

# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/20/2022

Reviewed on 04/20/2022

## 1 Identification

- **Product identifier**
- **Trade name:** Toluene Reagent, A.C.S.
- **Article number:** 22030, 22032
- **CAS Number:**  
108-88-3
- **EC number:**  
203-625-9
- **Index number:**  
601-021-00-3
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids 2

H225 Highly flammable liquid and vapor.



GHS08 Health hazard

Toxic to Reproduction 2

H361 Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity - Repeated Exposure 2

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

Aspiration Hazard 1

H304 May be fatal if swallowed and enters airways.



GHS07

Skin Irritation 2

H315 Causes skin irritation.

Specific Target Organ Toxicity - Single Exposure 3

H336 May cause drowsiness or dizziness.

- **Label elements**

- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).

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· **Hazard pictograms**· **Signal word** *Danger*· **Hazard-determining components of labeling:***toluene*· **Hazard statements***Highly flammable liquid and vapor.**Causes skin irritation.**Suspected of damaging fertility or the unborn child.**May cause drowsiness or dizziness.**May cause damage to organs through prolonged or repeated exposure.**May be fatal if swallowed and enters airways.*· **Precautionary statements***Obtain special instructions before use.**Do not handle until all safety precautions have been read and understood.**Keep away from heat/sparks/open flames/hot surfaces. - No smoking.**Ground/bond container and receiving equipment.**Use explosion-proof electrical/ventilating/lighting/equipment.**Use only non-sparking tools.**Take precautionary measures against static discharge.**Do not breathe dust/fume/gas/mist/vapors/spray.**Wash thoroughly after handling.**Use only outdoors or in a well-ventilated area.**Wear protective gloves/protective clothing/eye protection/face protection.**If swallowed: Immediately call a poison center/doctor.**Specific treatment (see on this label).**Do NOT induce vomiting.**If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.**IF INHALED: Remove person to fresh air and keep comfortable for breathing.**IF exposed or concerned: Get medical advice/attention.**Call a poison center/doctor if you feel unwell.**Get medical advice/attention if you feel unwell.**Take off contaminated clothing and wash it before reuse.**If skin irritation occurs: Get medical advice/attention.**In case of fire: Use CO<sub>2</sub>, powder or water spray to extinguish.**Store in a well-ventilated place. Keep container tightly closed.**Store in a well-ventilated place. Keep cool.**Store locked up.**Dispose of contents/container in accordance with local/regional/national/international regulations.*· **Classification system:**· **NFPA ratings (scale 0 - 4)***Health = 1**Fire = 3**Reactivity = 0*

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· **HMIS-ratings (scale 0 - 4)**

HEALTH	1	Health = 1
FIRE	3	Fire = 3
REACTIVITY	0	Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**  
108-88-3 toluene
- **Identification number(s)**
- **EC number:** 203-625-9
- **Index number:** 601-021-00-3

### 4 First-aid measures

- **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.
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO<sub>2</sub>, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

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Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

· **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.

· **Protective Action Criteria for Chemicals**

· **PAC-1:**

67 ppm

· **PAC-2:**

560 ppm

· **PAC-3:**

3700\* ppm

## 7 Handling and storage

· **Handling:**

· **Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

· **Information about protection against explosions and fires:**

Keep ignition sources away - Do not smoke.

Protect from heat.

Protect against electrostatic charges.

· **Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:** Store in a cool location.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:**

Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

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

## 8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

**108-88-3 toluene**

PEL Long-term value: 200 ppm  
Ceiling limit value: 300; 500\* ppm  
\*10-min peak per 8-hr shift

REL Short-term value: 560 mg/m<sup>3</sup>, 150 ppm  
Long-term value: 375 mg/m<sup>3</sup>, 100 ppm

TLV Long-term value: 20 ppm  
BEI, OTO, A4

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· **Ingredients with biological limit values:**

**108-88-3 toluene**

BEI 0.02 mg/L  
 Medium: blood  
 Time: prior to last shift of workweek  
 Parameter: Toluene

0.03 mg/L  
 Medium: urine  
 Time: end of shift  
 Parameter: Toluene

0.3 mg/g creatinine  
 Medium: urine  
 Time: end of shift  
 Parameter: o-Cresol with hydrolysis (background)

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **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.

· **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**



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 protection:**



Tightly sealed goggles

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## 9 Physical and chemical properties

· <b>Information on basic physical and chemical properties</b>	
· <b>General Information</b>	
· <b>Appearance:</b>	
· <b>Form:</b>	Liquid
· <b>Color:</b>	According to product specification
· <b>Odor:</b>	Characteristic
· <b>Odor threshold:</b>	Not determined.
· <b>pH-value:</b> Not determined.	
· <b>Change in condition</b>	
· <b>Melting point/Melting range:</b>	-95 °C (-139 °F)
· <b>Boiling point/Boiling range:</b>	110-111 °C (230-231.8 °F)
· <b>Flash point:</b> 4 °C (39.2 °F)	
· <b>Flammability (solid, gaseous):</b> Not flammable.	
· <b>Ignition temperature:</b> 535 °C (995 °F)	
· <b>Decomposition temperature:</b> Not determined.	
· <b>Auto igniting:</b> Not determined.	
· <b>Danger of explosion:</b> Product is not explosive. However, formation of explosive air/vapor mixtures are possible.	
· <b>Explosion limits:</b>	
· <b>Lower:</b>	1.2 Vol %
· <b>Upper:</b>	7 Vol %
· <b>Vapor pressure at 20 °C (68 °F):</b> 29 hPa (21.8 mm Hg)	
· <b>Density at 20 °C (68 °F):</b> 0.87 g/cm <sup>3</sup> (7.26015 lbs/gal)	
· <b>Relative density</b> Not determined.	
· <b>Vapor density</b> Not determined.	
· <b>Evaporation rate</b> Not determined.	
· <b>Solubility in / Miscibility with</b>	
· <b>Water at 15 °C (59 °F):</b>	0.5 g/l
· <b>Partition coefficient (n-octanol/water):</b> Not determined.	
· <b>Viscosity:</b>	
· <b>Dynamic at 20 °C (68 °F):</b>	0.6 mPas
· <b>Kinematic:</b>	Not determined.
· <b>Organic solvents:</b>	100.0 %
· <b>VOC content:</b>	100.00 %
	870.0 g/l / 7.26 lb/gal
· <b>Solids content:</b> 0.0 %	
· <b>Other information</b> No further relevant information available.	

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

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- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

### 108-88-3 toluene

Oral	LD50	5,000 mg/kg (rat)
Dermal	LD50	12,124 mg/kg (rabbit)
Inhalative	LC50/4 h	5,320 mg/l (mouse)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

3

- **NTP (National Toxicology Program)**

Substance is not listed.

- **OSHA-Ca (Occupational Safety Health Administration)**

Substance is not listed.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
- *Water hazard class 2 (Assessment by list): hazardous for water*
- *Do not allow product to reach ground water, water course or sewage system.*
- *Danger to drinking water if even small quantities leak into the ground.*
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

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## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

<ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> <li>· <b>DOT, ADR, IMDG, IATA</b></li> </ul>	UNI294
<ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> <li>· <b>DOT</b></li> <li>· <b>ADR</b></li> <li>· <b>IMDG</b></li> <li>· <b>IATA</b></li> </ul>	Toluene 1294 TOLUENE TOLUENE, MARINE POLLUTANT TOLUENE
<ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> <li>· <b>DOT</b></li> </ul>	<div style="display: flex; align-items: center; gap: 10px;"> </div>
<ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>	3 Flammable liquids 3
<ul style="list-style-type: none"> <li>· <b>ADR, IMDG</b></li> </ul>	<div style="display: flex; align-items: center; gap: 10px;"> </div>
<ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>	3 Flammable liquids 3
<ul style="list-style-type: none"> <li>· <b>IATA</b></li> </ul>	<div style="display: flex; align-items: center; gap: 10px;"> </div>
<ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>	3 Flammable liquids 3
<ul style="list-style-type: none"> <li>· <b>Packing group</b></li> <li>· <b>DOT, ADR, IMDG, IATA</b></li> </ul>	II
<ul style="list-style-type: none"> <li>· <b>Environmental hazards:</b></li> <li>· <b>Marine pollutant:</b></li> </ul>	Yes (DOT) Symbol (fish and tree)
<ul style="list-style-type: none"> <li>· <b>Special marking (ADR):</b></li> </ul>	Symbol (fish and tree)
<ul style="list-style-type: none"> <li>· <b>Special precautions for user</b></li> </ul>	Warning: Flammable liquids

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· <b>Hazard identification number (Kemler code):</b> 33	
· <b>EMS Number:</b>	F-E,S-D
· <b>Stowage Category</b>	B
· <b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>DOT</b>	
· <b>Quantity limitations</b>	On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L
· <b>Hazardous substance:</b>	1000 lbs, 454 kg
· <b>Remarks:</b>	Special marking with the symbol (fish and tree).
· <b>ADR</b>	
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	1L
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>UN "Model Regulation":</b>	UN 1294 TOLUENE, 3, II

## 15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**  
No further relevant information available.

· **Sara**

· **Section 355 (extremely hazardous substances):**

Substance is not listed.

· **Section 313 (Specific toxic chemical listings):**

Substance is listed.

· **TSCA (Toxic Substances Control Act):**

ACTIVE

· **Hazardous Air Pollutants**

Substance is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

Substance is not listed.

· **Chemicals known to cause reproductive toxicity for females:**

Substance is not listed.

· **Chemicals known to cause reproductive toxicity for males:**

Substance is not listed.

· **Chemicals known to cause developmental toxicity:**

Substance is listed.

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· **Carcinogenic categories**· **EPA (Environmental Protection Agency)**

II

· **TLV (Threshold Limit Value)**

A4

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

Substance is not listed.

· **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).· **Hazard pictograms**

GHS02

GHS07

GHS08

· **Signal word** *Danger*· **Hazard-determining components of labeling:***toluene*· **Hazard statements***Highly flammable liquid and vapor.**Causes skin irritation.**Suspected of damaging fertility or the unborn child.**May cause drowsiness or dizziness.**May cause damage to organs through prolonged or repeated exposure.**May be fatal if swallowed and enters airways.*· **Precautionary statements***Obtain special instructions before use.**Do not handle until all safety precautions have been read and understood.**Keep away from heat/sparks/open flames/hot surfaces. - No smoking.**Ground/bond container and receiving equipment.**Use explosion-proof electrical/ventilating/lighting/equipment.**Use only non-sparking tools.**Take precautionary measures against static discharge.**Do not breathe dust/fume/gas/mist/vapors/spray.**Wash thoroughly after handling.**Use only outdoors or in a well-ventilated area.**Wear protective gloves/protective clothing/eye protection/face protection.**If swallowed: Immediately call a poison center/doctor.**Specific treatment (see on this label).**Do NOT induce vomiting.**If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.**IF INHALED: Remove person to fresh air and keep comfortable for breathing.**IF exposed or concerned: Get medical advice/attention.**Call a poison center/doctor if you feel unwell.**Get medical advice/attention if you feel unwell.**Take off contaminated clothing and wash it before reuse.**If skin irritation occurs: Get medical advice/attention.**In case of fire: Use CO<sub>2</sub>, powder or water spray to extinguish.**Store in a well-ventilated place. Keep container tightly closed.**Store in a well-ventilated place. Keep cool.**Store locked up.*

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

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 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.

· **Contact:**

· **Date of preparation / last revision** 04/20/2022 / -

· **Abbreviations and acronyms:**

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

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety **Health**

**TLV: Threshold Limit Value**

**PEL: Permissible Exposure Limit**

**REL: Recommended Exposure Limit**

**BEI: Biological Exposure Limit**

**Flammable Liquids 2: Flammable liquids – Category 2**

**Skin Irritation 2: Skin corrosion/irritation – Category 2**

**Toxic to Reproduction 2: Reproductive toxicity – Category 2**

**Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3**

**Specific Target Organ Toxicity - Repeated Exposure 2: Specific target organ toxicity (repeated exposure) – Category 2**

**Aspiration Hazard 1: Aspiration hazard – Category 1**

US

# Safety Data Sheet

## according to WHS Regulations

Printing date 20.04.2022

Revision: 20.04.2022

### 1 Identification

· **Product identifier**

· **Trade name:** Toluene Reagent, A.C.S.

· **Article number:** 22030, 22032

· **CAS Number:**

108-88-3

· **EC number:**

203-625-9

· **Index number:**

601-021-00-3

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

No further relevant information available.

· **Application of the substance / the mixture** Laboratory chemicals

· **Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

Tel: 215-412-8400 Fax: 215-412-8450

email: [info@emsdiasum.com](mailto:info@emsdiasum.com)

[www.emsdiasum.com](http://www.emsdiasum.com)

ProSciTech Pty Ltd

11 Carlton Street, Kirwan QLD 4817 Australia

Telephone Number: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)

Emergency Contact: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)

Website: [ems.proscitech.com](http://ems.proscitech.com)

Emgrid Australia Pty. Ltd.

P.O. Box 118

The Patch VIC 3792

Australia

Tel: 03 9752 1785

Fax: 03 9752 1784

Website: [www.emgrid.com.au](http://www.emgrid.com.au)

· **Further information obtainable from:** Product safety department

· **Emergency telephone number:**

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

### 2 Hazard(s) Identification

· **Classification of the substance or mixture**



GHS02 flame

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



GHS08 health hazard

Repr. 2 H361 Suspected of damaging fertility or the unborn child.

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.

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# Safety Data Sheet

## according to WHS Regulations

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GHS07

Skin Irrit. 2 H315 Causes skin irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

· **Label elements**· **GHS label elements**

The substance is classified and labelled according to the Globally Harmonised System (GHS).

· **Hazard pictograms**

GHS02

GHS07

GHS08

· **Signal word** *Danger*· **Hazard-determining components of labelling:***toluene*· **Hazard statements***Highly flammable liquid and vapour.**Causes skin irritation.**Suspected of damaging fertility or the unborn child.**May cause drowsiness or dizziness.**May cause damage to organs through prolonged or repeated exposure.**May be fatal if swallowed and enters airways.*· **Precautionary statements***Obtain special instructions before use.**Do not handle until all safety precautions have been read and understood.**Keep away from heat/sparks/open flames/hot surfaces. No smoking.**Ground/bond container and receiving equipment.**Use explosion-proof electrical/ventilating/lighting equipment.**Use only non-sparking tools.**Take precautionary measures against static discharge.**Do not breathe dust/fume/gas/mist/vapours/spray.**Wash thoroughly after handling.**Use only outdoors or in a well-ventilated area.**Wear protective gloves/protective clothing/eye protection/face protection.**IF SWALLOWED: Immediately call a POISON CENTER/ doctor.**Specific treatment (see on this label).**Do NOT induce vomiting.**IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.**IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.**IF exposed or concerned: Get medical advice/attention.**Call a POISON CENTER/doctor if you feel unwell.**Get medical advice/attention if you feel unwell.**Take off contaminated clothing and wash it before reuse.**If skin irritation occurs: Get medical advice/attention.**In case of fire: Use CO2, powder or water spray for extinction.**Store in a well-ventilated place. Keep container tightly closed.**Store in a well-ventilated place. Keep cool.**Store locked up.**Dispose of contents/container in accordance with local/regional/national/international regulations.*

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**Trade name: Toluene Reagent, A.C.S.**

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- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### 3 Composition and Information on Ingredients

- **Chemical characterisation: Substances**
- **CAS No. Description**  
108-88-3 toluene
- **Identification number(s)**
- **EC number:** 203-625-9
- **Index number:** 601-021-00-3

### 4 First Aid Measures

- **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.
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** Call for a doctor immediately.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO<sub>2</sub>, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

### 6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.  
Do not flush with water or aqueous cleansing agents
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.

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# Safety Data Sheet

## according to WHS Regulations

Printing date 20.04.2022

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See Section 13 for disposal information.

### 7 Handling and Storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**  
Keep ignition sources away - Do not smoke.  
Protect from heat.  
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Keep container tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.  
Protect from heat and direct sunlight.
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls and personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

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

#### 108-88-3 toluene

WES	Short-term value: 574 mg/m <sup>3</sup> , 150 ppm
	Long-term value: 191 mg/m <sup>3</sup> , 50 ppm
Sk	

- **Additional information:** The lists valid during the making were used as basis.
- **Exposure controls**
- **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.
- **Protection of hands:**



Protective gloves

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# Safety Data Sheet

## according to WHS Regulations

Printing date 20.04.2022

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Trade name: **Toluene Reagent, A.C.S.**

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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 protection:**



Tightly sealed goggles

### 9 Physical and Chemical Properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

<b>Form:</b>	Liquid
<b>Colour:</b>	According to product specification
<b>Odour:</b>	Characteristic
<b>Odour threshold:</b>	Not determined.

- **pH-value:** Not determined.

- **Change in condition**

<b>Melting point/freezing point:</b>	-95 °C
<b>Initial boiling point and boiling range:</b>	110-111 °C

- **Flash point:** 4 °C

- **Flammability (solid, gas):** Not applicable.

- **Ignition temperature:** 535 °C

- **Decomposition temperature:** Not determined.

- **Auto-ignition temperature:** Not determined.

- **Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

- **Explosion limits:**

<b>Lower:</b>	1.2 Vol %
<b>Upper:</b>	7 Vol %

- **Vapour pressure at 20 °C:** 29 hPa

<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>Evaporation rate</b>	Not determined.

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## Safety Data Sheet according to WHS Regulations

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Trade name: Toluene Reagent, A.C.S.

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· <b>Solubility in / Miscibility with water at 15 °C:</b>	0.5 g/l
· <b>Partition coefficient: n-octanol/water:</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic at 20 °C:</b>	0.6 mPas
<b>Kinematic:</b>	Not determined.
<b>Organic solvents:</b>	100.0 %
<b>VOC (EC)</b>	100.00 %
<b>Solids content:</b>	0.0 %
· <b>Other information</b>	No further relevant information available.

### 10 Stability and Reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological Information

- **Information on toxicological effects**
- **Acute toxicity**

· **LD/LC50 values relevant for classification:**

**108-88-3 toluene**

Oral	LD50	5,000 mg/kg (rat)
Dermal	LD50	12,124 mg/kg (rabbit)
Inhalative	LC50/4 h	5,320 mg/l (mouse)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant to skin and mucous membranes.
- **Serious eye damage/irritation** No irritating effect.
- **Respiratory or skin sensitisation** No sensitising effects known.
- **Additional toxicological information:**
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**  
Repr. 2

### 12 Ecological Information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.

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## Safety Data Sheet according to WHS Regulations

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Trade name: Toluene Reagent, A.C.S.



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- **Additional ecological information:**
- **General notes:**  
Water hazard class 2 (German Regulation) (Assessment by list): hazardous for water  
Do not allow product to reach ground water, water course or sewage system.  
Danger to drinking water if even small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

### 14 Transport information

- |                                     |                                                                                     |
|-------------------------------------|-------------------------------------------------------------------------------------|
| <b>· UN-Number</b>                  |                                                                                     |
| <b>· ADG, IMDG, IATA</b>            | UN1294                                                                              |
| <b>· UN proper shipping name</b>    |                                                                                     |
| <b>· ADG</b>                        | 1294 TOLUENE                                                                        |
| <b>· IMDG</b>                       | TOLUENE, MARINE POLLUTANT                                                           |
| <b>· IATA</b>                       | TOLUENE                                                                             |
| <b>· Transport hazard class(es)</b> |                                                                                     |
| <b>· ADG, IMDG</b>                  |                                                                                     |
|                                     |  |
| <b>· Class</b>                      | 3 Flammable liquids.                                                                |
| <b>· Label</b>                      | 3                                                                                   |
| <b>· IATA</b>                       |                                                                                     |
|                                     |  |
| <b>· Class</b>                      | 3 Flammable liquids.                                                                |
| <b>· Label</b>                      | 3                                                                                   |
| <b>· Packing group</b>              |                                                                                     |
| <b>· ADG, IMDG, IATA</b>            | II                                                                                  |
| <b>· Environmental hazards:</b>     |                                                                                     |
| <b>· Marine pollutant:</b>          | Yes (DOT)<br>Symbol (fish and tree)                                                 |

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# Safety Data Sheet

## according to WHS Regulations

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Trade name: Toluene Reagent, A.C.S.

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· <b>Special marking (ADG):</b>	Symbol (fish and tree)
· <b>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>Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADG</b>	
· <b>Limited quantities (LQ)</b>	1L
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>Transport category</b>	2
· <b>Tunnel restriction code</b>	D/E
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	1L
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>UN "Model Regulation":</b>	UN 1294 TOLUENE, 3, II

### 15 Regulatory information

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

· **Australian Inventory of Industrial Chemicals**

Substance is listed.

· **Standard for the Uniform Scheduling of Medicines and Poisons**

S6

· **Australia: Priority Existing Chemicals**

Substance is not listed.

· **GHS label elements**

The substance is classified and labelled according to the Globally Harmonised System (GHS).

· **Hazard pictograms**



GHS02   GHS07   GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**

toluene

· **Hazard statements**

Highly flammable liquid and vapour.

Causes skin irritation.

Suspected of damaging fertility or the unborn child.

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## Safety Data Sheet according to WHS Regulations

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**Trade name: Toluene Reagent, A.C.S.**

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*May cause drowsiness or dizziness.**May cause damage to organs through prolonged or repeated exposure.**May be fatal if swallowed and enters airways.***· Precautionary statements***Obtain special instructions before use.**Do not handle until all safety precautions have been read and understood.**Keep away from heat/sparks/open flames/hot surfaces. No smoking.**Ground/bond container and receiving equipment.**Use explosion-proof electrical/ventilating/lighting equipment.**Use only non-sparking tools.**Take precautionary measures against static discharge.**Do not breathe dust/fume/gas/mist/vapours/spray.**Wash thoroughly after handling.**Use only outdoors or in a well-ventilated area.**Wear protective gloves/protective clothing/eye protection/face protection.**IF SWALLOWED: Immediately call a POISON CENTER/ doctor.**Specific treatment (see on this label).**Do NOT induce vomiting.**IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.**IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.**IF exposed or concerned: Get medical advice/attention.**Call a POISON CENTER/doctor if you feel unwell.**Get medical advice/attention if you feel unwell.**Take off contaminated clothing and wash it before reuse.**If skin irritation occurs: Get medical advice/attention.**In case of fire: Use CO<sub>2</sub>, powder or water spray for extinction.**Store in a well-ventilated place. Keep container tightly closed.**Store in a well-ventilated place. Keep cool.**Store locked up.**Dispose of contents/container in accordance with local/regional/national/international regulations.***· Directive 2012/18/EU****· Named dangerous substances - ANNEX I** Substance is not listed.**· 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**· Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 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.*

**· Contact:****· Abbreviations and acronyms:**

*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*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

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

*VOC: Volatile Organic Compounds (USA, EU)*

*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*

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**Safety Data Sheet**  
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**Trade name: Toluene Reagent, A.C.S.**

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*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*

AU

# Safety Data Sheet

according to HPR, Schedule 1

Printing date 04/20/2022

Reviewed on 04/20/2022

## 1 Identification

- **Product identifier**
- **Trade name:** Toluene Reagent, A.C.S.
- **Article number:** 22030, 22032
- **CAS Number:**  
108-88-3
- **EC number:**  
203-625-9
- **Index number:**  
601-021-00-3
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## 2 Hazard identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids - Category 2

H225 Highly flammable liquid and vapour.



GHS08 Health hazard

Reproductive Toxicity - Category 2

H361 Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity - Repeated Exposure - Category 2

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

Aspiration Hazard - Category 1

H304 May be fatal if swallowed and enters airways.



GHS07

Skin Irritation - Category 2

H315 Causes skin irritation.

Specific Target Organ Toxicity - Single Exposure - Category 3

H336 May cause drowsiness or dizziness.

- **Label elements**

- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).

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# Safety Data Sheet

## according to HPR, Schedule 1

Printing date 04/20/2022

Reviewed on 04/20/2022

Trade name: **Toluene Reagent, A.C.S.**

(Contd. of page 1)

· **Hazard pictograms**· **Signal word** *Danger*· **Hazard-determining components of labeling:***toluene*· **Hazard statements***Highly flammable liquid and vapour.**Causes skin irritation.**Suspected of damaging fertility or the unborn child.**May cause drowsiness or dizziness.**May cause damage to organs through prolonged or repeated exposure.**May be fatal if swallowed and enters airways.*· **Precautionary statements***Obtain special instructions before use.**Do not handle until all safety precautions have been read and understood.**Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.**Ground and bond container and receiving equipment.**Use explosion-proof [electrical/ventilating/lighting] equipment.**Use non-sparking tools.**Take actions to prevent static discharges.**Do not breathe dust/fume/gas/mist/vapours/spray.**Wash thoroughly after handling.**Use only outdoors or in a well-ventilated area.**Wear protective gloves/protective clothing/eye protection/face protection.**If swallowed: Immediately call a poison center/doctor.**Specific treatment (see on this label).**Do NOT induce vomiting.**IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].**IF INHALED: Remove person to fresh air and keep comfortable for breathing.**IF exposed or concerned: Get medical advice/attention.**Call a poison center/doctor if you feel unwell.**Get medical advice/attention if you feel unwell.**Take off contaminated clothing and wash it before reuse.**If skin irritation occurs: Get medical advice/attention.**In case of fire: Use CO<sub>2</sub>, powder or water spray to extinguish.**Store in a well-ventilated place. Keep container tightly closed.**Store in a well-ventilated place. Keep cool.**Store locked up.**Dispose of contents/container in accordance with local/regional/national/international regulations.*· **Classification system:**· **NFPA ratings (scale 0 - 4)***Health = 1**Fire = 3**Reactivity = 0*

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# Safety Data Sheet

## according to HPR, Schedule 1

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Trade name: **Toluene Reagent, A.C.S.**

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· **HMIS-ratings (scale 0 - 4)**

HEALTH	1	Health = 1
FIRE	3	Fire = 3
REACTIVITY	0	Reactivity = 0

### 3 Composition/Information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**  
108-88-3 toluene
- **Identification number(s)**
- **EC number: 203-625-9**
- **Index number: 601-021-00-3**

### 4 First-aid measures

- **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.
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO<sub>2</sub>, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.  
Do not flush with water or aqueous cleansing agents

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**Trade name: Toluene Reagent, A.C.S.**

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- **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.

### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect from heat.  
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Keep receptacle tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.  
Protect from heat and direct sunlight.
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls/ Personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

#### 108-88-3 toluene

EL	TWA: 20 ppm
----	-------------

R	
---	--

EV	TWA: 20 ppm
----	-------------

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **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.
- **Breathing equipment:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

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CA

# Safety Data Sheet

## according to HPR, Schedule 1

Printing date 04/20/2022

Reviewed on 04/20/2022

Trade name: Toluene Reagent, A.C.S.

(Contd. of page 4)

· **Protection of hands:**



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 protection:**



Tightly sealed goggles

### 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

<b>Form:</b>	Liquid
<b>Color:</b>	According to product specification
<b>Odor:</b>	Characteristic
<b>Odor threshold:</b>	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

<b>Melting point/Melting range:</b>	-95 °C
<b>Boiling point/Boiling range:</b>	110-111 °C

· **Flash point:** 4 °C

· **Flammability (solid, gaseous):** Not flammable.

· **Ignition temperature:** 535 °C

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Not determined.

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· **Explosion limits:**

<b>Lower:</b>	1.2 Vol %
<b>Upper:</b>	7 Vol %

· **Vapor pressure at 20 °C:** 29 hPa

· **Density at 20 °C:** 0.87 g/cm<sup>3</sup>

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CA

# Safety Data Sheet

## according to HPR, Schedule 1

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Reviewed on 04/20/2022

Trade name: Toluene Reagent, A.C.S.

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- **Relative density** Not determined.
- **Vapor density** Not determined.
- **Evaporation rate** Not determined.

- **Solubility in / Miscibility with Water at 15 °C:** 0.5 g/l

- **Partition coefficient (n-octanol/water):** Not determined.

- **Viscosity:**
  - Dynamic at 20 °C:** 0.6 mPas
  - Kinematic:** Not determined.
  - Organic solvents:** 100.0 %

- **Solids content:** 0.0 %

- **Other information** No further relevant information available.

### 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

#### 108-88-3 toluene

Oral	LD50	5,000 mg/kg (rat)
Dermal	LD50	12,124 mg/kg (rabbit)
Inhalative	LC50/4 h	5,320 mg/l (mouse)

- **Primary irritant effect:**
  - **on the skin:** Irritant to skin and mucous membranes.
  - **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

3

- **NTP (National Toxicology Program)**

Substance is not listed.

CA  
(Contd. on page 7)

# Safety Data Sheet

## according to HPR, Schedule 1

Printing date 04/20/2022

Reviewed on 04/20/2022

Trade name: **Toluene Reagent, A.C.S.**

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### 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
*Water hazard class 2 (Assessment by list): hazardous for water*  
*Do not allow product to reach ground water, water course or sewage system.*  
*Danger to drinking water if even small quantities leak into the ground.*
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
*Must not be disposed of together with household garbage. Do not allow product to reach sewage system.*
- **Uncleaned packagings:**
- **Recommendation:** *Disposal must be made according to official regulations.*

### 14 Transport information

- |                                                                                                                                                                                  |                                                                                                                                                                                                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> <li>· <b>DOT/TDG, ADR, IMDG, IATA</b></li> </ul>                                                                  | <p style="text-align: center;">UNI294</p>                                                                                                                                                                                                                            |
| <ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> <li>· <b>DOT/TDG</b></li> <li>· <b>ADR</b></li> <li>· <b>IMDG</b></li> <li>· <b>IATA</b></li> </ul> | <p style="text-align: center;">Toluene<br/>1294 TOLUENE<br/>TOLUENE, MARINE POLLUTANT<br/>TOLUENE</p>                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> <li>· <b>DOT/TDG (Transport dangerous goods):</b></li> </ul>                                     | <div style="display: flex; align-items: center; justify-content: center; gap: 20px;">   </div> |
| <ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>                                                                                         | <p style="text-align: center;">3 Flammable liquids<br/>3</p>                                                                                                                                                                                                         |

(Contd. on page 8)

CA

# Safety Data Sheet

according to HPR, Schedule 1

Printing date 04/20/2022

Reviewed on 04/20/2022

Trade name: Toluene Reagent, A.C.S.

(Contd. of page 7)

· **ADR, IMDG**

· **Class** 3 Flammable liquids  
 · **Label** 3

· **IATA**

· **Class** 3 Flammable liquids  
 · **Label** 3

· **Packing group**  
 · **DOT/TDG, ADR, IMDG, IATA** II

· **Environmental hazards:**  
 · **Marine pollutant:** Yes (DOT)  
 Symbol (fish and tree)  
 · **Special marking (ADR):** Symbol (fish and tree)

· **Special precautions for user** Warning: Flammable liquids  
 · **Hazard identification number (Kemler code):** 33  
 · **EMS Number:** F-E,S-D  
 · **Stowage Category** B

· **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **DOT/TDG**  
 · **Quantity limitations** On passenger aircraft/rail: 5 L  
 On cargo aircraft only: 60 L  
 · **Hazardous substance:** 1000 lbs, 454 kg  
 · **Remarks:** Special marking with the symbol (fish and tree).

· **ADR**  
 · **Excepted quantities (EQ)** Code: E2  
 Maximum net quantity per inner packaging: 30 ml  
 Maximum net quantity per outer packaging: 500 ml

· **IMDG**  
 · **Limited quantities (LQ)** 1L  
 · **Excepted quantities (EQ)** Code: E2  
 Maximum net quantity per inner packaging: 30 ml  
 Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":** UN 1294 TOLUENE, 3, II

CA

(Contd. on page 9)

# Safety Data Sheet

## according to HPR, Schedule 1

Printing date 04/20/2022

Reviewed on 04/20/2022

Trade name: Toluene Reagent, A.C.S.

(Contd. of page 8)

### 15 Regulatory information

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

No further relevant information available.

· **Sara**

· **Section 355 (extremely hazardous substances):**

Substance is not listed.

· **Section 313 (Specific toxic chemical listings):**

Substance is listed.

· **TSCA (Toxic Substances Control Act):**

ACTIVE

· **Canadian substance listings:**

· **Canadian Domestic Substances List (DSL)**

Substance is listed.

· **Canadian Non-Domestic Substances List (NDSL)**

Substance is not listed.

· **Canadian Ingredient Disclosure list (limit 0.1%)**

Substance is not listed.

· **Canadian Ingredient Disclosure list (limit 1%)**

Substance is listed.

· **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS02   GHS07   GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**

toluene

· **Hazard statements**

Highly flammable liquid and vapour.

Causes skin irritation.

Suspected of damaging fertility or the unborn child.

May cause drowsiness or dizziness.

May cause damage to organs through prolonged or repeated exposure.

May be fatal if swallowed and enters airways.

· **Precautionary statements**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

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

Ground and bond container and receiving equipment.

Use explosion-proof [electrical/ventilating/lighting] equipment.

Use non-sparking tools.

Take actions to prevent static discharges.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

(Contd. on page 10)

CA

## Safety Data Sheet according to HPR, Schedule 1

Printing date 04/20/2022

Reviewed on 04/20/2022

**Trade name: Toluene Reagent, A.C.S.**

(Contd. of page 9)

*Wear protective gloves/protective clothing/eye protection/face protection.*

*If swallowed: Immediately call a poison center/doctor.*

*Specific treatment (see on this label).*

*Do NOT induce vomiting.*

*IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].*

*IF INHALED: Remove person to fresh air and keep comfortable for breathing.*

*IF exposed or concerned: Get medical advice/attention.*

*Call a poison center/doctor if you feel unwell.*

*Get medical advice/attention if you feel unwell.*

*Take off contaminated clothing and wash it before reuse.*

*If skin irritation occurs: Get medical advice/attention.*

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

*Store in a well-ventilated place. Keep container tightly closed.*

*Store in a well-ventilated place. Keep cool.*

*Store locked up.*

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

· **Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

### 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.*

· **Contact:**

· **Date of the latest revision of the safety data sheet** 04/20/2022 / -

· **Abbreviations and acronyms:**

*IMDG: International Maritime Code for Dangerous Goods*

*DOT: US Department of Transportation*

*IATA: International Air Transport Association*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

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

*NFPA: National Fire Protection Association (USA)*

*HMIS: Hazardous Materials Identification System (USA)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 20.04.2022

Revision: 20.04.2022

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

· **1.1 Product identifier**

· **Trade name:** Toluene Reagent, A.C.S.

· **Article number:** 22030, 22032

· **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**

No further relevant information available.

· **Application of the substance / the mixture** Laboratory chemicals

· **1.3 Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

Tel: 215-412-8400 Fax: 215-412-8450

email: info@emsdiasum.com

www.emsdiasum.com

· **Further information obtainable from:** Product safety department

· **1.4 Emergency telephone number:**

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

### 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.

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 CLP regulation.

(Contd. on page 2)



# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 20.04.2022

Revision: 20.04.2022

Trade name: **Toluene Reagent, A.C.S.**

(Contd. of page 1)

· **Hazard pictograms**· **Signal word** *Danger*· **Hazard-determining components of labelling:***toluene*· **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***P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.**P321 Specific treatment (see on this label).**P331 Do NOT induce vomiting.**P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].**P362+P364 Take off contaminated clothing and wash it before reuse.**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 Chemical characterisation: Substances**· **CAS No. Description***108-88-3 toluene*· **Identification number(s)**· **EC number:** 203-625-9· **Index number:** 601-021-00-3

## 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.*· **After inhalation:** *In case of unconsciousness place patient stably in side position for transportation.*· **After skin contact:** *Immediately wash with water and soap and rinse thoroughly.*· **After eye contact:** *Rinse opened eye for several minutes under running water.*· **After swallowing:** *Call for a doctor immediately.*· **4.2 Most important symptoms and effects, both acute and delayed** *No further relevant information available.*

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**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 20.04.2022

Revision: 20.04.2022

Trade name: **Toluene Reagent, A.C.S.**

(Contd. of page 2)

- **4.3 Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### **SECTION 5: Firefighting measures**

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** CO<sub>2</sub>, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:** No special measures required.

### **SECTION 6: Accidental release measures**

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.  
Do not flush with water or aqueous cleansing agents
- **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**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**  
Keep ignition sources away - Do not smoke.  
Protect from heat.  
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 location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Keep container tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.  
Protect from heat and direct sunlight.
- **7.3 Specific end use(s)** No further relevant information available.

### **SECTION 8: Exposure controls/personal protection**

- **8.1 Control parameters**
- **Additional information about design of technical facilities:** No further data; see item 7.

(Contd. on page 4)

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 20.04.2022

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Trade name: Toluene Reagent, A.C.S.

(Contd. of page 3)

**· 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

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **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.

· **Protection of hands:**



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 protection:**



Tightly sealed goggles

## SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Liquid

Colour: According to product specification

· **Odour:** Characteristic

· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

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**Safety data sheet**  
according to 1907/2006/EC, Article 31

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Trade name: Toluene Reagent, A.C.S.

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· <b>Change in condition</b> Melting point/freezing point:	-95 °C
Initial boiling point and boiling range:	110-111 °C
· <b>Flash point:</b>	4 °C
· <b>Flammability (solid, gas):</b>	Not applicable.
· <b>Ignition temperature:</b>	535 °C
· <b>Decomposition temperature:</b>	Not determined.
· <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>Explosion limits:</b> Lower:	1.2 Vol %
Upper:	7 Vol %
· <b>Vapour pressure at 20 °C:</b>	29 hPa
· <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>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with water at 15 °C:</b>	0.5 g/l
· <b>Partition coefficient: n-octanol/water:</b>	Not determined.
· <b>Viscosity:</b> Dynamic at 20 °C:	0.6 mPas
Kinematic:	Not determined.
Organic solvents:	100.0 %
VOC (EC)	100.00 %
· <b>Solids content:</b>	0.0 %
· <b>9.2 Other information</b>	No further relevant information available.

### SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

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# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 20.04.2022

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Trade name: Toluene Reagent, A.C.S.

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· **LD/LC50 values relevant for classification:**

**108-88-3 toluene**

Oral	LD50	5,000 mg/kg (rat)
Dermal	LD50	12,124 mg/kg (rabbit)
Inhalative	LC50/4 h	5,320 mg/l (mouse)

· **Primary irritant effect:**

· **Skin corrosion/irritation**

Causes skin irritation.

· **Serious eye damage/irritation** Based on available data, the classification criteria are not met.

· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

· **Additional toxicological information:**

· **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.

· **Carcinogenicity** Based on available data, the classification criteria are not met.

· **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**

May be fatal if swallowed and enters airways.

## SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **12.2 Persistence and degradability** No further relevant information available.

· **12.3 Bioaccumulative potential** No further relevant information available.

· **12.4 Mobility in soil** No further relevant information available.

· **Additional ecological information:**

· **General notes:**

Water hazard class 2 (German Regulation) (Assessment by list): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

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

· **12.5 Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **12.6 Other adverse effects** No further relevant information available.

## SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**

· **Recommendation**

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

· **Uncleaned packaging:**

· **Recommendation:** Disposal must be made according to official regulations.

GB

(Contd. on page 7)

**Safety data sheet**  
according to 1907/2006/EC, Article 31




Printing date 20.04.2022

Revision: 20.04.2022

Trade name: Toluene Reagent, A.C.S.

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### SECTION 14: Transport information

· 14.1 UN-Number · ADR, IMDG, IATA	UN1294
· 14.2 UN proper shipping name · ADR · IMDG · IATA	1294 TOLUENE TOLUENE, MARINE POLLUTANT TOLUENE
· 14.3 Transport hazard class(es) · ADR, IMDG	 
· Class · Label	3 Flammable liquids. 3
· IATA	
· Class · Label	3 Flammable liquids. 3
· 14.4 Packing group · ADR, IMDG, IATA	II
· 14.5 Environmental hazards: · Marine pollutant: · Special marking (ADR):	Symbol (fish and tree) Symbol (fish and tree)
· 14.6 Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Stowage Category	Warning: Flammable liquids. 33 F-E,S-D B
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR · Limited quantities (LQ) · Excepted quantities (EQ)	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Transport category · Tunnel restriction code	2 D/E
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml

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**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 20.04.2022

Revision: 20.04.2022

Trade name: **Toluene Reagent, A.C.S.**

(Contd. of page 7)

· **UN "Model Regulation":**

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 Substance is not listed.**
- **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 not 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.*

· **Abbreviations and acronyms:**

*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)*

*VOC: Volatile Organic Compounds (USA, EU)*

*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*

# Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 20.04.2022

Herziening van: 20.04.2022

## RUBRIEK 1: Identificatie van de stof of het mengsel en van de vennootschap/onderneming

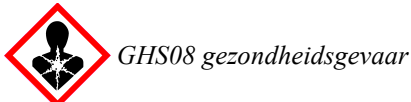
- **1.1 Productidentificatie**
- **Handelsnaam:** Toluene Reagent, A.C.S.
- **Artikelnummer:** 22030, 22032
- **CAS-nummer:**  
108-88-3
- **EC-nummer:**  
203-625-9
- **Catalogusnummer:**  
601-021-00-3
- **UFI:** FC02-M0V8-D00U-2VP7
- **1.2 Relevant geïdentificeerd gebruik van de stof of het mengsel en ontraden gebruik**  
Geen verdere relevante informatie verkrijgbaar.
- **Toepassing van de stof / van de bereiding** Laboratoriumchemicaliën
- **1.3 Details betreffende de verstrekker van het veiligheidsinformatieblad**
- **Fabrikant/leverancier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: [info@emsdiasum.com](mailto:info@emsdiasum.com)  
[www.emsdiasum.com](http://www.emsdiasum.com)
- **Aurion**  
Binnenhaven 5  
6709 PD Wageningen  
The Netherlands  
Tel: 31 317 415094  
Fax: 31 317 415955  
email: [info@aurion.nl](mailto:info@aurion.nl)
- **Inlichtingengevende sector:** Product safety department
- **1.4 Telefoonnummer voor noodgevallen:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## RUBRIEK 2: Identificatie van de gevaren

- **2.1 Indeling van de stof of het mengsel**
- **Indeling overeenkomstig Verordening (EG) nr. 1272/2008**



Flam. Liq. 2 H225 Licht ontvlambare vloeistof en damp.



Repr. 2 H361d Wordt ervan verdacht het ongeboren kind te schaden.

STOT RE 2 H373 Kan schade aan organen veroorzaken bij langdurige of herhaalde blootstelling.

Asp. Tox. 1 H304 Kan dodelijk zijn als de stof bij inslikken in de luchtwegen terechtkomt.

(Vervolg op blz. 2)



# Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 20.04.2022

Herziening van: 20.04.2022

Handelsnaam: Toluene Reagent, A.C.S.

(Vervolg van blz. 1)



GHS07

*Skin Irrit. 2 H315* Veroorzaakt huidirritatie.  
*STOT SE 3 H336* Kan slaperigheid of duizeligheid veroorzaken.

- **2.2 Etiketteringselementen**
- **Etikettering overeenkomstig Verordening (EG) nr. 1272/2008**  
*De stof/product is geclassificeerd en geëtiketteerd volgens de CLP-verordening.*
- **Gevarenpictogrammen**



GHS02 GHS07 GHS08

- **Signaalwoord** Gevaar
- **Gevaaraanduidende componenten voor de etikettering:**  
*tolueen*
- **Gevarenaanduidingen**  
*H225 Licht ontvlambare vloeistof en damp.*  
*H315 Veroorzaakt huidirritatie.*  
*H361d Wordt ervan verdacht het ongeboren kind te schaden.*  
*H336 Kan slaperigheid of duizeligheid veroorzaken.*  
*H373 Kan schade aan organen veroorzaken bij langdurige of herhaalde blootstelling.*  
*H304 Kan dodelijk zijn als de stof bij inslikken in de luchtwegen terechtkomt.*
- **Veiligheidsaanbevelingen**  
*P301+P310 NA INSLIKKEN: onmiddellijk een ANTIGIFCENTRUM/arts raadplegen.*  
*P321 Specifieke behandeling vereist (zie op dit etiket).*  
*P331 GEEN braken opwekken.*  
*P303+P361+P353 BIJ CONTACT MET DE HUID (of het haar): verontreinigde kleding onmiddellijk uittrekken.*  
*Huid met water afspoelen [of afdouchen].*  
*P362+P364 Verontreinigde kleding uittrekken en wassen alvorens deze opnieuw te gebruiken.*  
*P405 Achter slot bewaren.*  
*P501 De inhoud en de verpakking verwerken volgens de plaatselijke/regionale/nationale/internationale voorschriften.*
- **2.3 Andere gevaren**
- **Resultaten van PBT- en zPzB-beoordeling**
- **PBT:** Niet bruikbaar.
- **zPzB:** Niet bruikbaar.

## RUBRIEK 3: Samenstelling en informatie over de bestanddelen

- **3.1 Chemische karakterisering: Stoffen**
- **CAS-Nr. omschrijving**  
*108-88-3 toluene*
- **Identificatienummer(s)**
- **EC-nummer:** 203-625-9
- **Catalogusnummer:** 601-021-00-3

NL

(Vervolg op blz. 3)

# Veiligheidsinformatieblad

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(Vervolg van blz. 2)

### RUBRIEK 4: Eerstehulpmaatregelen

#### · 4.1 Beschrijving van de eerstehulpmaatregelen

##### · Algemene informatie:

Het is mogelijk dat vergiftigingssymptomen pas na vele uren optreden. Om deze reden is medische controle gedurende minstens 48 uur na een ongeval noodzakelijk.

- **Na het inademen:** Bij bewusteloosheid ligging en vervoer in stabiele zijligging.
- **Na huidcontact:** Onmiddellijk met water en zeep afwassen en goed naspoelen.
- **Na oogcontact:** Ogen bij geopend ooglid meerdere minuten met stromend water spoelen
- **Na inslikken:** Onmiddellijk arts raadplegen.

#### · 4.2 Belangrijkste acute en uitgestelde symptomen en effecten

Geen verdere relevante informatie verkrijgbaar.

#### · 4.3 Vermelding van de vereiste onmiddellijke medische verzorging en speciale behandeling

Geen verdere relevante informatie verkrijgbaar.

### RUBRIEK 5: Brandbestrijdingsmaatregelen

#### · 5.1 Blusmiddelen

- **Geschikte blusmiddelen:** CO<sub>2</sub>, zand, bluspoeder. Geen water gebruiken.
- **Blusmiddelen die uit veiligheidsoogpunt niet geschikt zijn:** Krachtige waterstraal
- **5.2 Speciale gevaren die door de stof of het mengsel worden veroorzaakt**  
Geen verdere relevante informatie verkrijgbaar.
- **5.3 Advies voor brandweerlieden**
- **Speciale beschermende kleding:** Geen bijzondere maatregelen nodig.

### RUBRIEK 6: Maatregelen bij het accidenteel vrijkomen van de stof of het mengsel

#### · 6.1 Persoonlijke voorzorgsmaatregelen, beschermingsmiddelen en noodprocedures

Beschermende kleding aantrekken. Niet beschermde personen op afstand houden.

#### · 6.2 Milieuvoorzorgsmaatregelen: Niet in de riolering/het oppervlaktewater/het grondwater laten terechtkomen.

#### · 6.3 Insluitings- en reinigingsmethoden en -materiaal:

Met vloeistofbindend materiaal (zand, bergmeel, zuurbinder, universele binder, zaagmeel) opnemen.

Besmet materiaal zoals afval volgens punt 13 verwijderen.

Voor voldoende ventilatie zorgen.

Niet met water of waterachtige reinigingsmiddelen wegspoelen.

#### · 6.4 Verwijzing naar andere rubrieken

Informatie inzake veilig gebruik - zie hoofdstuk 7.

Informatie inzake persoonlijke beschermingsuitrusting - zie hoofdstuk 8.

Informatie inzake berging - zie hoofdstuk 13.

### RUBRIEK 7: Hantering en opslag

#### · 7.1 Voorzorgsmaatregelen voor het veilig hanteren van de stof of het mengsel

Voor goede ventilatie/afzuiging op de werkplaatsen zorgen.

Aërosolvorming vermijden.

#### · Informatie m.b.t. brand- en ontploffingsgevaar:

Onststekingsbronnen op afstand houden - niet roken.

Beschermen tegen hitte.

Maatregelen treffen tegen ontlading van statische elektriciteit.

#### · 7.2 Voorwaarden voor een veilige opslag, met inbegrip van incompatibele producten

##### · Opslag:

- **Eisen ten opzichte van opslagruimte en tanks:** Op een koele plaats bewaren.

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- **Informatie m.b.t. gezamenlijke opslag:** Niet noodzakelijk.
- **Verdere inlichtingen over eisen m.b.t. de opslag:**
  - Tanks ondoordringbaar gesloten houden.
  - Koel en droog bewaren in goed gesloten vaten.
  - Tegen hitte en directe zonnestralen beschermen.
- **7.3 Specifiek eindgebruik** Geen verdere relevante informatie verkrijgbaar.

### RUBRIEK 8: Maatregelen ter beheersing van blootstelling/persoonlijke bescherming

- **8.1 Controleparameters**
- **Aanvullende gegevens m.b.t. de inrichting van technische installaties:** Geen aanvullende gegevens. Zie 7.
- **Bestanddelen met grenswaarden die m.b.t. de werkruimte in acht genomen moeten worden:**

#### 108-88-3 toluene

WGW	Korte termijn waarde: 384 mg/m <sup>3</sup> , 100 ppm
	Lange termijn waarde: 150 mg/m <sup>3</sup> , 39 ppm

- **Aanvullende gegevens:** Als basis dienden lijsten die bij opstelling geldig waren.
- **8.2 Maatregelen ter beheersing van blootstelling**
- **Persoonlijke beschermingsvoorzieningen:**
- **Algemene beschermings- en gezondheidsmaatregelen:**
  - Verwijderd houden van eet- en drinkwaren.
  - Verontreinigde kleding onmiddellijk uittrekken.
  - Vóór de pauze en aan het einde van werktijd handen wassen.
  - Aanraking met de huid vermijden.
  - Aanraking met de ogen en de huid vermijden.
- **Ademhalingsbescherming:**
  - Bij korte of geringe belasting ademfiltertoestel; bij intensieve resp. langdurige expositie een van de omringende lucht onafhankelijk ademhalingsstoestel gebruiken.
- **Handbescherming:**



Veiligheidshandschoenen

Het handschoenmateriaal moet ondoorlatend en bestand zijn tegen het product / de stof / de bereiding.  
Op grond van falende testen kan geen aanbeveling voor handschoenmateriaal voor het product / de bereiding / het chemicaliënmengsel afgegeven worden.  
Kies handschoenmateriaal rekening houdend met de penetratietijden, de permeatiegraden en de degradatie.

