

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: Toluene
Product Description: Methylbenzene, Toluol
Chemical Formula: C₇H₈
Recommended Use: Used as a solvent for paint, resins, lacquers inks & adhesives. Component of solvent blends and thinners; in gasoline and aviation fuel. Used in the manufacture of chemicals, dyes, explosives, benzoic acid.

COMPANY IDENTIFICATION

Supplier: UNION PETROCHEMICAL PUBLIC COMPANY LIMITED
728 Union House Building, Baromratchonnani Rd.,
Bangbunru, Bangplad, Bangkok 10700
Supplier General Contact: +662 881 8288

This (M)SDS is a generic document with no country specific information included.

SECTION 2 HAZARDS IDENTIFICATION

This material is hazardous according to UN GHS Criteria. Classification includes all GHS hazard classes. For hazard categories with two cut-off/concentration limits, classification was based on the higher limit.

CLASSIFICATION:

Flammable Liquid Category 2
Reproductive Toxicity Category 2
Aspiration Hazard Category 1
Skin Corrosion/Irritation Category 2
STOT - RE Category 2
STOT - SE Category 3

GHS LABEL ELEMENTS:

Pictogram:



Signal Word: Danger

Hazard Statements:

H225 Highly flammable liquid and vapour.
H361 Suspected of damaging fertility or the unborn child.
H304 May be fatal if swallowed and enters airways.
H373 May cause damage to organs through prolonged or repeated exposure.
H315 Causes skin irritation.
H336 May cause drowsiness or dizziness.

PRECAUTIONARY STATEMENTS

P210 Keep away from heat/spark/open flame/hot surface. 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
P260 Do not breathe dust/ fume /gas/ mist/ vapor/ spray
P261 Avoid breathing dust/ fume/gas/ mist/ vapor/ spray
P264 Wash hand thoroughly after handling
P271 Use only outdoor or in a well- ventilated area
P280 Wear protective groves/ protective clothing/ eye protection/face protection
P301+P312 IF SWALLOWED: 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
P304+P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. P314 Get medical advice/attention if you feel unwell.
P337+P313 If eye irritation persists: Get medical advice/attention.
P410+P235 Protect from sunlight. Store in a well ventilated place
P501 Dispose of contents/containers in accordance with local regulation.

SECTION 3	COMPOSITION / INFORMATION ON INGREDIENTS
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Chemical Name	CAS#	EC number	Percent weight
Toluene	108-88-3	203-625-9	>99%

SECTION 4	FIRST AID MEASURES
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Skin Exposure Immediately remove all contaminated clothing, including footwear. Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.

Eyes Exposure Wash out immediately with fresh running water. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Seek medical attention without delay; if pain persists or recurs seek medical attention.

Inhalation If fumes or combustion products are inhaled remove from contaminated area. If the patient is not breathing spontaneously, administer rescue breathing.

Ingestion DO NOT induce vomiting. Never give liquid to a person showing signs of being sleepy or with reduced awareness, i.e. becoming unconscious. If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus. Seek medical advice.

SECTION 5	FIRE FIGHTING MEASURES
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Suitable extinguishing agents Foam, Dry chemical, CO₂, water spray or fog – Large fires only.

Fire fighting Alert Fire Brigade and tell them location and nature of hazard.
May be violently or explosively reactive.
Prevent, by any means available, spillage from entering drains or water course. DO NOT approach containers suspected to be hot.
Cool fire exposed containers with water spray from a protected location.

Hazards during firefighting Carbon monoxide (CO), carbon dioxide (CO₂), other pyrolysis products typical of burning organic material.

Protective equipment Breathing apparatus. Chemical splash suit. Protective gloves.

SECTION 6	ACCIDENTAL RELEASE MEASURES
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Personal Precautions Avoid breathing vapours and contact with skin and eyes.

Cleanup Clear area of personnel and move upwind. Prevent, by any means available, spillage from entering drains or water course. Absorb remaining product with sand, earth or vermiculite and wipe up. Collect recoverable product into labelled containers for recycling. Collect residues in a flammable waste container.

SECTION 7 HANDLING AND STORAGE

Handling Do NOT cut, drill, grind, weld or perform similar operations on or near containers. Always release caps or seals slowly to ensure slow dissipation of vapours. Do NOT use compressed air for filling discharging or handling operations. DO NOT enter confined spaces until atmosphere has been checked. Avoid smoking, naked lights or ignition sources. Avoid generation of static electricity. Prevent concentration in hollows and sumps

Storage conditions Store in original containers in approved flammable liquid storage area. Store away from incompatible materials in a cool, dry, well-ventilated area. DO NOT store in pits, depressions, basements or areas where vapours may be trapped. Protect containers against physical damage and check regularly for leaks. No smoking, naked lights, heat or ignition sources.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits

Component name	Reference	STEL		TWA	
		ppm	Mg/m ³	ppm	Mg/m ³
Toluene	Australia Exposure Standard	150	574	50	191
	NIOSH	150	560	100	375
	ACGIH	-	-	20	-

Exposure controls Exposed individuals are reasonably expected to be warned, by smell, that the Exposure Standard is being exceeded.

Personal protective equipments

Respiratory protection Type A* Filter of sufficient capacity.

Eye protection Safety glasses with side shields. Chemical goggles.

