

**Safety data sheet**  
**according to 1907/2006/EC, Article 31 Commission**  
**regulation (EU) 2020/878**

Printing date 23.03.2023

Version number 12.0 (replaces version 11.0)

Revision: 23.03.2023

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

### 1.1 Product identifier

• **Trade name:** Toluene, for GC residue analysis

• **Article number:** TO0081

• **CAS Number:**

108-88-3

• **EC number:**

203-625-9

• **Index number:**

601-021-00-3

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

• **Sector of Use** SU10 Formulation [mixing] of preparations and/or re-packaging (excluding alloys)

#### Process category

PROC5 Mixing or blending in batch processes

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

PROC15 Use as laboratory reagent

• **Application of the substance / the preparation:** Laboratory reagent

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

#### Manufacturer/Supplier:

Scharlab, S.L.

C/Gato Pérez, 33. Pol.Ind. Mas d'en Cisa

08181 Sentmenat (Barcelona) SPAIN

Tel: (+34) 93 745 64 00 - FAX: (+34) 93 715 27 65

email: scharlab@scharlab.com

Internet Web Site: www.scharlab.com

#### Regional representation:

Scharlab, S.L.

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email: scharlab@scharlab.com

Internet Web Site: www.scharlab.com

• **Further information obtainable from:** technical department

### 1.4 Emergency telephone number:

Please contact the regional Scharlab distributor/dealer in your country

During normal opening times: Scharlab, S.L. (+34) 93 715 18 11

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

• **Classification according to Regulation (EC) No 1272/2008**



flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



health hazard

Repr. 2

H361d Suspected of damaging the unborn child.

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STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



Skin Irrit. 2 H315 Causes skin irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

**2.2 Label elements****Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labelled according to the GB CLP regulation.

**Hazard pictograms**

GHS02



GHS07



GHS08

**Signal word** Danger**Hazard statements**

H225 Highly flammable liquid and vapour.

H315 Causes skin irritation.

H361d Suspected of damaging the unborn child.

H336 May cause drowsiness or dizziness.

H373 May cause damage to organs through prolonged or repeated exposure.

H304 May be fatal if swallowed and enters airways.

**Precautionary statements**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

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 [or shower].

P370+P378 In case of fire: Use CO<sub>2</sub>, powder or water spray to extinguish.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**2.3 Other hazards****Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**SECTION 3: Composition/information on ingredients****3.1 Substances****CAS No. Description**

108-88-3 toluene

**Identification number(s)****EC number:** 203-625-9**Index number:** 601-021-00-3

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**SECTION 4: First aid measures****4.1 Description of first aid measures****General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Take affected persons out into the fresh air.

In case of irregular breathing or respiratory arrest provide artificial respiration.

Personal protection for the First Aider.

Special First Aid training required.

If vapors are suspected to be still present, the rescuer should wear a suitable mask or self-contained breathing apparatus. It can be dangerous for the person providing help to apply mouth-to-mouth resuscitation.

**After inhalation:**

Take affected persons into fresh air and keep quiet.

In severe cases such as cardiorespiratory arrest, artificial respiration techniques such as mouth-to-mouth resuscitation, cardiac massage, oxygen supply, etc. will be applied.

In case of unconsciousness place patient stably in side position for transportation.

Supply fresh air and to be sure call for a doctor.

**After skin contact:**

Wash off immediately with plenty of water for at least 15 minutes.

Immediately remove contaminated clothing.

Wash contaminated clothing before reuse.

**After eye contact:**

Rinse opened eye for several minutes under running water.

In the event that the injured person wears contact lenses, they must be removed as long as they are not stuck to the eyes, otherwise additional damage could occur.

Seek medical treatment.

**After swallowing:**

Call a doctor immediately.

Clean mouth with water and drink afterwards plenty of water.

Do not induce vomiting. Risk of perforation.

Never give anything by mouth to an unconscious person.

