



# Toluene

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878  
Issue date: 3/31/1999 Revision date: 12/16/2022 Version: 13.0

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

#### 1.1. Product identifier

Chemical type	: Substance
Trade name	: Toluene
Trade name	: Toluene
EC Index-No.	: 601-021-00-3
EC-No.	: 203-625-9
CAS-No.	: 108-88-3
REACH registration No	: 01-2119471310-51-0016
Product code	: 11010046
IUPAC name	: toluene
Formula	: C <sub>7</sub> H <sub>8</sub>
Synonyms	: methylbenzene

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

##### 1.2.1. Relevant identified uses

Main use category	: Industrial use, Professional use, Consumer use
Industrial/Professional use spec	: Intermediate Polymer production Use in laboratories Explosives manufacture & use Rubber production and processing Use as a fuel Use in Cleaning Agents Road and construction applications Manufacture of substance Distribution of substance Uses in Coatings Use in Oil and Gas field drilling and production operations Use as binders and release agents Functional Fluids Formulation & (re)packing of substances and mixtures
Function or use category	: Adhesives, binding agents, Cleaning/washing agents and additives, Construction materials additives, Fuels, Intermediates, Laboratory chemicals

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

SLOVNAFT, a.s. a.s.  
Vičie hrdlo 1  
SK- 824 12 Bratislava  
Slovakia  
T +421-(0)2/4055-1111 - F +421-(0)2/5859-9759  
[info@slovnaft.sk](mailto:info@slovnaft.sk) - [www.slovnaft.sk](http://www.slovnaft.sk)

#### 1.4. Emergency telephone number

Emergency number : Podnikový dispečing 1: ++0421(0)2/4055 3344

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Country	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2566 (Healthcare professionals- 24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	
Israel	Israel Poison Information Center Rambam Health Care Campus	6 Ha'Aliya Street 31096 Haifa	+972 4 854 1900	
Malta	Medicines & Poisons Info Office	Mater Dei Hospital MSD 2090 Msida	+356 2545 6508	
United Kingdom	National Poisons Information Service (Belfast Centre) Royal Victoria Hospital	Grosvenor Road BT12 6BA Belfast	0344 892 0111	Only for healthcare professionals
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH Birmingham	0344 892 0111	Only for healthcare professionals
United Kingdom	National Poisons Information Service (Cardiff Centre) University Hospital Llandough	Penlan Road CF64 2XX Cardiff	0344 892 0111	Only for healthcare professionals
United Kingdom	National Poisons Information Service (Edinburgh Centre) Royal Infirmary of Edinburgh	Little France Crescent EH16 4SA Edinburgh	0344 892 0111	Only for healthcare professionals
United Kingdom	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER London	+44 20 7188 7188	
United Kingdom	National Poisons Information Service (Newcastle Centre) Regional Drugs and Therapeutics Centre	16/17 Framlington Place Newcastle-upon-Tyne NE2 4AB Newcastle	0344 892 0111	Only for healthcare professionals

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flammable liquids, Category 2	H225
Skin corrosion/irritation, Category 2	H315
Aspiration hazard, Category 1	H304
Reproductive toxicity, Category 2	H361
Specific target organ toxicity – Single exposure, Category 3, Narcosis	H336
Specific target organ toxicity – Repeated exposure, Category 2	H373

Full text of H- and EUH-statements: see section 16

#### Adverse physicochemical, human health and environmental effects

No additional information available

### 2.2. Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



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	GHS02	GHS07	GHS08
Signal word (CLP)	: Danger		
Hazard statements (CLP)	: H225 - Highly flammable liquid and vapour. H315 - Causes skin irritation. H304 - May be fatal if swallowed and enters airways. H361 - Suspected of damaging fertility or the unborn child. H336 - May cause drowsiness or dizziness. H373 - May cause damage to organs through prolonged or repeated exposure.		
Precautionary statements (CLP)	: 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. P243 - Take precautionary measures against static discharge. P260 - Do not breathe dust, fume, gas, vapours, mist, spray. P280 - Wear eye protection, face protection, protective clothing, protective gloves. P301+P310 - If swallowed, immediately call a doctor. P331 - Do NOT induce vomiting. 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 victim to fresh air and keep at rest in a position comfortable for breathing. P308+P313 - IF exposed or concerned: Get medical advice/attention.		

