



## Toluene

32249-2.5L

Version 1.5

Revision Date 17.12.2022

### SECTION 2: Hazards identification


#### 2.1. Classification of the substance or mixture

##### REGULATION (EC) No 1272/2008

Flammable liquids Category 2  
H225 Highly flammable liquid and vapour.  
Aspiration hazard Category 1  
H304 May be fatal if swallowed and enters airways.  
Skin irritation Category 2  
H315 Causes skin irritation.  
Specific target organ toxicity - single exposure Category 3 - Central nervous system  
H336 May cause drowsiness or dizziness.  
Reproductive toxicity Category 2  
H361d Suspected of damaging the unborn child.  
Specific target organ toxicity - repeated exposure Category 2  
H373 May cause damage to organs through prolonged or repeated exposure.

#### 2.2. Label elements

##### REGULATION (EC) No 1272/2008

Hazard pictograms	:		
Signal word	:	Danger	
Hazard statements	:	H225 H304  H315 H336 H361d  H373	Highly flammable liquid and vapour. May be fatal if swallowed and enters airways.  Causes skin irritation. May cause drowsiness or dizziness. Suspected of damaging the unborn child.  May cause damage to organs through prolonged or repeated exposure.
Precautionary statements	:	P260  P280	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. Wear protective gloves/protective clothing/eye protection/face protection.

## Toluene

32249-2.5L

Version 1.5

Revision Date 17.12.2022

P284	In case of inadequate ventilation wear respiratory protection.
P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
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

Vapours may form explosive mixtures with air. Results of PBT and vPvB assessment, see chapter 12.5.

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Chemical name	CAS-No. Index-No. REACH Registration Number EC-No.	Classification 1272/2008	Concentration	Remarks
Toluene	108-88-3 601-021-00-3 203-625-9	Flam. Liq. 2; H225 Repr. 2; H361d STOT RE 2; H373; Inhalation Asp. Tox. 1; H304 Skin Irrit. 2; H315 STOT SE 3; H336	100 %	

### 3.2. Mixture

Not applicable

Occupational Exposure Limit(s), if available, are listed in Section 8.  
For the full text of the H-Statements mentioned in this Section, see Section 16.

## Toluene

32249-2.5L

Version 1.5

Revision Date 17.12.2022

---

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

*General advice:*

First aider needs to protect himself. Move out of dangerous area. Take off all contaminated clothing immediately.

*Inhalation:*

If breathed in, move person into fresh air. Call a physician immediately.

*Skin contact:*

After contact with skin, wash immediately with plenty of soap and water. Call a physician immediately.

*Eye contact:*

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Protect unharmed eye. Remove contact lenses. Call a physician if irritation develops or persists.

*Ingestion:*

When swallowed, allow water to be drunk. Do NOT induce vomiting. Call a physician immediately.

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

Ingestion may provoke the following symptoms:, Drowsiness, Dizziness, Nausea, Vomiting  
Ingestion may provoke the following symptoms:, Drowsiness, Dizziness, Nausea, Vomiting

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

Treat symptomatically.

See Section 11 for more detailed information on health effects and symptoms.

:

## Toluene

32249-2.5L

Version 1.5

Revision Date 17.12.2022

---

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

*Suitable extinguishing media:*

Water spray  
Foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry powder

*Extinguishing media which shall not be used for safety reasons:*

High volume water jet

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

Flammable.

Vapours may form explosive mixtures with air.

Vapours are heavier than air and may spread along floors.

Vapors may travel to areas away from work site before igniting/flashing back to vapor source.

In case of fire hazardous decomposition products may be produced such as:

Carbon monoxide  
Carbon dioxide (CO<sub>2</sub>)

#### 5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.

No unprotected exposed skin areas.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Do not use a solid water stream as it may scatter and spread fire.

---

### SECTION 6: Accidental release measures

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

Remove all sources of ignition. Use personal protective equipment. Ensure adequate ventilation.

#### 6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.

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

## Toluene

32249-2.5L

Version 1.5

Revision Date 17.12.2022

Soak up with inert absorbent material.  
Pick for disposal in tightly closed containers

### 6.4. Reference to other sections

For personal protection see section 8.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

*Advice on safe handling:*

Exhaust ventilation at the object is necessary. Use explosion-proof equipment. Avoid contact with skin, eyes and clothing.

*Advice on protection against fire and explosion:*

Use explosion-proof equipment. Take measures to prevent the build up of electrostatic charge. Keep away from sources of ignition - No smoking. The heavy vapours can overcome a considerable distance up to the source of ignition.

*Hygiene measures:*

Take off all contaminated clothing immediately. Recommended preventive skin protection When using, do not eat, drink or smoke.

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

*Requirements for storage areas and containers:*

Store in original container. Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Keep away from direct sunlight.

