

**Safety Data Sheet****Toluene**

Version 1.10

Revision Date: 03/30/2021

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION****Product name** : Toluene**Recommended use of the chemical and restrictions on use**

Recommended use : Industrial chemical

**Manufacturer or supplier's details****Company** : Univar Solutions USA, Inc.**Address** : 3075 Highland Pkwy Suite 200

Downers Grove, IL 60515

United States of America (USA)

**Emergency telephone number:**

Transport North America: CHEMTREC (1-800-424-9300)

CHEMTREC INTERNATIONAL Tel # 703-527-3887

**Additional Information:** : Responsible Party: Product Compliance Department

E-mail: SDSNA@univarsolutions.com

SDS Requests: 1-855-429-2661

Website: www.univarsolutions.com

**SECTION 2. HAZARDS IDENTIFICATION****GHS Classification**

Flammable liquids : Category 2

Skin irritation : Category 2

Eye irritation : Category 2A

Germ cell mutagenicity : Category 1B

Carcinogenicity : Category 1A

Reproductive toxicity : Category 2

Specific target organ toxicity : Category 3 (Central nervous system)  
- single exposureSpecific target organ toxicity : Category 2 (Auditory system, Eyes)  
- repeated exposure (Inhalation)

Aspiration hazard : Category 1

**GHS label elements**

Hazard pictograms :



Signal word : Danger

Hazard statements : H225 Highly flammable liquid and vapour.

**Safety Data Sheet**  
**Toluene**

Version 1.10

Revision Date: 03/30/2021

H304 May be fatal if swallowed and enters airways.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H336 May cause drowsiness or dizziness.  
H340 May cause genetic defects.  
H350 May cause cancer.  
H361 Suspected of damaging fertility or the unborn child.  
H373 May cause damage to organs through prolonged or repeated exposure if inhaled.

## Precautionary statements

: **Prevention:**

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P210 Keep away from heat/sparks/open flames/hot surfaces. 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/ vapours/ spray.  
P264 Wash skin thoroughly after handling.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response:**

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.  
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P331 Do NOT induce vomiting.  
P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P362 Take off contaminated clothing and wash before reuse.  
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

**Storage:**

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P403 + P235 Store in a well-ventilated place. Keep cool.  
P405 Store locked up.

**Disposal:**

P501 Dispose of contents/ container to an approved waste dis-

**Safety Data Sheet**
**Toluene**

Version 1.10

Revision Date: 03/30/2021

posal plant.

**Other hazards**

None known.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Substance

**Hazardous components**

CAS-No.	Chemical name	Weight percent
108-88-3	Toluene	90 - 100

Actual concentration is withheld as a trade secret

Any Concentration shown as a range is due to batch variation.

**SECTION 4. FIRST AID MEASURES**

- General advice : Move out of dangerous area.  
Show this safety data sheet to the doctor in attendance.  
Symptoms of poisoning may appear several hours later.  
Do not leave the victim unattended.
- If inhaled : Consult a physician after significant exposure.  
If unconscious, place in recovery position and seek medical advice.
- In case of skin contact : If skin irritation persists, call a physician.  
If on skin, rinse well with water.  
If on clothes, remove clothes.
- In case of eye contact : Immediately flush eye(s) with plenty of water.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear.  
Do not induce vomiting without medical advice.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.  
Take victim immediately to hospital.

**SECTION 5. FIREFIGHTING MEASURES**

- Suitable extinguishing media : Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during fire-fighting : Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : Carbon oxides  
Unburned hydrocarbons

**Safety Data Sheet**
**Toluene**

Version 1.10

Revision Date: 03/30/2021

- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers.
- Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
- Environmental precautions : Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

**SECTION 7. HANDLING AND STORAGE**

- Advice on protection against fire and explosion : Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.
- Advice on safe handling : Avoid formation of aerosol. Do not breathe vapours/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Take precautionary measures against static discharges. Provide sufficient air exchange and/or exhaust in work rooms. Open drum carefully as content may be under pressure. Dispose of rinse water in accordance with local and national regulations.
- Conditions for safe storage : No smoking. Keep container tightly closed in a dry and well-ventilated

## Safety Data Sheet

### Toluene

Version 1.10

Revision Date: 03/30/2021

place.  
 Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
 Observe label precautions.  
 Electrical installations / working materials must comply with the technological safety standards.

#### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

##### Components with workplace control parameters

CAS-No.	Components	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
108-88-3	Toluene	TWA	20 ppm	ACGIH
		TWA	100 ppm 375 mg/m <sup>3</sup>	NIOSH REL
		ST	150 ppm 560 mg/m <sup>3</sup>	NIOSH REL
		TWA	200 ppm	OSHA Z-2
		CEIL	300 ppm	OSHA Z-2
		Peak	500 ppm	OSHA Z-2
		TWA	100 ppm 375 mg/m <sup>3</sup>	OSHA P0
		STEL	150 ppm 560 mg/m <sup>3</sup>	OSHA P0

##### Personal protective equipment

Respiratory protection : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

##### Hand protection

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water  
Tightly fitting safety goggles  
Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : Impervious clothing  
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : When using do not eat or drink.  
When using do not smoke.  
Wash hands before breaks and at the end of workday.

**Safety Data Sheet****Toluene**

Version 1.10

Revision Date: 03/30/2021

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance	: liquid
Colour	: Clear, Colorless
Odour	: characteristic, sweet, pungent
Odour Threshold	: 2.9 ppm
pH	: No data available
Freezing Point (Melting point/freezing point)	: -95 °C (-139 °F)
Boiling Point (Boiling point/boiling range)	: 109 - 111 °C (228 - 232 °F)
Flash point	: 4 - 5 °C (39 - 41 °F) Method: Tag closed cup
Evaporation rate	: < 2 (Butyl Acetate = 1)
Flammability (solid, gas)	: No data available
Upper explosion limit	: 7.1 %(V)
Lower explosion limit	: 1.1 %(V)
Vapour pressure	: < 24 mmHg @ 20 °C (68 °F)
Relative vapour density	: < 3.14 @ 20 - 25 °C (68 - 77 °F) (Air = 1.0)
Relative density	: 0.867 - 0.88 @ 20 - 25 °C (68 - 77 °F) Reference substance: (water = 1)
Density	: 0.87 g/cm <sup>3</sup> @ 20 - 25 °C (68 - 77 °F)
Solubility(ies)	
Water solubility	: slightly soluble
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Auto-ignition temperature	: 480 - 536 °C
Thermal decomposition	: No data available
Viscosity	
Viscosity, kinematic	: < 3 mm <sup>2</sup> /s @ 20 °C (68 °F)

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity	: No dangerous reaction known under conditions of normal use.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: Vapours may form explosive mixture with air.
Conditions to avoid	: Keep away from heat, flame, sparks and other ignition

**Safety Data Sheet****Toluene**

Version 1.10

Revision Date: 03/30/2021

Incompatible materials : sources.  
Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.  
: Acids  
Strong oxidizing agents  
Bases

**SECTION 11. TOXICOLOGICAL INFORMATION****Skin corrosion/irritation****Components:****108-88-3:**

Species: Rabbit

Exposure time: 4 h

Result: Irritating to skin.

**Serious eye damage/eye irritation****Components:****108-88-3:**

Species: Rabbit

Result: Irritating to eyes.

**Germ cell mutagenicity****Components:****108-88-3:**Germ cell mutagenicity -  
Assessment

: Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

**Carcinogenicity****Components:****108-88-3:**

Carcinogenicity - Assessment

: No evidence of carcinogenicity in animal studies.

