



Safety Data Sheet

According to Hazardous Products Regulation (SOR/2015-17)

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Trade name/designation:	Toluene
Product No.:	92368
Synonymes:	no data available
CAS No.:	108-88-3
Other means of identification:	

Relevant identified uses of the substance or mixture and uses advised against

Recommended Use:	For Further Manufacturing Use Only
Uses advised against:	Not for Human or Animal Drug Use

Details of the supplier of the safety data sheet

Canada

Supplier

VWR International LLC

Street	100 Matsonford Road Radnor Corporate Center, Building One, Suite 200 P. O. Box 6660
Postal code/city	Radnor, PA 19087
Telephone	+1-800-932-5000 toll-free within US/CA +1-610-386-1700
Telefax	+1-610-728-2103





Manufacturer

VWR International Co.

Street

2360 Argentia Road

Postal code/city

Mississauga, Ontario, L5N 5Z7

Emergency telephone

Telephone

+1-613-996-6666 (Canutec, 24 hrs/day, 7 days/week, Canada)

Preparation Information

VWR International - Data Compliance

E-mail

sds@vwr.com

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Hazardous Products Regulation (SOR/2015-17)

Hazard classes and hazard categories	Hazard statements
Flammable liquid, category 2	H225
Reproductive toxicity, category 2	H361d
Acute toxicity, category 3, oral and inhalation	H301+H331
Aspiration hazard, category 1	H304
Specific target organ toxicity (single exposure), category 3, narcotic effect	H336

2.2 Label elements

Labelling in accordance with (SOR/2015-17)

Hazard pictograms



Signal word: Danger

Hazard statements	
H225	Highly flammable liquid and vapour.
H361d	Suspected of damaging the unborn child.
H301+H331	Toxic if swallowed or if inhaled.
H304	May be fatal if swallowed and enters airways.
H336	May cause drowsiness or dizziness.





Precautionary statements	
P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P243	Take precautionary measures against static discharge.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P331	IF SWALLOWED: Do NOT induce vomiting.
P302+P352	IF ON SKIN: Wash with plenty of water/...
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308+P310	IF exposed or concerned: Immediately call a POISON CENTER/doctor.

Other hazards

Hazards not otherwise classified (HNOC)

no data available

SECTION 3: Composition / information on ingredients

3.1 Substances

Substance name	Toluene
Molecular formula	C7H8
Molecular weight	92.14 g/mol
CAS No.	108-88-3

SECTION 4: First aid measures

4.1 General information

IF exposed: Immediately call a POISON CENTER/doctor. If unconscious place in recovery position and seek medical advice. Never give anything by mouth to an unconscious person or a person with cramps. Change contaminated, saturated clothing. Do not leave affected person unattended.

After inhalation

Immediately call a POISON CENTER/doctor. Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration.

In case of skin contact

After contact with skin, wash immediately with plenty of water and soap. Remove contaminated, saturated clothing immediately. In case of skin reactions, consult a physician.

After eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye. Remove contact lenses, if present and easy to do. Continue rinsing.

In case of ingestion

Immediately call a POISON CENTER/doctor. Do NOT induce vomiting. Rinse mouth thoroughly with water. Give nothing to eat or drink.

4.2 Most important symptoms/effects, acute and delayed

no data available





4.3 Indication of any immediate medical attention and special treatment needed

no data available

4.4 Self-protection of the first aider

First aider: Pay attention to self-protection!

4.5 Information to physician

no data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray

ABC-powder

Carbon dioxide (CO₂)

Nitrogen

Extinguishing media which must not be used for safety reasons

no restriction

5.2 Specific hazards arising from the chemical

In case of fire may be liberated:

Carbon dioxide (CO₂)

Carbon monoxide

5.3 Advice for firefighters

DO NOT fight fire when fire reaches explosives. In case of fire: Wear self-contained breathing apparatus.

5.4 Additional information

Do not allow run-off from fire-fighting to enter drains or water courses. Do not inhale explosion and combustion gases. Use caution when applying carbon dioxide in confined spaces. Carbon dioxide can displace oxygen. Use water spray/stream to protect personnel and to cool endangered containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

In case of major fire and large quantities: Remove persons to safety.

6.2 Environmental precautions

Discharge into the environment must be avoided.

6.3 Methods and material for containment and cleaning up

Spilled product must never be returned to the original container for recycling. Collect in closed and suitable containers for disposal.

