
Material Safety Data Sheet

Product Name	Toluene
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Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identification:**Product Description:** Toluene**Cat No. :** 22860, 11861, 11860,21862, 71860,13860, 14860, 41860, 81860, 31860**Synonyms:** Methyl benzene**CAS-No:** 108-88-3**EC-No.:** 203-625-9**Molecular Formula:** C₆ H₅ CH₃

REACH Registration No: A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration, or the registration is envisaged for a later registration deadline.

1.2. Relevant identified uses of the substance or mixture and uses advised against:**Recommended Use:** Laboratory chemicals, not for food and drug**1.3. Details of the supplier of the safety data sheet:**

- **Company** **Finar Limited**
184-186/P, Chacharwadi Vasna,
Sarkhej-Bavla Highway,
Ta.: Sanand, Dist.: Ahmedabad,
Email: info@finarchemicals.com
Web: www.finarchemicals.com
- **E-Mail Address** safety@finarchemicals.com; info@finarchemicals.com

1.4. Emergency Telephone Number:

- For Emergency contact on: +91 - 2717 - 616 717
- Registered office No: +91 - 79 – 40040085

Material Safety Data Sheet

Product Name	Toluene
---------------------	---------

SECTION 2: HAZARDS IDENTIFICATION**2.1. Classification of the substance or mixture:****Classification according to Regulation (EC) No 1272/2008**

Flammable liquid, Category 2, H225

Skin irritation, Category 2, H315

Specific target organ toxicity - repeated exposure, Category 2, Central nervous system, H373

Reproductive toxicity, Category 2, H361d

Aspiration hazard, Category 1, H304

Specific target organ toxicity - single exposure, Category 3, Central nervous system, H336

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2. Label Elements:**Labeling according Regulation (EC) No 1272/2008****Pictogram****Signal word****Danger****Hazard statement(s)**

H225 Highly flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H336 May cause drowsiness or dizziness.

H361d Suspected of damaging the unborn child.

H373 May cause damage to organs (Central nervous system) through prolonged or repeated exposure.

Precautionary statement(s)**Prevention**

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P240 Ground/bond container and receiving equipment.

Response

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

Material Safety Data Sheet

Product Name	Toluene
---------------------	----------------

P314 Get medical advice/ attention if you feel unwell.

Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

According to the criteria, the general hazard statement can be replaced by the hazard statement indicating only the property of concern, where either fertility or developmental effects are proven to be not relevant. See Annex VI, 1.2.3, General hazard statement not specifying the route of exposure as the necessary information is not available. See Annex VI, 1.2.2

Reduced labelling (≤ 125 ml)

Pictogram



Signal word

Danger

Hazard statement(s)

H304 May be fatal if swallowed and enters airways.

H361d Suspected of damaging the unborn child.

Precautionary statements

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

CAS- No. 108-88-3

2.3. Other Hazards:

None Known

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances: Toluene

3.2. Mixtures:

Component	CAS-No	EC-No.	Weight %
Toluene	108-88-3	203-625-9	>95

Material Safety Data Sheet

Product Name	Toluene
---------------------	---------

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures:

- **General advice**
- **If inhaled**
Fresh air. Call in physician.
- **If Contact with skin**
Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.
- **In case of eye contact**
Rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.
- **If swallowed**
Caution if victim vomits. Risk of aspiration! Keep airways free. Call a physician immediately.
Pulmonary failure possible after aspiration of vomit.

4.2. Most important symptoms and effects, both acute and delayed:

Irritant effects, Headache, Drowsiness, Dizziness, Nausea, Vomiting, inebriation, Convulsions, somnolence, Circulatory collapse, CNS disorders, respiratory paralysis, respiratory arrest, Unconsciousness, death

4.3. Indication of any immediate medical attention and special treatment needed:

No information Available

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media:

Suitable Extinguishing Media- Use alcohol-resistant foam, dry chemical or carbon dioxide.

5.2. Special hazards arising from the substance or mixture:

Combustible.
Pay attention to flashback.
Vapours are heavier than air and may spread along floors.
Development of hazardous combustion gases or vapours possible in the event of fire.
Forms explosive mixtures with air at ambient temperatures.