### 2.3. Other hazards

Contains no PBT/vPvB substances  $\geq 0.1\%$  assessed in accordance with REACH Annex XIII

Endocrine disruptors: not yet evaluated

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Substance type	: Mono-constituent
Name	: SN / 203-625-9 / Toluene
CAS-No.	: 108-88-3
EC-No.	: 203-625-9
EC Index-No.	: 601-021-00-3

Name	Product identifier	%
toluene (Constituent)	CAS-No.: 108-88-3 EC-No.: 203-625-9 EC Index-No.: 601-021-00-3 REACH-no: 01-2119471310-51-0018	99.7 – 99.91
benzene (Impurity)	CAS-No.: 71-43-2 EC-No.: 200-753-7 EC Index-No.: 601-020-00-8 REACH-no: 05-2114576382-44-0000	0.005 – 0.06
ethylbenzene (Impurity)	CAS-No.: 100-41-4 EC-No.: 202-849-4 EC Index-No.: 601-023-00-4	0.01 – 0.03
m-xylene; (Impurity)	CAS-No.: 108-38-3 EC-No.: 203-576-3 EC Index-No.: 601-022-00-9	0.005 – 0.02
p-xylene; (Impurity)	CAS-No.: 106-42-3 EC-No.: 203-396-5 EC Index-No.: 601-022-00-9	0.005 – 0.02
o-Xylene (Impurity)	CAS-No.: 95-47-6 EC-No.: 202-422-2 EC Index-No.: 601-022-00-9	0.0005 – 0.002

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### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: Before attempting to rescue casualties, isolate area from all potential sources of ignition including disconnecting electrical supply. Ensure adequate ventilation and check that a safe, breathable atmosphere is present before entry into confined spaces. Drench contaminated clothing with water before removing to avoid risk of sparks from static electricity.
First-aid measures after inhalation	: If casualty is unconscious and: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Not breathing. Ensure that there is no obstruction to breathing and give artificial respiration by trained personnel. If necessary, give external cardiac massage and obtain medical advice. Breathing. Place in the recovery position. Administer oxygen if necessary. Obtain medical attention if casualty has an altered state of consciousness or if symptoms do not resolve.
First-aid measures after skin contact	: Remove contaminated clothing, contaminated footwear and dispose of safely. Wash affected area with soap and water. Do not wait for symptoms to develop. Seek medical attention if skin irritation, swelling or redness develops and persists. For minor thermal burns, cool the burn. Hold the burned area under cold running water for at least five minutes, or until the pain subsides. Body hypothermia must be avoided.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. If irritation, blurred vision or swelling occurs and persists, obtain medical advice from a specialist.
First-aid measures after ingestion	: in case of ingestion, always assume that aspiration has occurred. The casualty should be sent immediately to hospital. Do not wait for symptoms to develop. Do not give anything by mouth to an unconscious person. Do not induce vomiting as there is high risk of aspiration.

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

Symptoms/effects after inhalation	: Inhalation of vapours may cause headache, nausea, vomiting and an altered state of consciousness.
Symptoms/effects after skin contact	: Symptoms: reddening, irritation.
Symptoms/effects after eye contact	: Slight eye irritation.
Symptoms/effects after ingestion	: Ingestion (swallowing) of this material may result in an altered state of consciousness and loss of coordination.

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

No additional information available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Foam (trained personnel only). Water fog (trained personnel only). Dry chemical powder. Carbon dioxide. Other inert gases (subject to regulations). Sand or earth.
Unsuitable extinguishing media	: Do not use direct water jets on the burning product. they could cause splattering and spread the fire. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

### 5.2. Special hazards arising from the substance or mixture

No additional information available

### 5.3. Advice for firefighters

Protection during firefighting	: In case of a large fire or in confined or poorly ventilated spaces, wear full fire resistant protective clothing and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
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Other information : Incomplete combustion is likely to give rise to a complex mixture of airborne solid and liquid particulates, gases, including carbon monoxide, unidentified organic and inorganic compounds.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

Protective equipment : Small spillages: normal antistatic working clothes are usually adequate. Large spillages: full body suit of chemically resistant and antistatic material. Work gloves providing adequate chemical resistance, specifically to aromatic hydrocarbons. Work helmet. Antistatic non-skid safety shoes or boots. Goggles and /or face shield, if splashes or contact with eyes is possible or anticipated. Respiratory protection: a half or full-face respirator with filter(s) for organic vapours/H<sub>2</sub>S, or a Self-contained Breathing Apparatus (SCBA) can be used according to the extent of spill and predictable amount of exposure. If the situation cannot be completely assessed, or if an oxygen deficiency is possible, only SCBA's should be used.