### 7.3. Specific end use(s)

no additional data available

## Toluene

32249-2.5L

Version 1.5

Revision Date 17.12.2022

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### *Occupational exposure limits:*

Components	Basis / Value type	Value / Form of exposure	Exceeding Factor	Remarks
Toluene	EH40 WEL SKIN_DES			Can be absorbed through the skin.
Toluene	EH40 WEL TWA	191 mg/m3 50 ppm		
Toluene	EH40 WEL STEL	384 mg/m3 100 ppm		
Toluene	EU ELV STEL	384 mg/m3 100 ppm		Indicative
Toluene	EU ELV TWA	192 mg/m3 50 ppm		Indicative
Toluene	EU ELV SKIN_DES			Can be absorbed through the skin.

SKIN\_DES - Skin designation:  
TWA - Time weighted average  
STEL - Short term exposure limit

#### DNEL/ PNEC-Values

Component	End-use/impact	Exposure duration	Value	Exposure routes	Remarks
Toluene	Consumers / Long-term systemic effects		8,13mg/kg bw/d	Ingestion	
Toluene	Consumers / Long-term systemic effects		226mg/kg bw/d	Skin contact	
Toluene	Workers / Long-term systemic effects		384mg/kg bw/d	Skin contact	

## Toluene

32249-2.5L

Version 1.5

Revision Date 17.12.2022

Toluene	Consumers / Acute local effects		226 mg/m3	Inhalation	
Toluene	Workers / Acute local effects		384 mg/m3	Inhalation	
Toluene	Consumers / Acute systemic effects		226 mg/m3	Inhalation	
Toluene	Workers / Acute systemic effects		384 mg/m3	Inhalation	
Toluene	Workers / Long-term local effects		192 mg/m3	Inhalation	
Toluene	Consumers / Long-term systemic effects		56,5 mg/m3	Inhalation	
Toluene	Workers / Long-term systemic effects		192 mg/m3	Inhalation	

Component	Environmental compartment / Value	Remarks
Toluene	Fresh water: 0,68 mg/l	
Toluene	Fresh water sediment: 16,39 mg/kg	
Toluene	Soil: 2,89 mg/kg	
Toluene	Sewage treatment plant: 13,61 mg/l	

### 8.2. Exposure controls

#### Occupational exposure controls

The Personal Protective Equipment must be in accordance with EN standards: respirator EN 136, 140, 149; safety glasses EN 166; protective suit: EN 340, 463, 468, 943-1, 943-2; gloves EN 374, 511;



## Toluene

32249-2.5L

Version 1.5

Revision Date 17.12.2022

safety shoes EN-ISO 20345.  
Ensure that eyewash stations and safety showers are close to the workstation location.  
Do not breathe vapours/dust.

### Engineering measures

Use with local exhaust ventilation.  
Prevent vapour buildup by providing adequate ventilation during and after use.

### Personal protective equipment

#### *Respiratory protection:*

In the case of vapour formation use a respirator with an approved filter.  
Recommended Filter type:  
Organic vapour type

#### *Hand protection:*

Glove material: Viton®  
Break through time: > 480 min  
Glove thickness: 0,7 mm  
Vitoject® 890  
Gloves must be inspected prior to use.  
Replace when worn.

Remarks:Supplementary note: The specifications are based on information and tests from similar substances by analogy.

Due to varying conditions ( e.g.temperature or other strains) it must be considered that the usage of a chemical protective glove in practice may be much shorter than the permeation time determined in accordance with EN 374.

Since actual conditions of practical use often deviate from standardised conditions according EN 374 the glove manufacturer recommends to use the chemical protective glove in practice not longer than 50% of the recommended permeation time.

Manufacturer´s directions for use should be observed because of great diversity of types .

Suitable gloves tested according EN 374 are supplied e.g. from KCL GmbH, D-36124 Eichenzell, Vertrieb@kcl.de

#### *Eye protection:*

Safety goggles

#### *Skin and body protection:*

Flame retardant antistatic protective clothing.

## Toluene

32249-2.5L

Version 1.5

Revision Date 17.12.2022

### Environmental exposure controls

Handle in accordance with local environmental regulations and good industrial practices.