5.3. Advice for firefighters:

Special protective equipment for fire-fighters
Stay in danger area only with self-contained breathing apparatus.

Material Safety Data Sheet

Product Name	Toluene
--------------	---------

Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further Information:

Remove container from danger zone and cool with water.

Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures:

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact.

Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

6.2. Environmental precautions:

Do not let product enter drains. Risk of explosion.

6.3. Methods and material for containment and cleaning up:

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material. Dispose of properly. Clean up affected area.

6.4. Reference to other sections:

For disposal see Sections 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling

Observe label precautions.

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection.

Wash hands and face after working with substance.

Material Safety Data Sheet

Product Name	Toluene
---------------------	----------------

7.2. Conditions for safe storage, including any incompatibilities:

Storage conditions

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Recommended storage temperature see product label.

7.3. Specific end use(s):

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

IN OEL

Short Term Exposure Limit (STEL): 150 ppm / 560 mg/m³

Time Weighted Average (TWA): 100 ppm / 375 mg/m³

8.2. Exposure Controls:

- **Appropriate Engineering Controls:**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Personal Protective Equipment:

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

- **Eye & Face Protection-**

safety goggles

- **Hand Protection -**

Full contact: -

Glove material:	Viton (R)
Glove thickness:	0.70 mm
Break through time:	>480 min

Splash contact: -

Glove material:	Viton (R)
Glove thickness:	0.70 mm
Break through time:	>480 min

Material Safety Data Sheet

Product Name	Toluene
---------------------	----------------

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 890 Vitoject® (full contact), KCL 890 Vitoject® (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves.

- **Other Protective equipment-**

Flame retardant antistatic protective clothing.

- **Respiratory Protection-**

Required when vapours/aerosols are generated.

Recommended Filter type: Filter A- (acc. To DIN 3181)

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

- **Environmental Exposure Controls-**

Do not let product enter drains. Risk of explosion.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties:

- **Appearance:** Colorless
- **Physical State:** Liquid
- **Odour:** Aromatic
- **Odour Threshold:** 0.2 – 68.6 ppm
- **pH:** No data available
- **Melting Point:** -95 °C
- **Critical Temperature:** No data available
- **Vapor Pressure:** 29 hPa at 20 °C
- **Relative Vapor Density:** 3.18
- **Density:** 0.87 g/cm³ at 20 °C
- **Ignition Temperature:** - 535 °C

Material Safety Data Sheet

Product Name	Toluene
---------------------	----------------

- **Volatility:** No data available
- **Bulk Density:** No data available
- **Viscosity, Kinematic :** 0.7 mm²/s at 20 °C
- **Water/Oil Dist. Co eff.:** No data available
- **Ionicity (in Water):** No data available
- **Lower Explosion Limit:** 1.1 % (V)
- **Upper Explosion Limit:-** 7.1 % (V)
- **Boiling Point/Range:-** 110.6 °C at 1.013 hPa
- **Flash Point:** 4 °C
- **Water Solubility:** 0.52 g/l at 20 °C

9.2. Other information:

Molecular Formula: C₆ H₅ CH₃

SECTION 10: STABILITY AND REACTIVITY**10.1. Reactivity: -**

Vapours may form explosive mixture with air.

10.2. Chemical stability: -

The product is chemically stable under standard ambient conditions (room temperature) .

10.3. Possibility of hazardous reactions: -

Risk of explosion with: fuming sulfuric acid, Nitric acid, silver, perchlorates, nitrogen dioxide, nonmetallic halides, acetic acid, halogen-halogen compounds, uranium hexafluoride, organic nitro compounds

Violent reactions possible with: Strong acids, Strong oxidizing agents sulfur, with, Heat

10.4. Conditions to avoid: - Warming.**10.5. Incompatible materials: -** Rubber, various plastics**10.6. Hazardous decomposition products:-** No data available

Material Safety Data Sheet

Product Name	Toluene
---------------------	---------

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Oral toxicity

LD50 Rat: 5580 mg/kg

Tested according to Directive 92/69/EC.

