point		64-65	°C
Acidity	≤	0.0002	meq/g
Alkalinity	≤	0.0002	meq/g
Gradient grade (at 235nm)	≤	2.0	mAU
Gradient grade (at 254nm)	≤	1.0	mAU
Fluorescence (as quinine at 254 nm)	≤	1.0	ppb
Fluorescence (as quinine at 365 nm)	≤	0.5	ppb
Transmission (at 220 nm)	≥	55	%
Transmission (at 235 nm)	≥	83	%
Transmission (at 250 nm)	≥	98	%
Absorbance at 225 nm	≤	0.17	
Filtered by 0.2 µm filter			

Suitable for UPLC/UHPLC/ Ultra HPLC instruments

XXXXXXXXXX

Product Identifier

Methanol
 CAS number: 67-56-1, EC number: 200-859-8
 gradient grade for liquid Chromatography
 20KG

Index-No: 603-001-00-X
 Manufactured by or supplied by
 Chemical Inspection and Regulation
 Service Limited
 Singleton House, Laurence Street
 Drogheda, Ireland
 Tel. +353 41 9806916
 www.cirs-reach.com

Supplier Information

GHS Hazard Pictograms



IMO: METHANOL
 ICAO: METHANOL

UN1230

Danger

Signal Words

Highly flammable liquid and vapor.
 Toxic if inhaled.
 Toxic in contact with skin.
 Toxic if swallowed.

Hazard Statement

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
 Keep container tightly closed.
 Wear protective gloves/protective clothing/eye protection/face protection.
 IF ON SKIN: Wash with plenty of soap and water.
 IF EXPOSED: Immediately call a POISON CENTER or doctor/physician.

Precautionary Statement

Supplementary Information



Product Identifier

Substance



- Name in Annex VI of CLP or IUPAC name if not in CLP;
- Identification number (CAS, EC, etc);
- Consistent with SDS.

Mixture

- Trade name or the designation of mixture;
- The identity of all substances in the mixture that contribute to the classification of the mixture as hazardous to human health;
- No more than 4 substances;










Find Pictogram, Signal Word and P/H Statements

■ Example, Respiratory or skin sensitisation

Classification	Respiratory sensitisation	Skin sensitisation
	Category 1 and sub-categories 1A and 1B	Category 1 and sub-categories 1A and 1B
GHS pictograms		
Signal word	Danger	Warning
Hazard statement	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled	H317: May cause an allergic skin reaction
Precautionary statement prevention	P261 P285	P261 P272 P280
Precautionary statement response	P304 + P341 P342 + P311	P302 + P352 P333 + P313 P321 P363
Precautionary statement storage		
Precautionary statement disposal	P501	P501'

❖ **Classification determines pictogram, signal word, hazard statement and precautionary statements.**
 ❖ **Find classification first.**

Precedence of Hazard Pictogram

If		is used	 	Shall be optional unless more than 1 pictograms are compulsory
If		is used		Shall not appear.
If		is used		Shall not appear for skin or eye irritation.
If		is used for		Shall not appear for skin sensitisation or for skin and eye irritation
respiratory sensitization				

Selection of Precautionary Statements – 6 p-Statements Rule

Hazard Pictograms:



Signal Word(S): **Danger**

Hazard Statement: H226: Flammable liquid and vapour.
H302: Harmful if swallowed.
H311: Toxic in contact with skin.
H331: Toxic if inhaled.