## SECTION 9: Physical and chemical properties

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

Physical state	: liquid
Colour	: colourless
Odour	: aromatic
molecular weight	: 92,14 g/mol
Melting point/range	: -95 °C
Boiling point/boiling range	: 109 - 112 °C at 1.013 hPa
Upper explosion limit	: 7 %(V)
Lower explosion limit	: 1,2 %(V)
Flash point	: 6 °C Method: closed cup
Auto-ignition temperature	: No data available
Decomposition temperature	: No decomposition if stored and applied as directed.
pH	: No data available
Viscosity, kinematic	: No data available
Water solubility	: 0,5 g/l at 20 °C
Solubility in other solvents	: Soluble in most organic solvents
Partition coefficient: n-octanol/water	: log Pow 2,65

## Toluene

32249-2.5L

Version 1.5

Revision Date 17.12.2022

---

Vapour pressure : 123 hPa  
at 50 °C

Vapour pressure : 29 hPa  
at 20 °C

Density : 0,865 - 0,868 g/cm<sup>3</sup>  
at 20 °C

### 9.2 Other Information

Evaporation rate : No data available

Viscosity, dynamic : No data available

---

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable under normal conditions.

### 10.2. Chemical stability

No decomposition if stored and applied as directed.

### 10.3. Possibility of hazardous reactions

Hazardous polymerisation does not occur.

### 10.4. Conditions to avoid

Heat, flames and sparks.  
Keep away from direct sunlight.

### 10.5. Incompatible materials

Strong oxidizing agents  
Strong acids

## Toluene

32249-2.5L

Version 1.5

Revision Date 17.12.2022

May attack many plastics, rubbers and coatings.

### 10.6. Hazardous decomposition products

In case of fire hazardous decomposition products may be produced such as:

Carbon monoxide  
Carbon dioxide (CO<sub>2</sub>)

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

*Acute oral toxicity:*

LD50

Species: Rat

Value: > 5.000 mg/kg

Method: EC Directive 92/69/EEC B.1 Acute Toxicity (Oral)

*Acute dermal toxicity:*

LD50

Species: Rabbit

Value: > 5.000 mg/kg

*Acute inhalation toxicity:*

LC50

Species: Rat

Value: > 20 mg/l

Exposure time: 4 h

Method: OECD Test Guideline 403

*Skin irritation:*

Species: Rabbit

Result: irritating

Method: EEC 92/69, B.4

*Eye irritation:*

Species: Rabbit

Result: non-irritant

Method: OECD Test Guideline 405

*Respiratory or skin sensitisation:*

Route of exposure: Dermal

Species: Guinea pig

Result: non-sensitizing

## Toluene

32249-2.5L

Version 1.5

Revision Date 17.12.2022

---

Method: EEC 92/69, B.6

*Repeated dose toxicity:*

Note: Conclusive and supporting classification (Ref: REACH Dossier - ECHA disseminated data)

*Carcinogenicity:*

Species: not specified

Note: Not classified due to data which are conclusive although insufficient for classification.

*Germ cell mutagenicity:*

Test Method: In vitro mammalian cell gene mutation test

Cell type: mouse lymphoma cells

Metabolic activation: with and without metabolic activation

Result: negative

Method: OECD Test Guideline 476

*Reproductive toxicity:*

Remarks: Classification based on Annex VI of regulation 1272/2008/EC.

*Aspiration hazard:*

May be fatal if swallowed and enters airways.

### 11.2. Information on other hazards

Endocrine disrupting properties

No data available

*Other information:*

Solvent removes skin oil from the skin.

Solvent vapours have a narcotic effect if inhaled in high concentrations.

---

## SECTION 12: Ecological information

### 12.1. Toxicity

*Toxicity to fish:*

No data available

*Toxicity to aquatic plants:*

No data available

*Toxicity to Microorganisms:*

No data available

## Toluene

32249-2.5L

Version 1.5

Revision Date 17.12.2022

---

*Toxicity to aquatic invertebrates:*  
No data available

*Chronic toxicity to aquatic invertebrates:*  
No data available

### 12.2. Persistence and degradability

*Biodegradability:*  
Biodegradation: 81 %  
Exposure time: 5 d  
Result: Readily biodegradable

### 12.3. Bioaccumulative potential

No data available

### 12.4. Mobility in soil

No data available

### 12.5. Results of PBT and vPvB assessment

No data available

### 12.6. Endocrine disrupting properties

No data available

### 12.7. Other adverse effects

Do not flush into surface water or sanitary sewer system.

---

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

*Product:*  
Dispose according to legal requirements.

*Packaging:*  
Legal requirements are to be considered in regard of reuse or disposal of used packaging materials

*Further information:*  
Provisions relating to waste:

## Toluene

32249-2.5L

Version 1.5

Revision Date 17.12.2022

EC Directive 2006/12/EC; 2008/98/EEC  
Regulation No. 1013/2006

For personal protection see section 8.