- **Handschoenmateriaal**
  - De keuze van een geschikte handschoen is niet alleen afhankelijk van het materiaal, maar ook van andere kwaliteitskenmerken en verschilt van fabrikant tot fabrikant.
- **Doordringingstijd van het handschoenmateriaal**
  - De precieze penetratietijd kunt u te weten komen bij de handschoenfabrikant; houd er rekening mee.
- **Oogbescherming:**



Nauw aansluitende veiligheidsbril

NL

(Vervolg op blz. 5)

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### RUBRIEK 9: Fysische en chemische eigenschappen

#### · 9.1 Informatie over fysische en chemische basiseigenschappen

##### · Algemene gegevens

##### · Voorkomen:

Vorm:	Vloeistof
Kleur:	Volgens de produktbeschrijving
Geur:	Karakteristiek
Geurdrempelwaarde:	Niet bepaald.

· pH-waarde: Niet bepaald.

##### · Toestandsverandering

Smelt-/vriespunt:	-95 °C
Beginkookpunt en kooktraject:	110-111 °C

· Vlampunt: 4 °C

· Ontvlambaarheid (vast, gas): Niet bruikbaar.

· Ontstekingstemperatuur: 535 °C

· Ontledingstemperatuur: Niet bepaald.

· Zelfontbrandingstemperatuur: Niet bepaald.

· Ontploffingseigenschappen: Het produkt is niet ontploffingsgevaarlijk, maar de vorming van ontploffingsgevaarlijke damp-/luchtmengsels is mogelijk.

##### · Ontploffingsgrenzen:

Onderste:	1,2 Vol %
Bovenste:	7 Vol %

· Dampspanning bij 20 °C: 29 hPa

· Dichtheid bij 20 °C: 0,87 g/cm<sup>3</sup>

· Relatieve dichtheid: Niet bepaald.

· Dampdichtheid: Niet bepaald.

· Verdampingssnelheid: Niet bepaald.

##### · Oplosbaarheid in/mengbaarheid met

Water bij 15 °C: 0,5 g/l

· Verdelingscoëfficiënt: n-octanol/water: Niet bepaald.

##### · Viscositeit

Dynamisch bij 20 °C:	0,6 mPas
Kinematisch:	Niet bepaald.
Organisch oplosmiddel:	100,0 %
VOC (EG)	100,00 %

Gehalte aan vaste bestanddelen: 0,0 %

· 9.2 Overige informatie: Geen verdere relevante informatie verkrijgbaar.

### RUBRIEK 10: Stabiliteit en reactiviteit

· 10.1 Reactiviteit: Geen verdere relevante informatie verkrijgbaar.

#### · 10.2 Chemische stabiliteit

· Thermische afbraak / te vermijden omstandigheden: Geen afbraak bij gebruik volgens voorschrift.

· 10.3 Mogelijke gevaarlijke reacties: Geen gevaarlijke reacties bekend.

(Vervolg op blz. 6)

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- **10.4 Te vermijden omstandigheden** Geen verdere relevante informatie verkrijgbaar.
- **10.5 Chemisch op elkaar inwerkende materialen:** Geen verdere relevante informatie verkrijgbaar.
- **10.6 Gevaarlijke ontledingsproducten:** Geen gevaarlijke ontbindingsproducten bekend.

### RUBRIEK 11: Toxicologische informatie

- **11.1 Informatie over toxicologische effecten**
- **Acute toxiciteit** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.

#### Indelingsrelevantie LD/LC50-waarden:

##### 108-88-3 toluene

Oraal	LD50	5.000 mg/kg (rat)
Dermaal	LD50	12.124 mg/kg (rabbit)
Inhalatief	LC50/4 h	5.320 mg/l (mouse)

- **Primaire aandoening:**
- **Huidcorrosie/-irritatie**  
Veroorzaakt huidirritatie.
- **Ernstig oogletsel/oogirritatie** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **Sensibilisatie van de luchtwegen/de huid**  
Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **Aanvullende toxicologische informatie:**
- **CMR-effecten (kankerverwekkendheid, mutageniteit en giftigheid voor de voortplanting)**
- **Mutageniteit in geslachtscellen** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **Kankerverwekkendheid** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **Giftigheid voor de voortplanting**  
Wordt ervan verdacht het ongeboren kind te schaden.
- **STOT bij eenmalige blootstelling**  
Kan slaperigheid of duizeligheid veroorzaken.
- **STOT bij herhaalde blootstelling**  
Kan schade aan organen veroorzaken bij langdurige of herhaalde blootstelling.
- **Gevaar bij inademing**  
Kan dodelijk zijn als de stof bij inslikken in de luchtwegen terechtkomt.

### RUBRIEK 12: Ecologische informatie

- **12.1 Toxiciteit**
- **Aquatische toxiciteit:** Geen verdere relevante informatie verkrijgbaar.
- **12.2 Persistentie en afbreekbaarheid** Geen verdere relevante informatie verkrijgbaar.
- **12.3 Bioaccumulatie** Geen verdere relevante informatie verkrijgbaar.
- **12.4 Mobiliteit in de bodem** Geen verdere relevante informatie verkrijgbaar.
- **Verdere ecologische informatie:**
- **Algemene informatie:**  
Waterbezwaarlijkheid (NL): Z(1) niet afbreekbare stoffen met gevaarlijke eigenschappen voor mens en milieu (carcinogeniteit/mutageniteit/ reprotoxiciteit/bioacumulerend vermogen/ toxiciteit of persistentie)  
Gevaar voor water klasse 2 (D) (Lijstclassificatie): gevaar voor water  
Niet lozen in grondwater, in oppervlaktewater of in riolering.  
Gevaar voor drinkwater zelfs bij uitlopen van geringe hoeveelheden in de ondergrond.
- **12.5 Resultaten van PBT- en zPzB-beoordeling**
- **PBT:** Niet bruikbaar.
- **zPzB:** Niet bruikbaar.

(Vervolg op blz. 7)

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· 12.6 Andere schadelijke effecten Geen verdere relevante informatie verkrijgbaar.

## RUBRIEK 13: Instructies voor verwijdering

## · 13.1 Afvalverwerkingsmethoden

· Aanbeveling: Mag niet tesamen met huisvuil gestort worden of in de riolering terecht komen.

## · Niet gereinigde verpakkingen:

· Aanbeveling: Afvalverwijdering volgens overheidsbepalingen.

## RUBRIEK 14: Informatie met betrekking tot het vervoer

## · 14.1 VN-nummer

· ADR, IMDG, IATA

UNI294

## · 14.2 Juiste ladingnaam overeenkomstig de modelreglementen van de VN

· ADR

1294 TOLUEEN

· IMDG

TOLUENE, MARINE POLLUTANT

· IATA

TOLUENE

## · 14.3 Transportgevarenklasse(n)

· ADR, IMDG



· klasse

3 Brandbare vloeistoffen

· Etiket

3

· IATA



· Class

3 Brandbare vloeistoffen

· Label

3

## · 14.4 Verpakkingsgroep:

· ADR, IMDG, IATA

II

## · 14.5 Milieugevaren:

· Marine pollutant:

Symbool (vis en boom)

· Bijzondere kenmerking (ADR):

Symbool (vis en boom)

## · 14.6 Bijzondere voorzorgen voor de gebruiker

Waarschuwing: Brandbare vloeistoffen

· Gevaarsidentificatienummer (Kemler-getal):

33

· EMS-nummer:

F-E,S-D

· Stowage Category

B

## · 14.7 Vervoer in bulk overeenkomstig bijlage II bij Marpol en de IBC-code

Niet bruikbaar.

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· **Transport/verdere gegevens:**

· **ADR**

· **Beperkte hoeveelheden (LQ)**

1L

· **Uitgezonderde hoeveelheden (EQ)**

Code: E2

Grootste netto hoeveelheid per binnenverpakking: 30 ml

Grootste netto hoeveelheid per buitenverpakking: 500 ml

· **Vervoerscategorie**

2

· **Tunnelbeperkingscode**

D/E

· **IMDG**

· **Limited quantities (LQ)**

1L

· **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **VN "Model Regulation":**

UN 1294 TOLUEEN, 3, II

## RUBRIEK 15: Regelgeving

· **15.1 Specifieke veiligheids-, gezondheids- en milieureglementen en -wetgeving voor de stof of het mengsel**

· **SZW-lijst van kankerverwekkende stoffen**

De stof is niet aanwezig.

· **SZW-lijst van mutagene stoffen**

De stof is niet aanwezig.

· **NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Vruchtbaarheid**

De stof is niet aanwezig.

· **NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Ontwikkeling**

2

· **NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Borstvoeding**

De stof is niet aanwezig.

· **Lijst Zeer Zorgwekkende Stoffen (ZZS)**

De stof is niet aanwezig.

· **Lijst van Potentieel Zeer Zorgwekkende Stoffen**

De stof is niet aanwezig.

· **Richtlijn 2012/18/EU**

· **Gevaarlijke stoffen die met naam genoemd worden - BIJLAGE I** De stof is niet aanwezig.

· **Seveso-categorie P5c ONTVLAMBARE VLOEISTOFFEN**

· **Drempelwaarde (ton) voor toepassing van voorschriften voor lagedrempelinrichtingen** 5.000 t

· **Drempelwaarde (ton) voor toepassing van voorschriften voor hogedrempelinrichtingen** 50.000 t

· **Verordening (EG) nr. 1907/2006 BIJLAGE XVII** Beperkingsvoorwaarden: 3, 48

· **Richtlijn 2011/65/EU betreffende beperking van het gebruik van bepaalde gevaarlijke stoffen in elektrische en elektronische apparatuur - Bijlage II**

De stof is niet aanwezig.

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· **VERORDENING (EU) 2019/1148**· **Bijlage I - PRECURSOREN VOOR EXPLOSIEVEN WAARVOOR EEN BEPERKING GELDT (Bovengrenswaarde ten behoeve van vergunningverlening op grond van artikel 5, lid 3)**

De stof is niet aanwezig.

· **Bijlage II - PRECURSOREN VOOR EXPLOSIEVEN DIE MOETEN WORDEN GEMELD**

De stof is niet aanwezig.

· **Verordening (EG) nr. 273/2004 inzake drugsprecursoren**

3

· **Verordening (EG) Nr. 111/2005 houdende voorschriften voor het toezicht op de handel tussen de Gemeenschap en derde landen in drugsprecursoren**

3

· **Nationale voorschriften:**· **Gevaarklasse v. water:***Waterbezwaarlijkheid (NL): Z(1) niet afbreekbare stoffen met gevaarlijke eigenschappen voor mens en milieu (carcinogeniteit/mutageniteit/ reprotoxiciteit/bioaccumulerend vermogen/ toxiciteit of persistentie)*· **15.2 Chemischeveiligheidsbeoordeling:** Een chemische veiligheidsbeoordeling is niet uitgevoerd.

### RUBRIEK 16: Overige informatie

Deze gegevens zijn gebaseerd op de huidige stand van onze kennis. Zij beschrijven echter geen garantie van produkteigenschappen en vestigen geen contractuele rechtsbetrekking.

· **Afkortingen en acroniemen:**

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)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Ontvlambare vloeistoffen – Categorie 2

Skin Irrit. 2: Huidcorrosie/-irritatie – Categorie 2

Repr. 2: Voortplantingstoxiciteit – Categorie 2

STOT SE 3: Specifieke doelorgaantoxiciteit bij eenmalige blootstelling – Categorie 3

STOT RE 2: Specifieke doelorgaantoxiciteit bij herhaalde blootstelling – Categorie 2

Asp. Tox. 1: Aspiratiegevaar – Categorie 1



# Fiche de données de sécurité

## selon 1907/2006/CE, Article 31

Date d'impression : 20.04.2022

Révision: 20.04.2022

### RUBRIQUE 1: Identification de la substance/du mélange et de la société/l'entreprise

· **1.1 Identificateur de produit**

· **Nom du produit:** Toluene Reagent, A.C.S.

· **Code du produit:** 22030, 22032

· **No CAS:**

108-88-3

· **Numéro CE:**

203-625-9

· **Numéro index:**

601-021-00-3

· **UFI:** FC02-M0V8-D00U-2VP7

· **1.2 Utilisations identifiées pertinentes de la substance ou du mélange et utilisations déconseillées**

*Pas d'autres informations importantes disponibles.*

· **Emploi de la substance / de la préparation** Produits chimiques pour laboratoires

· **1.3 Renseignements concernant le fournisseur de la fiche de données de sécurité**

· **Producteur/fournisseur:**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

Tel: 215-412-8400 Fax: 215-412-8450

email: [info@emsdiasum.com](mailto:info@emsdiasum.com)

[www.emsdiasum.com](http://www.emsdiasum.com)

· **Service chargé des renseignements:** Product safety department

· **1.4 Numéro d'appel d'urgence:**

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

### RUBRIQUE 2: Identification des dangers

· **2.1 Classification de la substance ou du mélange**

· **Classification selon le règlement (CE) n° 1272/2008**



GHS02 flamme

Flam. Liq. 2 H225 Liquide et vapeurs très inflammables.



GHS08 danger pour la santé

Repr. 2 H361d Susceptible de nuire au fœtus.

STOT RE 2 H373 Risque présumé d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée.

Asp. Tox. 1 H304 Peut être mortel en cas d'ingestion et de pénétration dans les voies respiratoires.



GHS07

Skin Irrit. 2 H315 Provoque une irritation cutanée.

STOT SE 3 H336 Peut provoquer somnolence ou vertiges.

· **2.2 Éléments d'étiquetage**

· **Étiquetage selon le règlement (CE) n° 1272/2008** La substance est classifiée et étiquetée selon le règlement CLP.

(suite page 2)

# Fiche de données de sécurité

## selon 1907/2006/CE, Article 31

Date d'impression : 20.04.2022

Révision: 20.04.2022

Nom du produit: **Toluene Reagent, A.C.S.**

(suite de la page 1)

· **Pictogrammes de danger**

GHS02 GHS07 GHS08

· **Mention d'avertissement** Danger· **Composants dangereux déterminants pour l'étiquetage:**

toluène

· **Mentions de danger**

H225 Liquide et vapeurs très inflammables.

H315 Provoque une irritation cutanée.

H361d Susceptible de nuire au fœtus.

H336 Peut provoquer somnolence ou vertiges.

H373 Risque présumé d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée.

H304 Peut être mortel en cas d'ingestion et de pénétration dans les voies respiratoires.

· **Conseils de prudence**

P301+P310 EN CAS D'INGESTION: Appeler immédiatement un CENTRE ANTIPOISON/un médecin.

P321 Traitement spécifique (voir sur cette étiquette).

P331 NE PAS faire vomir.

P303+P361+P353 EN CAS DE CONTACT AVEC LA PEAU (ou les cheveux): Enlever immédiatement tous les vêtements contaminés. Rincer la peau à l'eau [ou se doucher].

P362+P364 Enlever les vêtements contaminés et les laver avant réutilisation.

P405 Garder sous clef.

P501 Éliminer le contenu/récipient conformément à la réglementation locale/régionale/nationale/internationale.

· **2.3 Autres dangers**· **Résultats des évaluations PBT et vPvB**· **PBT:** Non applicable.· **vPvB:** Non applicable.

### RUBRIQUE 3: Composition/informations sur les composants

· **3.1 Caractérisation chimique: Substances**· **No CAS Désignation**

108-88-3 toluène

· **Code(s) d'identification**· **Numéro CE:** 203-625-9· **Numéro index:** 601-021-00-3

### RUBRIQUE 4: Premiers secours

· **4.1 Description des premiers secours**· **Remarques générales:**

Les symptômes d'intoxication peuvent apparaître après de nombreuses heures seulement; une surveillance médicale est donc nécessaire au moins 48 heures après un accident.

· **Après inhalation:** En cas d'inconscience, coucher et transporter la personne en position latérale stable.· **Après contact avec la peau:** Laver immédiatement à l'eau et au savon et bien rincer.· **Après contact avec les yeux:**

Rincer les yeux, sous l'eau courante, pendant plusieurs minutes, en écartant bien les paupières.

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- **Après ingestion:** Consulter immédiatement un médecin.
- **4.2 Principaux symptômes et effets, aigus et différés** Pas d'autres informations importantes disponibles.
- **4.3 Indication des éventuels soins médicaux immédiats et traitements particuliers nécessaires**  
Pas d'autres informations importantes disponibles.

### RUBRIQUE 5: Mesures de lutte contre l'incendie

- **5.1 Moyens d'extinction**
- **Moyens d'extinction:** CO<sub>2</sub>, sable, poudre d'extinction. Ne pas utiliser d'eau.
- **Produits extincteurs déconseillés pour des raisons de sécurité:** Jet d'eau à grand débit
- **5.2 Dangers particuliers résultant de la substance ou du mélange**  
Pas d'autres informations importantes disponibles.
- **5.3 Conseils aux pompiers**
- **Équipement spécial de sécurité:** Aucune mesure particulière n'est requise.

### RUBRIQUE 6: Mesures à prendre en cas de dispersion accidentelle

- **6.1 Précautions individuelles, équipement de protection et procédures d'urgence**  
Porter un équipement de sécurité. Eloigner les personnes non protégées.
- **6.2 Précautions pour la protection de l'environnement:**  
Ne pas rejeter dans les canalisations, dans les eaux de surface et dans les nappes d'eau souterraines.
- **6.3 Méthodes et matériel de confinement et de nettoyage:**  
Recueillir les liquides à l'aide d'un produit absorbant (sable, kieselguhr, neutralisant d'acide, liant universel, sciure).  
Evacuer les matériaux contaminés en tant que déchets conformément au point 13.  
Assurer une aération suffisante.  
Ne pas rincer à l'eau ou aux produits nettoyants aqueux.
- **6.4 Référence à d'autres rubriques**  
Afin d'obtenir des informations pour une manipulation sûre, consulter le chapitre 7.  
Afin d'obtenir des informations sur les équipements de protection personnels, consulter le chapitre 8.  
Afin d'obtenir des informations sur l'élimination, consulter le chapitre 13.

### RUBRIQUE 7: Manipulation et stockage

- **7.1 Précautions à prendre pour une manipulation sans danger**  
Veiller à une bonne ventilation/aspiration du poste de travail.  
Eviter la formation d'aérosols.
- **Préventions des incendies et des explosions:**  
Tenir à l'abri des sources d'inflammation - ne pas fumer.  
Tenir à l'abri de la chaleur.  
Prendre des mesures contre les charges électrostatiques.
- **7.2 Conditions d'un stockage sûr, y compris d'éventuelles incompatibilités**
- **Stockage:**
- **Exigences concernant les lieux et conteneurs de stockage:** Stocker dans un endroit frais.
- **Indications concernant le stockage commun:** Pas nécessaire.
- **Autres indications sur les conditions de stockage:**  
Tenir les emballages hermétiquement fermés.  
Stocker au frais et au sec dans des fûts bien fermés.  
Protéger de la forte chaleur et du rayonnement direct du soleil.

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· 7.3 Utilisation(s) finale(s) particulière(s) Pas d'autres informations importantes disponibles.

### RUBRIQUE 8: Contrôles de l'exposition/protection individuelle

- 8.1 Paramètres de contrôle
- Indications complémentaires pour l'agencement des installations techniques:  
Sans autre indication, voir point 7.

· Composants présentant des valeurs-seuil à surveiller par poste de travail:

#### 108-88-3 toluène

VLEP	Valeur momentanée: 384 mg/m <sup>3</sup> , 100 ppm Valeur à long terme: 76,8 mg/m <sup>3</sup> , 20 ppm R2, risque de pénétration percutanée
------	----------------------------------------------------------------------------------------------------------------------------------------------------

- Remarques supplémentaires:  
Le présent document s'appuie sur les listes en vigueur au moment de son élaboration.
- 8.2 Contrôles de l'exposition
- Equipement de protection individuel:
- Mesures générales de protection et d'hygiène:  
Tenir à l'écart des produits alimentaires, des boissons et de la nourriture pour animaux.  
Retirer immédiatement les vêtements souillés ou humectés.  
Se laver les mains avant les pauses et en fin de travail.  
Eviter tout contact avec la peau.  
Eviter tout contact avec les yeux et avec la peau.
- Protection respiratoire:  
En cas d'exposition faible ou de courte durée, utiliser un filtre respiratoire; en cas d'exposition intense ou durable, utiliser un appareil de respiration indépendant de l'air ambiant.
- Protection des mains:



Gants de protection

Le matériau des gants doit être imperméable et résistant au produit / à la substance / à la préparation.  
À cause du manque de tests, aucune recommandation pour un matériau de gants pour le produit / la préparation / le mélange de produits chimiques ne peut être donnée.  
Choix du matériau des gants en fonction des temps de pénétration, du taux de perméabilité et de la dégradation.

- Matériau des gants  
Le choix de gants appropriés ne dépend pas seulement du matériau, mais également d'autres critères de qualité qui peuvent varier d'un fabricant à l'autre.
- Temps de pénétration du matériau des gants  
Le temps de pénétration exact est à déterminer par le fabricant des gants de protection et à respecter.
- Protection des yeux:



Lunettes de protection hermétiques

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### RUBRIQUE 9: Propriétés physiques et chimiques

· <b>9.1 Informations sur les propriétés physiques et chimiques essentielles</b>	
· <b>Indications générales</b>	
· <b>Aspect:</b>	
· <b>Forme:</b>	<i>Liquide</i>
· <b>Couleur:</b>	<i>Selon désignation produit</i>
· <b>Odeur:</b> <i>Caractéristique</i>	
· <b>Seuil olfactif:</b> <i>Non déterminé.</i>	
· <b>valeur du pH:</b> <i>Non déterminé.</i>	
· <b>Changement d'état</b>	
· <b>Point de fusion/point de congélation:</b>	<i>-95 °C</i>
· <b>Point initial d'ébullition et intervalle d'ébullition:</b>	<i>110-111 °C</i>
· <b>Point d'éclair</b> <i>4 °C</i>	
· <b>Inflammabilité (solide, gaz):</b> <i>Non applicable.</i>	
· <b>Température d'inflammation:</b> <i>535 °C</i>	
· <b>Température de décomposition:</b> <i>Non déterminé.</i>	
· <b>Température d'auto-inflammabilité:</b> <i>Non déterminé.</i>	
· <b>Propriétés explosives:</b> <i>Le produit n'est pas explosif; toutefois, des mélanges explosifs vapeur-air peuvent se former.</i>	
· <b>Limites d'explosion:</b>	
· <b>Inférieure:</b>	<i>1,2 Vol %</i>
· <b>Supérieure:</b>	<i>7 Vol %</i>
· <b>Pression de vapeur à 20 °C:</b> <i>29 hPa</i>	
· <b>Densité à 20 °C:</b> <i>0,87 g/cm<sup>3</sup></i>	
· <b>Densité relative</b> <i>Non déterminé.</i>	
· <b>Densité de vapeur:</b> <i>Non déterminé.</i>	
· <b>Taux d'évaporation:</b> <i>Non déterminé.</i>	
· <b>Solubilité dans/miscibilité avec l'eau à 15 °C:</b> <i>0,5 g/l</i>	
· <b>Coefficient de partage: n-octanol/eau:</b> <i>Non déterminé.</i>	
· <b>Viscosité:</b>	
· <b>Dynamique à 20 °C:</b>	<i>0,6 mPas</i>
· <b>Cinématique:</b>	<i>Non déterminé.</i>
· <b>Solvants organiques:</b>	<i>100,0 %</i>
· <b>VOC (CE)</b>	<i>100,00 %</i>
· <b>Teneur en substances solides:</b> <i>0,0 %</i>	
· <b>9.2 Autres informations</b> <i>Pas d'autres informations importantes disponibles.</i>	

### RUBRIQUE 10: Stabilité et réactivité

- **10.1 Réactivité** *Pas d'autres informations importantes disponibles.*
- **10.2 Stabilité chimique**
- **Décomposition thermique/conditions à éviter:** *Pas de décomposition en cas d'usage conforme.*
- **10.3 Possibilité de réactions dangereuses** *Aucune réaction dangereuse connue.*

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- **10.4 Conditions à éviter** Pas d'autres informations importantes disponibles.
- **10.5 Matières incompatibles:** Pas d'autres informations importantes disponibles.
- **10.6 Produits de décomposition dangereux:** Pas de produits de décomposition dangereux connus

### RUBRIQUE 11: Informations toxicologiques

- **11.1 Informations sur les effets toxicologiques**
- **Toxicité aiguë** Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

#### · Valeurs LD/LC50 déterminantes pour la classification:

##### 108-88-3 toluène

Oral	LD50	5.000 mg/kg (rat)
Dermique	LD50	12.124 mg/kg (lapin)
Inhalatoire	LC50/4 h	5.320 mg/l (souris)

- **Effet primaire d'irritation:**
- **Corrosion cutanée/irritation cutanée**  
Provoque une irritation cutanée.
- **Lésions oculaires graves/irritation oculaire**  
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Sensibilisation respiratoire ou cutanée**  
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Indications toxicologiques complémentaires:**
- **Effets CMR (cancérogène, mutagène et toxique pour la reproduction)**
- **Mutagenicité sur les cellules germinales**  
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Cancérogénicité** Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Toxicité pour la reproduction**  
Susceptible de nuire au fœtus.
- **Toxicité spécifique pour certains organes cibles - exposition unique**  
Peut provoquer somnolence ou vertiges.
- **Toxicité spécifique pour certains organes cibles - exposition répétée**  
Risque présumé d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée.
- **Danger par aspiration**  
Peut être mortel en cas d'ingestion et de pénétration dans les voies respiratoires.