Protective clothing PVC protective suit may be required if exposure severe. Chemical splash suit

Hand protection Wear chemical protective gloves, eg. PVC, Wear safety footwear or safety gumboots, eg. Rubber.

*A(All classes) = Organic vapours

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

State	Liquid
Melting Range	-95 °C
Viscosity	Not Applicable
Boiling Range	110.6 °C
Solubility in water	Immiscible
Flash Point	4.4 °C
pH (1% solution)	Not applicable
Decomposition Temp (°C)	Not Applicable
Autoignition Temp	529-536 °C
Vapour Pressure	2.93 kPa @20 oC
Upper Explosive Limit (%)	7.0
Lower Explosive Limit (%)	1.3
Specific Gravity (water=1)	0.87 @20 °C
Relative Vapour Density (air=1)	3.2
Volatile Component (%vol)	100

SECTION 10 STABILITY AND REACTIVITY

Chemical Stability: Stable under normal temperatures and pressures.

Dangerous reaction Strong oxidizing agents.

Conditions to avoid: Ignition sources, excess heat, confined spaces.

Material to Avoid: 4-tert-Butylcatechol Inhibitor concentration (Parts per million): 10 – 55

Incompatible materials: Avoid contact with incompatible materials; acids, rust, catalysts for vinyl polymerisation, 2,5-dimethyl-2,5-di(tertbutylperox) hexane, peroxides, metals salts (e.g., aluminium chloride, copper chlorate, manganese nitrate, etc.)

Dangerous decomposition: Carbon monoxide (CO), carbon dioxide (CO₂), other pyrolysis products typical of burning organic material.

SECTION 11	TOXICOLOGICAL INFORMATION
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Acute Toxicity

Chemical name	Route	Species	Acute Toxic value
Toluene	Oral	Rat	LD ₅₀ 636 mg/kg
	Inhalation	Rat	LD ₅₀ 49000 mg/m ³ , 4 h
	Dermal	Rabbit	LD ₅₀ 14100 mg/kg
	Inhalation	Human	TCL ₀ 200 ppm

Irritating/corrosive effects

Eye Irritation May produce eye irritation. Severe inflammation

Skin Irritation May be expected with pain. May cause moderate inflammation. May damage the health of the individual; systemic effects may result following absorption.

Respiratory Irritation The product can cause respiratory irritation and irritation can cause further lung damage.

Ingestion Irritation May cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result.

Other information

Carcinogenic effect:

International Agency for Research on Cancer (IARC): Group 3
- Agents Reviewed by the IARC Monographs

SECTION 12	ECOLOGICAL INFORMATION
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Aquatic toxicity LC50 59.3 mg/l/96 h: *Lebistes reticulatus* (Fresh fish)
EC50 18 mg/l/24 h: *Daphnia magna* (Crustacea)

Persistence and degradability Material is expected to be readily biodegradable.

Bioaccumulative potential Product is not likely to accumulate in biological organisms.

Mobility in soil The product is acted to leach with a moderate soil mobility.

Other adverse effects This substance is not in Annex I of Regulation (EC) 2037/2000 on substances that deplete the ozone layer.





SECTION 13	DISPOSAL CONSIDERATIONS
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This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf-life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate

DO NOT allow wash water from cleaning or process equipment to enter drains. It may be necessary to collect all wash water for treatment before disposal.

In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.

SECTION 14 TRANSPORT INFORMATION

Regulatory information	UN number	Class	Packing group	Label	Proper Shipping Name
DOT	1294	3	II		TOLUENE
ADR/RID	1294	3	II		TOLUENE
IMDG	1294	3	II		TOLUENE
ICAO/IATA	1294	3	II		TOLUENE

SECTION 15 REGULATORY INFORMATION

REGULATIONS

US. Toxic Substances Control Act

All components of this product are on the TSCA Inventory.

OSHA:

This product is not considered highly hazardous by OSHA.

NFPA - USA

Health – 2, Flammability – 3, Reactivity – 0

HMIS – USA

Health – 2, Flammability – 3, Reactivity – 0

European Inventory of Existing Commercial Chemical Substances (EINECS)

The components of this product are on the EINECS inventory.

EU Directives 67/548/EEC

Classification F, Xn

Symbols



R-Phases

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: Vapours may cause drowsiness and dizziness.

S-Phases

S2: Keep out of the reach of children.
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.

Canada-WHMIS

This product has a WHMIS classification of B2, D2A, D2B.

SECTION 16

OTHER INFORMATION

The information in this document is based on our best present. Nevertheless, it does not constitute a guarantee for any specific product features and does not establish any a legally binding contract.

DOT	Department of Transportation
ADR	European agreement concerning the international carriage of dangerous goods by road
RID	Regulations concerning the international carriage of dangerous goods by rail.
IMDG – CODE	International maritime dangerous goods code
ICAO	International Civil Aviation Organization
IATA	International air transport association
GHS	Globally Harmonized System of Classification and Labeling of Chemicals
CLP	Classification and Labeling of Packaging
IARC	International Agency for Research on Cancer
NFPA	National Fire Protection Association
OSHA	Occupational Safety and Health Administration
NIOSH	The National Institute for Occupational Safety and Health
ACGIH	American Conference of Industrial Hygienists
WHMIS	Workplace Hazardous Materials Information System

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