If the affected person vomits, keep the head down so that the vomit does not enter the lungs.

**4.2 Most important symptoms and effects, both acute and delayed**

The main symptoms are described for different cases of contact: Skin, eyes, inhalation and ingestion.

Nausea

Dizziness

Headache

**4.3 Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

Contact a poison treatment specialist immediately if a large amount has been ingested or inhaled.

**SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing agents:**

CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

**For safety reasons unsuitable extinguishing agents:** Water with full jet**5.2 Special hazards arising from the substance or mixture**

Highly flammable liquid and vapor.

In the case of action of heat due to a fire in the vicinity, there is a danger of bursting. containers should move to an area that offers security, provided that this operation can be performed safely.

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Cooling with water spray containers exposed to fire. When opening the containers ensure nonexistence of sparks or ignition means in the vicinity.

During heating or in case of fire poisonous gases are produced.

Carbon monoxide (CO)

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

Can form explosive gas-air mixtures.

Move containers to an area that offers security, provided that this operation can be performed safely.

• **5.3 Advice for firefighters**

• **Protective equipment:**

In the work of extinction it is necessary to provide respiratory protection and full chemical protective clothing.

Wear self-contained respiratory protective device.

Wear fully protective suit.

• **Additional information**

Collect contaminated fire fighting water separately. It must not enter the sewage system.

In the event of a major fire and large quantities, evacuate the area and fight the fire from a distance given the risk of explosion.

Cool endangered receptacles with water spray.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

## SECTION 6: Accidental release measures

• **6.1 Personal precautions, protective equipment and emergency procedures**

Evacuate and restrict access.

Particular danger of slipping on leaked/spilled product.

Avoid sources of ignition.

Ventilate area.

Use water fog to evaporate or ventilate.

If confined space, use self-contained breathing apparatus.

Use respiratory protective device against the effects of fumes/dust/aerosol.

Isolate leaks as long as it does not pose an additional risk to the people who perform this function.

Wear protective equipment. Keep unprotected persons away.

• **6.2 Environmental precautions:**

Do not allow to penetrate the ground/soil.

Do not allow to enter sewers/ surface or ground water.

• **6.3 Methods and material for containment and cleaning up:**

Dispose of solid materials or waste in an authorized center.

Send for recovery or disposal in suitable receptacles.

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

• **6.4 Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

## SECTION 7: Handling and storage

• **7.1 Precautions for safe handling**

Avoid breathing mist/vapours/spray.

Store in cool, dry place in tightly closed receptacles.

Wear suitable respiratory protective device when decanting larger quantities without extractor facilities.

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Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).

Wear an individual protective equipment.

Wear chemically sealed goggles and / or face shield.

Avoid contact with eyes and skin.

Do not eat, drink or smoke during use.

Wash hands after any manipulation.

• **Information about fire - and explosion protection:**

Use explosion-proof apparatus / fittings and spark-proof tools.

Traces of flammable substances may collect in the steam chamber of enclosed systems. Keep clear of ignition sources.

Vapors are heavier than air and may spread along floors.

Dust can combine with air to form an explosive mixture.

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

• **7.2 Conditions for safe storage, including any incompatibilities**

• **Storage:**

• **Requirements to be met by storerooms and receptacles:**

Store in a cool, dry, well-ventilated place.

Store in a cool location.

• **Information about storage in one common storage facility:** Store away from oxidising agents.

• **Further information about storage conditions:**

Protect from exposure to the light.

Store under lock and key and out of the reach of children.

Keep container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

See product's label for recommended storage temperature.

• **7.3 Specific end use(s)** No further relevant information available.