Precautionary Statement: P210: Keep away from heat/sparks/open flames/hot surfaces. — No smoking.
P233: Keep container tightly closed.
P240: Ground/bond container and receiving equipment.
P241: Use explosion-proof electrical/ventilating/lighting/.../equipment.
P242: Use only non-sparking tools.
P243: Take precautionary measures against static discharge.
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
P264: Wash thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors or in a well-ventilated area.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330: Rinse mouth.
P302 + P352: IF ON SKIN: Wash with plenty of soap and water.
P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P311 Call a POISON CENTER or doctor/physician.
P312: Call a POISON CENTER or doctor/physician if you feel unwell.
P303 + P361 + P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

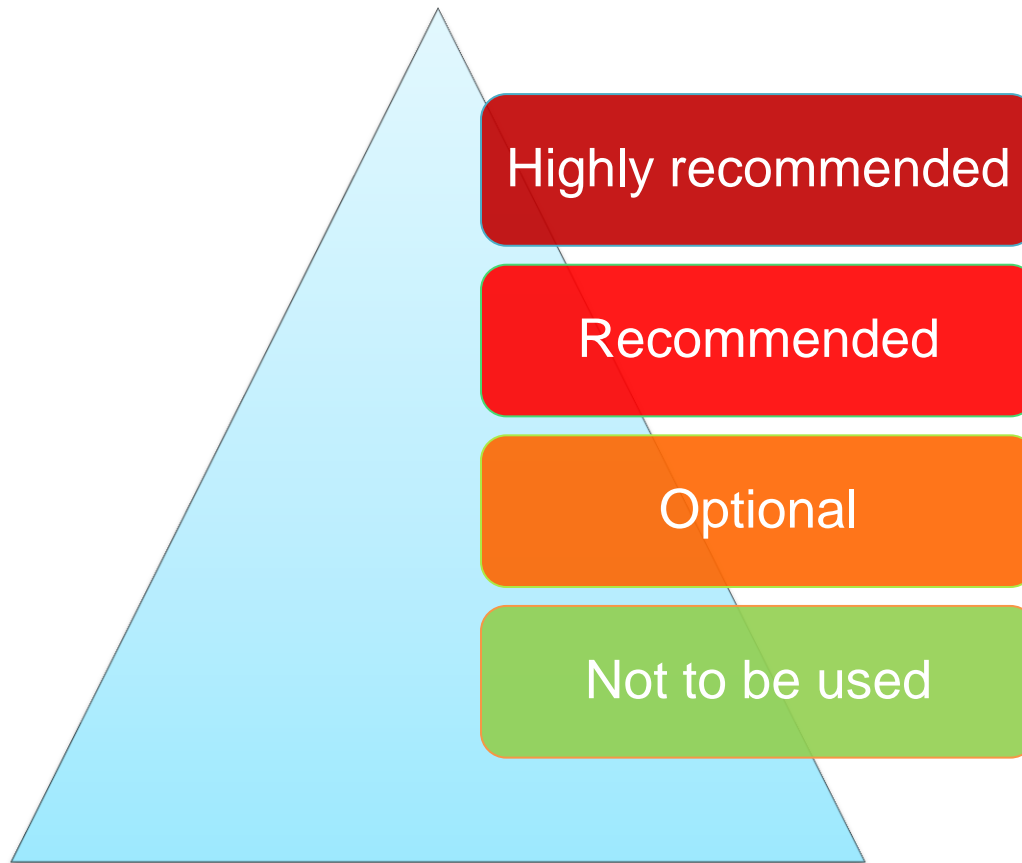
Too Many P-statements? Not Enough Space On A Label?

**CLP's Answer:
No more than 6 p-statements unless necessary.**



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Selection of Precautionary Statements – Level of Precautionary Statements



Selection of Precautionary Statements

3.1. Acute Toxicity - Oral

Hazard category	Signal word	Hazard statement
1	Danger	H300 Fatal if swallowed
2	Danger	H300 Fatal if swallowed
3	Danger	H301 Toxic if swallowed