### RUBRIQUE 12: Informations écologiques

- **12.1 Toxicité**
- **Toxicité aquatique:** Pas d'autres informations importantes disponibles.
- **12.2 Persistance et dégradabilité** Pas d'autres informations importantes disponibles.
- **12.3 Potentiel de bioaccumulation** Pas d'autres informations importantes disponibles.
- **12.4 Mobilité dans le sol** Pas d'autres informations importantes disponibles.
- **Autres indications écologiques:**
- **Indications générales:**  
Catégorie de pollution des eaux 2 (D) (classification selon liste): polluant  
Ne pas laisser pénétrer dans la nappe phréatique, les eaux ou les canalisations.  
Danger pour l'eau potable dès fuite d'une petite quantité dans le sous-sol.
- **12.5 Résultats des évaluations PBT et VPVB**
- **PBT:** Non applicable.
- **vPvB:** Non applicable.

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· **12.6 Autres effets néfastes** Pas d'autres informations importantes disponibles.

### RUBRIQUE 13: Considérations relatives à l'élimination

- **13.1 Méthodes de traitement des déchets**
- **Recommandation:** Ne doit pas être évacué avec les ordures ménagères. Ne pas laisser pénétrer dans les égouts.
- **Emballages non nettoyés:**
- **Recommandation:** Evacuation conformément aux prescriptions légales.

### RUBRIQUE 14: Informations relatives au transport

- |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>· <b>14.1 Numéro ONU</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                       | <p style="text-align: center;">UN1294</p>                                                                            |
| <ul style="list-style-type: none"> <li>· <b>14.2 Désignation officielle de transport de l'ONU</b></li> <li>· <b>ADR</b></li> <li>· <b>IMDG</b></li> <li>· <b>IATA</b></li> </ul>                                                                                                                                                                                                                                                                                                                   | <p style="text-align: center;">1294 TOLUÈNE<br/>TOLUENE, MARINE POLLUTANT<br/>TOLUENE</p>                            |
| <ul style="list-style-type: none"> <li>· <b>14.3 Classe(s) de danger pour le transport</b></li> <li>· <b>ADR, IMDG</b></li> </ul> <div style="display: flex; align-items: center; justify-content: center; gap: 10px;">   </div> <ul style="list-style-type: none"> <li>· <b>Classe</b></li> <li>· <b>Étiquette</b></li> </ul> | <p style="text-align: center;">3 Liquides inflammables.<br/>3</p>                                                    |
| <ul style="list-style-type: none"> <li>· <b>IATA</b></li> </ul> <div style="display: flex; align-items: center; justify-content: center; gap: 10px;">  </div> <ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>                                                                                                                                                          | <p style="text-align: center;">3 Liquides inflammables.<br/>3</p>                                                    |
| <ul style="list-style-type: none"> <li>· <b>14.4 Groupe d'emballage</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                               | <p style="text-align: center;">II</p>                                                                                |
| <ul style="list-style-type: none"> <li>· <b>14.5 Dangers pour l'environnement:</b></li> <li>· <b>Marine Pollutant:</b></li> <li>· <b>Marquage spécial (ADR):</b></li> </ul>                                                                                                                                                                                                                                                                                                                        | <p style="text-align: center;">Signe conventionnel (poisson et arbre)<br/>Signe conventionnel (poisson et arbre)</p> |
| <ul style="list-style-type: none"> <li>· <b>14.6 Précautions particulières à prendre par l'utilisateur</b></li> <li>· <b>Numéro d'identification du danger (Indice Kemler):</b></li> <li>· <b>No EMS:</b></li> <li>· <b>Stowage Category</b></li> </ul>                                                                                                                                                                                                                                            | <p style="text-align: center;">Attention: Liquides inflammables.<br/>33<br/>F-E,S-D<br/>B</p>                        |
| <ul style="list-style-type: none"> <li>· <b>14.7 Transport en vrac conformément à l'annexe II de la convention Marpol et au recueil IBC</b></li> </ul>                                                                                                                                                                                                                                                                                                                                             | <p style="text-align: center;">Non applicable.</p>                                                                   |

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· **Indications complémentaires de transport:**

· **ADR**

· **Quantités limitées (LQ)**

1L

· **Quantités exceptées (EQ)**

Code: E2

Quantité maximale nette par emballage intérieur: 30 ml  
Quantité maximale nette par emballage extérieur: 500 ml

· **Catégorie de transport**

2

· **Code de restriction en tunnels**

D/E

· **IMDG**

· **Limited quantities (LQ)**

1L

· **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 500 ml

· **"Règlement type" de l'ONU:**

UN 1294 TOLUÈNE, 3, II

### RUBRIQUE 15: Informations relatives à la réglementation

· **15.1 Réglementations/législation particulières à la substance ou au mélange en matière de sécurité, de santé et d'environnement**

· **Directive 2012/18/UE**

· **Substances dangereuses désignées - ANNEXE I** la substance n'est pas comprise

· **Catégorie SEVESO P5c LIQUIDES INFLAMMABLES**

· **Quantité seuil (tonnes) pour l'application des exigences relatives au seuil bas** 5.000 t

· **Quantité seuil (tonnes) pour l'application des exigences relatives au seuil haut** 50.000 t

· **RÈGLEMENT (CE) N° 1907/2006 ANNEXE XVII** Conditions de limitation: 3, 48

· **Directive 2011/65/UE relative à la limitation de l'utilisation de certaines substances dangereuses dans les équipements électriques et électroniques – Annexe II**

la substance n'est pas comprise

· **RÈGLEMENT (UE) 2019/1148**

· **Annexe I - PRÉCURSEURS D'EXPLOSIFS FAISANT L'OBJET DE RESTRICTIONS (Valeur limite maximale aux fins de l'octroi d'une licence en vertu de l'article 5, paragraphe 3)**

la substance n'est pas comprise

· **Annexe II - PRÉCURSEURS D'EXPLOSIFS DEVANT FAIRE L'OBJET D'UN SIGNALLEMENT**

la substance n'est pas comprise

· **Règlement (CE) n° 273/2004 relatif aux précurseurs de drogues**

3

· **Règlement (CE) n° 111/2005 fixant des règles pour la surveillance du commerce des précurseurs des drogues entre la Communauté et les pays tiers**

3

· **15.2 Évaluation de la sécurité chimique:** Une évaluation de la sécurité chimique n'a pas été réalisée.

### RUBRIQUE 16: Autres informations

Ces indications sont fondées sur l'état actuel de nos connaissances, mais ne constituent pas une garantie quant aux propriétés du produit et ne donnent pas lieu à un rapport juridique contractuel.

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**· Acronymes et abréviations:***ADR: Accord relatif au transport international des marchandises dangereuses par route**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)**VOC: Volatile Organic Compounds (USA, EU)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Flam. Liq. 2: Liquides inflammables – Catégorie 2**Skin Irrit. 2: Corrosion cutanée/irritation cutanée – Catégorie 2**Repr. 2: Toxicité pour la reproduction – Catégorie 2**STOT SE 3: Toxicité spécifique pour certains organes cibles (exposition unique) – Catégorie 3**STOT RE 2: Toxicité spécifique pour certains organes cibles (exposition répétée) – Catégorie 2**Asp. Tox. 1: Danger par aspiration – Catégorie 1*

FR

# Sicherheitsdatenblatt

## gemäß 1907/2006/EG, Artikel 31

Druckdatum: 20.04.2022

überarbeitet am: 20.04.2022

### ABSCHNITT 1: Bezeichnung des Stoffs beziehungsweise des Gemischs und des Unternehmens

· **1.1 Produktidentifikator**

· **Handelsname:** Toluene Reagent, A.C.S.

· **Artikelnummer:** 22030, 22032

· **CAS-Nummer:**

108-88-3

· **EG-Nummer:**

203-625-9

· **Indexnummer:**

601-021-00-3

· **UFI:** FC02-M0V8-D00U-2VP7

· **1.2 Relevante identifizierte Verwendungen des Stoffs oder Gemischs und Verwendungen, von denen abgeraten wird**

Keine weiteren relevanten Informationen verfügbar.

· **Verwendung des Stoffes / des Gemisches** Laborchemikalien

· **1.3 Einzelheiten zum Lieferanten, der das Sicherheitsdatenblatt bereitstellt**

· **Hersteller/Lieferant:**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

Tel: 215-412-8400 Fax: 215-412-8450

email: [info@emsdiasum.com](mailto:info@emsdiasum.com)

[www.emsdiasum.com](http://www.emsdiasum.com)

Science Services GmbH

Unterhachinger Str. 75

81737 München Germany

Tel: +49(0)89 18 93 668-0

[safety@scienceservices.de](mailto:safety@scienceservices.de)

Deutschland: +49 (0)89 19240, 24h Giftnotruf München, [www.toxinfo.org](http://www.toxinfo.org)

Osterreich: +43 1406 43 43, Gesundheit Osterreich GmbH, 24 h

· **Auskunftgebender Bereich:** Product safety department

· **1.4 Notrufnummer:**

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

### ABSCHNITT 2: Mögliche Gefahren

· **2.1 Einstufung des Stoffs oder Gemischs**

· **Einstufung gemäß Verordnung (EG) Nr. 1272/2008**



GHS02 Flamme

Flam. Liq. 2 H225 Flüssigkeit und Dampf leicht entzündbar.



GHS08 Gesundheitsgefahr

Repr. 2 H361d Kann vermutlich das Kind im Mutterleib schädigen.

(Fortsetzung auf Seite 2)

# Sicherheitsdatenblatt

## gemäß 1907/2006/EG, Artikel 31

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**Handelsname: Toluene Reagent, A.C.S.**

(Fortsetzung von Seite 1)

STOT RE 2 H373 Kann die Organe schädigen bei längerer oder wiederholter Exposition.

Asp. Tox. 1 H304 Kann bei Verschlucken und Eindringen in die Atemwege tödlich sein.



GHS07

Skin Irrit. 2 H315 Verursacht Hautreizungen.

STOT SE 3 H336 Kann Schläfrigkeit und Benommenheit verursachen.

- **2.2 Kennzeichnungselemente**
- **Kennzeichnung gemäß Verordnung (EG) Nr. 1272/2008**
- Der Stoff ist gemäß CLP-Verordnung eingestuft und gekennzeichnet.
- **Gefahrenpiktogramme**



GHS02

GHS07

GHS08

- **Signalwort Gefahr**
- **Gefahrbestimmende Komponenten zur Etikettierung:**  
Toluol
- **Gefahrenhinweise**  
H225 Flüssigkeit und Dampf leicht entzündbar.  
H315 Verursacht Hautreizungen.  
H361d Kann vermutlich das Kind im Mutterleib schädigen.  
H336 Kann Schläfrigkeit und Benommenheit verursachen.  
H373 Kann die Organe schädigen bei längerer oder wiederholter Exposition.  
H304 Kann bei Verschlucken und Eindringen in die Atemwege tödlich sein.
- **Sicherheitshinweise**  
P301+P310 **BEI VERSCHLUCKEN:** Sofort GIFTINFORMATIONSZENTRUM/Arzt anrufen.  
P321 Besondere Behandlung (siehe auf diesem Kennzeichnungsetikett).  
P331 **KEIN** Erbrechen herbeiführen.  
P303+P361+P353 **BEI BERÜHRUNG MIT DER HAUT (oder dem Haar):** Alle kontaminierten Kleidungsstücke sofort ausziehen. Haut mit Wasser abwaschen [oder duschen].  
P362+P364 Kontaminierte Kleidung ausziehen und vor erneutem Tragen waschen.  
P405 Unter Verschluss aufbewahren.  
P501 Entsorgung des Inhalts / des Behälters gemäß den örtlichen / regionalen / nationalen / internationalen Vorschriften.
- **2.3 Sonstige Gefahren**
- **Ergebnisse der PBT- und vPvB-Beurteilung**
- **PBT:** Nicht anwendbar.
- **vPvB:** Nicht anwendbar.

### ABSCHNITT 3: Zusammensetzung/Angaben zu Bestandteilen

- **3.1 Chemische Charakterisierung: Stoffe**
- **CAS-Nr. Bezeichnung**  
108-88-3 Toluol
- **Identifikationsnummer(n)**
- **EG-Nummer:** 203-625-9

(Fortsetzung auf Seite 3)

# Sicherheitsdatenblatt

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### ABSCHNITT 4: Erste-Hilfe-Maßnahmen

· **4.1 Beschreibung der Erste-Hilfe-Maßnahmen**

· **Allgemeine Hinweise:**

Vergiftungssymptome können erst nach vielen Stunden auftreten, deshalb ärztliche Überwachung mindestens 48 Stunden nach einem Unfall.

· **Nach Einatmen:** Bei Bewusstlosigkeit Lagerung und Transport in stabiler Seitenlage.

· **Nach Hautkontakt:** Sofort mit Wasser und Seife abwaschen und gut nachspülen.

· **Nach Augenkontakt:** Augen bei geöffnetem Lidspalt mehrere Minuten mit fließendem Wasser spülen.

· **Nach Verschlucken:** Sofort Arzt aufsuchen.

· **4.2 Wichtigste akute und verzögert auftretende Symptome und Wirkungen**

Keine weiteren relevanten Informationen verfügbar.

· **4.3 Hinweise auf ärztliche Soforthilfe oder Spezialbehandlung**

Keine weiteren relevanten Informationen verfügbar.

### ABSCHNITT 5: Maßnahmen zur Brandbekämpfung

· **5.1 Löschmittel**

· **Geeignete Löschmittel:** CO<sub>2</sub>, Sand, Löschpulver. Kein Wasser verwenden.

· **Aus Sicherheitsgründen ungeeignete Löschmittel:** Wasser im Vollstrahl

· **5.2 Besondere vom Stoff oder Gemisch ausgehende Gefahren**

Keine weiteren relevanten Informationen verfügbar.

· **5.3 Hinweise für die Brandbekämpfung**

· **Besondere Schutzausrüstung:** Keine besonderen Maßnahmen erforderlich.

### ABSCHNITT 6: Maßnahmen bei unbeabsichtigter Freisetzung

· **6.1 Personenbezogene Vorsichtsmaßnahmen, Schutzausrüstungen und in Notfällen anzuwendende Verfahren**  
Schutzausrüstung tragen. Ungeschützte Personen fernhalten.

· **6.2 Umweltschutzmaßnahmen:** Nicht in die Kanalisation/Oberflächenwasser/Grundwasser gelangen lassen.

· **6.3 Methoden und Material für Rückhaltung und Reinigung:**

Mit flüssigkeitsbindendem Material (Sand, Kieselgur, Säurebinder, Universalbinder, Sägemehl) aufnehmen.

Kontaminiertes Material als Abfall nach Abschnitt 13 entsorgen.

Für ausreichende Lüftung sorgen.

Nicht mit Wasser oder wässrigen Reinigungsmitteln wegspülen.

· **6.4 Verweis auf andere Abschnitte**

Informationen zur sicheren Handhabung siehe Abschnitt 7.

Informationen zur persönlichen Schutzausrüstung siehe Abschnitt 8.

Informationen zur Entsorgung siehe Abschnitt 13.

### ABSCHNITT 7: Handhabung und Lagerung

· **7.1 Schutzmaßnahmen zur sicheren Handhabung**

Für gute Belüftung/Absaugung am Arbeitsplatz sorgen.

Aerosolbildung vermeiden.

· **Hinweise zum Brand- und Explosionsschutz:**

Zündquellen fernhalten - nicht rauchen.

Vor Hitze schützen.

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Maßnahmen gegen elektrostatische Aufladung treffen.

· **7.2 Bedingungen zur sicheren Lagerung unter Berücksichtigung von Unverträglichkeiten**

· **Lagerung:**

· **Anforderung an Lagerräume und Behälter:** An einem kühlen Ort lagern.

· **Zusammenlagerungshinweise:** Nicht erforderlich.

· **Weitere Angaben zu den Lagerbedingungen:**

Behälter dicht geschlossen halten.

In gut verschlossenen Gebinden kühl und trocken lagern.

Vor Hitze und direkter Sonnenbestrahlung schützen.

· **Lagerklasse:**

· **Klassifizierung nach Betriebssicherheitsverordnung (BetrSichV):** Entzündbare Flüssigkeiten

· **7.3 Spezifische Endanwendungen:** Keine weiteren relevanten Informationen verfügbar.

### ABSCHNITT 8: Begrenzung und Überwachung der Exposition/Persönliche Schutzausrüstungen

· **8.1 Zu überwachende Parameter**

· **Zusätzliche Hinweise zur Gestaltung technischer Anlagen:** Keine weiteren Angaben, siehe Abschnitt 7.

· **Bestandteile mit arbeitsplatzbezogenen, zu überwachenden Grenzwerten:**

**108-88-3 Toluol**

AGW	Langzeitwert: 190 mg/m <sup>3</sup> , 50 ml/m <sup>3</sup> 2(II);DFG, EU, H, Y
-----	-----------------------------------------------------------------------------------

· **Bestandteile mit biologischen Grenzwerten:**

**108-88-3 Toluol**

BGW	600 µg/l
-----	----------

Untersuchungsmaterial: Vollblut

Probennahmezeitpunkt: unmittelbar nach Exposition

Parameter: Toluol

1,5 mg/l

Untersuchungsmaterial: Urin

Probennahmezeitpunkt: Expositionsende bzw. Schichtende, bei Langzeitexposition: am Schichtende nach mehreren vorangegangenen Schichten

Parameter: o-Kresol (nach Hydrolyse)

75 µg/l

Untersuchungsmaterial: Urin

Probennahmezeitpunkt: Expositionsende bzw. Schichtende

Parameter: Toluol

· **Zusätzliche Hinweise:** Als Grundlage dienen die bei der Erstellung gültigen Listen.

· **8.2 Begrenzung und Überwachung der Exposition**

· **Persönliche Schutzausrüstung:**

· **Allgemeine Schutz- und Hygienemaßnahmen:**

Von Nahrungsmitteln, Getränken und Futtermitteln fernhalten.

Beschmutzte, getränkte Kleidung sofort ausziehen.

Vor den Pausen und bei Arbeitsende Hände waschen.

Berührung mit der Haut vermeiden.

Berührung mit den Augen und der Haut vermeiden.

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**· Atemschutz:**

Bei kurzzeitiger oder geringer Belastung Atemfiltergerät; bei intensiver bzw. längerer Exposition unluftunabhängiges Atemschutzgerät verwenden.

**· Handschutz:**


Schutzhandschuhe

Das Handschuhmaterial muss undurchlässig und beständig gegen das Produkt / den Stoff / die Zubereitung sein. Aufgrund fehlender Tests kann keine Empfehlung zum Handschuhmaterial für das Produkt / die Zubereitung / das Chemikaliengemisch abgegeben werden.

Auswahl des Handschuhmaterials unter Beachtung der Durchbruchzeiten, Permeationsraten und der Degradation.

**· Handschuhmaterial**

Die Auswahl eines geeigneten Handschuhs ist nicht nur vom Material, sondern auch von weiteren Qualitätsmerkmalen abhängig und von Hersteller zu Hersteller unterschiedlich.

**· Durchdringungszeit des Handschuhmaterials**

Die genaue Durchbruchzeit ist beim Schutzhandschuhhersteller zu erfahren und einzuhalten.

**· Augenschutz:**


Dichtschließende Schutzbrille

### ABSCHNITT 9: Physikalische und chemische Eigenschaften

**· 9.1 Angaben zu den grundlegenden physikalischen und chemischen Eigenschaften**
**· Allgemeine Angaben**
**· Aussehen:**

<b>Form:</b>	Flüssigkeit
<b>Farbe:</b>	Gemäß Produktbezeichnung
<b>Geruch:</b>	Charakteristisch
<b>Geruchsschwelle:</b>	Nicht bestimmt.

**· pH-Wert:** Nicht bestimmt.

**· Zustandsänderung**

<b>Schmelzpunkt/Gefrierpunkt:</b>	-95 °C
<b>Siedebeginn und Siedebereich:</b>	110-111 °C

**· Flammpunkt:** 4 °C

**· Entzündbarkeit (fest, gasförmig):** Nicht anwendbar.

**· Zündtemperatur:** 535 °C

**· Zersetzungstemperatur:** Nicht bestimmt.

**· Selbstentzündungstemperatur:** Nicht bestimmt.

**· Explosive Eigenschaften:** Das Produkt ist nicht explosionsgefährlich, jedoch ist die Bildung explosionsgefährlicher Dampf-/Luftgemische möglich.

**· Explosionsgrenzen:**

**Untere:** 1,2 Vol %

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<b>Obere:</b>	7 Vol %
· <b>Dampfdruck bei 20 °C:</b>	29 hPa
· <b>Dichte bei 20 °C:</b>	0,87 g/cm <sup>3</sup>
· <b>Relative Dichte</b>	Nicht bestimmt.
· <b>Dampfdichte</b>	Nicht bestimmt.
· <b>Verdampfungsgeschwindigkeit</b>	Nicht bestimmt.
· <b>Löslichkeit in / Mischbarkeit mit Wasser bei 15 °C:</b>	0,5 g/l
· <b>Verteilungskoeffizient: n-Octanol/Wasser:</b>	Nicht bestimmt.
· <b>Viskosität:</b>	
<b>Dynamisch bei 20 °C:</b>	0,6 mPas
<b>Kinematisch:</b>	Nicht bestimmt.
<b>Organische Lösemittel:</b>	100,0 %
<b>VOC (EU)</b>	100,00 %
· <b>Festkörpergehalt:</b>	0,0 %
· <b>9.2 Sonstige Angaben</b>	Keine weiteren relevanten Informationen verfügbar.

### ABSCHNITT 10: Stabilität und Reaktivität

- **10.1 Reaktivität** Keine weiteren relevanten Informationen verfügbar.
- **10.2 Chemische Stabilität**
- **Thermische Zersetzung / zu vermeidende Bedingungen:**  
Keine Zersetzung bei bestimmungsgemäßer Verwendung.
- **10.3 Mögliche gefährliche Reaktionen** Keine gefährlichen Reaktionen bekannt.
- **10.4 Zu vermeidende Bedingungen** Keine weiteren relevanten Informationen verfügbar.
- **10.5 Unverträgliche Materialien:** Keine weiteren relevanten Informationen verfügbar.
- **10.6 Gefährliche Zersetzungsprodukte:** Keine gefährlichen Zersetzungsprodukte bekannt.

### ABSCHNITT 11: Toxikologische Angaben

- **11.1 Angaben zu toxikologischen Wirkungen**
- **Akute Toxizität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

#### · Einstufungsrelevante LD/LC50-Werte:

##### 108-88-3 Toluol

Oral	LD50	5.000 mg/kg (rat)
Dermal	LD50	12.124 mg/kg (rabbit)
Inhalativ	LC50/4 h	5.320 mg/l (mouse)

- **Primäre Reizwirkung:**
- **Ätz-/Reizwirkung auf die Haut**  
Verursacht Hautreizungen.
- **Schwere Augenschädigung/-reizung** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Sensibilisierung der Atemwege/Haut** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Zusätzliche toxikologische Hinweise:**
- **CMR-Wirkungen (krebserzeugende, erbgutverändernde und fortpflanzungsgefährdende Wirkung)**
- **Keimzell-Mutagenität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Karzinogenität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

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- **Reproduktionstoxizität**  
Kann vermutlich das Kind im Mutterleib schädigen.
- **Spezifische Zielorgan-Toxizität bei einmaliger Exposition**  
Kann Schläfrigkeit und Benommenheit verursachen.
- **Spezifische Zielorgan-Toxizität bei wiederholter Exposition**  
Kann die Organe schädigen bei längerer oder wiederholter Exposition.
- **Aspirationsgefahr**  
Kann bei Verschlucken und Eindringen in die Atemwege tödlich sein.

### ABSCHNITT 12: Umweltbezogene Angaben

- **12.1 Toxizität**
- **Aquatische Toxizität:** Keine weiteren relevanten Informationen verfügbar.
- **12.2 Persistenz und Abbaubarkeit** Keine weiteren relevanten Informationen verfügbar.
- **12.3 Bioakkumulationspotenzial** Keine weiteren relevanten Informationen verfügbar.
- **12.4 Mobilität im Boden** Keine weiteren relevanten Informationen verfügbar.
- **Weitere ökologische Hinweise:**
- **Allgemeine Hinweise:**  
Wassergefährdungsklasse 2 (Listeneinstufung): deutlich wassergefährdend  
Nicht in das Grundwasser, in Gewässer oder in die Kanalisation gelangen lassen.  
Trinkwassergefährdung bereits beim Auslaufen geringer Mengen in den Untergrund.
- **12.5 Ergebnisse der PBT- und vPvB-Beurteilung**
- **PBT:** Nicht anwendbar.
- **vPvB:** Nicht anwendbar.
- **12.6 Andere schädliche Wirkungen** Keine weiteren relevanten Informationen verfügbar.

### ABSCHNITT 13: Hinweise zur Entsorgung

- **13.1 Verfahren der Abfallbehandlung**
- **Empfehlung:** Darf nicht zusammen mit Hausmüll entsorgt werden. Nicht in die Kanalisation gelangen lassen.
- **Ungereinigte Verpackungen:**
- **Empfehlung:** Entsorgung gemäß den behördlichen Vorschriften.

