



SAFETY DATA SHEET

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

Product name: **TOLUENE**
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 %
TOLUENE	108-88-3	601-021-00-3	F; Xn; R11 R20	100

3. HAZARDS IDENTIFICATION

Most important hazards: Highly flammable. May cause lung damage if swallowed. Possible risk of harm to the unborn child. Harmful: danger of serious damage to health by prolonged exposure through inhalation.

Specific hazards The vapour has narcotic effect and in high concentrations induces unconsciousness which can be fatal. Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product. In use, may form flammable/explosive vapour-air mixture.

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. 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.
Never give anything by mouth to an unconscious person.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media:

Extinguish with dry chemical or foam.

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:

Burning produces irritant fumes, carbon oxides.

Vapours are heavier than air and may spread along floors. Flash back possible over considerable distance. Lighter than water.

Special protective equipment for firefighters:

self-contained breathing apparatus / flame retardant antistatic protective clothing.

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. Take precautionary measures against static discharges.

Environmental precautions:

Do not let product enter drains. Contain or absorb leaking liquid with sand or earth. Prevent liquid entering sewers, basements and workpits, vapour may create suffocating atmosphere. 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. Take precautionary measures against static discharges.

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

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name: **National occupational exposure limits:**

TOLUENE TLV/TWA= 188 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. The product is embryotoxic.

Personal protection equipment:

- **Respiratory protection:** In case of insufficient ventilation, wear suitable respiratory equipment.
- **Hand protection:** Viton (full contact). nitrile rubber gloves (splash contact).
- **Eye protection:** Goggles giving complete protection to eyes.
- **Skin and body protection:** Chemical resistant apron, safety shoes.

Hygiene measures:

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Formula:	C₆H₅CH₃		
Form:	liquid		
Colour:	colourless		
Odour:	characteristic aromatic		
pH:	(°C)	no data available	(g/l H ₂ O)
Boiling point/range:		110.4-110.8	°C
Melting point/range:		-95	°C
Decomposition temperature:			°C
Flash point:		4.0 (Abel)	°C
Autoignition temperature:		535	°C
Flammability (solid, gas):	no data available		
Explosive properties:			
Explosion limits:	- lower	1.2	vol. %
	- upper	8.0	vol. %
Oxidizing properties:	no data available		
Vapour pressure:	(20 °C)	29	hPa
Relative density:	(15 °C) >=	0.871 g/ml	
		<= 0.867 g/ml	

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Bulk density:	871	kg/m³
Solubility:		
Water solubility	(20 °C) 0.515	g/l)
Solubility in other solvents	miscible with most organic solvents	
Partition coefficient (n-octanol/water)	log P _{OW} = 2.69	
Viscosity:	(20 °C) 0.6	mPa.s

10. STABILITY AND REACTIVITY

Stability:	Stable at normal conditions.
Conditions to avoid:	Take precautionary measures against static discharges. Keep away from heat and sources of ignition.
Materials to avoid:	Silver-perchlorates, nitrogen dioxide, halogen-halogen compounds, uranium hexafluoride, organic nitro compounds sulfur, strong acids and oxidizing agents. Unsuitable working materials: plastics and rubber.
Hazardous decomposition products:	carbon oxides.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:	<p>Inhalation : Effects of breathing high concentrations of vapour may include, headache, dizziness, narcosis, unconsciousness LC50/inhalation/4h/rat = 49mg/l/4h</p> <p>Ingestion : Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea, LD50/oral/rat = 636 m/kg</p> <p>Skin contact : Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product. LD50/dermal/rabbit = 12124mg/Kg</p> <p>Eye contact : Irritant effect on eyes.</p>
Sensitization:	irritating to eyes, irritating to skin, irritating to respiratory system.
Long term toxicity:	Danger of serious damage to health by prolonged exposure.
Chronic toxicity:	Chronic exposure may cause nausea and vomiting, higher exposure causes unconsciousness. Nonmutagenic but pregnant women must not be exposed to the substance.

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Mobility: Immiscible or partly miscible with water. slightly water contaminating.

Persistence / degradability:
Readily biodegradable, according to appropriate OECD test. TOD: 3.13 g/g

Bioaccumulation: Bioaccumulation not applicable.

Ecotoxicity: EC50/48h/Daphnia = 11.5mg/l. fish: 13 mg/l/96h (C. auratus), 36.2/l/96h (P. promelas). Algal toxicity: 12mg/l/72h. Bacterial Toxicity: 20mg/l/30min Protozoa: 456mg/l/72h

13. DISPOSAL CONSIDERATIONS**Waste from residues / unused products:**

If recycling is not practicable, dispose of in compliance with local regulations.
Can be incinerated, when 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:	TOLUENE	Item:	3b
Class:	3	HI/UN No:	1294
Packaging group:	II		

IMO

Proper shipping name:	TOULENE	IMDG Page:	3285
Class:	3.2	MFAG:	310
EmS:	3.07	UN-No:	1294
Packaging group:	II		
Marine pollutant:	not		

ICAO

Proper shipping name:	TOLUENE	UN/ID No:	1294
Class:	3		
Packaging group:	II		

15. REGULATORY INFORMATION

Classification according to European directive on classification of hazardous preparations 2001/58/EC

- **Contains:** TOLUENE

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- Symbol(s):

F - Highly flammable.



Xn - Harmful.

R -phrase(s):

R11 - Highly flammable.
 R38 - Irritating to skin.
 R48/20 - Harmful: danger of serious damage to health by prolonged exposure through inhalation.
 R63 - Possible risk of harm to the unborn child.
 R65 - Harmful: may cause lung damage if swallowed.
 R67 - Vapours may cause drowsiness and dizziness.

S -phrase(s):

S36/37 - Wear suitable protective clothing and gloves.
 S46 - If swallowed, seek medical advice immediately and show this container or label.
 S62 - If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label

16. OTHER INFORMATION

Recommended restrictions: Take notice of labels and material safety data sheets for the working chemicals. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors).

Recommended use: General purpose solvent.

Further information: Contact Labscan Limited.

REVISION DATE: 20/08/2002

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.