Precautionary Statements

Prevention	Response	Storage	Disposal
<p>P264</p> <p>Wash ... thoroughly after handling.</p> <p>Manufacturer / supplier to specify parts of the body to be washed after handling.</p> <ul style="list-style-type: none"> ★ Highly recommended for the general public ★ Recommended for industrial / professional users unless P280 has already been assigned <p>P270</p> <p>Do not eat, drink or smoke when using this product.</p> <ul style="list-style-type: none"> ★ Highly recommended for the general public for categories 1 and 2 ★ Recommended for the general public 	<p>P301 + P310</p> <p>IF SWALLOWED: Immediately call a POISON Center or doctor/physician.</p> <p>★ Highly recommended</p> <p>P321</p> <p>Specific treatment (see ... on this label).</p> <p>... Reference to supplemental first aid instruction.</p> <p>- if immediate administration of antidote is required.</p> <ul style="list-style-type: none"> ★ Highly recommended only in exceptional cases where specific treatment, including the administration of an antidote, is urgently required <p>P330</p>	<p>P405</p> <p>Store locked up.</p> <ul style="list-style-type: none"> ★ Highly recommended for the general public ★ Optional for industrial / professional users unless other considerations deem it necessary 	<p>P501</p> <p>Dispose of contents/container to ...</p> <p>... in accordance with local/regional/national/international regulations (to be specified).</p> <ul style="list-style-type: none"> ★ Highly recommended for the general public if the substance / mixture is subject to legislation on hazardous waste ★ Recommended for industrial / professional users if there are specific disposal requirements above the normal expectation for the disposal of chemicals



Selection of Precautionary Statements – Other Factors to Be Considered

- Volatility? Risk of inhalation?
- Is specific extinguishing media required?
- It is for general public or industrial/professional user?
- Is there specific requirement on disposal?
- Is there specific treatment measure?
- Is it only highly recommended under some conditions?

Obligatory Supplemental Information

- Most of supplemental hazard statements from DSD, DPD and annex VI of CLP (i.e. EUH029=*Contact with water liberates toxic gas*);
- Specific response information;
- For mixtures containing components of unknown acute toxicity at a concentration at 1% or greater, the statement “**x percent of the mixture consists of component(s) of unknown toxicity**”;
- For mixtures where no useable information on the acute and/or long-term hazard is available for one or more of the relevant components, the statement “**Contains x percent of components with unknown hazards to the aquatic environment**”;
- Label elements required by Community legislation on plant protection products (i.e., EUH401) and other community acts;

Non-obligatory Supplemental Information

- Company logo;
- Product specifications (color, density, boiling point, etc);
- Instructions for use;
- Other information.

Label Size

Capacity of the package	Dimensions of the label (in millimetres)	Dimensions of the pictogram (in millimetres)
≤ 3 litres	If possible, at least 52 x 74	Not smaller than 10 x 10 If possible, at least 16 x 16
> 3 litres but ≤ 50 litres	At least 74 x 105	At least 23 x 23
> 50 litres but ≤ 500 litres	At least 105 x 148	At least 32 x 32
> 500 litres	At least 148 x 210	At least 46 x 46

From CLP labeling guidance

Special Labelling and Packaging Requirements

- **For small and awkward packaging**

- Fold-out labels and tie-on tags could be used;








- **Certain label elements can be omitted for**

- Packages with volume less or equal to 125 ml;
- Small packages of aerosols;
- Soluble packaging less or equal to 25ml;
- Unpackaged hazardous substances and mixtures supplied to the general public;
- Environmental labelling if it can be demonstrated that there would be a reduction in the environmental impact

Transport Labelling in EU: Directive 2008/68/EC

- Regulates the transport of dangerous goods on road and rail in Europe;
- Implements the transport labelling provisions set out in the United Nations Model Regulations on the Transport of Dangerous Goods(TDG);
- Requires labelling on the outer packaging or transport vehicles for dangerous goods.