## SECTION 8: Exposure controls/personal protection

• **8.1 Control parameters**

• **Ingredients with limit values that require monitoring at the workplace:**

**108-88-3 toluene**

WEL Short-term value: 384 mg/m<sup>3</sup>, 100 ppm

Long-term value: 191 mg/m<sup>3</sup>, 50 ppm

Sk

• **DNELs**

DNEL worker, acute. Systematic effects: Inhalative - 384 mg/m<sup>3</sup>

DNEL worker, acute. Local effects: Inhalative - 343 mg/m<sup>3</sup>

DNEL worker, cronic. Systematic effects: Inhalative - 192 mg/m<sup>3</sup>

DNEL worker, cronic. Systematic effects: Dermic - 384 mg/kg body weight

DNEL worker, cronic. Local effects: Inhalative - 192 mg/m<sup>3</sup>

DNEL consumer, acute. Systematic effects: Inhalative - 226 mg/m<sup>3</sup>

DNEL consumer, acute. Local effects: Inhalative - 226 mg/m<sup>3</sup>

DNEL consumer, prolonged. Systematic effects: Inhalative - 56.5 mg/m<sup>3</sup>

DNEL consumer, prolonged. Systematic effects: Dermic - 226 mg/kg body weight

DNEL consumer, prolonged. Systematic effects: Oral - 8.13 mg/kg body weight

• **PNECs**

PNEC (Fresh water): 0.68 mg/L

PNEC (Sea water): 0.68 mg/L

PNEC (Freshwater sediments): 16.39 mg/kg

PNEC (Seawater sediments): 16.39 mg/kg

PNEC (Soil): 2.89 mg/kg

PNEC (Residual water depuration system): 13.61 mg/l

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- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Appropriate engineering controls** No further data; see item 7.
- **Individual protection measures, such as personal protective equipment**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.  
Avoid contact with the skin.  
Avoid contact with the eyes and skin.
- **Respiratory protection:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Hand protection**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye/face protection**



Tightly sealed goggles

## SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **General Information**
- **Physical state** Fluid
- **Colour:** Colourless
- **Odour:** Aromatic
- **Odour threshold:** Not determined.
- **Melting point/freezing point:** -95 °C
- **Boiling point or initial boiling point and boiling range** 110-111 °C
- **Flammability** Highly flammable.
- **Lower and upper explosion limit**
- **Lower:** 1.2 Vol %
- **Upper:** 7 Vol %
- **Flash point:** 4 °C
- **Ignition temperature:** 535 °C

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• <b>Decomposition temperature:</b>	Not determined.
• <b>pH</b>	Not determined.
• <b>Viscosity:</b>	
• <b>Kinematic viscosity</b>	Not determined.
• <b>Dynamic at 20 °C:</b>	0.56 mPas
• <b>Solubility</b>	
• <b>water at 15 °C:</b>	0.5 g/l
• <b>Partition coefficient n-octanol/water (log value)</b>	0.43616
• <b>Vapour pressure at 20 °C:</b>	29 hPa
• <b>Density and/or relative density</b>	
• <b>Density at 20 °C:</b>	0.87 g/cm <sup>3</sup>
• <b>Relative density</b>	Not determined.
• <b>Vapour density</b>	Not determined.
• <b>9.2 Other information</b>	
• <b>Appearance:</b>	
• <b>Form:</b>	Fluid
• <b>Important information on protection of health and environment, and on safety.</b>	
• <b>Auto-ignition temperature:</b>	Not determined.
• <b>Explosive properties:</b>	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
• <b>Molecular weight</b>	92.14 g/mol
• <b>Change in condition</b>	
• <b>Evaporation rate</b>	Not determined.
• <b>Information with regard to physical hazard classes</b>	
• <b>Explosives</b>	Void
• <b>Flammable gases</b>	Void
• <b>Aerosols</b>	Void
• <b>Oxidising gases</b>	Void
• <b>Gases under pressure</b>	Void
• <b>Flammable liquids</b>	Highly flammable liquid and vapour.
• <b>Flammable solids</b>	Void
• <b>Self-reactive substances and mixtures</b>	Void
• <b>Pyrophoric liquids</b>	Void
• <b>Pyrophoric solids</b>	Void
• <b>Self-heating substances and mixtures</b>	Void
• <b>Substances and mixtures, which emit flammable gases in contact with water</b>	Void
• <b>Oxidising liquids</b>	Void
• <b>Oxidising solids</b>	Void
• <b>Organic peroxides</b>	Void
• <b>Corrosive to metals</b>	Void
• <b>Desensitised explosives</b>	Void

## SECTION 10: Stability and reactivity

- **10.1 Reactivity** Highly flammable liquid and vapor.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
Stable at environment temperature.  
No decomposition if used and stored according to specifications.