### SECTION 14: Transport information

#### 14.1 UN number

ADR/RID:1294

IMDG:1294

IATA:1294

#### 14.2 UN proper shipping name

ADR/RID:TOLUENE

IMDG:TOLUENE

IATA:Toluene

#### 14.3 Transport hazard class(es)

ADR/RID: 3

IMDG: 3

IATA: 3

#### 14.4 Packaging group

ADR/RID: II

IMDG: II

IATA: II

#### 14.5 Environmental hazards

ADR/RID:no

Marine pollutant: no

#### 14.6 Special precautions for user

No data available

#### 14.7 Maritime transport in bulk according to IMO instruments

No data available

### SECTION 15: Regulatory information

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

Basis	Value	Remarks
Regulation (EC) No. 1907/2006, Annex XVII		This product contains an ingredient according to Annex XVII of the REACH Regulation1907/2006/EC.
Directive 2012/18/EC SEVESO III Listed in Regulation : P5c: FLAMMABLE LIQUIDS	<b>Quantity:</b> 5.000.000 kg <b>Quantity:</b> 50.000.000 kg	

**Toluene**

32249-2.5L

Version 1.5

Revision Date 17.12.2022

Number in Regulation: 1.2.5.3		
Substances of very high concern (SVHC)		This product does not contain substances of very high concern according to Regulation (EC) No Article 57 above the respective regulatory 1907/2006 (REACH), concentration limit of $\geq 0.1\%$ (w/w).

**Poison Control Center**

Country	Phone Number
Austria	+4314064343
Belgium	070 245245
Bulgaria	(+35929154233
Croatia	(+3851)23-48-342
Cyprus	+357 2240 5611
Czech Republic	+420224919293; +420224915402
Denmark	82121212
Estonia	16662; (+372)6269390
Finland	9471977
France	+33(0)145425959
Greece	+30 210 779 3777
Hungary	(+36-80)201-199
Iceland	5432222
Ireland	+353(1)8092166
Italy	0382 24444
Germany	Berlin : 030/19240
	Bonn : 0228/19240
	Erfurt : 0361/730730
	Freiburg : 0761/19240
	Göttingen : 0551/19240

Country	Phone Number
Liechtenstein	+41 442515151
Lithuania	+370532362052
Luxembourg	070245245; (+352)80002-5500
Malta	+356 2395 2000
Netherlands	030-2748888
Norway	22591300
Poland	+48 42 25 38 400
Portugal	800250250
Romania	+40 21 318 3606
Slovakia (NTIC)	+421 2 54 774 166
Slovenia	+386 1 400 6051
Spain	+34915620420
Sweden	112 (begär Giftninformation); +46104566786
Switzerland	145
United Kingdom	(+44) 844 892 0111



## Toluene

32249-2.5L

Version 1.5

Revision Date 17.12.2022

	Homburg : 06841/19240
	Mainz : 06131/19240
	Munich : 089/19240
Latvia	+37167042473

### Other inventory information

US. Toxic Substances Control Act  
On TSCA Inventory

Australia. Inventory of Industrial Chemicals (AIIC), as amended  
On the inventory, or in compliance with the inventory

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)  
All components of this product are on the Canadian DSL

Japan. Kashin-Hou Law List  
On the inventory, or in compliance with the inventory

Korea. Existing Chemicals Inventory (KECI)  
On the inventory, or in compliance with the inventory

Philippines. Inventory of Chemicals and Chemical Substances (PICCS)  
On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances (IECSC)  
On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand  
On the inventory, or in compliance with the inventory

Taiwan Chemical Substance Inventory (TCSI)  
On the inventory, or in compliance with the inventory

### 15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

## Toluene

32249-2.5L

Version 1.5

Revision Date 17.12.2022

### SECTION 16: Other information

#### Text of H-statements referred to under heading 3

Toluene	:	H225	Highly flammable liquid and vapour.
		H361d	Suspected of damaging the unborn child.
		H373	May cause damage to organs through prolonged or repeated exposure if inhaled.
		H304	May be fatal if swallowed and enters airways.
		H315	Causes skin irritation.
		H336	May cause drowsiness or dizziness.
benzene (Impurity)	:	H225	Highly flammable liquid and vapour.
		H315	Causes skin irritation.
		H319	Causes serious eye irritation.
		H340	May cause genetic defects.
		H350	May cause cancer.
		H372	Causes damage to organs through prolonged or repeated exposure if swallowed and inhaled.
		H304	May be fatal if swallowed and enters airways.
		H412	Harmful to aquatic life with long lasting effects.

#### Further information

All directives and regulations refer to amended versions.  
Vertical lines in the left hand margin indicate a relevant amendment from the previous version.

#### Abbreviations:

EC European Community  
CAS Chemical Abstracts Service  
DNEL Derived no effect level  
PNEC Predicted no effect level  
vPvB Very persistent and very bioaccumulative substance  
PBT Persistent, bioaccumulative und toxic substance

**Toluene**

32249-2.5L

Version 1.5

Revision Date 17.12.2022

---

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user.

This information should not constitute a guarantee for any specific product properties.

---