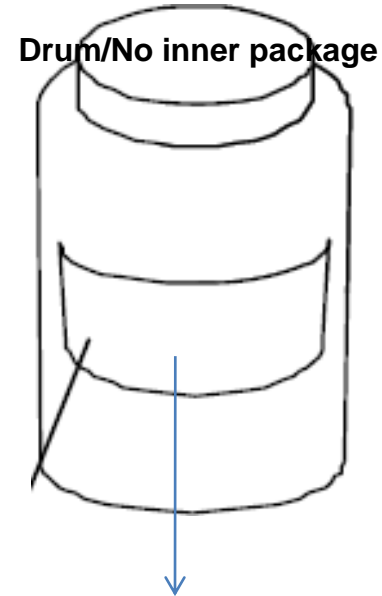
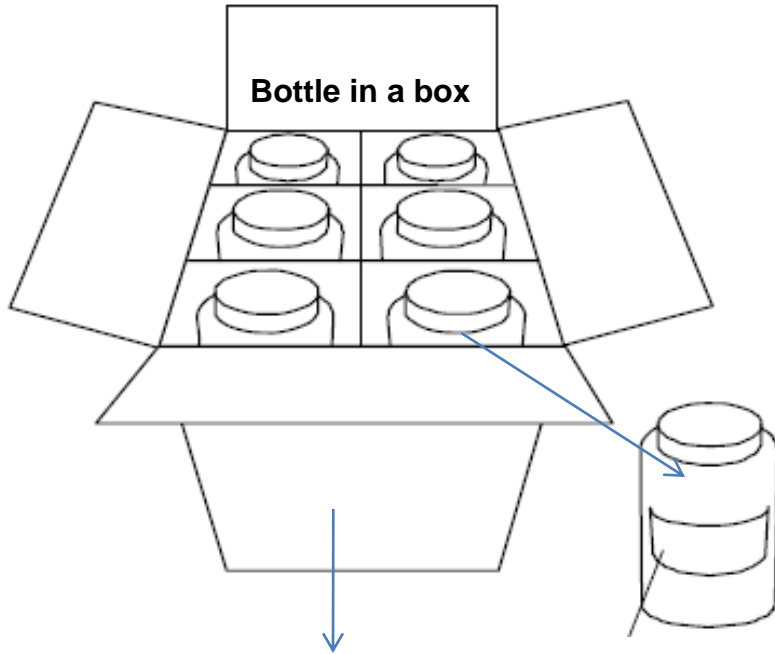
CLP Labelling vs Transport Labelling

ACUTE TOXICITY: ORAL			
Category 1	Category 2	Category 3	Category 4
			
Danger Fatal if swallowed	Danger Fatal if swallowed	Danger Toxic if swallowed	Warning Harmful if swallowed
			<p>Not required under the <i>UN Recommendations on the Transport of Dangerous Goods, Model Regulations</i>.</p> <p><u>Note:</u> For gases under the UN Model Regulations, replace the number 6 in the bottom corner of the pictogram by 2.</p> <p>UN Model Regulations pictogram colours: Symbol (skull and crossbones): black; Background: white; Figure "6" in bottom corner: black.</p>

CLP Hazard Pictogram

Transport Symbol

Inner Packaging, Outer Packaging and Single Packaging - Examples



Outer Packaging Inner Packaging



Product name:
Maleic Anhydride
CAS number: 108-31-4 EC number: 200-469-4
300 tons

Index No: 603-001-00-X
Manufactured by or supplied by:
xxx Chemicals
xxx, The Netherlands
Tel: +31-4622499xx
www.xxxchemicals.com



Danger

Harmful if swallowed.
Causes severe skin burns and eye damage.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.

Do not eat, drink or smoke when using this product.
If swallowed: Call a poison center or doctor/physician if you feel unwell.
If inhaled: Remove victim to fresh air and keep at rest if on skin or hair: Remove all off immediately all contaminated clothing. Rinse skin with water/shower.
Store locked up.

Single Packaging

Maleic Anhydride

CAS number: 108-31-4 EC number: 200-469-4
300 tons

Index No: 603-001-00-X
Manufactured by or supplied by:
xxx Chemicals
xxx Baarjan, 3743HV The Netherlands