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- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid**  
Heat, open flames and sparks  
Gas generation during decomposition can cause overpressure in closed systems.
- **10.5 Incompatible materials:** Strong oxidizing agents.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

## SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity**
- **LD/LC50 values relevant for classification:**

Oral	LD50	5,580 mg/kg (rat)
Dermal	LD50	>5,000 mg/kg (rabbit)
Inhalative	LC50/4 h	49 mg/l (rat)
- **Skin corrosion/irritation**  
Skin - Rabbit  
Result: Irritating to skin - 4h  
Causes skin irritation.
- **Serious eye damage/irritation**  
Eyes - Rabbit  
Result: No eye irritation
- **Respiratory or skin sensitisation**  
Maximisation test - Guinea pig  
Result: negative
- **Germ cell mutagenicity**  
In vitro mammalian cell gene mutation test.  
Mouse lymphoma test  
Result: negative  
Ames test  
Salmonella typhimurium  
Result: negative  
Rat - Bone marrow  
Result: negative
- **Carcinogenicity**  
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) International Agency of Research of Carcinogens.
- **Reproductive toxicity** Suspected of damaging the unborn child.
- **STOT-single exposure** May cause drowsiness or dizziness.
- **STOT-repeated exposure** May cause damage to organs through prolonged or repeated exposure.
- **Aspiration hazard**  
Aspiration may cause pulmonary oedema and pneumonitis.  
May be fatal if swallowed and enters airways.
- **11.2 Information on other hazards**
- **Endocrine disrupting properties** Substance is not listed.

## SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:**  
Toxicity to fish  
LC50 - Oncorhynchus kisutch (coho salmon) - 5,5 mg/L - 96 h

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Toxicity to daphnia and other aquatic invertebrates

NOEC - Daphnia magna (large sea flea) - 1 mg/L - 21h

Toxicity to algae

CE50 static test - Skeletonema costatum - &gt;443 mg/L - 96 h

**12.2 Persistence and degradability**

Biodegradability

Aerobic - Exposure time: 20 d

Result: 86 % - Readily biodegradable

(OECD Test Guideline 301B)

Theoretical oxygen demand - 3.130 mg/g

Remarks: (Literature)

**12.3 Bioaccumulative potential**

Bioconcentration factor (BCF): 90

log Pow: 2.73 (20°C)

**12.4 Mobility in soil** No further relevant information available.**12.5 Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**12.6 Endocrine disrupting properties**

The product does not contain substances with endocrine disrupting properties.

**12.7 Other adverse effects****Additional ecological information:****General notes:**

Water hazard class 3 (German Regulation) (Assessment by list): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Recommendation**

Must be specially treated adhering to official regulations.

After prior treatment product has to be landfilled adhering to the regulations pertaining to the disposal of particularly hazardous waste.

Contact waste processors for recycling information.

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

**Uncleaned packaging:****Recommendation:**

Non contaminated packagings may be reused.

Packagings that may not be cleansed are to be disposed of in the same manner as the product.