Emergency procedures : Stop or contain leak at the source, if safe to do so. Avoid direct contact with released material. Stay upwind. In case of large spillages, alert occupants in downwind areas. Keep non-involved personnel away from the area of spillage. Alert emergency personnel. Except in case of small spillages. The feasibility of any actions should always be assessed and advised, if possible, by a trained, competent person in charge of managing the emergency. Eliminate all ignition sources if safe to do so (e.g. electricity, sparks, fires, flares). If required, notify relevant authorities according to all applicable regulations. If necessary dike the product with dry earth, sand or similar non-combustible materials. Large spillages may be cautiously covered with foam, if available, to limit vapour cloud formation. Do not use direct jets. When inside buildings or confined spaces, ensure adequate ventilation.

##### 6.1.2. For emergency responders

No additional information available

#### 6.2. Environmental precautions

Absorb spilled product with suitable non-combustible materials. Prevent product from entering sewers, rivers or other bodies of water, or underground spaces (tunnels, cellars, etc.). Transfer collected product and other contaminated materials to suitable containers for recovery or safe disposal. In case of soil contamination, remove contaminated soil and treat in accordance with local regulations. In case of small spillages in closed waters, contain product with floating barriers or other equipment. Collect spilled product by absorbing with specific floating absorbents. If possible, large spillages in open waters should be contained with floating barriers or other mechanical means. Contain spillage – ventilate area and allow to evaporate. The use of dispersants should be advised by an expert, and, if required, approved by local authorities.

#### 6.3. Methods and material for containment and cleaning up

For containment : Recommended measures are based on the most likely spillage scenarios for this material; however, local conditions (wind, air temperature, wave/current direction and speed) may significantly influence the choice of appropriate actions. For this reason, local experts should be consulted when necessary. Local regulations may also prescribe or limit actions to be taken.

#### 6.4. Reference to other sections

No additional information available

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### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Obtain special instructions before use. Risk of explosive mixtures of vapour and air. Ensure that all relevant regulations regarding explosive atmospheres, and handling and storage facilities of flammable products, are followed. Keep away from heat/sparks/open flames/hot surfaces. Do not eat, drink or smoke when using this product. Avoid contact with the hot product. Avoid release to the environment. Take precautionary measures against static electricity. Ground/bond containers, tanks and transfer/receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. The vapour is heavier than air. Beware of accumulation in pits and confined spaces. Do not use compressed air for filling, discharging, or handling operations. Avoid contact with skin and eyes. Do not ingest. Do not breathe vapours. Use adequate personal protective equipment as required. For more information regarding protective equipment and operational conditions see Exposure scenarios. Ensure that proper housekeeping measures are in place. Keep away from food and beverages. Wash the hands thoroughly after handling. Change contaminated clothes at the end of working shift.

#### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Before entering storage tanks and commencing any operation in a confined area, check the atmosphere for oxygen content and flammability. Light hydrocarbon vapours can build up in the headspace of containers. These can cause flammability / explosion hazards. Open slowly in order to control possible pressure release. Empty containers may contain flammable product residues. Do not weld, solder, drill, cut or incinerate empty containers, unless they have been properly cleaned.

Storage conditions : Cleaning, inspection and maintenance of internal structure of storage tanks must be done only by properly equipped and qualified personnel as defined by national, local or company regulations.

Information on mixed storage : KEEP SUBSTANCE AWAY FROM: (strong) acids. (strong) bases. halogens. heat sources. oxidizing agents. peroxides.

Storage area : Use and store only outdoors or in a well-ventilated area. Storage area layout, tank design, equipment and operating procedures must comply with the relevant European, national or local legislation. Storage installations should be designed with adequate bunds in case of leaks or spills. Store separately from oxidising agents.