Symptoms: Nausea, Vomiting

Acute Inhalation toxicity

LC50 Rat: 25.7 mg/l; 4h ; Vapour

OECD Test Guideline 403

Symptoms: Irritation symptoms in the respiratory tract.

absorption

Acute Dermal toxicity

LD50 Rabbit: 12,124 mg/kg

(ECHA)

absorption

Skin corrosion/irritation

Rabbit

Result: irritating

(ECHA)

Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.

Serious eye damage/eye irritation

Rabbit

Result: No Eye irritation

(ECHA)

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

Genotoxicity in vivo

Chromosome aberration test

Rat

Material Safety Data Sheet

Product Name	Toluene
---------------------	----------------

i.p.

Bone Marrow

Result: negative

(ECHA)

Genotoxicity in vitro

In vitro mammalian cell gene mutation test

Mouse lymphoma test

Result: negative

Method: OECD Test Guideline 476

Ames Test

Result: negative

(Lit.)

Carcinogenicity

No data available

Reproductive toxicity

No data available

Teratogenicity

No data available

CMR effect

Teratogenicity

Suspected of damaging the unborn child.

Specific target organ toxicity - single exposure

May cause drowsiness or dizziness. Target Organs: Central nervous system

Specific target organ toxicity - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Target Organs: Central nervous system

Aspiration hazard

Aspiration hazard, Aspiration may cause pulmonary oedema and pneumonitis.

11.2 Further Information

Systemic effect:

After absorption of large quantities:

Headache, Vomiting, Dizziness, Nausea, CNS disorder, inebriation, Convulsions, Circulatory collapse,

Material Safety Data Sheet

Product Name	Toluene
---------------------	----------------

respiratory paralysis, respiratory arrest, Unconsciousness, death

Other dangerous properties can not be excluded.

This substance should be handled with particular care.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity:

Toxicity to fish

LC50 *Oncorhynchus mykiss* (rainbow trout): 5.8 mg/l; 96 h

(ECOTOX Database)

Toxicity to daphnia and other aquatic invertebrates

EC50 *Daphnia magna* (Water flea): 6 mg/l; 4 h

(ECOTOX Database)

NOEC *E.sulcatum*: 456 mg/l; 72 h

(IUCLID)

Toxicity to algae

EC50 *Pseudokirchneriella subcapitata* (green algae): 12 mg/l; 72 h

(Lit.)

Toxicity to bacteria

EC50 *Photobacterium phosphoreum*: 20 mg/l; 30 min h

(Lit.)

12.2 Persistence and degradability:

Biodegradability

69- 81%; 5 d ; aerobic

APHA No. 219

(ECHA)

Readily biodegradable

Theoretical oxygen demand (ThOD)

3130 mg/g

(Lit.)

12.3 Bioaccumulate potential:

Partition Coefficient: - n-Octanol/water

Material Safety Data Sheet

Product Name	Toluene
---------------------	----------------

Log Pow: 2.65
 (IUCLID) Bioaccumulation is not expected.

12.4 Mobility in soil:

Distribution among environmental compartments
 Adsorption/Soil
 log Koc: 2.15
 Moderately Mobile in soils (Lit.)

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects

Henry constant
 683 Pa*m³/mol
 (Lit.) Distribution preferentially in air.
 Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

SECTION 14: Transport information

	Land transport (ADR/RID)	Air transport (IATA)	Sea transport (IMDG)
14.1 UN number	UN 1294	UN 1294	UN 1294
14.2 Proper shipping name	Toluene	Toluene	Toluene
14.3 Class	3	3	3
14.4 Packing group	II	II	II
14.5 Environmentally hazardous	--	--	--
14.6 Special precautions for user	Yes Tunnel Restriction code – D/E	No	Yes EmS F-E S-D
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code			
Not Relevant			

Material Safety Data Sheet

Product Name	Toluene
---------------------	---------

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

National Legislation

Storage class 3

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

- H225 Highly flammable liquid and vapour.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H336 May cause drowsiness or dizziness.
- H361d Suspected of damaging the unborn child.
- H373 May cause damage to organs through prolonged or repeated exposure.

Training advice

Provide adequate information, instruction and training for operators.

References: Not available

Created: 19/03/2020

Disclaimer:

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Finar Limited be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Finar Limited has been advised of the possibility of such damages