**SECTION 14: Transport information****14.1 UN number or ID number****ADR, IMDG, IATA**

UN1294

**14.2 UN proper shipping name****ADR**

1294 TOLUENE

**IMDG, IATA**

TOLUENE

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**14.3 Transport hazard class(es)****ADR, IMDG, IATA**

<b>Class</b>	3 Flammable liquids.
<b>Label</b>	3
<b>14.4 Packing group</b>	
<b>ADR, IMDG, IATA</b>	II
<b>14.5 Environmental hazards:</b>	
<b>Marine pollutant:</b>	No
<b>14.6 Special precautions for user</b>	Warning: Flammable liquids.
<b>Hazard identification number (Kemler code):</b>	33
<b>EMS Number:</b>	F-E, S-D
<b>Stowage Category</b>	B
<b>14.7 Maritime transport in bulk according to IMO instruments</b>	Not applicable.
<b>Transport/Additional information:</b>	
<b>ADR</b>	
<b>Limited quantities (LQ)</b>	1L
<b>Transport category</b>	2
<b>Tunnel restriction code</b>	D/E
<b>UN "Model Regulation":</b>	UN 1294 TOLUENE, 3, II

## SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- Directive 2012/18/EU**
- Named dangerous substances - ANNEX I -**
- Seveso category P5c FLAMMABLE LIQUIDS**
- Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
- Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t
- 15.2 Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

## SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**Department issuing SDS:** product safety department

**Contact:** msds@scharlab.com

**Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

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DNEL: Derived No-Effect Level (UK REACH)  
PNEC: Predicted No-Effect Concentration (UK REACH)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
Flam. Liq. 2: Flammable liquids – Category 2  
Skin Irrit. 2: Skin corrosion/irritation – Category 2  
Repr. 2: Reproductive toxicity – Category 2  
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3  
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2  
Asp. Tox. 1: Aspiration hazard – Category 1

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**Annex: Exposure scenario 1**

- **1 - Short title of the exposure scenario** Industrial use
- **Sector of Use**  
SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
- **Product category** PC21 Laboratory chemicals
- **Process category** PROC15 Use as laboratory reagent
- **Environmental release category**  
ERC2 Formulation into mixture  
ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
- **Description of the activities / processes covered in the Exposure Scenario**  
See section 1 of the annex to the Safety Data Sheet.
- **2 - Conditions of use**
- **Duration and frequency**  
Emission days (days/year): 300  
5 workdays/week.  
8hrs (full working shift).
- **Environment**  
Wastewater is to be treated by a municipal STP. Municipal STP discharge rate <2E3 m3/d.  
Estimated substance removal from wastewater via domestic sewage treatment (%): 93.3  
Maximum allowable site tonnage based on release following total wastewater treatment removal (kg/day): 7020
- **Physical parameters** Readily biodegradable
- **Physical state** Fluid
- **Concentration of the substance in the mixture**  
Raw material.  
It covers a percentage of substance in the product up to 100 %
- **Used amount per time or activity**  
Fraction of EU tonnage used in region : 15000  
1500 tons per year  
Fraction of Regional tonnage locally used: 1
- **Other operational conditions**
- **Other operational conditions affecting environmental exposure**  
Fraction released to air from process (initial release previous to MGR): 0.025  
Fraction released to residual water from process (initial release previous to MGR): 0.02  
Fraction released to ground from process (initial release previous to MGR): 0.0001
- **Other operational conditions affecting worker exposure**  
Assumes use at not more than 20 °C above ambient temperature, unless stated differently.  
Avoid contact with the skin.  
Take precautionary measures against static discharge.  
Keep away from sources of ignition - No smoking.
- **Other operational conditions affecting consumer exposure during the use of the product**  
Not applicable.
- **Risk management measures**
- **Worker protection**
- **Organisational protective measures**  
Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.  
Keep good industrial hygiene.  
Users are advised to consider the limits of national occupational exposure or other equivalent values.  
Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
- **Technical protective measures**  
Provide explosion-proof electrical equipment.  
Ensure that suitable extractors are available on processing machines

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**Safety data sheet**  
**according to 1907/2006/EC, Article 31 Commission**  
**regulation (EU) 2020/878**

Printing date 23.03.2023

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**Trade name:** Toluene, for GC residue analysis

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**Personal protective measures**

Do not inhale gases / fumes / aerosols.