### ABSCHNITT 14: Angaben zum Transport

- |                                                                                                                                                                          |                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|
| <ul style="list-style-type: none"> <li>· <b>14.1 UN-Nummer</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>                                                              | UN1294                                              |
| <ul style="list-style-type: none"> <li>· <b>14.2 Ordnungsgemäße UN-Versandbezeichnung</b></li> <li>· <b>ADR</b></li> <li>· <b>IMDG</b></li> <li>· <b>IATA</b></li> </ul> | 1294 TOLUEN<br>TOLUENE, MARINE POLLUTANT<br>TOLUENE |
| <ul style="list-style-type: none"> <li>· <b>14.3 Transportgefahrenklassen</b></li> <li>· <b>ADR, IMDG</b></li> </ul>                                                     | 3 Entzündbare flüssige Stoffe                       |



- **Klasse**

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· <b>Gefahrzettel</b>	3
· <b>IATA</b>	
	
· <b>Class</b>	3 Entzündbare flüssige Stoffe
· <b>Label</b>	3
· <b>14.4 Verpackungsgruppe</b> · <b>ADR, IMDG, IATA</b>	II
· <b>14.5 Umweltgefahren:</b>	
· <b>Marine pollutant:</b>	Symbol (Fisch und Baum)
· <b>Besondere Kennzeichnung (ADR):</b>	Symbol (Fisch und Baum)
· <b>14.6 Besondere Vorsichtsmaßnahmen für den Verwender</b>	Achtung: Entzündbare flüssige Stoffe
· <b>Nummer zur Kennzeichnung der Gefahr (Kemler-Zahl):</b>	33
· <b>EMS-Nummer:</b>	F-E,S-D
· <b>Stowage Category</b>	B
· <b>14.7 Massengutbeförderung gemäß Anhang II des MARPOL-Übereinkommens und gemäß IBC-Code</b>	Nicht anwendbar.
· <b>Transport/weitere Angaben:</b>	
· <b>ADR</b>	
· <b>Begrenzte Menge (LQ)</b>	1L
· <b>Freigestellte Mengen (EQ)</b>	Code: E2 Höchste Nettomenge je Innenverpackung: 30 ml Höchste Nettomenge je Außenverpackung: 500 ml
· <b>Beförderungskategorie</b>	2
· <b>Tunnelbeschränkungscode</b>	D/E
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	1L
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>UN "Model Regulation":</b>	UN 1294 TOLUEN, 3, II

### ABSCHNITT 15: Rechtsvorschriften

- **15.1 Vorschriften zu Sicherheit, Gesundheits- und Umweltschutz/spezifische Rechtsvorschriften für den Stoff oder das Gemisch**
- **Richtlinie 2012/18/EU**
- **Namentlich aufgeführte gefährliche Stoffe - ANHANG I** Der Stoff ist nicht enthalten.
- **Seveso-Kategorie P5c ENTZÜNDBARE FLÜSSIGKEITEN**
- **Mengenschwelle (in Tonnen) für die Anwendung in Betrieben der unteren Klasse 5.000 t**
- **Mengenschwelle (in Tonnen) für die Anwendung in Betrieben der oberen Klasse 50.000 t**

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· **VERORDNUNG (EG) Nr. 1907/2006 ANHANG XVII Beschränkungsbedingungen: 3, 48**· **Richtlinie 2011/65/EU zur Beschränkung der Verwendung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten – Anhang II**

Der Stoff ist nicht enthalten.

· **VERORDNUNG (EU) 2019/1148**· **Anhang I - BESCHRÄNKTE AUSGANGSSTOFFE FÜR EXPLOSIVSTOFFE (Oberer Konzentrationsgrenzwert für eine Genehmigung nach Artikel 5 Absatz 3)**

Der Stoff ist nicht enthalten.

· **Anhang II - MELDEPFLICHTIGE AUSGANGSSTOFFE FÜR EXPLOSIVSTOFFE**

Der Stoff ist nicht enthalten.

· **Verordnung (EG) Nr. 273/2004 betreffend Drogenausgangsstoffe**

3

· **Verordnung (EG) Nr. 111/2005 zur Festlegung von Vorschriften für die Überwachung des Handels mit Drogenaustauschstoffen zwischen der Gemeinschaft und Drittländern**

3

· **Nationale Vorschriften:**· **Technische Anleitung Luft:**

Klasse	Anteil in %
NK	100,0

· **Wassergefährdungsklasse: WGK 2 (Listeneinstufung): deutlich wassergefährdend.**· **15.2 Stoffsicherheitsbeurteilung: Eine Stoffsicherheitsbeurteilung wurde nicht durchgeführt.**

### ABSCHNITT 16: Sonstige Angaben

Die Angaben stützen sich auf den heutigen Stand unserer Kenntnisse, sie stellen jedoch keine Zusicherung von Produkteigenschaften dar und begründen kein vertragliches Rechtsverhältnis.

· **Abkürzungen und Akronyme:**

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)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Entzündbare Flüssigkeiten – Kategorie 2

Skin Irrit. 2: Hautreizende/-ätzende Wirkung – Kategorie 2

Repr. 2: Reproduktionstoxizität – Kategorie 2

STOT SE 3: Spezifische Zielorgan-Toxizität (einmalige Exposition) – Kategorie 3

STOT RE 2: Spezifische Zielorgan-Toxizität (wiederholte Exposition) – Kategorie 2

Asp. Tox. 1: Aspirationsgefahr – Kategorie 1

**Scheda di dati di sicurezza**  
ai sensi del regolamento 1907/2006/CE, Articolo 31

Stampato il: 20.04.2022

Revisione: 20.04.2022

**SEZIONE 1: Identificazione della sostanza o della miscela e della società/impresa**

· **1.1 Identificatore del prodotto**

· **Denominazione commerciale:** Toluene Reagent, A.C.S.

· **Articolo numero:** 22030, 22032

· **Numero CAS:**

108-88-3

· **Numeri CE:**

203-625-9

· **Numero indice:**

601-021-00-3

· **UFI:** FC02-M0V8-D00U-2VP7

· **1.2 Usi identificati pertinenti della sostanza o della miscela e usi sconsigliati**

Non sono disponibili altre informazioni.

· **Utilizzazione della Sostanza / del Preparato** Prodotti chimici per laboratorio

· **1.3 Informazioni sul fornitore della scheda di dati di sicurezza**

· **Produttore/fornitore:**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

Tel: 215-412-8400 Fax: 215-412-8450

email: [info@emsdiasum.com](mailto:info@emsdiasum.com)

[www.emsdiasum.com](http://www.emsdiasum.com)

Societa Italiana Chimici

Via Rio Nell Ellba 140

00138 Rome, Italy

Tel: 39 06 8800211

Fax: 39 30 06 8815313

Web: [www.sichim.com](http://www.sichim.com)

· **Informazioni fornite da:** Product safety department

· **1.4 Numero telefonico di emergenza:**

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

**SEZIONE 2: Identificazione dei pericoli**

· **2.1 Classificazione della sostanza o della miscela**

· **Classificazione secondo il regolamento (CE) n. 1272/2008**



GHS02 fiamma

Flam. Liq. 2 H225 Liquido e vapori facilmente infiammabili.



GHS08 pericolo per la salute

Repr. 2 H361d Sospettato di nuocere al feto.

STOT RE 2 H373 Può provocare danni agli organi in caso di esposizione prolungata o ripetuta.

Asp. Tox. 1 H304 Può essere letale in caso di ingestione e di penetrazione nelle vie respiratorie.

(continua a pagina 2)

**Scheda di dati di sicurezza**  
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GHS07

*Skin Irrit. 2 H315 Provoca irritazione cutanea.*  
*STOT SE 3 H336 Può provocare sonnolenza o vertigini.*

- **2.2 Elementi dell'etichetta**
- **Etichettatura secondo il regolamento (CE) n. 1272/2008**  
*La sostanza è classificata ed etichettata conformemente al regolamento CLP.*
- **Pittogrammi di pericolo**



GHS02 GHS07 GHS08

- **Avvertenza Pericolo**
- **Componenti pericolosi che ne determinano l'etichettatura:**  
*toluene*
- **Indicazioni di pericolo**  
*H225 Liquido e vapori facilmente infiammabili.*  
*H315 Provoca irritazione cutanea.*  
*H361d Sospettato di nuocere al feto.*  
*H336 Può provocare sonnolenza o vertigini.*  
*H373 Può provocare danni agli organi in caso di esposizione prolungata o ripetuta.*  
*H304 Può essere letale in caso di ingestione e di penetrazione nelle vie respiratorie.*
- **Consigli di prudenza**  
*P301+P310 IN CASO DI INGESTIONE: contattare immediatamente un CENTRO ANTIVELENI/un medico.*  
*P321 Trattamento specifico (vedere su questa etichetta).*  
*P331 NON provocare il vomito.*  
*P303+P361+P353 IN CASO DI CONTATTO CON LA PELLE (o con i capelli): togliersi di dosso immediatamente tutti gli indumenti contaminati. Sciacquare la pelle [o fare una doccia].*  
*P362+P364 Togliere tutti gli indumenti contaminati e lavarli prima di indossarli nuovamente.*  
*P405 Conservare sotto chiave.*  
*P501 Smaltire il prodotto/recipiente in conformità con le disposizioni locali / regionali / nazionali / internazionali.*
- **2.3 Altri pericoli**
- **Risultati della valutazione PBT e vPvB**
- **PBT:** Non applicabile.
- **vPvB:** Non applicabile.

### **SEZIONE 3: Composizione/informazioni sugli ingredienti**

- **3.1 Caratteristiche chimiche: Sostanze**
- **Numero CAS**  
*108-88-3 toluene*
- **Numero/i di identificazione**
- **Numeri CE:** 203-625-9

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· **Numero indice:** 601-021-00-3

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### **SEZIONE 4: Misure di primo soccorso**

· **4.1 Descrizione delle misure di primo soccorso**

· **Indicazioni generali:**

*I sintomi di avvelenamento possono comparire dopo molte ore, per tale motivo è necessaria la sorveglianza di un medico nelle 48 ore successive all'incidente.*

· **Inalazione:** *Se il soggetto è svenuto provvedere a tenerlo durante il trasporto in posizione stabile su un fianco.*

· **Contatto con la pelle:** *Lavare immediatamente con acqua e sapone sciacquando accuratamente.*

· **Contatto con gli occhi:** *Lavare con acqua corrente per alcuni minuti tenendo le palpebre ben aperte.*

· **Ingestione:** *Chiamare subito il medico.*

· **4.2 Principali sintomi ed effetti, sia acuti che ritardati** *Non sono disponibili altre informazioni.*

· **4.3 Indicazione dell'eventuale necessità di consultare immediatamente un medico e di trattamenti speciali**  
*Non sono disponibili altre informazioni.*

### **SEZIONE 5: Misure antincendio**

· **5.1 Mezzi di estinzione**

· **Mezzi di estinzione idonei:** *CO2, sabbia, polvere. Non usare acqua.*

· **Mezzi di estinzione inadatti per motivi di sicurezza:** *Getti d'acqua*

· **5.2 Pericoli speciali derivanti dalla sostanza o dalla miscela** *Non sono disponibili altre informazioni.*

· **5.3 Raccomandazioni per gli addetti all'estinzione degli incendi**

· **Mezzi protettivi specifici:** *Non sono richiesti provvedimenti particolari.*

### **SEZIONE 6: Misure in caso di rilascio accidentale**

· **6.1 Precauzioni personali, dispositivi di protezione e procedure in caso di emergenza**

*Indossare equipaggiamento protettivo. Allontanare le persone non equipaggiate.*

· **6.2 Precauzioni ambientali:** *Impedire infiltrazioni nella fognatura/nelle acque superficiali/nelle acque freatiche.*

· **6.3 Metodi e materiali per il contenimento e per la bonifica:**

*Raccogliere il liquido con materiale assorbente (sabbia, tripoli, legante di acidi, legante universale, segatura).*

*Smaltimento del materiale contaminato conformemente al punto 13.*

*Provvedere ad una sufficiente areazione.*

*Non dilavare con acqua o detergenti liquidi.*

· **6.4 Riferimento ad altre sezioni**

*Per informazioni relative ad un manipolazione sicura, vedere capitolo 7.*

*Per informazioni relative all'equipaggiamento protettivo ad uso personale vedere Capitolo 8.*

*Per informazioni relative allo smaltimento vedere Capitolo 13.*

### **SEZIONE 7: Manipolazione e immagazzinamento**

· **7.1 Precauzioni per la manipolazione sicura**

*Accurata ventilazione/aspirazione nei luoghi di lavoro.*

*Evitare la formazione di aerosol.*

· **Indicazioni in caso di incendio ed esplosione:**

*Tenere lontano da fonti di calore, non fumare.*

*Proteggere dal calore.*

*Adottare provvedimenti contro cariche elettrostatiche.*

(continua a pagina 4)

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- **7.2 Condizioni per lo stoccaggio sicuro, comprese eventuali incompatibilità**
- **Stoccaggio:**
- **Requisiti dei magazzini e dei recipienti:** Conservare in ambiente fresco.
- **Indicazioni sullo stoccaggio misto:** Non necessario.
- **Ulteriori indicazioni relative alle condizioni di immagazzinamento:**  
Mantenere i recipienti ermeticamente chiusi.  
Conservare in luogo fresco e asciutto in fusti ben chiusi.  
Proteggere dal calore e dai raggi diretti del sole.
- **7.3 Usi finali particolari** Non sono disponibili altre informazioni.

### SEZIONE 8: Controllo dell'esposizione/protezione individuale

- **8.1 Parametri di controllo**
- **Ulteriori indicazioni sulla struttura di impianti tecnici:** Nessun dato ulteriore, vedere punto 7.

· **Componenti i cui valori limite devono essere tenuti sotto controllo negli ambienti di lavoro:**

**108-88-3 toluene**

TWA	Valore a lungo termine: 75,4 mg/m <sup>3</sup> , 20 ppm A4, IBE
VL	Valore a lungo termine: 192 mg/m <sup>3</sup> , 50 ppm Cute

· **Componenti con valori limite biologici:**

**108-88-3 toluene**

IBE	0,02 mg/l Campioni: sangue Momento del prelievo: a prima ultimo turno settimana lavorativa Indicatore biologico: toluene
	0,03 mg/l Campioni: urine Momento del prelievo: a fine turno Indicatore biologico: toluene
	0,3 mg/g creatinina Campioni: urine Momento del prelievo: a fine turno Indicatore biologico: o-cresolo

· **Ulteriori indicazioni:** Le liste valide alla data di compilazione sono state usate come base.

- **8.2 Controlli dell'esposizione**
- **Mezzi protettivi individuali:**
- **Norme generali protettive e di igiene del lavoro:**  
Tenere lontano da cibo, bevande e foraggi.  
Togliere immediatamente gli abiti contaminati.  
Lavarsi le mani prima dell'intervallo o a lavoro terminato.  
Evitare il contatto con la pelle.  
Evitare il contatto con gli occhi e la pelle.
- **Maschera protettiva:**  
Nelle esposizioni brevi e minime utilizzare la maschera; nelle esposizioni più intense e durature indossare l'autorespiratore.

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**Scheda di dati di sicurezza**  
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**· Guanti protettivi:**

Guanti protettivi

*Il materiale dei guanti deve essere impermeabile e stabile contro il prodotto/ la sostanza/ la formulazione.*

*A causa della mancanza di tests non può essere consigliato alcun tipo di materiale per i guanti con cui manipolare il prodotto / la formulazione / la miscela di sostanze chimiche.*

*Scelta del materiale dei guanti in considerazione dei tempi di passaggio, dei tassi di permeazione e della degradazione.*

**· Materiale dei guanti**

*La scelta dei guanti adatti non dipende soltanto dal materiale bensì anche da altre caratteristiche di qualità variabili da un produttore a un altro.*

**· Tempo di permeazione del materiale dei guanti**

*Richiedere dal fornitore dei guanti il tempo di passaggio preciso il quale deve essere rispettato.*

**· Occhiali protettivi:**

Occhiali protettivi a tenuta

## SEZIONE 9: Proprietà fisiche e chimiche

**· 9.1 Informazioni sulle proprietà fisiche e chimiche fondamentali****· Indicazioni generali****· Aspetto:****Forma:**

Liquido

**Colore:**

In conformità con la denominazione del prodotto

**· Odore:**

Caratteristico

**· Soglia olfattiva:**

Non definito.

**· valori di pH:**

Non definito.

**· Cambiamento di stato****Punto di fusione/punto di congelamento:**

-95 °C

**Punto di ebollizione iniziale e intervallo di ebollizione:**

110-111 °C

**· Punto di infiammabilità:**

4 °C

**· Infiammabilità (solidi, gas):**

Non applicabile.

**· Temperatura di accensione:**

535 °C

**· Temperatura di decomposizione:**

Non definito.

**· Temperatura di autoaccensione:**

Non definito.

**· Proprietà esplosive:**

*Prodotto non è esplosivo, è tuttavia possibile la formazione di miscele di vapori/aria esplosive.*

**· Limiti di infiammabilità:****Inferiore:**

1,2 Vol %

**Superiore:**

7 Vol %

**· Tensione di vapore a 20 °C:**

29 hPa

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**Scheda di dati di sicurezza**  
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· <b>Densità a 20 °C:</b>	0,87 g/cm <sup>3</sup>
· <b>Densità relativa</b>	Non definito.
· <b>Densità di vapore:</b>	Non definito.
· <b>Velocità di evaporazione</b>	Non definito.
· <b>Solubilità in/Miscibilità con acqua a 15 °C:</b>	0,5 g/l
· <b>Coefficiente di ripartizione: n-ottanolo/acqua:</b>	Non definito.
· <b>Viscosità:</b>	
<b>Dinamica a 20 °C:</b>	0,6 mPas
<b>Cinematica:</b>	Non definito.
<b>Solventi organici:</b>	100,0 %
<b>VOC (CE)</b>	100,00 %
<b>Contenuto solido:</b>	0,0 %
· <b>9.2 Altre informazioni</b>	Non sono disponibili altre informazioni.

**SEZIONE 10: Stabilità e reattività**

- **10.1 Reattività** Non sono disponibili altre informazioni.
- **10.2 Stabilità chimica**
- **Decomposizione termica/ condizioni da evitare:** Il prodotto non si decompone se utilizzato secondo le norme.
- **10.3 Possibilità di reazioni pericolose** Non sono note reazioni pericolose.
- **10.4 Condizioni da evitare** Non sono disponibili altre informazioni.
- **10.5 Materiali incompatibili:** Non sono disponibili altre informazioni.
- **10.6 Prodotti di decomposizione pericolosi:** Non sono noti prodotti di decomposizione pericolosi.

**SEZIONE 11: Informazioni tossicologiche**

- **11.1 Informazioni sugli effetti tossicologici**
- **Tossicità acuta** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.

· **Valori LD/LC50 rilevanti per la classificazione:**

**108-88-3 toluene**

Orale	LD50	5.000 mg/kg (rat)
Cutaneo	LD50	12.124 mg/kg (rabbit)
Per inalazione	LC50/4 h	5.320 mg/l (mouse)

- **Irritabilità primaria:**
- **Corrosione/irritazione cutanea**  
Provoca irritazione cutanea.
- **Lesioni oculari gravi/irritazioni oculari gravi**  
Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Sensibilizzazione respiratoria o cutanea**  
Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Ulteriori dati tossicologici:**
- **Effetti CMR (cancerogenicità, mutagenicità e tossicità per la riproduzione)**
- **Mutagenicità delle cellule germinali**  
Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Cancerogenicità** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.

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- **Tossicità per la riproduzione**  
Sospettato di nuocere al feto.
- **Tossicità specifica per organi bersaglio (STOT) - esposizione singola**  
Può provocare sonnolenza o vertigini.
- **Tossicità specifica per organi bersaglio (STOT) - esposizione ripetuta**  
Può provocare danni agli organi in caso di esposizione prolungata o ripetuta.
- **Pericolo in caso di aspirazione**  
Può essere letale in caso di ingestione e di penetrazione nelle vie respiratorie.


### SEZIONE 12: Informazioni ecologiche

- **12.1 Tossicità**
- **Tossicità acquatica:** Non sono disponibili altre informazioni.
- **12.2 Persistenza e degradabilità** Non sono disponibili altre informazioni.
- **12.3 Potenziale di bioaccumulo** Non sono disponibili altre informazioni.
- **12.4 Mobilità nel suolo** Non sono disponibili altre informazioni.
- **Ulteriori indicazioni in materia ambientale:**
- **Ulteriori indicazioni:**  
Pericolosità per le acque classe 2 (D) (Classif. secondo le liste): pericoloso  
Non immettere nelle acque freatiche, nei corsi d'acqua o nelle fognature.  
Pericolo per le acque potabili anche in caso di perdite nel sottosuolo di piccole quantità di prodotto.
- **12.5 Risultati della valutazione PBT e vPvB**
- **PBT:** Non applicabile.
- **vPvB:** Non applicabile.
- **12.6 Altri effetti avversi** Non sono disponibili altre informazioni.

### SEZIONE 13: Considerazioni sullo smaltimento

- **13.1 Metodi di trattamento dei rifiuti**
- **Consigli:** Non smaltire il prodotto insieme ai rifiuti domestici Non immettere nelle fognature.
- **Imballaggi non puliti:**
- **Consigli:** Smaltimento in conformità con le disposizioni amministrative.

### SEZIONE 14: Informazioni sul trasporto

- |                                                                                     |                           |
|-------------------------------------------------------------------------------------|---------------------------|
| · <b>14.1 Numero ONU</b>                                                            | UN1294                    |
| · <b>ADR, IMDG, IATA</b>                                                            |                           |
| · <b>14.2 Nome di spedizione dell'ONU</b>                                           | 1294 TOLUENE              |
| · <b>ADR</b>                                                                        | TOLUENE, MARINE POLLUTANT |
| · <b>IMDG</b>                                                                       | TOLUENE                   |
| · <b>IATA</b>                                                                       |                           |
| · <b>14.3 Classi di pericolo connesso al trasporto</b>                              |                           |
| · <b>ADR, IMDG</b>                                                                  |                           |
|  |                           |
| · <b>Classe</b>                                                                     | 3 Liquidi infiammabili    |

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· Etichetta	3
· IATA	
	
· Class	3 Liquidi infiammabili
· Label	3
· 14.4 Gruppo di imballaggio	
· ADR, IMDG, IATA	II
· 14.5 Pericoli per l'ambiente:	
· Marine pollutant:	Simbolo (pesce e albero)
· Marcatura speciali (ADR):	Simbolo (pesce e albero)
· 14.6 Precauzioni speciali per gli utilizzatori	Attenzione: Liquidi infiammabili
· N° identificazione pericolo (Numero Kemler):	33
· Numero EMS:	F-E,S-D
· Stowage Category	B
· 14.7 Trasporto di rinfuse secondo l'allegato II di MARPOL ed il codice IBC	Non applicabile.
· Trasporto/ulteriori indicazioni:	
· ADR	
· Quantità limitate (LQ)	1L
· Quantità esenti (EQ)	Codice: E2 Quantità massima netta per imballaggio interno: 30 ml Quantità massima netta per imballaggio esterno: 500 ml
· Categoria di trasporto	2
· Codice di restrizione in galleria	D/E
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1294 TOLUENE, 3, II

### SEZIONE 15: Informazioni sulla regolamentazione

- 15.1 Disposizioni legislative e regolamentari su salute, sicurezza e ambiente specifiche per la sostanza o la miscela
- Direttiva 2012/18/UE
- Sostanze pericolose specificate - ALLEGATO I La sostanza non è contenuta
- Categoria Seveso P5c LIQUIDI INFIAMMABILI
- Quantità limite (tonnellate) ai fini dell'applicazione dei requisiti di soglia inferiore 5.000 t
- Quantità limite (tonnellate) ai fini dell'applicazione dei requisiti di soglia superiore 50.000 t
- REGOLAMENTO (CE) n. 1907/2006 ALLEGATO XVII Restrizioni: 3, 48

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· **Direttiva 2011/65/UE sulla restrizione dell'uso di determinate sostanze pericolose nelle apparecchiature elettriche ed elettroniche - Allegato II**

La sostanza non è contenuta

· **REGOLAMENTO (UE) 2019/1148**

· **Allegato I - PRECURSORI DI ESPLOSIVI SOGGETTI A RESTRIZIONI (Valore limite superiore ai fini della concessione di licenze a norma dell'articolo 5, paragrafo 3)**

La sostanza non è contenuta

· **Allegato II - PRECURSORI DI ESPLOSIVI SOGGETTI A SEGNALAZIONE**

La sostanza non è contenuta

· **Regolamento (CE) n. 273/2004 relativo ai precursori di droghe**

3

· **Regolamento (CE) N. 111/2005 recante norme per il controllo del commercio dei precursori di droghe tra la Comunità e i paesi terzi**

3

· **Disposizioni nazionali:**· **Istruzione tecnica aria:**

Classe	quota in %
NC	100,0

· **15.2 Valutazione della sicurezza chimica:** Una valutazione della sicurezza chimica non è stata effettuata.

## SEZIONE 16: Altre informazioni

I dati sono riportati sulla base delle nostre conoscenze attuali, non rappresentano tuttavia alcuna garanzia delle caratteristiche del prodotto e non motivano alcun rapporto giuridico contrattuale.