6.4 Additional information

Clear spills immediately.





SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid: Inhalation Avoid contact with skin and eyes. Use extractor hood (laboratory). If handled uncovered, arrangements with local exhaust ventilation have to be used. If local exhaust ventilation is not possible or not sufficient, the entire working area must be ventilated by technical means. Keep away from sources of ignition. - No smoking. Usual measures for fire prevention. Take precautionary measures against static discharges.

7.2 Conditions for safe storage, including any incompatibilities

storage temperature: Ambient temperature

Storage class: 3

Keep container tightly closed in a cool, well-ventilated place. Keep/Store away from combustible materials.

7.3 Specific end use(s)

no data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredient (Designation)	Regulatory information	Country	Limit value type (country of origin)	Limit value
Toluene	Gestis	CA	LTV	188 mg/m ³ - 50 ppm

8.2 Engineering controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment. If handled uncovered, arrangements with local exhaust ventilation have to be used.

Personal protection equipment (PPE)

Wear suitable protective clothing. When handling with chemical substances, protective clothing must be worn.

Eye/face protection

Eye glasses with side protection

Skin protection

When handling with chemical substances, protective gloves must be worn. In the case of wanting to use the gloves again, clean them before taking off and air them well. Recommended glove articles





By short-term hand contact

Suitable material:	NBR (Nitrile rubber)
Thickness of the glove material:	0,425 mm
Breakthrough time (maximum wearing time):	30 min

By long-term hand contact

Suitable material:	PE (polyethylene)
Thickness of the glove material:	-
Breakthrough time (maximum wearing time):	> 480 min

Respiratory protection

Respiratory protection necessary at: aerosol or mist formation If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn.

Additional information

Wash hands before breaks and after work. Avoid contact with skin and eyes. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

Environmental exposure controls

no data available





SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

(a) Appearance	
Physical state:	liquid
Color:	colorless
(b) Odour:	no data available
(c) Odour threshold:	no data available

Safety relevant basic data

(d) pH:	no data available
(e) Melting point/freezing point:	-95 °C
(f) Initial boiling point and boiling range:	110.6 °C (1013 hPa)
(g) Flash point:	4 °C
(h) Evaporation rate:	no data available
(i) Flammability (solid, gas):	Highly flammable liquid and vapour.
(j) Flammability or explosive limits	
Lower explosion limit:	1.2 % (v/v)
Upper explosion limit:	8 % (v/v)
(k) Vapour pressure:	29 hPa (20 °C);36.7 mmHg (30 °C)
(l) Vapour density:	3.14 (20 °C)
(m) Relative density:	no data available
(n) Solubility(ies)	
Water solubility (g/L):	520 mg/l (20 °C)
Soluble (g/L) in Ethanol:	no data available
(o) Partition coefficient: n-octanol/water:	2.73 (20 °C)
(p) Auto-ignition temperature:	no data available
(q) Decomposition temperature:	no data available
(r) Viscosity	
Kinematic viscosity:	no data available
Dynamic viscosity:	0.6 mPa*s (20 °C)
(s) Explosive properties:	not applicable
(t) Oxidising properties:	not applicable

9.2 Other information

Bulk density:	not applicable
Refraction index:	1.4967 (589 nm; 20 °C)
Dissociation constant:	no data available
Surface tension:	no data available
Henry constant:	no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

no data available





10.2 Chemical stability

no data available

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

no data available

10.6 Hazardous decomposition products

no data available

10.7 Additional information

no data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute effects

Acute oral toxicity:

LD50: > 636 mg/kg - Rat - (IUCLID)

Acute dermal toxicity:

LD50: > 12124 mg/kg - Rabbit - (IUCLID)

Acute inhalation toxicity:

LC50: 12.5 mg/L - Rat - (Japan GHS Basis for Classification Data)

Irritant and corrosive effects

Primary irritation to the skin:

not applicable

Irritation to eyes:

not applicable

Irritation to respiratory tract:

not applicable

Respiratory or skin sensitization

In case of skin contact: not sensitising

After inhalation: not sensitising

STOT-single exposure

May cause drowsiness or dizziness.

STOT-repeated exposure

not applicable





CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen.

no data available	ACGIH	IARC	NTP	OSHA

Germ cell mutagenicity

No indications of human germ cell mutagenicity exist.

Reproductive toxicity

Suspected of damaging the unborn child.