Tel: +31-462xxxxx
www.xxxchemicals.com



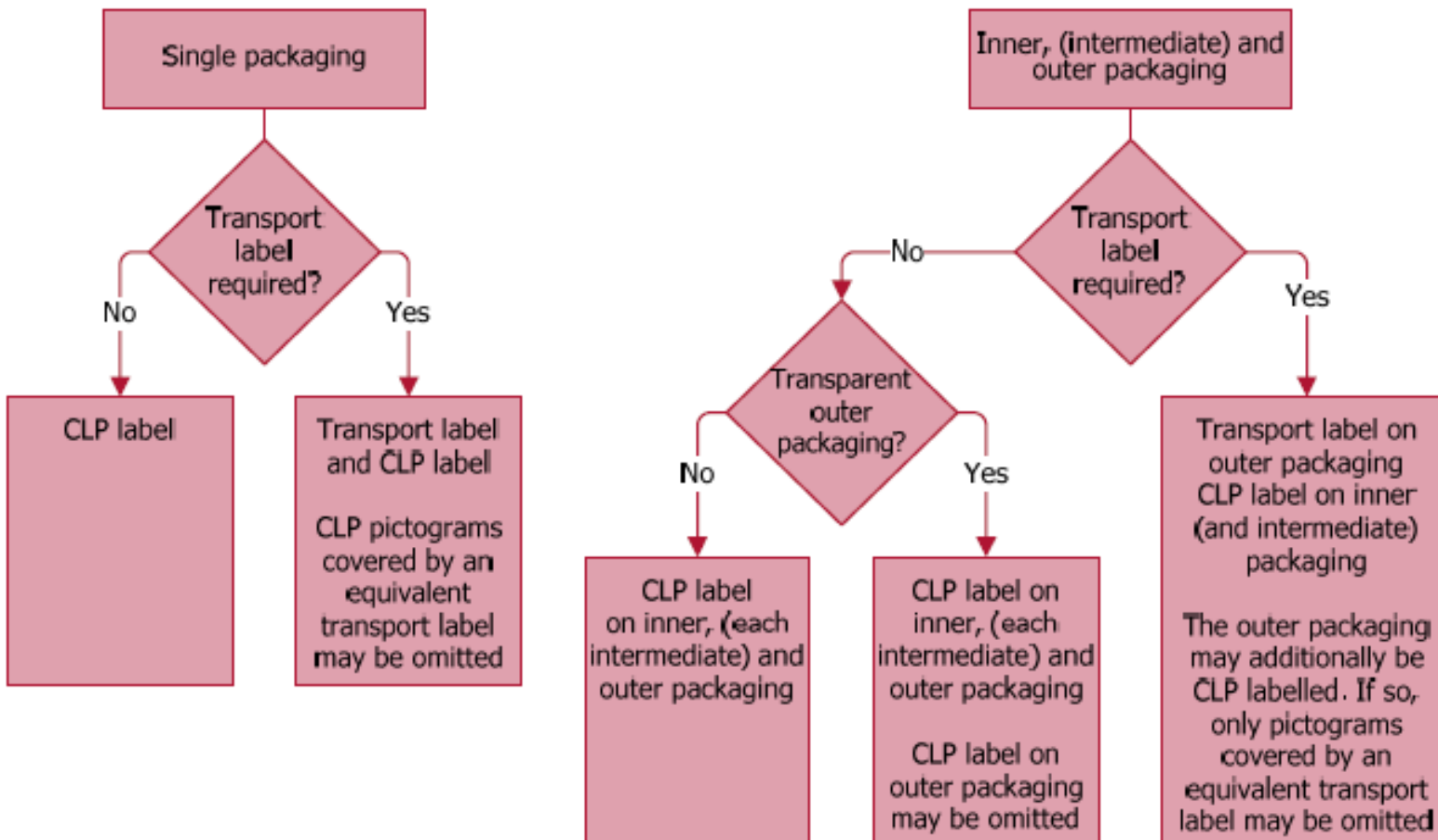
Danger

Harmful if swallowed.
Causes severe skin burns and eye damage.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.