· **Abbreviazioni e acronimi:**

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)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Liquidi infiammabili – Categoria 2

Skin Irrit. 2: Corrosione/irritazione della pelle – Categoria 2

Repr. 2: Tossicità per la riproduzione – Categoria 2

STOT SE 3: Tossicità specifica per organi bersaglio (esposizione singola) – Categoria 3

STOT RE 2: Tossicità specifica per organi bersaglio (esposizione ripetuta) – Categoria 2

Asp. Tox. 1: Pericolo in caso di aspirazione – Categoria 1

# 安全データシート

## JIS Z 7253:2019 による

印刷日: 2022.04.20

バージョン番号: 1

改訂日: 2022.04.20

### 項目 1: 化学品及び会社情報

- ・製品識別子
- ・化学品の名称 Toluene Reagent, A.C.S.
- ・製品コード 22030, 22032
- ・CAS 番号:  
108-88-3
- ・EC 番号:  
203-625-9
- ・EU 番号:  
601-021-00-3
- ・該当純物質または混合物の関連特定用途及び使用禁止用途 追加的な関連情報は得られていません。
- ・推奨用途 実験用化学物質
- ・安全データシートの供給元の詳細情報
- ・供給者の会社名称,住所及び電話番号  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com
- ・この他の情報問い合わせ先: Product safety department
- ・緊急連絡電話番号  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### 項目 2: 危険有害性の要約

#### ・化学品のGHS分類



火炎

引火性液体 区分2

H225 引火性の高い液体及び蒸気



健康に危険

生殖毒性 区分2

H361 生殖能又は胎児への悪影響のおそれの疑い

特定標的臓器有害性(反復暴露) 区分2 H373 長期にわたる, 又は反復ばく露による臓器の障害のおそれ

吸引性呼吸器有害性 区分1

H304 飲み込んで気道に侵入すると生命に危険のおそれ



皮膚腐食性/刺激性 区分2

H315 皮膚刺激

特定標的臓器有害性(単回暴露) 区分3 H336 眠気又はめまいのおそれ

#### ・GHSラベル要素(絵表示又はシンボル,注意喚起語,危険有害性情報及び注意書き)

#### ・GHS ラベル要素

本化学物質はGHS(化学品の分類および表示に関する世界調和システム)により分類及び表示されています。

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# 安全データシート

## JIS Z 7253:2019 による

印刷日: 2022.04.20

バージョン番号: 1

改訂日: 2022.04.20

化学品の名称 Toluene Reagent, A.C.S.

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## 絵表示



GHS02 GHS07 GHS08

## 注意喚起語 危険

## 危険と定められた成分をラベル表示:

トルエン

## 危険有害性情報

引火性の高い液体及び蒸気

皮膚刺激

生殖能又は胎児への悪影響のおそれの疑い

眠気又はめまいのおそれ

長期にわたる、又は反復ばく露による臓器の障害のおそれ

飲み込んで気道に侵入すると生命に危険のおそれ

## 注意書き

飲み込んだ場合: ただちに毒物センター/医師に連絡すること。

特別な処置が必要である(このラベルのを見よ)。

無理に吐かせないこと。

皮膚(または髪)に付着した場合: 直ちに汚染された衣類をすべて脱ぐこと。皮膚を流水/シャワーで洗うこと。

汚染された衣類を脱ぎ、再使用する場合には洗濯をすること。

施錠して保管すること。

現地/地域/国/国際規定に従い内容物・容器の露出

## GHS分類に関係しない又はGHSで扱われない他の危険有害性

PBT(残留性、生物濃縮性、毒性物質)及びvPvB(高残留性、高生物濃縮性物質)アセスメント

PBT(残留性、生物濃縮性、毒性物質): 情報なし

vPvB(高残留性、高生物濃縮性物質): 情報なし

## 項目 3: 組成及び成分情報

化学物質・混合物の区別: 化学物質

化学名又は一般名

108-88-3 トルエン

化学物質を特定できる一般的な番号

EC 番号: 203-625-9

EU 番号: 601-021-00-3

## 項目 4: 応急措置

応急手当処置に関する説明

一般情報:

中毒症状は時間がかかり経過した後には現れる場合もあるため、事故後最低 4 8 時間は医師の監視のもとで過ごすこと

吸入した場合 意識不明の場合には安定させた状態で横向きに寝かせ、移送する

皮膚に付着した場合 即刻石鹼と水で洗い、よくすすぐ

眼に入った場合 瞼を開けたまま、流水で何分間か眼をすすぐ

飲み込んだ場合 即医者を呼ぶ

急性症状及び遅発性症状の最も重要な徴候症状 追加的な関連情報は得られていません。

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# 安全データシート

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・何らかの即時医療処置及び特別治療の必要性を示す兆候 追加的な関連情報は得られていません。

### 項目 5: 火災時の措置

- ・消火剤
- ・適切な消火剤 CO<sub>2</sub>、砂、消火剤、水は使用しない
- ・使ってはならない消火剤 全開状態で放水
- ・本化学物質または混合物から発生する特別な危険性 追加的な関連情報は得られていません。
- ・消火活動を行う者の特別な保護具及び予防措置
- ・特別な保護装備: 特別な措置は必要としない

### 項目 6: 漏出時の措置

- ・人体に対する注意事項, 保護具及び緊急時措置 防護服を着用。防護服を着用していない人は近づけない
- ・環境に対する注意事項 下水処理施設、地上水あるいは地下水に達しないようにする
- ・封じ込め及び浄化の方法及び機材  
液体吸収材 (砂、珪藻土、酸結合剤、ユニバーサル結合剤、おがくず) で吸収する  
13 項に下がい汚染材は廃棄物として処理する  
十分な換気を心がける  
水もしく液体洗剤で洗い流さない
- ・他のセクションへの言及  
安全な取り扱い方に関しては 7 項を参照  
人の保護装備の情報に関しては 8 項を参照  
廃棄処分に関しては 13 項参照

### 項目 7: 取扱い及び保管上の注意

- ・取扱い  
作業場では十分な換気、埃を吸い取るよう心がける  
エアゾールの発生を防ぐ
- ・火災および爆発防止に関する注意事項:  
発火元は遠ざける。禁煙  
高温から保護する  
静電荷を防ぐ措置をほどこす
- ・混融危険性を含めた安全貯蔵条件
- ・保管  
保管スペースおよび容器に関する要求事項: 涼しい場所に保管する
- ・同じ場所に保管する際の注意事項: 必要ない
- ・保管条件に関するその他の注意事項:  
容器は密閉した状態に保つ  
よく密閉した樽の中で涼しく乾燥した場所に保管する  
熱および直射日光は避ける
- ・特定の最終用途 追加的な関連情報は得られていません。

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### 項目 8: ばく露防止及び保護措置

#### ・許容濃度等

##### ・作業場において限界値の監視を要する成分:

108-88-3 トルエン

OEL | 長期値: 188 mg/m<sup>3</sup>, 50 ppm

##### ・生物学的許容値を持つ原料:

108-88-3 トルエン

OEL-B | 0.6 mg/l

試料: blood

試料採取時期: Within 2h prior to end of shift at end of work week

物質: Toluene

0.06 mg/l

試料: urine

試料採取時期: Within 2h prior to end of shift at end of work week

物質: Toluene

##### ・追加注意事項: 生成時に有効なリストがもとなっている

#### ・設備対策

##### ・技術設備の形体に関する追加注意事項: その他の申し立てなし、7 項参照

#### ・保護具

##### ・一般防止措置および衛生措置:

食物、飲み物、飼料からは遠ざける

汚れのしみ込んだ衣類は即刻脱ぐ

休憩の前、作業終了後には手を洗う

皮膚が触れないようにする

眼に入らないよう、また皮膚に接触しないよう注意する

##### ・呼吸保護器具:

短時間

もしくは負担が小さい場合には呼吸フィルター付装置を、集中的にあるいは長時間触れる場合には、酸素ボンベ付き呼吸保護装置を使用すること

##### ・手の保護:



保護手袋

手袋の材質は物質/材料/調合剤に対して耐性であり、成分を通すことがあってはならない

テストをおこなっていないため、物質/調合剤/化合物を取り扱う際の手袋の材質として勧められるものはない

浸透時間、透過性および劣化の点を留意しながら手袋の材質を選択する

##### ・手袋材 適当な手袋は材質だけでなく、その他の品質によっても変わり、各メーカーによって異なる

##### ・手袋材の浸透時間 正確な浸透時間については保護手袋メーカーに問い合わせ、それを遵守すること

##### ・眼の保護:



密閉式保護めがね

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### 項目 9: 物理的及び化学的性質

<ul style="list-style-type: none"> <li>・基本的な物理及び化学特性に関する情報</li> <li>・一般指示事項</li> <li>・物理状態</li> <li>・色</li> <li>・臭い</li> <li>・嗅覚閾値</li> <li>・融点／凝固点(混合物の場合は,記載省略可)</li> <li>・沸点又は初留点及び沸点範囲</li> <li>・可燃性</li> <li>・爆発下限界及び爆発上限界／可燃限界</li> <li>・下限:</li> <li>・上限:</li> <li>・引火点</li> <li>・発火温度:</li> <li>・分解温度</li> <li>・pH</li> <li>・粘性:</li> <li>・動粘性率</li> <li>・力学的 約 20 °C:</li> <li>・溶解度(混合物の場合は,記載省略可)</li> <li>・水 約 15 °C:</li> <li>・n-</li> <li>・オクタノール／水分配係数(log値)(混合物の場合は,記載省略可)</li> <li>・蒸気圧 約 20 °C</li> <li>・密度及び／又は相対密度</li> <li>・密度 約 20 °C:</li> <li>・相対的密度</li> <li>・蒸気密度</li> </ul>	<ul style="list-style-type: none"> <li>液状</li> <li>製品説明書どおり</li> <li>特徴的</li> <li>決まっている.</li> <li>-95 °C</li> <li>110-111 °C</li> <li>情報なし</li> <li>1.2 Vol %</li> <li>7 Vol %</li> <li>4 °C</li> <li>535 °C</li> <li>決まっている.</li> <li>決まっている.</li> <li>決まっている.</li> <li>0.6 mPas</li> <li>0.5 g/l</li> <li>決まっている.</li> <li>29 hPa</li> <li>0.87 g/cm<sup>3</sup></li> <li>決まっている.</li> <li>決まっている.</li> </ul>
<ul style="list-style-type: none"> <li>・その他のデータ</li> <li>・外観</li> <li>・形:</li> <li>・健康および環境保護ならびに安全に関する重要な指示事項</li> <li>・自然発火点</li> <li>・爆発の危険:</li> <li>・有機溶剤:</li> <li>・固形物含有量:</li> <li>・状態の変化</li> <li>・気化速度</li> </ul>	<ul style="list-style-type: none"> <li>液体</li> <li>決まっている.</li> <li>プロダクトは爆発する危険はない。ただし爆発する危険のある蒸気と空気の混合物を形成する可能性はある</li> <li>100.0 %</li> <li>0.0 %</li> <li>決まっている.</li> </ul>

### 項目 10: 安定性及び反応性

- ・反応性 追加的な関連情報は得られていません。
- ・化学的安定性
- ・熱分解/回避すべき条件: 規定どおりの使用では分解しない
- ・危険有害反応可能性 危険な反応は起きていない
- ・避けるべき条件 追加的な関連情報は得られていません。
- ・混触危険物質 追加的な関連情報は得られていません。

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・危険有害な分解生成物 危険な分解プロダクトはない

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### 項目 11: 有害性情報

・毒性学的影響に関する情報  
・急性毒性

・分類上の LD/LC50 値:

108-88-3 トルエン

口	LD50	5,000 mg/kg (rat)
皮膚	LD50	12,124 mg/kg (rabbit)
吸収	LC50/4 h	5,320 mg/l (mouse)

・皮膚腐食性/刺激性 皮膚刺激  
・生殖毒性 生殖能又は胎児への悪影響のおそれの疑い  
・特定標的臓器毒性(単回ばく露) 眠気又はめまいのおそれ  
・特定標的臓器毒性(反復ばく露) 長期にわたる,又は反復ばく露による臓器の障害のおそれ  
・呼吸器に危険 飲み込んで気道に侵入すると生命に危険のおそれ  
・誤えん有害性 追加的な関連情報は得られていません。

### 項目 12: 環境影響情報

・毒性  
・水生生物に対する毒性: 追加的な関連情報は得られていません。  
・残留性・分解性 追加的な関連情報は得られていません。  
・生態蓄積性 追加的な関連情報は得られていません。  
・土壌中の移動性 追加的な関連情報は得られていません。  
・PBT(残留性、生物濃縮性、毒性物質)及びvPvB(高残留性、高生物濃縮性物質)アセスメント  
・PBT(残留性、生物濃縮性、毒性物質): 情報なし  
・vPvB(高残留性、高生物濃縮性物質): 情報なし  
・オゾン層への有害性 追加的な関連情報は得られていません。  
・他の副作用  
・その他のエコロジーに関する注意事項:  
・一般注意事項:  
水への危険度分類 2 (ドイツの規定) (リストによる分類): 水に対する危険性あり  
地下水、河川あるいは下水設備に流してはならない  
地下に少量流れ込んでも飲料水を汚染する

### 項目 13: 廃棄上の注意

・化学品(残余廃棄物) , 当該化学品が付着している汚染容器及び包装の安全で , かつ , 環境上望ましい廃棄,又はリサイクルに関する情報  
・勧告: 家庭ごみとはいっしょに処分できない。下水処理施設に流してはならない  
・洗浄されていないパッケージ:  
・勧告: 関係当局の規則に従って処分する

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### 項目 14: 輸送上の注意

<ul style="list-style-type: none"> <li>国連番号</li> <li>ADR, IMDG, IATA</li> </ul>	UN1294
<ul style="list-style-type: none"> <li>品名(国連輸送名)</li> <li>ADR</li> <li>IMDG</li> <li>IATA</li> </ul>	1294 TOLUENE TOLUENE, MARINE POLLUTANT TOLUENE
<ul style="list-style-type: none"> <li>国連分類(輸送における危険有害性クラス)</li> <li>ADR, IMDG</li> </ul>	
<ul style="list-style-type: none"> <li>分類</li> <li>危険物ラベル</li> </ul>	3 可燃性液体成分 3
<ul style="list-style-type: none"> <li>IATA</li> </ul>	
<ul style="list-style-type: none"> <li>Class</li> <li>Label</li> </ul>	3 可燃性液体成分 3
<ul style="list-style-type: none"> <li>容器等級</li> <li>ADR, IMDG, IATA</li> </ul>	II
<ul style="list-style-type: none"> <li>環境危険:</li> <li>海洋汚染物質</li> <li>特別マーキング(ADR):</li> </ul>	シンボル(魚やツリー) シンボル(魚やツリー)
<ul style="list-style-type: none"> <li>ユーザー用特別予防措置</li> <li>ケムラー符号:</li> <li>EMS(電子メールサービスナンバー)番号:</li> <li>Stowage Category</li> </ul>	警告: 可燃性液体成分 33 F-E,S-D B
<ul style="list-style-type: none"> <li>MARPOL73/78附属書II及びIBCコードによるばら積み輸送される液体物質</li> </ul>	情報なし
<ul style="list-style-type: none"> <li>輸送/その他の説明:</li> </ul>	
<ul style="list-style-type: none"> <li>ADR</li> <li>Excepted quantities (EQ)</li> </ul>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
<ul style="list-style-type: none"> <li>IMDG</li> <li>Limited quantities (LQ)</li> <li>Excepted quantities (EQ)</li> </ul>	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml

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・UN "模範規制:	UN 1294 TOLUENE, 3, II
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### 項目 15: 適用法令

・該当法令の名称及びその法令に基づく規制に関する情報 追加的な関連情報は得られていません。  
 ・化審法

・既存化学物質

3-2, 3-60

・特定化学物質

物質は含まれていない

・監視化学物質、旧第二種監視化学物質、旧第三種監視化学物質

旧第二

・優先評価化学物質

物質は含まれている

・白物質

物質は含まれていない

・既存化学物質安全性点検結果(分解性・蓄積性)

物質は含まれている

・既存化学物質安全性点検結果(毒性)

物質は含まれていない

・PRTR 制度 - 第一種指定化学物質

1-300

・PRTR 制度 - 特定第一種指定化学物質

物質は含まれていない

・PRTR 制度 - 第二種指定化学物質

物質は含まれていない

・毒物及び劇物取締法:劇物

物質は含まれている

・毒物及び劇物取締法:有機シアン化合物から除かれるもの

物質は含まれていない

・毒物及び劇物取締法:毒物

物質は含まれていない

・毒物及び劇物取締法:特定毒物

物質は含まれていない

・労働安全衛生法

・危険物

・爆発性の物(施行令別表第1第1号)

物質は含まれていない

・発火性の物(施行令別表第1第2号)

物質は含まれていない

・酸化性の物(施行令別表第1第3号)

物質は含まれていない

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・引火性の物(施行令別表第1第4号)

物質は含まれていない

・可燃性のガス(施行令別表第1第5号)

物質は含まれていない

・特定化学物質等

・第一類物質

物質は含まれていない

・第二類物質

物質は含まれていない

・第三類物質

物質は含まれていない

・名称等を通知すべき有害物(別表第9)

407

・製造許可物質

物質は含まれていない

・鉛中毒予防規則(施行令別表第4)

物質は含まれていない

・四アルキル鉛中毒予防規則(施行令別表第5)

物質は含まれていない

・有機溶剤中毒予防規則第(施行令別表第6の2)

・第一種有機溶剤等

物質は含まれていない

・第二種有機溶剤等

物質は含まれている

・第三種有機溶剤等

物質は含まれていない

・強い変異原性が認められた化学物質

物質は含まれている

・消防法

物質は含まれている

・海洋汚染防止法

物質は含まれている

・特定物質等の規制等によるオゾン層の保護に関する法律

・特定物質代替物質

物質は含まれていない

・特定物質

物質は含まれていない

・大気汚染防止法

物質は含まれている

・水質汚濁防止法

・有害物質

物質は含まれていない

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**指定物質**

3-3-25

**GHS ラベル要素**

本化学物質はGHS(化学品の分類および表示に関する世界調和システム)により分類及び表示されています。

**絵表示**


GHS02 GHS07 GHS08

**注意喚起語 危険**
**危険と定められた成分をラベル表示:**

トルエン

**危険有害性情報**

引火性の高い液体及び蒸気

皮膚刺激

生殖能又は胎児への悪影響のおそれの疑い

眠気又はめまいのおそれ

長期にわたる、又は反復ばく露による臓器の障害のおそれ

飲み込んで気道に侵入すると生命に危険のおそれ

**注意書き**

飲み込んだ場合: ただちに毒物センター/医師に連絡すること。

特別な処置が必要である(このラベルのを見よ)。

無理に吐かせないこと。

皮膚(または髪)に付着した場合: 直ちに汚染された衣類をすべて脱ぐこと。皮膚を流水/シャワーで洗うこと。

汚染された衣類を脱ぎ、再使用する場合には洗濯をすること。

施錠して保管すること。

現地/地域/国/国際規定に従い内容物・容器の露出

**化学物質の安全性評価: 化学物質安全性評価が遂行されていない**

### 項目 16: その他の情報

この情報は現在の我々の認識に基づいている。ただし、プロダクトの特性を保証するものではなく、また契約において法的根拠にはならない

**縮約と二文字語:**

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

EINECS: European Inventory of Existing Commercial Chemical Substances

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

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

引火性液体 区分2: Flammable liquids – Category 2

皮膚腐食性/刺激性 区分2: Skin corrosion/irritation – Category 2

生殖毒性 区分2: Reproductive toxicity – Category 2

特定標的臓器有害性(単回暴露) 区分3: Specific target organ toxicity (single exposure) – Category 3

特定標的臓器有害性(反復暴露) 区分2: Specific target organ toxicity (repeated exposure) – Category 2

吸引性呼吸器有害性 区分1: Aspiration hazard – Category 1

# 물질안전보건자료 GHS에 따라

인쇄일자: 2022.04.20

개정: 2022.04.20

## 1 화학제품과 회사에 관한 정보

- 제품 식별자
- 제품명: **Toluene Reagent, A.C.S.**
- 상품번호: 22030, 22032
- CAS-번호  
108-88-3
- EC 의번호:  
203-625-9
- 색인 번호:  
601-021-00-3
- 해당 순물질이나 혼합물의 관련 하위용도 및 사용금지용도
- 제품의 권고 용도와 사용상의 제한: Toluene Reagent, A.C.S.
- 제품의 권고 용도와 사용상의 제한: 실험실 화학품
  
- 안전데이터표(Safety Data Sheet)내 공급업체 관련 상세 정보
- 제조자/수입자/유통업자 정보:  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com
  
- Samchang Commercial Co., Ltd.  
Yeo Eui Do  
PO Box 1110  
Seoul, Korea  
Tel: 82 2 703 3040  
Fax: 82 2 717 3298
  
- 
- Daedok Science, Co. Ltd.  
34141 E10 Korea Advanced Institute of Science  
Guseong-Dong, Yuseong-gu, Daejeon,  
Korea  
Phone: 82 42 710 2091  
Fax: 82 42 367 0005  
Website: www.labsmro.com
  
- 추가적인 정보 획득 가능: Product safety department
- 비상연락 전화번호:  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## 2 유해성·위험성

- 순물질 또는 혼합물의 분류



화염

인화성 액체 – 구분2

H225 고인화성 액체 및 증기



건강에 위험

생식독성 – 구분2

H361 태아 또는 생식능력에 손상을 일으킬 것으로 의심됨

(2 쪽에 계속)

# 물질안전보건자료 GHS에 따라

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**제품명: Toluene Reagent, A.C.S.**

(1 쪽부터계속)

특정표적장기 독성 - 반복 노출 - 구분2 H373 장기간 또는 반복노출 되면 장기에 손상을 일으킬 수 있음

흡인 유해성 - 구분1 H304 삼켜서 기도로 유입되면 치명적일 수 있음



피부 부식성/피부 자극성 - 구분2 H315 피부에 자극을 일으킴

특정표적장기 독성 - 1회 노출- 구분3 H336 졸음 또는 현기증을 일으킬 수 있음

**· 라벨표기 요소**

· **GHS 라벨 요소** 본 화학물질은 화학물질의 분류 및 표기에 관한 국제조화시스템(GHS)에 따라 분류 및 표기되었습니다.

· **GHS 그림문자**



GHS02    GHS07    GHS08

· **신호어 위험**

· **상표상에 명확히 위험성이 표시된 성분:**

톨루엔

· **유해·위험문구**

고인화성 액체 및 증기

피부에 자극을 일으킴

태아 또는 생식능력에 손상을 일으킬 것으로 의심됨

졸음 또는 현기증을 일으킬 수 있음

장기간 또는 반복노출 되면 장기에 손상을 일으킬 수 있음

삼켜서 기도로 유입되면 치명적일 수 있음

· **예방조치문구**

삼켰을 시: 즉시 독성물질센터/병원 연락 필요.

(라벨 참조) 처치를 하시오.

토하게 하지 마시오.

피부(또는 머리카락)에 묻으면 오염된 모든 의복은 벗거나 제거하십시오. 피부를 물로 씻으시오/샤워하십시오.

오염된 의복은 벗고 다시 사용 전 세척하십시오.

밀봉하여 저장하십시오.

(지방/지역/국가/국제 규정에 따라) 에 내용물/용기를 폐기하십시오.

· **기타 유해성**

· **PBT(잔류성, 생물농축성, 독성 물질) 및 vPvB(고 잔류성, 고 생물농축성 물질) 평가 결과**

· **PBT(잔류성, 생물농축성, 독성 물질):** 해당사항 없음.

· **vPvB(고 잔류성, 고 생물농축성 물질):** 해당사항 없음.

### 3 구성성분의 명칭 및 함유량

· **화 학 적 특 성:** 화학물질

· **CAS-번호표시**

108-88-3 톨루엔

· **식별 번호**

· **EC 의번호:** 203-625-9

· **색인 번호:** 601-021-00-3

KR

(3 쪽에계속)

# 물질안전보건자료

## GHS에 따라

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개정: 2022.04.20

제품명: Toluene Reagent, A.C.S.

(2 쪽부터 계속)

### 4 응급조치 요령

- 응급조치요령 내용
- 일반적 정보:
  - 중독 증상은 몇 시간이 지난 뒤에 발생할 수 있다. 따라서 사고가 발생한 후에 적어도 48 시간 동안은 의료진의 관찰을 받아야 한다.
- 흡입했을 때: 환자가 의식을 잃었을 경우에는 안전한 자세에서 환자를 운반한다.
- 피부에 접촉했을 때: 즉시 물과 비누로 씻고 잘 행군다.
- 눈에 들어갔을 때: 흐르는 물에 눈을 몇 분 동안 씻어낸다.
- 먹었을 때: 즉시 의사의 도움을 구한다.
- 기타 의사의 주의사항:
  - 가장 중요한 급·만성 증상 및 영향 추가적인 정보가 존재하지 않습니다.
  - 즉각적인 의료처치 및 특별치료가 필요함을 시사하는 징후 추가적인 정보가 존재하지 않습니다.

### 5 폭발·화재시 대처방법

- 소화제
- 적절한 소화제: 이산화탄소, 모래, 석회가루를 사용하고, 물을 사용하지 않는다.
- 부적절한 소화제: 플레트용 물
- 본 화학물질이나 혼합물에서 발생하는 특별 유해성 추가적인 정보가 존재하지 않습니다.
- 소방관에 대한 권고사항
- 화재 진압 시 착용할 보호구 및 예방조치: 특별한 조치가 필요없음.

### 6 누출 사고 시 대처방법

- 개인적 예방조치, 보호장비 및 응급처치 절차 안전장비 착용하고, 무방비의 사람은 격리시킨다.
- 환경 관련 예방조치: 하수도망/해수면위의물/지하수로도달하지 않게 한다.
- 밀폐 및 정화 방법과 소재:
  - 액체가 혼합된 물질(모래, 규조토, 산성 결합물, 일반 결합물, 톱밥)에 흡입되도록 한다.
  - 항목 13에 따라 오염된 물질을 쓰레기로 처분한다.
  - 충분한 환기가 되도록 한다.
  - 물이 나뉘는 세척제로 씻어 내지 마시오
- 타 섹션 참조
  - 안전 관리에 대한 정보는 제7장을 참고하십시오.
  - 개인 보호 장비에 대한 정보는 제8장을 참고하십시오.
  - 쓰레기 처리에 대한 정보는 제13장을 참고하십시오.