**IARC**

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**OSHA**

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**NTP**

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

## Safety Data Sheet

### Toluene

Version 1.10

Revision Date: 03/30/2021

#### Reproductive toxicity

##### Components:

###### **108-88-3:**

Effects on foetal development : Species: Rat  
Application Route: inhalation (vapour)  
Dose: 0, 250, 750, 1500, 3000 ppm  
Duration of Single Treatment: 10 d  
Frequency of Treatment: 6 hr/day  
General Toxicity Maternal: NOAEC: 750 ppm  
Developmental Toxicity: NOAEC: 750 ppm  
Symptoms: Maternal toxicity, Reduced body weight, Skeletal malformations

Teratogenicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.

Reproductive toxicity - Assessment : No toxicity to reproduction

#### STOT - single exposure

##### Components:

###### **108-88-3:**

Exposure routes: Inhalation  
Target Organs: Central nervous system  
Assessment: May cause drowsiness or dizziness., The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

#### STOT - repeated exposure

##### Components:

###### **108-88-3:**

Exposure routes: Inhalation  
Target Organs: Auditory system, Eyes  
Assessment: May cause damage to organs through prolonged or repeated exposure., The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

#### Aspiration toxicity

##### Components:

###### **108-88-3:**

May be fatal if swallowed and enters airways.

#### Further information

##### Product:

Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.  
Concentrations substantially above the TLV value may cause narcotic effects.  
Solvents may degrease the skin.



**Safety Data Sheet****Toluene**

Version 1.10

Revision Date: 03/30/2021

**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity****Components:****108-88-3:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 5.5 mg/l  
Exposure time: 96 h  
Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates : LC50 (Ceriodaphnia dubia): 3.78 mg/l  
Exposure time: 48 h  
Test Type: Renewal

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.74 mg/l  
Exposure time: 7 d

Acute aquatic toxicity- Assessment : Toxic to aquatic life.

Chronic aquatic toxicity- Assessment : Harmful to aquatic life with long lasting effects.

**Persistence and degradability**

No data available

**Bioaccumulative potential****Components:****108-88-3:**

Partition coefficient: n-octanol/water : log Pow: 2.73 (20 °C)  
pH: 7

**Mobility in soil**

No data available

**Other adverse effects****Product:**

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances  
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Toxic to aquatic life.  
Harmful to aquatic life with long lasting effects.

## Safety Data Sheet

### Toluene

Version 1.10

Revision Date: 03/30/2021

#### SECTION 13. DISPOSAL CONSIDERATIONS

##### Disposal methods

Contaminated packaging : Empty remaining contents.  
 Dispose of as unused product.  
 Do not re-use empty containers.  
 Do not burn, or use a cutting torch on, the empty drum.

#### SECTION 14. TRANSPORT INFORMATION

##### DOT (Department of Transportation):

UN1294, TOLUENE, 3, II

##### IATA (International Air Transport Association):

UN1294, TOLUENE, 3, II

##### IMDG (International Maritime Dangerous Goods):

UN1294, TOLUENE, 3, II, Flash Point: 4 - 5 °C (39 - 41 °F)

#### SECTION 15. REGULATORY INFORMATION

**WHMIS Classification** : B2: Flammable liquid  
 D2A: Very Toxic Material Causing Other Toxic Effects  
 D2B: Toxic Material Causing Other Toxic Effects

##### EPCRA - Emergency Planning and Community Right-to-Know Act

##### CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Toluene	108-88-3	1000	1000
**Benzene	71-43-2	10	10010

##### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

**SARA 311/312 Hazards** : Flammable (gases, aerosols, liquids, or solids)  
 Skin corrosion or irritation  
 Serious eye damage or eye irritation  
 Germ cell mutagenicity  
 Carcinogenicity  
 Reproductive toxicity  
 Specific target organ toxicity (single or repeated exposure)  
 Aspiration hazard

**SARA 302** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

## Safety Data Sheet

### Toluene

Version 1.10

Revision Date: 03/30/2021

**SARA 313** : The following components are subject to reporting levels established by SARA Title III, Section 313:

108-88-3 Toluene

#### Clean Air Act

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

108-88-3 Toluene

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489):

