



SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product name: **CHLOROFORM**
Supplier: **LABSCAN LIMITED,
T24-26 STILLORGAN INDUSTRIAL PARK, STILLORGAN,
CO. DUBLIN, IRELAND.**
Emergency telephone number: **+353 1 295 2684** Fax No: **+353 1 295 2685**

2. COMPOSITION/INFORMATION ON INGREDIENTS

Identification of the preparation

Chemical Name	CAS-No	EEC-No	Class	Weight %
CHLOROFORM	67-66-3	602-006-00-4	Carc. Cat.3; R40 Xn; R22 R48/20/22 Xi; R38	100

3. HAZARDS IDENTIFICATION

Most important hazards: Harmful. Limited evidence of a carcinogenic effect.
Specific hazards Harmful if swallowed. Irritating to skin. The substance can be absorbed through skin. Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.

4. FIRST AID MEASURES

General advice: Show this safety data sheet to the doctor in attendance.
Inhalation: Move to fresh air in case of accidental inhalation of vapours. Keep patient warm. In case of shortness of breath, give oxygen. Apply artificial respiration only if patient is not breathing or under medical supervision. No artificial aspiration mouth-to-mouth or mouth to nose. Use suitable instruments/apparatus. Obtain medical attention.
Skin contact: Remove contaminated clothing and wash affected skin with soap and water. If signs of poisoning appear, treat as for inhalation. Wash contaminated clothing before re-use.
Eye contact: If the substance has got into the eyes, wash out with water or saline solution for at least 15 minutes. Obtain medical attention.

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Ingestion: Rinse mouth. Do not induce vomiting. Keep patient warm. . Apply artificial respiration only if patient is not breathing or under medical supervision. No artificial aspiration mouth-to-mouth or mouth to nose. Use suitable instruments/apparatus. Obtain medical attention.
Never give anything by mouth to an unconscious person. Subsequently administer: activated charcoal (20-40g in 10% slurry). Laxative: Sodium sulphate (1 tablespoon/1/4 l water).

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media:

Not applicable

Extinguishing media which must not be used for safety reasons:

Do not use a solid water stream as it may scatter and spread fire.

Specific hazards:

Decomposes in a fire, giving off toxic fumes: hydrochloric acid.

Special protective equipment for firefighters:

Wear self-contained breathing apparatus and protective suit.

Specific methods:

Standard procedure for chemical fires. Water mist may be used to cool closed containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Evacuate personnel to safe areas. Remove all sources of ignition. Wear self-contained breathing apparatus and protective suit. Shut off leaks if without risk. Keep people away from and upwind of spill/leak.

Environmental precautions:

Contain or absorb leaking liquid with sand or earth. Prevent liquid entering sewers, basements and workpits. If substance has entered a water course or sewer or contaminated soil or vegetation, advise police.

Methods for cleaning up:

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Transfer to covered steel drums. Contact waste disposal services. Dispose of promptly.

7. HANDLING AND STORAGE

Handling:

Use only in area provided with appropriate exhaust ventilation. Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing.
Keep away from open flames, hot surfaces and sources of ignition.

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Storage: Keep tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Store in original container (+15 - + 25C). Electrical equipment should be protected to the appropriate standard.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name:

CHLOROFORM

National occupational exposure limits:EH40:OES = 2ppm (9.8 mg/m³) 9h TWA.USA-ACGIH 1994:TLV-TWA = 10ppm (50 mg/m³)

Engineering measures to reduce exposure

The product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Ventilation hoods and fans required when working with organic solvents or in hot melt applications. Possible carcinogenic effects on man.

Personal protection equipment:

- **Respiratory protection:** In case of insufficient ventilation, wear suitable respiratory equipment.
- **Hand protection:** Full contact: viton gloves. Splash contact: butyl rubber. solvent-resistant gloves (butylrubber)
- **Eye protection:** Goggles giving complete protection to eyes.
- **Skin and body protection:** Rubber or plastic boots. Chemical resistant apron / complete suit protecting against chemicals.

Hygiene measures:

Keep working clothes separately. Keep away from food, drink and animal feeding stuffs.