Special rules on packaging : If the product is supplied in containers: Keep only in the original container or in a suitable container for this kind of product. Keep containers tightly closed and properly labelled. Protect from the sunlight.

Packaging materials : Recommended materials: For containers, or container linings use materials specifically approved for use with this product. some synthetic materials may be unsuitable for containers or container linings depending on the material specification and intended use. Compatibility should be checked with the manufacturer.

#### 7.3. Specific end use(s)

Site documentation to support safe handling arrangements including the selection of engineering, administrative and personal protective equipment controls in accordance with risk-based management systems is available at each manufacturing site.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### 8.1.1 National occupational exposure and biological limit values

Toluene (108-88-3)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	384 mg/m <sup>3</sup>
IOEL TWA [ppm]	100 ppm
IOEL STEL	192 mg/m <sup>3</sup>

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Toluene (108-88-3)	
IOEL STEL [ppm]	50 ppm
Slovakia - Occupational Exposure Limits	
NPHV (OEL TWA) [1]	192 mg/m <sup>3</sup>
NPHV (OEL TWA) [2]	50 ppm
NPHV (OEL C)	384 mg/m <sup>3</sup>
toluene (108-88-3)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Toluène
IOEL TWA	192 mg/m <sup>3</sup>
IOEL TWA [ppm]	50 ppm
IOEL STEL	384 mg/m <sup>3</sup>
IOEL STEL [ppm]	100 ppm
Remark	Peau
Hungary - Occupational Exposure Limits	
Local name	TOLUOL
AK (OEL TWA)	190 mg/m <sup>3</sup>
CK (OEL STEL)	380 mg/m <sup>3</sup>
Remark	b (Bőrön át is felszívódik), i (ingerlő anyag, amely izgatja a bőrt, nyálkahártyát, szemet vagy mindhármat); BEM (biológiai expozíciós mutató); EU2 (2006/15/EK irányelvben közölt érték); R+T (Azok az anyagok, amelyek RÖVID és TARTÓS expozíciója is egészségkárosodást okoz)
Regulatory reference	5/2020. (II. 6.) ITM rendelet - A kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről
Hungary - Biological Exposure Indices	
Local name	Toluol
BEI	1 mg/g creatinine Biológiai expozíciós (hatás) mutató: o-krezol - Biológiai minta: vizeletben - Mintavétel ideje: m.v. (műszak végén) 1 µmol/mmol Creatinine Biológiai expozíciós (hatás) mutató: o-krezol - Biológiai minta: vizeletben - Mintavétel ideje: m.v. (műszak végén)
Regulatory reference	5/2020. (II. 6.) ITM rendelet - A kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről
benzene (71-43-2)	
EU - Biological Limit Value (BLV)	
Local name	Benzene
BLV	28 µg/l Parameter: benzene - Medium: blood - Sampling time: immediately end of shift 46 µg/g creatinine Parameter: phenylmercapturic - Medium: urine - Sampling time: end of exposure/shift
Regulatory reference	SCOEL List of recommended health-based BLVs and BGVs
Croatia - Occupational Exposure Limits	
GVI (OEL TWA) [1]	3.25
GVI (OEL TWA) [2]	1
KGVI (OEL STEL) [ppm]	1 ppm

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<b>benzene (71-43-2)</b>	
<b>Croatia - Biological limit values</b>	
Remark	4,99 mmol/l u krajnje izdahnutom zraku
<b>Hungary - Occupational Exposure Limits</b>	
Local name	BENZOL
AK (OEL TWA)	3.25 mg/m <sup>3</sup>
Remark	k(1A) (rákkeltő), b (Bőrön át is felszívódik), i (ingerlő anyag, amely izgatja a bőrt, nyálkahártyát, szemet vagy mindhármát), BEM (biológiai expozíciós mutató); EU6 (2019/130 EU irányelvben közölt érték); T (Azok az anyagok, amelyek egészségkárosító hatása TARTÓS expozíciót követően jelentkezik)
Regulatory reference	5/2020. (II. 6.) ITM rendelet - A kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről
<b>Hungary - Biological Exposure Indices</b>	
Local name	Benzol
BEI	0.04 mg/g creatinine Biológiai expozíciós (hatás) mutató: S-fenilmerkaptursav - Biológiai minta: vizeletben - Mintavétel ideje: m.v. (műszak végén) 0.22 µmol/mmol Creatinine Biológiai expozíciós (hatás) mutató: S-fenilmerkaptursav - Biológiai minta: vizeletben - Mintavétel ideje: m.v. (műszak végén)
Regulatory reference	5/2020. (II. 6.) ITM rendelet - A kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről

### 8.1.2. Recommended monitoring procedures

No additional information available

### 8.1.3. Air contaminants formed

No additional information available

### 8.1.4. DNEL and PNEC

<b>Toluene (108-88-3)</b>	
<b>DNEL/DMEL (Workers)</b>	
Acute - systemic effects, inhalation	384 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	384 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	192 mg/m <sup>3</sup>
<b>DNEL/DMEL (General population)</b>	
Acute - systemic effects, inhalation	226 mg/m <sup>3</sup>
Acute - systemic effects, oral	8.13 mg/kg bodyweight
Long-term - systemic effects, inhalation	56.5 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	226 mg/kg bodyweight/day
<b>PNEC (Water)</b>	
PNEC aqua (freshwater)	0.68 mg/l
PNEC aqua (marine water)	0.68 mg/l
PNEC aqua (intermittent, freshwater)	0.68 mg/l
<b>PNEC (Sediment)</b>	
PNEC sediment (freshwater)	16.39 mg/kg dwt
<b>PNEC (Soil)</b>	
PNEC soil	2.89 mg/kg dwt



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### Toluene (108-88-3)

#### PNEC (STP)

PNEC sewage treatment plant	13.61 mg/l
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#### 8.1.5. Control banding

No additional information available

### 8.2. Exposure controls

#### 8.2.1. Appropriate engineering controls

##### Appropriate engineering controls:

Where hot product is handled in confined spaces, effective local ventilation must be provided.

#### 8.2.2. Personal protection equipment

##### Personal protective equipment:

Gloves. Protective goggles. Protective clothing. Gas mask with filter type A.

##### Personal protective equipment symbol(s):



#### 8.2.2.1. Eye and face protection

##### Eye protection:

If splashing is likely, full head and face protection (protective shield and/or safety goggles) should be used. If contact is likely, a protection (protective shield and/or safety goggles) should be used.

#### 8.2.2.2. Skin protection

##### Skin and body protection:

Wear suitable coveralls to prevent exposure to the skin. Coveralls should be changed at the end of the work shift and cleaned as necessary to avoid transfer of product to clothes or underwear.

##### Hand protection:

Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. Gloves must be periodically inspected and changed in case of wear, perforations or contaminations.

#### 8.2.2.3. Respiratory protection

##### Respiratory protection:

to avoid respiratory tract irritation inhalation exposure should be kept to a minimum. If exposure levels cannot be determined or estimated with adequate confidence, or an oxygen deficiency is possible, only SCBA's should be used. If necessary, approved respiratory protection equipment shall be used when handling hot product in confined spaces: enclosed face mask with cartridge/filter type "A" or self-contained breathing apparatus (SCBA). Change filter cartridge on respirator daily

#### 8.2.2.4. Thermal hazards

##### Thermal hazard protection:

None in normal conditions.

#### 8.2.3. Environmental exposure controls

##### Environmental exposure controls:

Store finished products in closed containers (e.g. bulk tanks, drums, cans). Store all VOC-containing wastes in closed, secure containers (e.g. bulk tanks, intermediate bulk containers, drums). Incinerate, absorb, or adsorb vapours stripped from solution whenever necessary. Use vapour recovery units when necessary. Carefully handle the substance to minimise releases.

##### Consumer exposure controls:

Site documentation to support safe handling arrangements including the selection of engineering, administrative and personal protective equipment controls in accordance with risk-based management systems is available at each manufacturing site.