### 7 취급 및 저장방법

- 취급:
  - 안전 취급을 위한 예방조치
    - 작업장에서는 통풍이 잘 되고/습기 제거가 잘 되게 주의한다.
    - 연무질이 형성되는 것을 피한다.
  - 화재 및 폭발 사고 예방대책에 관한 정보:
    - 발화 요소는 멀리 둔다-금연.
    - 열로부터 보호한다.
    - 정전기 충전으로부터 보호한다.
- 혼합위험성 등 안전 저장 조건
- 보관:
  - 안전한 저장 방법: 차가운 장소에 보관한다.

(4 쪽에 계속)



# 물질안전보건자료 GHS에 따라

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**제품명: Toluene Reagent, A.C.S.**

(3 쪽부터계속)

- 하나의 공동 보관 시설에 대한 보관 관련 정보: 필요없음
- 보관 조건에 관한 추가적인 정보:  
용기를 새지 않게 밀폐한 채 보관한다.  
밀폐된 용기 속에서 늘 하고 건조하게 보관한다.  
열이나 직사광선으로부터 보호한다.
- 구체적 최종 사용자 추가적인 정보가 존재하지 않습니다.

## 8 노출방지 및 개인보호구

- 첨단시설 디자인에 대한 추가정보: 더 이상의 자료는 없음. 항목 7 을 참고하십시오.
- 통제 변수

· 화학물질의 노출기준, 생물학적 노출기준 등:

### 108-88-3 톨루엔

OELV (KR)	단기간의값: 150 ppm 장기간의값: 50 ppm 생식독성 2
IOELV (EU)	단기간의값: 384 mg/m <sup>3</sup> , 100 ppm 장기간의값: 192 mg/m <sup>3</sup> , 50 ppm Skin
PEL (US)	장기간의값: 200 ppm 최고노출기준: 300; 500* ppm *10-min peak per 8-hr shift
REL (US)	단기간의값: 560 mg/m <sup>3</sup> , 150 ppm 장기간의값: 375 mg/m <sup>3</sup> , 100 ppm
TLV (US)	장기간의값: 20 ppm BEI, OTO, A4

· 생물학적 허용값을 갖는 원료:

### 108-88-3 톨루엔

BEI (US)	0.02 mg/L Medium: blood Time: prior to last shift of workweek Parameter: Toluene
	0.03 mg/L Medium: urine Time: end of shift Parameter: Toluene
	0.3 mg/g creatinine Medium: urine Time: end of shift Parameter: o-Cresol with hydrolysis (background)

· 추가 정보: 제조할 당시에 유효한 목록을 기초로 사용했다.

- 노출 통제
- 개인 보호구
- 일반적보호조치및위생조치:  
식품, 음료수와 사료로부터 멀리 떨어져 놓는다.  
더러워지거나 음료수가 묻은 옷은 즉시 탈의한다.  
휴식 전이나 작업이 끝날때마다 손을 씻는다.

(5 쪽에계속)

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**제품명: Toluene Reagent, A.C.S.**

(4 쪽부터 계속)

피 부와의 접 촉 을 피 한 다.  
눈 과 피 부와의 접 촉 은 피 한 다.

**· 호흡기 보호:**

단 시 간 또 는 경 미 한 오 염 의 경 우 에 는 호 흡 여 과 기 를 사 용 한 다. 심 각 한 또 는 장 기 간 노 출 시 에 는 호 흡 보 호 장 비 를 사 용 한 다.

**· 손 보호:**



보 호 용 장 갑

장갑재질은제품 / 원료 / 조제를투과시키지않아야하고, 내구성이있어야한다.

테 슣 트 를 하 지 않 았 기 때 문 에 제 품 / 조 제 / 화 학 혼 합 물 에 적 합 한 장 갑 재 질 에 대 한 추 천 이 없 다.

투 과 시 간, 침 투 율 과 저 하 를 고 려 해 서 장 갑 재 료 를 선 택 한 다.

**· 장갑의재료**

적합한장갑의선택은재질차이뿐아니라품질기준의차이도고려하여이루어져야하고제조업자에따라서도다르게선정되어야한다.

**· 장 갑 재 료 의 투 과 시 간** 정확한관통시간은보호장갑제조자에의하여인지되고, 준수되어야한다.

**· 눈 보호:**



꼭 조 이 는 보 안 경

## 9 물리화학적 특성

**· 기본 물리 및 화학적 특성에 대한 정보**

**· 일반정보**

**· 외형**

물리적 상태: 액체  
색: 제 품 표 시 에 따 름

**· 냄새:** 특색있는

**· 후각역치:** 알맞지않다.

**· pH:** 알맞지않다.

**· 상태변화**

녹는점/어는점: -95 °C  
초기 끓는점과 끓는점 범위: 110-111 °C

**· 인화점:** 4 °C

**· 인화성(고체, 기체):** 해당사항 없음.

**· 점화온도:** 535 °C

**· 분해 온도:** 알맞지않다.

**· 자기점화:** 알맞지않다.

**· 폭발위험:** 이 제 품 은 폭 발 위 험 성 이 없 지 만 ,  
폭 발 가 능 성 이 있 는 증 기 화 합 물 / 공 기 화 합 물 의 형 성 가 능 성 이 있 다 .

**· 인화 또는 폭발 범위의 상한/하한**

아래로: 1.2 Vol %  
위로: 7 Vol %

**· 증기압 의 경 우 20 °C:** 29 hPa

(6 쪽에 계속)

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**제품명: Toluene Reagent, A.C.S.**

(5 쪽부터계속)

· 밀도 의경우 20 °C:	0.87 g/cm <sup>3</sup>
· 비중:	알맞지않다.
· 증기밀도:	알맞지않다.
· 증발 속도:	알맞지않다.
· 용해도:	
물 의경우 15 °C:	0.5 g/l
· n 옥탄올/물 분배계수:	알맞지않다.
· 점도:	
역학적 의경우 20 °C:	0.6 mPas
동점성:	알맞지않다.
유기용매:	100.0 %
VOC (EU)	100.00 %
· 고체의 함량:	0.0 %
· 기타 정보	추가적인 정보가 존재하지 않습니다.

## 10 안정성 및 반응성

- 반응성 추가적인 정보가 존재하지 않습니다.
- 화학적 안정성
- 화학적 안정성 및 유해 반응의 가능성 / 피해야 할 조건: 규정에따라사용할경우해체는없다
- 유해반응 가능성 위험한반응으로는알려지지않았다.
- 피해야 할 조건 추가적인 정보가 존재하지 않습니다.
- 혼합 금지 물질: 추가적인 정보가 존재하지 않습니다.
- 유해분해물질: 위험성있는분해물들은알려지지않았다.

## 11 독성에 관한 정보

- 독성학적 영향에 대한 정보
- 급성 독성:

· LD/LC50-수치에 따른 분류:		
<b>108-88-3 톨루엔</b>		
구강의	LD50	5,000 mg/kg (rat)
피부의	LD50	12,124 mg/kg (rabbit)
흡입의	LC50/4 h	5,320 mg/l (mouse)

- 일차적 자극 효과:
- 피부 부식성 또는 자극성: 피부와점막을자극한다.
- 심한 눈 손상 또는 자극성: 무자극.
- 감각화: 민감한영향이없는것으로알려져있다.
- 다음 종류의 잠재적인 효과에 대한 정보
- CMR-효과 (암 유발, 돌연변이성 그리고 생식 독성)  
생식독성 – 구분2

## 12 환경에 미치는 영향

- 독성
- 수생독성: 추가적인 정보가 존재하지 않습니다.

(7 쪽에계속)

# 물질안전보건자료 GHS에 따라

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- 지속성 및 분해성 추가적인 정보가 존재하지 않습니다.
- 환경 시스템에서의 행동:
- 생물농축 잠재성 추가적인 정보가 존재하지 않습니다.
- 토양내 이동성 추가적인 정보가 존재하지 않습니다.
- 추가적인 생태학 정보:
- 일반 특징:
  - 수질오염등급 2 (목록분류): 수질오염이된 지하수나, 하천으로또는하수도망에도달하지않게한다.
  - 지하수로경미한양이유입되었을경우엔이미식수오염상태이다
- PBT(잔류성, 생물농축성, 독성 물질) 및 vPvB(고 잔류성, 고 생물농축성 물질) 평가 결과
- PBT(잔류성, 생물농축성, 독성 물질): 해당사항 없음.
- vPvB(고 잔류성, 고 생물농축성 물질): 해당사항 없음.
- 기타 부작용 추가적인 정보가 존재하지 않습니다.

### 13 폐기시 주의사항

- 폐기물 처리 방법
- 권고: 생활쓰레기와함께처리되어서는안된다. 하수도망으로유입되어서는안된다.
- 비위생적 포장:
- 권고: 당국의지침에입각한쓰레기처리.

### 14 운송에 필요한 정보

· 유엔 번호 · ADR, IMDG, IATA	UN1294
· UN 적정 선적명 · ADR · IMDG · IATA	1294 TOLUENE TOLUENE, MARINE POLLUTANT TOLUENE
· 교통 위험 클래스 · ADR, IMDG	<div style="display: flex; justify-content: center; gap: 20px;">   </div>
· 등급 · 위험물 라벨	3 발화성용액 3
· IATA	
· Class · Label	3 발화성용액 3
· 용기등급 · ADR, IMDG, IATA	II

(8 쪽에계속)

# 물질안전보건자료 GHS에 따라

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<ul style="list-style-type: none"> <li>· 환경적 유해물질:</li> <li>· 해양오염물질:</li> <li>· 특수 마킹 (ADR):</li> </ul>	<ul style="list-style-type: none"> <li>심벌 (물고기와 나무)</li> <li>심벌 (물고기와 나무)</li> </ul>	
<ul style="list-style-type: none"> <li>· 이용자 특별 예방조치</li> <li>· 위험 코드:</li> <li>· EMS-번호:</li> <li>· Stowage Category</li> </ul>	<ul style="list-style-type: none"> <li>경고: 발화성용액</li> <li>33</li> <li>F-E,S-D</li> <li>B</li> </ul>	
<ul style="list-style-type: none"> <li>· MARPOL73/78(선박으로부터의 해양오염방지협약) 부속서2 및 IBC Code(국제선적화물코드)에 따른 벌크(bulk) 운송</li> </ul>		<ul style="list-style-type: none"> <li>해당사항 없음.</li> </ul>
<ul style="list-style-type: none"> <li>· 운 송/추가 정보:</li> </ul>		
<ul style="list-style-type: none"> <li>· ADR</li> <li>· 한정 수량 (LQ)</li> <li>· Excepted quantities (EQ)</li> </ul>	<ul style="list-style-type: none"> <li>1L</li> <li>Code: E2</li> <li>Maximum net quantity per inner packaging: 30 ml</li> <li>Maximum net quantity per outer packaging: 500 ml</li> </ul>	
<ul style="list-style-type: none"> <li>· 운송 구분</li> <li>· 터널 제한 코드</li> </ul>	<ul style="list-style-type: none"> <li>2</li> <li>D/E</li> </ul>	
<ul style="list-style-type: none"> <li>· IMDG</li> <li>· Limited quantities (LQ)</li> <li>· Excepted quantities (EQ)</li> </ul>	<ul style="list-style-type: none"> <li>1L</li> <li>Code: E2</li> <li>Maximum net quantity per inner packaging: 30 ml</li> <li>Maximum net quantity per outer packaging: 500 ml</li> </ul>	
<ul style="list-style-type: none"> <li>· UN "모범 규제":</li> </ul>	<ul style="list-style-type: none"> <li>UN 1294 TOLUENE, 3, II</li> </ul>	

## 15 법적 규제현황

<ul style="list-style-type: none"> <li>· 산업안전보건법에 의한 규제:</li> </ul>	
<ul style="list-style-type: none"> <li>· 제조 등 금지물질:</li> </ul>	<ul style="list-style-type: none"> <li>성분이포함되어있지않다</li> </ul>
<ul style="list-style-type: none"> <li>· 허가대상물질:</li> </ul>	<ul style="list-style-type: none"> <li>성분이포함되어있지않다</li> </ul>
<ul style="list-style-type: none"> <li>· 관리대상유해물질:</li> </ul>	<ul style="list-style-type: none"> <li>성분이포함되어있다</li> </ul>
<ul style="list-style-type: none"> <li>· 작업환경측정 대상 유해인자</li> </ul>	<ul style="list-style-type: none"> <li>1A96</li> </ul>
<ul style="list-style-type: none"> <li>· 특수건강진단 대상 유해인자</li> </ul>	<ul style="list-style-type: none"> <li>1A88</li> </ul>
<ul style="list-style-type: none"> <li>· 해당 순물질 또는 혼합물에 대한 안전, 보건 및 환경 규제/법률 추가적인 정보가 존재하지 않습니다.</li> </ul>	
<ul style="list-style-type: none"> <li>· Korean Existing Chemical Inventory</li> </ul>	<ul style="list-style-type: none"> <li>KE-33936</li> </ul>
<ul style="list-style-type: none"> <li>· 화학물질관리법</li> </ul>	
<ul style="list-style-type: none"> <li>· 사고대비물질</li> </ul>	<ul style="list-style-type: none"> <li>성분이포함되어있다</li> </ul>

(9 쪽에계속)

# 물질안전보건자료 GHS에 따라

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<b>· 금지물질</b>	성분이포함되어있지않다
<b>· 제한물질</b>	성분이포함되어있지않다
<b>· 유독물질</b>	성분이포함되어있다
<b>· 허가물질</b>	성분이포함되어있다
<b>· 위험물안전관리법 (위험물 및 지정수량) 제 4: 200 리터</b>	
<b>· 등록 또는 신고 면제대상 화학물질</b>	성분이포함되어있지않다
<b>· ‘21년까지 등록하여야 할 압, 돌연변이, 생식능력 이상을 일으키거나 일으킬 우려가 있는 기존화학물질</b>	
	성분이포함되어있지않다
<b>· 중점관리물질의 지정</b>	
<b>· 표1 중점관리물질(제2조 관련)</b>	성분이포함되어있지않다
<b>· 표2 중점관리물질(제2조 관련)</b>	성분이포함되어있지않다

· **GHS 라벨 요소** 본 화학물질은 화학물질의 분류 및 표기에 관한 국제조화시스템(GHS)에 따라 분류 및 표기되었습니다.

· **GHS 그림문자**



GHS02    GHS07    GHS08

· **신호어** 위험

· **상표상에명확히위험성이표시된성분:**

톨루엔

· **유해·위험문구**

- 고인화성 액체 및 증기
- 피부에 자극을 일으킴
- 태아 또는 생식능력에 손상을 일으킬 것으로 의심됨
- 졸음 또는 현기증을 일으킬 수 있음
- 장기간 또는 반복노출 되면 장기에 손상을 일으킬 수 있음
- 삼켜서 기도로 유입되면 치명적일 수 있음

· **예방조치문구**

- 삼켰을 시: 즉시 독성물질센터/병원 연락 필요.
- (라벨 참조) 처치를 하시오.
- 토하게 하지 마시오.
- 피부(또는 머리카락)에 묻으면 오염된 모든 의복은 벗거나 제거하십시오. 피부를 물로 씻으시오/샤워하십시오 .
- 오염된 의복은 벗고 다시 사용 전 세척하십시오.
- 밀봉하여 저장하십시오.
- (지방/지역/국가/국제 규정에 따라) 에 내용물/용기를 폐기하십시오.

· **화학물질 안전성 평가:** 화학물질 안전성 평가가 수행되지 않음

KR

(10 쪽에계속)

# 물질안전보건자료

## GHS에 따라

인쇄일자: 2022.04.20

개정: 2022.04.20

**제품명: Toluene Reagent, A.C.S.**

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### 16 그 밖의 참고사항

이보고는우리지식에대한오늘날의상태에대하여평가하고있다  
 하지만이보고서는생산특성에관한보증은기술하지않았으며계약적인법률관계에기반을두고있지도않다

· **담당자:**

· **최초 작성일자:** 2022.04.20

· **개정 횟수 및 최종 개정일자:** 1 / 2022.04.20

· **약어와 두문자어:**

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

EINECS: European Inventory of Existing Commercial Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

KR

# 安全資料表

## 根據 危害性化學品標示及通識規則

打印日期 2022.04.20

在 2022.04.20 審核

### 1 化學品與廠商資料

- 產品識別者
- 化學品中文(英文)名稱, 化學品俗名或商品名: Toluene Reagent, A.C.S.
- 商品編號: 22030, 22032
- CAS 編號: 108-88-3
- 歐盟編號: 203-625-9
- 歐盟編號: 601-021-00-3
- 相應純物質或者混合物的相關下位用途及禁止用途 無相關詳細資料。
- 物質或混合物的用途 實驗室化學物
- 安全技術說明書內供應商詳細信息
- 企業名稱:  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com
- 可獲取更多資料的部門: Product safety department
- 緊急聯繫電話號碼:  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### 2 危害辨識資料

#### · 緊急情況概述:

根據產品規格, 液體, 高度易燃液體和蒸氣。 吞食可能有害。 造成皮膚刺激。  
 懷疑對生育能力或對胎兒造成傷害。 可能造成困倦或暈眩。 長期或重複暴露可能對器官造成傷害。  
 如果吞食並進入呼吸道可能致命。

#### · GHS危險性類別



火焰

易燃液體 第2級

H225 高度易燃液體和蒸氣



健康危險

生殖毒性物質 第2級

H361 懷疑對生育能力或對胎兒造成傷害

特定標的器官系統毒性物質(重複暴露) 第2級

H373 長期或重複暴露可能對器官造成傷害

吸入性危害物質 第1級

H304 如果吞食並進入呼吸道可能致命



腐蝕/刺激皮膚物質 第2級

H315 造成皮膚刺激

特定標的器官系統毒性物質(單一暴露) 第3級

H336 可能造成困倦或暈眩

急毒性物質(吞食) 第5級

H303 吞食可能有害

(在 2 頁繼續)



# 安全資料表

## 根據 危害性化學品標示及通識規則

打印日期 2022.04.20

在 2022.04.20 審核

化學品中文(英文)名稱, 化學品俗名或商品名: Toluene Reagent, A.C.S.

(在 1 頁繼續)

## · 標籤要素

· GHS標籤元素 本化學物質根據化學物質分類及標記全球協調制度(GHS)進行了分類及標記。

## · 象形圖



GHS02 GHS07 GHS08

## · 警示詞 危險

## · 標籤上辨別危險的成份:

苯基甲 烷

## · 危險性說明

高度易燃液體和蒸氣

吞食可能有害

造成皮膚刺激

懷疑對生育能力或對胎兒造成傷害

可能造成困倦或暈眩

長期或重複暴露可能對器官造成傷害

如果吞食並進入呼吸道可能致命

## · 防範說明

## · 事故響應

如誤吞咽: 立即呼叫解毒中心/醫生

專項處置(參見本標示)。

不得誘導嘔吐。

如皮膚(或頭髮)沾染: 立即移除或脫掉所有沾染的衣物。用水沖洗/淋洗皮膚。

脫掉沾染的衣服, 清洗後方可重新使用

## · 安全貯存

加鎖存放。

## · 廢棄處置

按照地方/區域/國家/國際法規處理內容物之廢棄/容器。

## · 其他有害性

· PBT(殘留性、生物濃縮性、毒性物質) 及 vPvB(高殘留性、高生物濃縮性物質) 評價結果

· PBT(殘留性、生物濃縮性、毒性物質) 不適用的

· vPvB(高殘留性、高生物濃縮性物質): 不適用的

### 3 成分辨識資料

## · 純品

## · CAS號 化學名, 通用名

108-88-3 苯基甲 烷

## · 鑒別編號:

· 歐盟編號: 203-625-9

· 歐盟編號: 601-021-00-3

### 4 急救措施

## · 應急措施要領

· 總說明: 中毒的症狀可能會在幾個小時以後才出現;因此在發生事故之後起碼要有 48 小時的醫療觀察。

· 吸入: 萬一病人不清醒時,請讓病人側趟以便移動。

· 皮膚接觸: 馬上用水和肥皂進行徹底的沖洗。

(在 3 頁繼續)

# 安全資料表

## 根據 危害性化學品標示及通識規則

打印日期 2022.04.20

在 2022.04.20 審核

化學品中文(英文)名稱, 化學品俗名或商品名: Toluene Reagent, A.C.S.

(在 2 頁繼續)

- **眼睛接觸:** 張開眼睛在流水下沖洗數分鐘。
- **食入:** 馬上召喚醫生。
- **給醫生的資料:**
- **最重要的急慢性症狀及其影響** 無相關詳細資料。
- **需要及時的醫療處理及特別處理的症狀** 無相關詳細資料。

### 5 滅火措施

- **滅火方法**
- **滅火的方法和滅火劑:** 使用二氧化碳 (CO<sub>2</sub>)、沙粒、滅火粉末。切勿使用水。
- **為了安全,不適當的滅火劑會:** 使用全噴嘴的水
- **特別危險性** 無相關詳細資料。
- **特殊滅火方法**
- **消防人員特殊的防護裝備:** 沒有要求特別的措施。

### 6 洩漏處理方法

- **保護措施** 帶上保護儀器。讓未受到保護的人們遠離。
- **環境保護措施:** 切勿讓其進入下水道/水面或地下水。
- **密封及淨化方法和材料:**
- 吸收液體粘合原料 (沙粒、矽藻土、酸性粘合劑、通用粘合劑、鋸屑)。
- 根據第 13 條條款棄置受汙染物。
- 確保有足夠的通風裝置。
- 切勿用水或水溶清潔劑來沖清。
- **參照其他部分**
- 有關安全處理的資料請參閱第 7 節。
- 有關個人保護裝備的資料請參閱第 8 節。
- 有關棄置的資料請參閱第 13 節。

### 7 安全處置與儲存方法

- **操作處置**
- **儲存**
- 確保工作間有良好的通風/排氣裝置。
- 防止氣溶膠的形成。
- **有關火災及防止爆炸的資料:**
- 遠離火源一切勿吸煙。
- 防熱。
- 防靜電。
- **混合危險性等安全儲存條件**
- **儲存:**
- **儲存庫和容器須要達到的要求:** 儲存在陰涼的位置。
- **有關使用一個普通的儲存設施來儲存的資料:** 不需要。
- **有關儲存條件的更多資料:**
- 將容器密封。
- 儲存密封的貯藏器內,並放在陰涼、幹爽的位置。
- 免受接觸熱力和直接受陽光照射。
- **具體的最終用戶** 無相關詳細資料。

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### 8 暴露預防措施

· **工程控制方法:** 沒有進一步數據, 見第 7 項.

· **控制變數**

· **在工作場需要監控的限值成分**

#### 108-88-3 苯基甲 烷

PEL (TW) PC-TWA: 376 mg/m<sup>3</sup>, 100 ppm

OEL (CN) PC-STEL: 100 mg/m<sup>3</sup>

PC-TWA: 50 mg/m<sup>3</sup>

皮

· **具有生物學極限值的成分**

#### 108-88-3 苯基甲 烷

OEL-B (CN) 1 mol/mol Cr

測試材料: 尿

採樣時間: 工作班末(停止接觸後)

生物監測指標: 馬尿酸

11 mmol/L

測試材料: 尿

採樣時間: 工作班末(停止接觸後)

生物監測指標: 馬尿酸

20 mg/m<sup>3</sup>

採樣時間: 工作班末(停止接觸後 15 min~30min)

生物監測指標: 終末呼出氣甲苯

5 mg/m<sup>3</sup>

採樣時間: 工作班前

生物監測指標: 終末呼出氣甲苯

· **額外的資料:** 制作期間有效的清單將作為基礎來使用.

· **遺漏控制**

· **個人防護設備:**

· **一般保護和衛生措施:**

遠離食品、飲料和飼料.

立即除去所有的不潔的和被汙染的衣服.

在休息之前和工作完畢後請清洗雙手.

避免和皮膚接觸.

避免和眼睛及皮膚接觸.

· **呼吸系統防護:**

如果曾短暫接觸或在低汙染的情況下

請使用呼吸過濾裝置

如果曾深入或較長時間接觸, 請使用獨立的呼吸保護裝置.

· **手防護:**



保護手套

手套的物料必須是不滲透性的, 且能抵抗該產品/物質/添加劑.

基於缺乏測試, 對於產品/制劑/化學混合物, 並不會提供手套材料的建議

選擇手套材料時, 請注意材料的滲透時間, 滲濾率和降解參數

· **手套材料** 選擇合適的手套不單取決於材料, 亦取決於質量特征, 以及來自哪一間生產廠家

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- 滲入手套材料的時間 請向勞保手套生產廠家獲取準確的破裂時間並觀察實際的破裂時間
- 眼睛防護:



密封的護目鏡

### 9 物理及化學性質

#### · 有關基本物理及化學特性的資訊

#### · 一般說明

#### · 外觀:

· 形狀: 液體  
· 顏色: 根據產品規格

· 氣味: 有特性的

· 嗅覺閾限 未決定.

· pH值: 未決定.

#### · 條件的更改

· 熔點: -95 °C  
· 沸點/初沸點和沸程: 110-111 °C

· 閃點: 4 °C

· 可燃性 (固體、氣體): 不適用的

· 點火溫度: 535 °C

· 分解溫度: 未決定.

· 自燃溫度: 未決定.