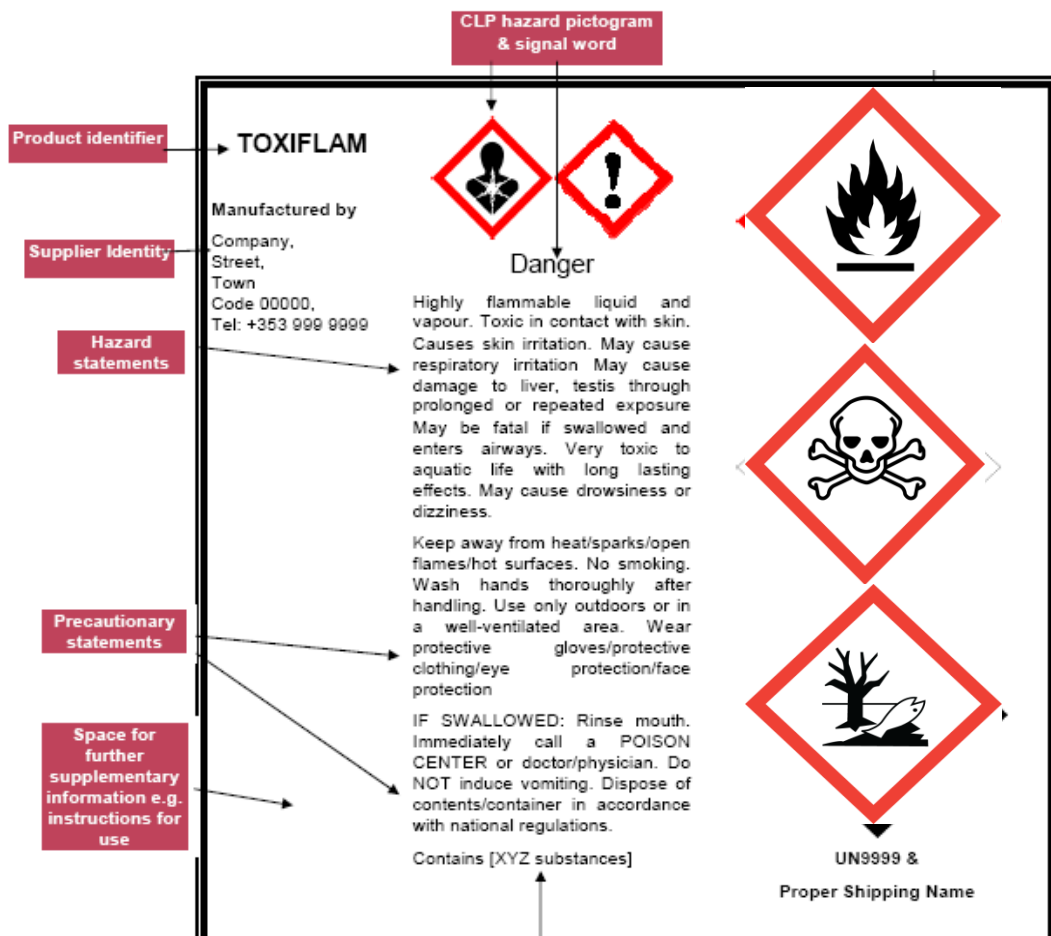
Do not eat, drink or smoke when using this product.
If swallowed: Call a poison center or doctor/physician if you feel unwell.
If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
If on skin or hair: Remove all off immediately all contaminated clothing. Rinse skin with water/shower.
Store locked up.