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### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Colourless.
Odour	: aromatic odour.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: - 95 °C
Freezing point	: No data available
Boiling point	: 110.6 °C
Flash point	: 4.4 °C
Auto-ignition temperature	: 480 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: 28.4 kPa at 20°C
Relative vapour density at 20°C	: No data available
Relative density	: No data available
Density	: 867 kg/m <sup>3</sup> at 20°C
Solubility	: Water: 573 – 587 mg/l
Partition coefficient n-octanol/water (Log Pow)	: 2.73 at 20°C
Viscosity, kinematic	: 0.56 mm <sup>2</sup> /s at 25°C
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 1.3 – 6.7 vol %

#### 9.2. Other information

No additional information available

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

This substance is stable under all ordinary circumstances at ambient temperatures, and if released into the environment.

#### 10.2. Chemical stability

Stable under normal conditions.

#### 10.3. Possibility of hazardous reactions

Contact with strong oxidizers (peroxides, chromates, etc.) may cause a fire hazard.

#### 10.4. Conditions to avoid

They may be ignited by heat, sparks, static electricity or flames.

#### 10.5. Incompatible materials

A mixture with nitrates or other strong oxidisers (e.g. chlorates, perchlorates, liquid oxygen) may create an explosive mass.

#### 10.6. Hazardous decomposition products

No decomposition if stored normally.

### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified

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Acute toxicity (inhalation) : Not classified

Toluene (108-88-3)	
LD50 oral rat	5000 mg/kg
LD50 dermal rat	5000 mg/kg
LC50 Inhalation - Rat	188 mg/m <sup>3</sup>

Skin corrosion/irritation : Causes skin irritation.  
Serious eye damage/irritation : Not classified  
Respiratory or skin sensitisation : Not classified  
Germ cell mutagenicity : Not classified  
Carcinogenicity : Not classified  
Reproductive toxicity : Suspected of damaging fertility or the unborn child.  
STOT-single exposure : May cause drowsiness or dizziness.

toluene (108-88-3)	
STOT-single exposure	May cause drowsiness or dizziness.

m-xylene; (108-38-3)	
STOT-single exposure	May cause respiratory irritation.

p-xylene; (106-42-3)	
STOT-single exposure	May cause respiratory irritation.

STOT-repeated exposure : May cause damage to organs through prolonged or repeated exposure.

toluene (108-88-3)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

benzene (71-43-2)	
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard : May be fatal if swallowed and enters airways.

Toluene (108-88-3)	
Viscosity, kinematic	0.56 mm <sup>2</sup> /s at 25°C

## SECTION 12: Ecological information

### 12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Not classified

Toluene (108-88-3)	
LC50 - Fish [1]	5.5 mg/l
LC50 - Fish [2]	1.4 mg/l
LC50 - Other aquatic organisms [2]	0.74 mg/l
EC50 - Crustacea [1]	3.78 mg/l
EC50 - Other aquatic organisms [1]	134 mg/l

### 12.2. Persistence and degradability

Toluene (108-88-3)	
Persistence and degradability	Easily biodegradable (concerning to the criteria of the OECD).

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### Toluene (108-88-3)

Biochemical oxygen demand (BOD)	53 g O <sub>2</sub> /g substance
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### 12.3. Bioaccumulative potential

#### Toluene (108-88-3)

BCF - Other aquatic organisms [1]	16 – 90 low till middle bioconcentration in the aquatic organism
Bioconcentration factor (BCF REACH)	0
Partition coefficient n-octanol/water (Log Pow)	2.73 at 20°C

### 12.4. Mobility in soil

#### Toluene (108-88-3)

Mobility in soil	37 – 178 middle till high mobility in soil
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### 12.5. Results of PBT and vPvB assessment

#### Toluene (108-88-3)

Results of PBT assessment	The substance is not considered a PBT/vPvB
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### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Regional legislation (waste)	: DIRECTIVE 2008/98/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 19 November 2008 on waste and repealing certain Directives.
Waste treatment methods	: Contain and dispose of waste according to local regulations. External recovery and recycling of waste should comply with applicable local and/or national regulations. External treatment and disposal of waste should comply with applicable local and/or national regulations. Where possible (e.g. in the absence of relevant contamination), recycling of used substance is feasible and recommended.
Sewage disposal recommendations	: Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point. Do not empty into drains; dispose of this material and its container in a safe way.
Waste disposal recommendations	: Clear up spills immediately and dispose of waste safely. Dispose of waste or used sacks/containers according to local regulations.
Additional information	: (*) Hazardous waste according to Directive 91/689/EEC. European Waste Catalogue code(s) (Decision 2001/118/CE): The final user has the responsibility for the attribution of the most suitable code, according to the actual use(s) of the material, contaminations or alterations.
Ecology - waste materials	: Avoid any discharge of the product into waste water. Disposal in high-temperature incinerator (> 1200 °C).
EWG (EURAL) code	: 15 01 10* - packaging containing residues of or contaminated by dangerous substances 16 03 05* - organic wastes containing dangerous substances