Aspiration hazard

May be fatal if swallowed and enters airways.

Other adverse effects

no data available

Additional information

no data available

SECTION 12: Ecological information

12.1 Ecotoxicity

Fish toxicity:

LC50: 31.7 mg/l (96 h) - Geiger, D.L., L.T. Brooke, and D.J. Call 1990. Acute Toxicities of Organic Chemicals to Fathead Minnows (Pimephales promelas), Volume 5. Ctr.for Lake Superior Environ.Stud., Univ.of Wisconsin-Superior, Superior, WI :332 p.

Daphnia toxicity:

EC50: 9.24 mg/l (48 h) - MacLean, M.M., and K.G. Doe 1989. The Comparative Toxicity of Crude and Refined Oils to Daphnia magna and Artemia. Environment Canada, EE-111, Dartmouth, Nova Scotia :64 p

LC50: 92 mg/l (48 h) - MacLean, M.M., and K.G. Doe 1989. The Comparative Toxicity of Crude and Refined Oils to Daphnia magna and Artemia. Environment Canada, EE-111, Dartmouth, Nova Scotia :64 p.

Algae toxicity:

EC50: 12.5 mg/l (72 h) - Galassi, S., M. Mingazzini, L. Vigano, D. Cesareo, and M.L.Tosato 1988. Approaches to Modeling Toxic Responses of Aquatic Organisms to Aromatic Hydrocarbons. Ecotoxicol.Environ.Saf. 16(2):158-169

Bacteria toxicity:

no data available

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water: 2.73 (20 °C)





12.4 Mobility in soil:

no data available

12.5 Results of PBT/vPvB assessment

no data available

12.6 Other adverse effects

no data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Appropriate disposal / Product

Dispose according to legislation. Consult the appropriate local waste disposal expert about waste disposal.

Waste code product: 070104

Appropriate disposal / Package

Dispose according to legislation. Handle contaminated packages in the same way as the substance itself.

Additional information

no data available

SECTION 14: Transport information

Land transport (DOT)

UN-No.:	1294
Proper Shipping Name:	TOLUENE
Class(es):	3
Classification code:	F1
Hazard label(s):	3
Packing group:	II
Environmental hazards:	No
Marine pollutant:	No
Special precautions for user:	

Sea transport (IMDG)

UN-No.:	1294
Proper Shipping Name:	TOLUENE
Class(es):	3
Classification code:	
Hazard label(s):	3
Packing group:	II
Environmental hazards:	No
MARINE POLLUTANT:	no data available
Special precautions for user:	
Segregation group:	-





EmS-No. F-E S-D
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not relevant





Air transport (ICAO-TI / IATA-DGR)

UN-No.:	1294
Proper Shipping Name:	TOLUENE
Class(es):	3
Classification code:	
Hazard label(s):	3
Packing group:	II
Special precautions for user:	

SECTION 15: Regulatory information

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

Domestic Substance List:

SECTION 16: Other information

Abbreviations and acronyms

ACGIH - American Conference of Governmental Industrial Hygienists

DOT - Department of Transportation

IARC - International Agency for Research on Cancer

IATA-DGR - International Air Transport Association-Dangerous Goods Regulations

ICAO-TI - International Civil Aviation Organization-Technical Instructions

IMDG - International Maritime Code for Dangerous Goods

LTV - Long Term Value

NIOSH - National Institute for Occupational Safety and Health

NTP - National Toxicology Program

OSHA - Occupational Safety & Health Administration

PBT - Persistent, Bioaccumulative and Toxic

PEL - Permissible Exposure Limit

STV - Short Term Value

SVHC - Substances of Very High Concern

TLV - Threshold Limit Value

vPvB - very Persistent, very Bioaccumulative

ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road

AGS - Committee on Hazardous Substances (Ausschuss für Gefahrstoffe)

CLP - Regulation on Classification, Labelling and Packaging of Substances and Mixtures

DFG - German Research Foundation (Deutsche Forschungsgemeinschaft)

Gestis - Information system on hazardous substances of the German Social Accident Insurance (Gefahrstoffinformationssystem der Deutschen Gesetzlichen Unfallversicherung)

RID - Regulation concerning the International Carriage of Dangerous Goods by Rail

Additional information

Indication of changes: general update





The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guidance. The information in this document is based on the present state knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. VWR International and his Affiliates shall not be held liable for any damage resulting from handling.