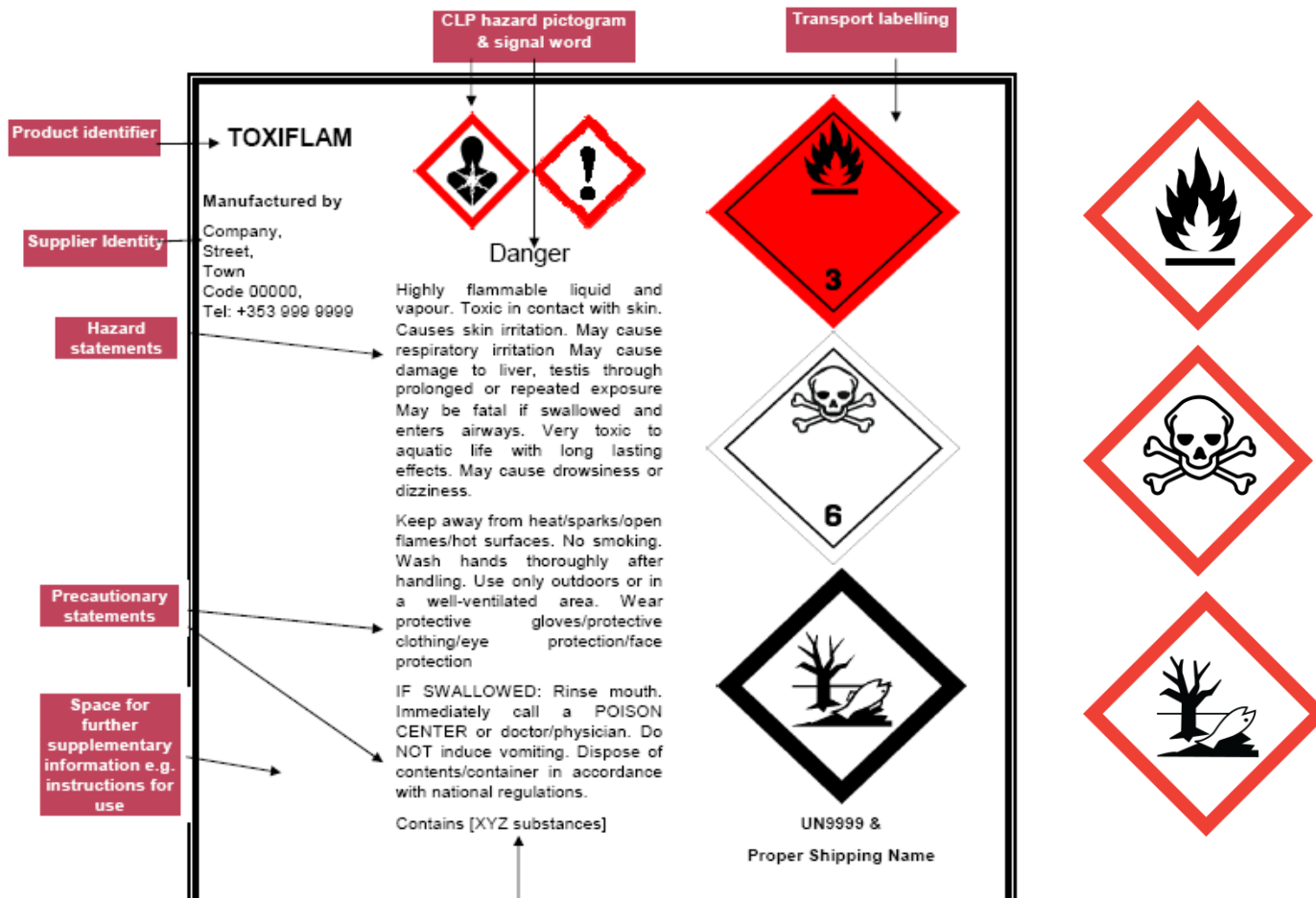
CLP Labelling vs Transport Labelling



Inner Packaging: Only CLP Label Is Required



Single Packaging: CLP + Transport Labelling



Single Packaging: CLP + Transport Labelling

→ TOXIFLAM

Manufactured by
Company,
Street,
Town
Code 00000,
Tel: +353 999 9999



Danger

Highly flammable liquid and vapour. Toxic in contact with skin. Causes skin irritation. May cause respiratory irritation. May cause damage to liver, testis through prolonged or repeated exposure. May be fatal if swallowed and enters airways. Very toxic to aquatic life with long lasting effects. May cause drowsiness or dizziness.

Keep away from heat/sparks/open flames/hot surfaces. No smoking. Wash hands thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection

IF SWALLOWED: Rinse mouth. Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting. Dispose of contents/container in accordance with national regulations.