## SECTION 14: Transport information




In accordance with ADR / IMDG / IATA / ADN / RID

ADR	RID	ADN	IMDG	IATA
14.1. UN number				
1294	1294	1294	1294	1294

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ADR	RID	ADN	IMDG	IATA
<b>14.2. UN proper shipping name</b>				
TOLUENE (TOLUENE)	TOLUENE (TOLUENE)	TOLUENE (TOLUENE)	TOLUENE (TOLUENE)	TOLUENE (TOLUENE)
<b>14.3. Transport hazard class(es)</b>				
3 	3 	3	3	3 
<b>14.4. Packing group</b>				
II	II	II	II	II
<b>14.5. Environmental hazards</b>				
Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No
<b>14.6. Special precautions for user</b>				
F1	F1	F1		
No supplementary information available				

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

Not listed on REACH Annex XVII

Not listed on the REACH Candidate List

Not listed on REACH Annex XIV (Authorisation List)

Not listed on the PIC list (Regulation EU 649/2012)

Not listed on the POP list (Regulation EU 2019/1021)

Not listed on the Ozone Depletion list (Regulation EU 1005/2009)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Contains substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

Name	CN designation	CAS-No.	CN code	Category	Threshold	Annex
Toluene		108-88-3	2902 30 00	Category 3		Annex I

#### 15.1.2. National regulations

1993. évi XCIII. törvény a munkavédelemről

National regulation on chemical safety

Hungarian Public Act No. XXV./2000 on chemical safety

ESZCSM Regulation 33/2004 (XII. 27.)

France	
Occupational diseases	
Code	Description
RG 4	Hematopathies caused by benzene and all products containing it
RG 4 BIS	Gastrointestinal disorders caused by benzene, toluene, xylenes and all products containing them

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France	
Occupational diseases	
Code	Description
RG 84	Conditions caused by liquid organic solvents for professional use: saturated or unsaturated aliphatic or cyclic liquid hydrocarbons and mixtures thereof; liquid halogenated hydrocarbons; nitrated derivatives of aliphatic hydrocarbons; alcohols; glycols, glycol ethers; ketones; aldehydes; aliphatic and cyclic ethers, including tetrahydrofuran; esters; dimethylformamide and dimethylacetamine; acetonitrile and propionitrile; pyridine; dimethylsulfone and dimethylsulfoxide

### Germany

Water hazard class (WGK) : WGK 3, Highly hazardous to water (Classification according to AwSV; ID No. 194)

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

### Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

SZW-lijst van reprotoxische stoffen – Borstvoeding : The substance is not listed

SZW-lijst van reprotoxische stoffen –

Vruchtbaarheid

SZW-lijst van reprotoxische stoffen – Ontwikkeling : SN / 203-625-9 / Toluene is listed

### Denmark

Class for fire hazard : Class I-1

Store unit : 1 liter

Classification remarks : F <Flam. Liq. 2>; Emergency management guidelines for the storage of flammable liquids must be followed

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product  
Pregnant/breastfeeding women working with the product must not be in direct contact with the product

### Switzerland

Storage class (LK) : LK 3 - Flammable liquids

## 15.2. Chemical safety assessment

No additional information available

## SECTION 16: Other information

Data sources : LOA registration dossier.

Training advice : Before handling, storing or using the present substance for the first time, employees must be informed.

Full text of H- and EUH-statements:	
Asp. Tox. 1	Aspiration hazard, Category 1
Flam. Liq. 2	Flammable liquids, Category 2
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.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
Repr. 2	Reproductive toxicity, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2

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### Full text of H- and EUH-statements:

STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Narcosis
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SDS EU (REACH Annex II) MOL

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.