108-88-3 Toluene

#### Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

108-88-3 Toluene  
71-43-2 \*\*Benzene  
100-41-4 \*\*Ethylbenzene  
91-20-3 \*\*Naphthalene

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

108-88-3 Toluene  
71-43-2 \*\*Benzene  
100-41-4 \*\*Ethylbenzene  
91-20-3 \*\*Naphthalene

This product contains the following toxic pollutants listed under the U.S. Clean Water Act Section 307

108-88-3 Toluene

#### Massachusetts Right To Know

108-88-3 Toluene  
71-43-2 \*\*Benzene

#### Pennsylvania Right To Know

108-88-3 Toluene  
71-43-2 \*\*Benzene  
100-41-4 \*\*Ethylbenzene

#### California Prop 65

**⚠ WARNING:** This product can expose you to chemicals including \*\*Benzene, \*\*Ethylbenzene, \*\*Cumene, \*\*Naphthalene, which is/are known to the State of California to cause cancer, and Toluene, \*\*Benzene, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

#### The components of this product are reported in the following inventories:

TSCA : On TSCA Inventory  
DSL : All components of this product are on the Canadian DSL  
AICS : On the inventory, or in compliance with the inventory  
NZIoC : On the inventory, or in compliance with the inventory  
ENCS : On the inventory, or in compliance with the inventory

## Safety Data Sheet

### Toluene

Version 1.10

Revision Date: 03/30/2021

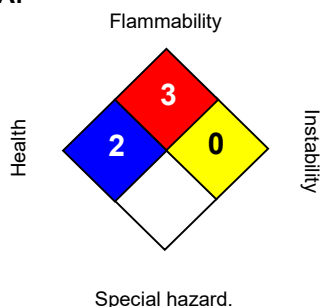
KECI : On the inventory, or in compliance with the inventory

PHIL : On the inventory, or in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

#### SECTION 16. OTHER INFORMATION

##### NFPA:



##### HMIS III:

<b>HEALTH</b>	<b>2*</b>
<b>FLAMMABILITY</b>	<b>3</b>
<b>PHYSICAL HAZARD</b>	<b>0</b>

0 = not significant, 1 = Slight,  
2 = Moderate, 3 = High  
4 = Extreme, \* = Chronic

The information accumulated is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made become available subsequently to the date hereof, we do not assume any responsibility for the results of its use. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Univar Solutions Product Compliance Department (1-855-429-2661) SDSNA@univarsolutions.com.

**Revision Date** : 03/30/2021

**Legacy SDS:** : R0000565, 100000027774

##### Material number:

16168918, 16168805, 16168797, 16168637, 16168288, 16168201, 16172811, 16163761, 16154410, 16154235, 16155553, 16157824, 16167504, 16167250, 16167249, 16161748, 16165292, 16148842, 16156346, 16147784, 16153071, 16136227, 16136226, 16155073, 16146356, 16135865, 16152078, 16146709, 16154785, 16143300, 16142589, 16140873, 16142767, 16141667, 16140945, 16157828, 16143314, 16143342, 16129469, 16127453, 16127493, 16126020, 16116034, 16108456, 16066714, 16066691, 16061579, 16076583, 20054, 16052078, 16044492, 16042922, 16020146, 758386, 744411, 744290, 710730, 710841, 659495, 638920, 605418, 599094, 591594, 583688, 577548, 74292, 554035, 554297, 554199, 554034, 550273, 547202, 508613, 508487, 102358, 87255, 86312, 53763, 87252, 102690, 70140, 85974, 53211, 54494, 53551, 86521, 53216, 69928, 102899, 69593, 103631, 54061, 70083, 86461, 102680, 53543, 69918, 85966, 53699, 127683

## Safety Data Sheet

### Toluene

Version 1.10

Revision Date: 03/30/2021

Key or legend to abbreviations and acronyms used in the safety data sheet			
ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50	Lethal Concentration 50%		