Avoid contact with the skin.

Pregnant women should strictly avoid inhalation or skin contact.

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

**Measures for consumer protection** Ensure adequate labelling.**Environmental protection measures****Air** No special measures required.**Water**

The product should not be released into water without pretreatment. An on-site wastewater treatment is recommended. The typical site treatment technology of wastewater achieves removal efficiency (%): (93.3)

**Soil** No special measures required.**Notes** In case of unintended release of the product: See section 6 of the Safety Data Sheet.**Disposal measures**

Disposal must be made according to official regulations.

Ensure that all wastewater is collected and treated in a wastewater treatment plant.

Ensure that waste is collected and contained.

Recycling possible.

**Disposal procedures**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

**Waste type** Partially emptied and uncleaned packaging**3 - Exposure estimation****Worker (oral)**

The calculated value is smaller than the DNEL.

Detailed information on the exposure estimation can be found at <http://www.ecetoc.org/tra>.**Worker (dermal)**

The calculated value is smaller than the DNEL.

Detailed information on the exposure estimation can be found at <http://www.ecetoc.org/tra>.**Worker (inhalation)**

The calculated value is smaller than the DNEL.

Detailed information on the exposure estimation can be found at <http://www.ecetoc.org/tra>.**Environment**Detailed information on the estimation of the environmental exposure can be found at <http://ecb.jrc.ec.europa.eu/euses/>.**4 - Guidance for downstream users**

Whether the downstream user acts within the scope of the Exposure Scenario can be verified based on the information in sections 1 to 8.

Whether the downstream user uses the substance / the mixture within the scope of the Exposure Scenario can be determined by means of a technical assessment.

For the risk assessment, the tools recommended by ECHA can be used.

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**Annex: Exposure scenario 2**

- **1 - Short title of the exposure scenario** Laboratory use
- **Sector of Use**  
SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
- **Product category** PC21 Laboratory chemicals
- **Process category** PROC15 Use as laboratory reagent
- **Environmental release category**  
ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
- **Description of the activities / processes covered in the Exposure Scenario**  
See section 1 of the annex to the Safety Data Sheet.
- **2 - Conditions of use**
- **Duration and frequency**  
Emission days (days/year): 365  
5 workdays/week.  
8hrs (full working shift).
- **Environment**  
Wastewater is to be treated by a municipal STP. Municipal STP discharge rate <2E3 m3/d.  
Estimated substance removal from wastewater via domestic sewage treatment (%): 93.3  
Maximum allowable site tonnage based on release following total wastewater treatment removal (kg/day): 280
- **Physical parameters** Readily biodegradable
- **Physical state** Fluid
- **Concentration of the substance in the mixture**  
Raw material.  
It covers a percentage of substance in the product up to 100 %
- **Used amount per time or activity**  
Fraction of EU tonnage used in region : 15000  
1500 tons per year  
Fraction of Regional tonnage locally used: 0.002  
Annual site tonnage: 3
- **Other operational conditions**
- **Other operational conditions affecting environmental exposure**  
Fraction released to air from process (initial release previous to MGR): 0.5  
Fraction released to residual water from process (initial release previous to MGR): 0.5  
Fraction released to ground from process (initial release previous to MGR): 0
- **Other operational conditions affecting worker exposure**  
Assumes use at not more than 20 °C above ambient temperature, unless stated differently.  
Avoid contact with the skin.  
Take precautionary measures against static discharge.  
Keep away from sources of ignition - No smoking.
- **Other operational conditions affecting consumer exposure during the use of the product**  
Not applicable.
- **Risk management measures**
- **Worker protection**
- **Organisational protective measures**  
Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.  
Keep good industrial hygiene.  
Users are advised to consider the limits of national occupational exposure or other equivalent values.  
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- **Technical protective measures**  
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