9. PHYSICAL AND CHEMICAL PROPERTIES

Formula:	CHCl₃		
Form:	Liquid		
Colour:	Colourless		
Odour:	Pleasant sweet odour		
pH:	(°C)	(g/l H ₂ O)
Boiling point/range:	61.2		°C
Melting point/range:	-63.5		°C
Decomposition temperature:			°C
Flash point:	does not flash		°C
Autoignition temperature:	None		°C
	combustible		
	material		
Flammability (solid, gas):	not flammable		
Explosive properties:			
Explosion limits:	- lower	no data available	vol. %
	- upper	no data available	vol. %

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Oxidizing properties:	no data available		
Vapour pressure:	(20 °C)	213	hPa
Relative density:	(20 °C) >=	1.48 g/cm ³	
		<= 1.45 g/cm ³	
Bulk density:		1490	kg/m³
Solubility:			
Water solubility	(20 °C)	8	g/l)
Solubility in other solvents	miscible with most organic solvents		
Partition coefficient (n-octanol/water)	log Pow =2		
Viscosity:	(°C)	0.56	mPa.s

10. STABILITY AND REACTIVITY

Stability:	Stable at normal conditions.
Conditions to avoid:	Strong heating
Materials to avoid:	alkali metals, alkaline earth metals, metals (in powder form), peroxi compounds, fluorine, alcoholates, strong alkalis, ketones / alkalis, alkali hydroxides / alcohols, organic nitro compounds, alkali amides, oxygen, nitrogen oxides, nonmetallic hydrogen compounds, bis(dimethylamino)dimethyl tin, amines, ammonia, phosphines.
Hazardous decomposition products:	Decomposes in a fire, giving off toxic fumes: hydrochloric acid.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:	<p>Inhalation: no-observed-effect level (NOEL) <1500 mg/m³ Effects of breathing high concentrations of vapour may include, headache, dizziness, unconsciousness, cardiac irregularities. LC50/inhalation/4h/rat = 48mg/L LCLo (inhalation, human): .25000ppm(V)/5 min</p> <p>Ingestion: Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. Passage to lungs can cause chemical pneumonitis. Liver and kidney injuries may occur. LD50/oral/rat = 908mg/kg</p> <p>Skin contact: slightly harmful to skin, Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.</p> <p>Eye contact: slight irritant to eyes</p>
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Sensitization:	slightly sensitizing.
Long term toxicity:	Danger of serious damage to health by prolonged exposure. Headache, ataxia, decreased blood pressure, GIT damage, heart damage. Not mutagenic in AMES Test.
Chronic toxicity:	Repeated absorption may cause disorder of central nervous system, liver, kidneys and blood. Did show carcinogenic effects in animal experiments.

12. ECOLOGICAL INFORMATION

Mobility:	Immiscible or partly miscible with water.
Persistence / degradability:	
	Not readily biodegradable (0 % after 14 days)
	Ozone depletion potential; ODP; (R-11 = 1) = negligible
Bioaccumulation:	Bioaccumulation slight log P _{ow} = 2
Ecotoxicity:	Harmful to aquatic organisms EC50/48h/Daphnia = 79/mg/l/ LC50/96h/Fathead minnows = 18 mg/l Bacterial Toxicity: 1010mg/l/3h. Algae: 1100mg/l/8d. Protozoa: >6560 mg/l/72h.

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products:	
	If recycling is not practicable, dispose of in compliance with local regulations.
Contaminated packaging:	
	Empty containers should be taken for local recycling, recovery or waste disposal. Empty containers can be landfilled after cleaning, when in compliance with local regulations.

14. TRANSPORT INFORMATION

ADR/RID

Proper shipping name:	CHLOROFORM	Item:	15c
Class:	6.1	HI/UN No:	60/1888
Packaging group:	III		

IMO

Proper shipping name:	CHLOROFORM	IMDG Page:	6052.1
Class:	6.1	MFAG:	6.1-02
EmS:	340	UN-No:	1888
Packaging group:	III		
Marine pollutant:	Toxic to aquatic organisms		

ICAO

Proper shipping name:	CHLOROFORM
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Product name: **CHLOROFORM**

Class: 6.1 UN/ID No: 1888

Packaging group: III

15. REGULATORY INFORMATION**Classification according to European directive on classification of hazardous preparations 2001/58/EC**

- Contains: Chloroform
- Symbol(s):

Xn -
Harmful..

- R -phrase(s):** R22 - Harmful if swallowed
R38 - Irritating to skin.
R40 - Limited evidence of a carcinogenic effect.
R48/20/22 - Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.

- S -phrase(s):** S36/37 - Wear suitable protective clothing and gloves.

16. OTHER INFORMATION

Recommended restrictions: Take notice of labels and material safety data sheets for the working chemicals.

Recommended use: General purpose solvent.

Further information: Contact Labscan Limited

REVISION DATE: 19/08/2002

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process unless specified in the text.