Contains [XYZ substances]



UN9999 &
Proper Shipping Name

Separation is also okay.

Labelling for Outer Packaging: When Transport Labelling Is Required



UN9999 &
Proper Shipping Name

Done. CLP
Labelling Is
Optional.


Labelling for Outer Packaging: When Transport Labelling Is Required



UN9999 &
Proper Shipping Name

TOXIFLAM

Manufactured by
Company,
Street,
Town
Code 00000,
Tel: +353 999 9999



Danger

Highly flammable liquid and vapour. Toxic in contact with skin. Causes skin irritation. May cause respiratory irritation. May cause damage to liver, testis through prolonged or repeated exposure. May be fatal if swallowed and enters airways. Very toxic to aquatic life with long lasting effects. May cause drowsiness or dizziness.

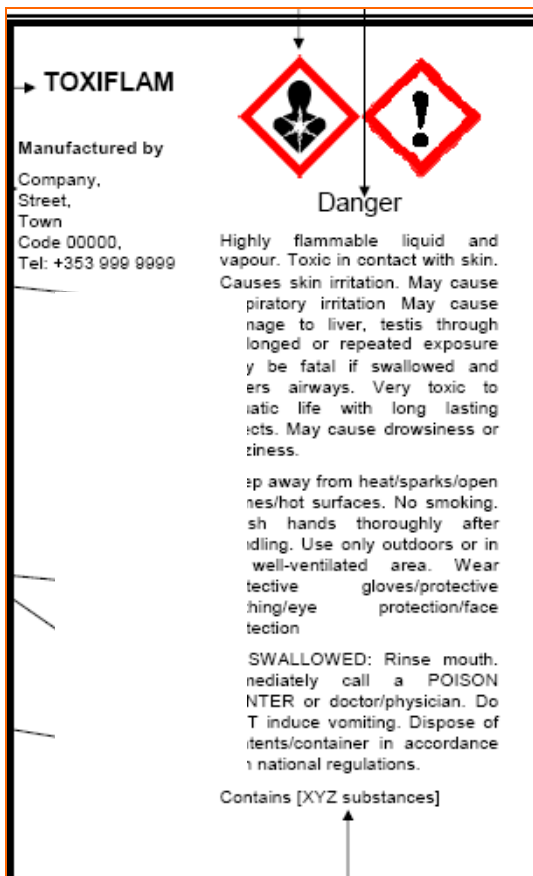
Keep away from heat/sparks/open flames/hot surfaces. No smoking. Wash hands thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection

IF SWALLOWED: Rinse mouth. Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting. Dispose of contents/container in accordance with national regulations.

Contains [XYZ substances]

Also OK

Labelling for Outer Packaging: When Transport Labelling Is Not Required



CLP Labelling Shall Be Used.

Labelling for Outer Packaging: When Transport Labelling Is Not Required

TOXIFLAM

Manufactured by
Company,
Street,
Town
Code 00000,
Tel: +353 999 9999

Danger

Highly flammable liquid and vapour. Toxic in contact with skin. Causes skin irritation. May cause respiratory irritation. May cause damage to liver, testis through prolonged or repeated exposure. May be fatal if swallowed and enters airways. Very toxic to aquatic life with long lasting effects. May cause drowsiness or dizziness.

Keep away from heat/sparks/open flames/hot surfaces. No smoking. Wash hands thoroughly after handling. Use only outdoors or in well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.

SWALLOWED: Rinse mouth. Immediately call a POISON CENTER or doctor/physician. Do not induce vomiting. Dispose of contents/container in accordance with national regulations.

Contains [XYZ substances]

CLP Labelling Shall Be Used. Especially for Hazard Classes Not Covered by TDG.

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



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Resources and References

- ECHA Guidance on Labelling and Packaging in accordance with Regulation (EC) No 1272/2008;
- Ireland HSA's Presentation on CLP;
- UN GHS 3rd Revised Version and UN Recommendations on the Transportation of Dangerous Goods.