· 爆炸的危險性: 該產品並非爆炸性的然而有可能形成可爆炸性的空氣/蒸汽混合物

#### · 爆炸極限:

· 較低: 1.2 Vol %  
· 較高: 7 Vol %

· 蒸氣壓 在 20 °C: 29 hPa

· 密度 在 20 °C: 0.87 g/cm<sup>3</sup>

· 相對密度 未決定.

· 蒸氣密度 未決定.

· 蒸發速率 未決定.

#### · 溶解性

· 水 在 15 °C: 0.5 g/l

· n-辛醇/水分配係數: 未決定.

#### · 黏性:

· 動態 在 20 °C: 0.6 mPas  
· 運動學的: 未決定.  
· 有機溶劑: 100.0 %

· 固體成份: 0.0 %

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· 其他資訊 無相關詳細資料。

### 10 安定性及反應性

- 反應性 無相關詳細資料。
- 穩定性
- 熱分解/要避免的情況: 如果遵照規格使用則不會分解。
- 有害反應可能性 未有已知的危險反應。
- 應避免的條件 無相關詳細資料。
- 不相容的物質: 無相關詳細資料。
- 危險的分解產物: 未知有危險的分解產品。

### 11 毒性資料

- 對毒性學影響的資訊

- 急性毒性:

- 與分類相關的 LD/ LC50 值:

108-88-3 苯基甲 烷

口腔	LD50	5,000 mg/kg (rat)
皮膚	LD50	12,124 mg/kg (rabbit)
吸入	LC50/4 h	5,320 mg/l (mouse)

- 主要的刺激性影響:
- 皮膚: 刺激皮膚和粘膜。
- 在眼睛上面: 沒有刺激的影響。
- 致敏作用: 沒有已知的敏化影響。
- 對以下組別可能產生影響的資料:
- CMR作用 (致癌、導致基因突變、對生殖系統有害)  
生殖毒性物質 第2級

### 12 生態資料

- 生態毒性
- 水生毒性: 無相關詳細資料。
- 持久性和降解性 無相關詳細資料。
- 環境系統習性:
- 潛在的生物累積性 無相關詳細資料。
- 土壤內移動性 無相關詳細資料。
- 額外的生態學資料:
- 總括注解:  
水危害級別 2 (德國規例) (評估): 對水是危害的  
不要讓該產品接觸地下水、水道或污水系統。  
即使是小量的產品滲入地下也會對飲用水造成危險。
- PBT(殘留性、生物濃縮性、毒性物質) 及 vPvB(高殘留性、高生物濃縮性物質) 評價結果
- PBT(殘留性、生物濃縮性、毒性物質) 不適用的
- vPvB(高殘留性、高生物濃縮性物質): 不適用的
- 其他副作用 無相關詳細資料。

-TW-

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### 13 廢棄處置方法

- 廢棄處置方法
- 建議: 不能將該產品和家居垃圾一起丟棄. 不要讓該產品接觸汗水系統.
- 受污染的容器和包裝:
- 建議: 必須根據官方的規章來丟棄.

### 14 運送資料

· 聯合國危險貨物編號(UN號) · ADR, IMDG, IATA	UN1294
· UN適當裝船名 · ADR · IMDG · IATA	1294 TOLUENE TOLUENE, MARINE POLLUTANT TOLUENE
· 運輸危險等級 · ADR, IMDG	
	
· 級別 · 標籤	3 易燃液體 3
· IATA	
	
· Class · Label	3 易燃液體 3
· 包裝組別 · ADR, IMDG, IATA	II
· 環境危害 · 海運污染物質: · 具體標記 (ADR):	象徵符號 (魚和樹) 象徵符號 (魚和樹)
· 用戶特別預防措施 · 危險編碼: · EMS 號碼: · Stowage Category	警告: 易燃液體 33 F-E,S-D B
· MARPOL73/78(針對船舶引起的海洋污染預防協約) 附件書2及根據IBC Code(國際裝船貨物編碼) 的大量運送	不適用的

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## · 運輸/額外的資料:

## · ADR

· Excepted quantities (EQ)

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

## · IMDG

· Limited quantities (LQ)

1L

· Excepted quantities (EQ)

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· UN "標準規定":

UN 1294 TOLUENE, 3, II

### 15 法規資料

· 對相應純物質或者混合物的安全、保健及環境法規/法律 無相關詳細資料。

· 優先管理化學品之指定及運作管理辦法

· 附表一-對於未滿十八歲及妊娠或分娩後未滿一年女性勞工具危害性之化學品

沒有列出物質。

· 第二條第二款第一目

沒有列出物質。

· 第二條第二款第二目

有列出物質。

· 新化學物質及既有化學物質資料登錄辦法 英

有列出物質。

· 中國現有化學物質名錄

有列出物質。

· TCSCA

· 列管編號

沒有列出物質。

· 毒性分類

沒有列出物質。

· 管制濃度(w/w%)

沒有列出物質。

· 大量運作基準(公斤)

沒有列出物質。

· 新化學物質及既有化學物質資料登錄辦法, 附表六

有列出物質。

· TCSI - Taiwan Chemical Substance Inventory

有列出物質。

· GHS標籤元素 本化學物質根據化學物質分類及標記全球協調制度(GHS)進行了分類及標記。

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## · 象形圖



GHS02 GHS07 GHS08

## · 警示詞 危險

## · 標籤上辨別危險的成份:

· 苯基甲 烷

## · 危險性說明

高度易燃液體和蒸氣

吞食可能有害

造成皮膚刺激

懷疑對生育能力或對胎兒造成傷害

可能造成困倦或暈眩

長期或重複暴露可能對器官造成傷害

如果吞食並進入呼吸道可能致命

## · 防範說明

## · 事故響應

如誤吞咽: 立即呼叫解毒中心/醫生

專項處置(參見本標示)。

不得誘導嘔吐。

如皮膚(或頭髮)沾染: 立即移除或脫掉所有沾染的衣物。用水沖洗/淋洗皮膚。

脫掉沾染的衣服, 清洗後方可重新使用

## · 安全貯存

加鎖存放。

## · 廢棄處置

按照地方/區域/國家/國際法規處理內容物之廢棄/容器。

## · 化學物質安全性評價: 尚未進行化學物質安全性評價

## 16 其他資料

該資料是基於我們目前的知識

然而,這並不構成對任何特定產品特性的擔保並且不建立一個法律上有效的合同關係。

## · 聯絡:

## · 縮寫:

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

EINECS: European Inventory of Existing Commercial Chemical Substances

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

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: 持久性生物累積性有毒物質

vPvB: very Persistent and very Bioaccumulative

易燃液體 第2級: Flammable liquids – Category 2

急性毒性物質(吞食) 第5級: Acute toxicity – Category 5

腐蝕/刺激皮膚物質 第2級: Skin corrosion/irritation – Category 2

生殖毒性物質 第2級: Reproductive toxicity – Category 2

特定標的器官系統毒性物質(單一暴露) 第3級: Specific target organ toxicity (single exposure) – Category 3

特定標的器官系統毒性物質(重複暴露) 第2級: Specific target organ toxicity (repeated exposure) – Category 2

吸入性危害物質 第1級: Aspiration hazard – Category 1



# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 20.04.2022

Revisión: 20.04.2022

### SECCIÓN 1: Identificación de la sustancia o la mezcla y de la sociedad o la empresa

#### · 1.1 Identificador del producto

· **Nombre comercial:** Toluene Reagent, A.C.S.

· **Número del artículo:** 22030, 22032

· **Número CAS:**

108-88-3

· **Número CE:**

203-625-9

· **Número de clasificación:**

601-021-00-3

· **UFI:** FC02-M0V8-D00U-2VP7

· **1.2 Usos pertinentes identificados de la sustancia o de la mezcla y usos desaconsejados**

No existen más datos relevantes disponibles.

· **Utilización del producto / de la elaboración** Sustancias químicas de laboratorio

· **1.3 Datos del proveedor de la ficha de datos de seguridad**

· **Fabricante/distribuidor:**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

Tel: 215-412-8400 Fax: 215-412-8450

email: info@emsdiasum.com

www.emsdiasum.com

Aname

C/ Perez Galdos no. 2

28693 Quijorna

Madrid, Spain

Tel: +34.91.816.89.50

Fax: +34.91.816.85.94

email: ventas@aname.es

· **Área de información:** Product safety department

· **1.4 Teléfono de emergencia:**

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

### SECCIÓN 2: Identificación de los peligros

· **2.1 Clasificación de la sustancia o de la mezcla**

· **Clasificación con arreglo al Reglamento (CE) nº 1272/2008**



GHS02 llama

Flam. Liq. 2 H225 Líquido y vapores muy inflamables.



GHS08 peligro para la salud

Repr. 2 H361d Se sospecha que daña al feto.

STOT RE 2 H373 Puede provocar daños en los órganos tras exposiciones prolongadas o repetidas.

Asp. Tox. 1 H304 Puede ser mortal en caso de ingestión y penetración en las vías respiratorias.

( se continua en página 2 )

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 20.04.2022

Revisión: 20.04.2022

Nombre comercial: **Toluene Reagent, A.C.S.**

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GHS07

Skin Irrit. 2 H315 Provoca irritación cutánea.

STOT SE 3 H336 Puede provocar somnolencia o vértigo.

### · 2.2 Elementos de la etiqueta

#### · Etiquetado con arreglo al Reglamento (CE) n° 1272/2008

La sustancia se ha clasificado y etiquetado de conformidad con el reglamento CLP.

#### · Pictogramas de peligro



GHS02 GHS07 GHS08

#### · Palabra de advertencia Peligro

#### · Componentes peligrosos a indicar en el etiquetaje:

tolueno

#### · Indicaciones de peligro

H225 Líquido y vapores muy inflamables.

H315 Provoca irritación cutánea.

H361d Se sospecha que daña al feto.

H336 Puede provocar somnolencia o vértigo.

H373 Puede provocar daños en los órganos tras exposiciones prolongadas o repetidas.

H304 Puede ser mortal en caso de ingestión y penetración en las vías respiratorias.

#### · Consejos de prudencia

P301+P310 EN CASO DE INGESTIÓN: Llamar inmediatamente a un CENTRO DE TOXICOLOGÍA/ médico.

P321 Se necesita un tratamiento específico (ver en esta etiqueta).

P331 NO provocar el vómito.

P303+P361+P353 EN CASO DE CONTACTO CON LA PIEL (o el pelo): Quitar inmediatamente toda la ropa contaminada. Enjuagar la piel con agua [o ducharse].

P362+P364 Quitar las prendas contaminadas y lavarlas antes de volver a usarlas.

P405 Guardar bajo llave.

P501 Eliminar el contenido o el recipiente conforme a la reglamentación local/regional/nacional/ internacional.

### · 2.3 Otros peligros

#### · Resultados de la valoración PBT y mPmB

· PBT: No aplicable.

· mPmB: No aplicable.

## SECCIÓN 3: Composición/información sobre los componentes

### · 3.1 Caracterización química: Sustancias

#### · Denominación N° CAS

108-88-3 tolueno

#### · Número(s) de identificación

· Número CE: 203-625-9

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### SECCIÓN 4: Primeros auxilios

#### · 4.1 Descripción de los primeros auxilios

##### · Instrucciones generales:

Los síntomas de intoxicación pueden presentarse después de muchas horas, por lo que se requiere una supervisión médica durante un mínimo de 48 horas después del accidente.

##### · En caso de inhalación del producto:

Las personas desmayadas deben tenderse y transportarse de lado con la suficiente estabilidad.

##### · En caso de contacto con la piel: Lavar inmediatamente con agua y jabón y enjuagar bien.

##### · En caso de con los ojos: Limpiar los ojos abiertos durante varios minutos con agua corriente.

##### · En caso de ingestión: Consultar inmediatamente un médico.

#### · 4.2 Principales síntomas y efectos, agudos y retardados No existen más datos relevantes disponibles.

#### · 4.3 Indicación de toda atención médica y de los tratamientos especiales que deban dispensarse inmediatamente No existen más datos relevantes disponibles.

### SECCIÓN 5: Medidas de lucha contra incendios

#### · 5.1 Medios de extinción

##### · Sustancias extintoras apropiadas: CO<sub>2</sub>, arena, polvo extintor. No utilizar agua.

##### · Sustancias extintoras inapropiadas por razones de seguridad: Agua a pleno chorro

#### · 5.2 Peligros específicos derivados de la sustancia o la mezcla No existen más datos relevantes disponibles.

#### · 5.3 Recomendaciones para el personal de lucha contra incendios

##### · Equipo especial de protección: No se requieren medidas especiales.

### SECCIÓN 6: Medidas en caso de vertido accidental

#### · 6.1 Precauciones personales, equipo de protección y procedimientos de emergencia

Llevar puesto equipo de protección. Mantener alejadas las personas sin protección.

#### · 6.2 Precauciones relativas al medio ambiente:

Evitar que penetre en la canalización /aguas de superficie /agua subterráneas.

#### · 6.3 Métodos y material de contención y de limpieza:

Quitar con material absorbente (arena, kieselgur, aglutinante de ácidos, aglutinante universal, aserrín).

Desechar el material contaminado como vertido según ítem 13.

Asegurar suficiente ventilación.

No enjuagar con agua ni productos de limpieza acuosos.

#### · 6.4 Referencia a otras secciones

Ver capítulo 7 para mayor información sobre una manipulación segura.

Ver capítulo 8 para mayor información sobre el equipo personal de protección.

Para mayor información sobre cómo desechar el producto, ver capítulo 13.

### SECCIÓN 7: Manipulación y almacenamiento

#### · 7.1 Precauciones para una manipulación segura

Asegurar suficiente ventilación /aspiración en el puesto de trabajo.

Evitar la formación de aerosoles.

#### · Prevención de incendios y explosiones:

Mantener alejadas las fuentes de encendido. No fumar.

Proteger del calor.

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Tomar medidas contra las cargas electrostáticas.

### · 7.2 Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades

#### · Almacenamiento:

· **Exigencias con respecto al almacén y los recipientes:** Almacenar en un lugar fresco.

· **Normas en caso de un almacenamiento conjunto:** No es necesario.

#### · Indicaciones adicionales sobre las condiciones de almacenamiento:

Mantener el recipiente cerrado herméticamente.

Almacenarlo en envases bien cerrados en un lugar fresco y seco.

Proteger del calor y de la luz directa del sol.

· **7.3 Usos específicos finales** No existen más datos relevantes disponibles.

## SECCIÓN 8: Controles de exposición/protección individual

### · 8.1 Parámetros de control

#### · Instrucciones adicionales para el acondicionamiento de instalaciones técnicas:

Sin datos adicionales, ver punto 7.

#### · Componentes con valores límite admisibles que deben controlarse en el puesto de trabajo:

##### 108-88-3 tolueno

LEP	Valor de corta duración: 384 mg/m <sup>3</sup> , 100 ppm Valor de larga duración: 192 mg/m <sup>3</sup> , 50 ppm vía dérmica, VLB, VLI, r
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#### · Componentes con valores límite biológicos:

##### 108-88-3 tolueno

VLB	0,6 g/g creatinina Muestra: orina Momento de Muestero: Final de la jornada laboral Indicador Biológico: o-Cresol
	0,05 mg/l Muestra: sangre Momento de Muestero: Principio de la última jornada de la semana laboral Indicador Biológico: Tolueno
	0,08 mg/l Muestra: orine Momento de Muestero: Final de la jornada laboral Indicador Biológico: Tolueno

· **Indicaciones adicionales:** Como base se han utilizado las listas vigentes en el momento de la elaboración.

### · 8.2 Controles de la exposición

#### · Equipo de protección individual:

#### · Medidas generales de protección e higiene:

Mantener alejado de alimentos, bebidas y alimentos para animales.

Quitarse de inmediato la ropa ensuciada o impregnada.

Lavarse las manos antes de las pausas y al final del trabajo.

Evitar el contacto con la piel.

Evitar el contacto con los ojos y la piel.

#### · Protección respiratoria:

Si la exposición va a ser breve o de poca intensidad, colocarse una máscara respiratoria. Para una exposición más intensa o de mayor duración, usar un aparato de respiración autónomo.

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· **Protección de manos:**

Guantes de protección

El material del guante deberá ser impermeable y resistente al producto / sustancia / preparado.

Ante la ausencia de tests específicos, no se puede recomendar ningún material específico para guantes de protección contra el producto / preparado / mezcla de sustancias químicas.

Selección del material de los guantes en función de los tiempos de rotura, grado de permeabilidad y degradación.

· **Material de los guantes**

La elección del guante adecuado no depende únicamente del material, sino también de otras características de calidad, que pueden variar de un fabricante a otro.

· **Tiempo de penetración del material de los guantes**

El tiempo de resistencia a la penetración exacto deberá ser pedido al fabricante de los guantes. Este tiempo debe ser respetado.

· **Protección de ojos:**

Gafas de protección herméticas

### SECCIÓN 9: Propiedades físicas y químicas

· **9.1 Información sobre propiedades físicas y químicas básicas**· **Datos generales**· **Aspecto:****Forma:**

Líquido

**Color:**

Según denominación del producto

· **Olor:**

Característico

· **Umbral olfativo:**

No determinado.

· **valor pH:**

No determinado.

· **Cambio de estado****Punto de fusión/punto de congelación:**

-95 °C

**Punto inicial de ebullición e intervalo de ebullición:**

110-111 °C

· **Punto de inflamación:**

4 °C

· **Inflamabilidad (sólido, gas):**

No aplicable.

· **Temperatura de ignición:**

535 °C

· **Temperatura de descomposición:**

No determinado.

· **Temperatura de auto-inflamación:**

No determinado.

· **Propiedades explosivas:**

El producto no es explosivo; sin embargo, pueden formarse mezclas explosivas de vapor / aire.

· **Límites de explosión:****Inferior:**

1,2 Vol %

**Superior:**

7 Vol %

· **Presión de vapor a 20 °C:**

29 hPa

· **Densidad a 20 °C:**0,87 g/cm<sup>3</sup>

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· <b>Densidad relativa</b>	No determinado.
· <b>Densidad de vapor</b>	No determinado.
· <b>Tasa de evaporación:</b>	No determinado.

· <b>Solubilidad en / miscibilidad con agua a 15 °C:</b>	0,5 g/l
----------------------------------------------------------	---------

· <b>Coefficiente de reparto: n-octanol/agua:</b>	No determinado.
---------------------------------------------------	-----------------

· <b>Viscosidad:</b>	
<b>Dinámica a 20 °C:</b>	0,6 mPas
<b>Cinemática:</b>	No determinado.
<b>Disolventes orgánicos:</b>	100,0 %
<b>VOC (CE)</b>	100,00 %

<b>Contenido de cuerpos sólidos:</b>	0,0 %
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· <b>9.2 Otros datos</b>	No existen más datos relevantes disponibles.
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### SECCIÓN 10: Estabilidad y reactividad

- **10.1 Reactividad** No existen más datos relevantes disponibles.
- **10.2 Estabilidad química**
- **Descomposición térmica / condiciones que deben evitarse:** No se descompone al emplearse adecuadamente.
- **10.3 Posibilidad de reacciones peligrosas** No se conocen reacciones peligrosas.
- **10.4 Condiciones que deben evitarse** No existen más datos relevantes disponibles.
- **10.5 Materiales incompatibles:** No existen más datos relevantes disponibles.
- **10.6 Productos de descomposición peligrosos:** No se conocen productos de descomposición peligrosos.

### SECCIÓN 11: Información toxicológica

- **11.1 Información sobre los efectos toxicológicos**
- **Toxicidad aguda** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

· **Valores LD/LC50 (dosis letal /dosis letal = 50%) relevantes para la clasificación:**

#### 108-88-3 tolueno

Oral	LD50	5.000 mg/kg (rat)
Dermal	LD50	12.124 mg/kg (rabbit)
Inhalatorio	LC50/4 h	5.320 mg/l (mouse)

- **Efecto estimulante primario:**
- **Corrosión o irritación cutáneas**  
Provoca irritación cutánea.
- **Lesiones o irritación ocular graves**  
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Sensibilización respiratoria o cutánea**  
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Indicaciones toxicológicas adicionales:**
- **Efectos CMR (carcinogenicidad, mutagenicidad y toxicidad para la reproducción)**
- **Mutagenicidad en células germinales**  
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Carcinogenicidad** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Toxicidad para la reproducción**  
Se sospecha que daña al feto.

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- **Toxicidad específica en determinados órganos (STOT) – exposición única**  
Puede provocar somnolencia o vértigo.
- **Toxicidad específica en determinados órganos (STOT) – exposición repetida**  
Puede provocar daños en los órganos tras exposiciones prolongadas o repetidas.
- **Peligro de aspiración**  
Puede ser mortal en caso de ingestión y penetración en las vías respiratorias.

### SECCIÓN 12: Información ecológica

- **12.1 Toxicidad**
- **Toxicidad acuática:** No existen más datos relevantes disponibles.
- **12.2 Persistencia y degradabilidad** No existen más datos relevantes disponibles.
- **12.3 Potencial de bioacumulación** No existen más datos relevantes disponibles.
- **12.4 Movilidad en el suelo** No existen más datos relevantes disponibles.
- **Indicaciones medioambientales adicionales:**
- **Indicaciones generales:**  
Nivel de riesgo para el agua 2 (clasificación de listas): peligroso para el agua  
No dejar que se infiltre en aguas subterráneas, aguas superficiales o en alcantarillados.  
Una cantidad mínima vertida en el subsuelo ya representa un peligro para el agua potable.
- **12.5 Resultados de la valoración PBT y mPmB**
- **PBT:** No aplicable.
- **mPmB:** No aplicable.
- **12.6 Otros efectos adversos** No existen más datos relevantes disponibles.

### SECCIÓN 13: Consideraciones relativas a la eliminación

- **13.1 Métodos para el tratamiento de residuos**
- **Recomendación:** No debe desecharse con la basura doméstica. No debe llegar al alcantarillado.
- **Embalajes sin limpiar:**
- **Recomendación:** Eliminar conforme a las disposiciones oficiales.

### SECCIÓN 14: Información relativa al transporte

- **14.1 Número ONU**
- **ADR, IMDG, IATA** UN1294
- **14.2 Designación oficial de transporte de las Naciones Unidas**
- **ADR** 1294 TOLUENO
- **IMDG** TOLUENE, MARINE POLLUTANT
- **IATA** TOLUENE
- **14.3 Clase(s) de peligro para el transporte**
- **ADR, IMDG**
- 
- **Clase** 3 Líquidos inflamables

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· <b>Etiqueta</b>	3
· <b>IATA</b>	
	
· <b>Class</b>	3 Líquidos inflamables
· <b>Label</b>	3
· <b>14.4 Grupo de embalaje</b> · <b>ADR, IMDG, IATA</b>	II
· <b>14.5 Peligros para el medio ambiente:</b>	
· <b>Contaminante marino:</b>	Símbolo (pez y árbol)
· <b>Marcado especial (ADR):</b>	Símbolo (pez y árbol)
· <b>14.6 Precauciones particulares para los usuarios</b>	Atención: Líquidos inflamables
· <b>Número de identificación de peligro (Número Kemler):</b>	33
· <b>Número EMS:</b>	F-E,S-D
· <b>Stowage Category</b>	B
· <b>14.7 Transporte a granel con arreglo al anexo II del Convenio MARPOL y el Código IBC</b>	No aplicable.
· <b>Transporte/datos adicionales:</b>	
· <b>ADR</b>	
· <b>Cantidades limitadas (LQ)</b>	1L
· <b>Cantidades exceptuadas (EQ)</b>	Código: E2 Cantidad neta máxima por envase interior: 30 ml Cantidad neta máxima por embalaje exterior: 500 ml
· <b>Categoría de transporte</b>	2
· <b>Código de restricción del túnel</b>	D/E
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	1L
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>"Reglamentación Modelo" de la UNECE:</b>	UN 1294 TOLUENO, 3, II

## SECCIÓN 15: Información reglamentaria

- **15.1 Reglamentación y legislación en materia de seguridad, salud y medio ambiente específicas para la sustancia o la mezcla**
- **Directiva 2012/18/UE**
- **Sustancias peligrosas nominadas - ANEXO I** No contiene la sustancia.
- **Categoría Seveso P5c** LÍQUIDOS INFLAMABLES
- **Cantidad umbral (toneladas) a efectos de aplicación de los requisitos de nivel inferior** 5.000 t
- **Cantidad umbral (toneladas) a efectos de aplicación de los requisitos de nivel superior** 50.000 t
- **REGLAMENTO (CE) n° 1907/2006 ANEXO XVII** Restricciones: 3, 48

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· **Directiva 2011/65/UE sobre restricciones a la utilización de determinadas sustancias peligrosas en aparatos eléctricos y electrónicos - Anexo II**

No contiene la sustancia.

· **REGLAMENTO (UE) 2019/1148**

· **Anexo I - PRECURSORES DE EXPLOSIVOS RESTRINGIDOS (Valor límite superior a efectos de la concesión de licencias con arreglo al artículo 5, apartado 3)**

No contiene la sustancia.

· **Anexo II - PRECURSORES DE EXPLOSIVOS NOTIFICABLES**

No contiene la sustancia.

· **Reglamento (CE) no 273/2004 sobre precursores de drogas**

3

· **Reglamento (CE) N o 111/2005 por el que establecen normas para la vigilancia del comercio de precursores de drogas entre la Comunidad y terceros países**

3

· **15.2 Evaluación de la seguridad química:** Una evaluación de la seguridad química no se ha llevado a cabo.

### SECCIÓN 16: Otra información

Los datos se fundan en el estado actual de nuestros conocimientos, pero no constituyen garantía alguna de cualidades del producto y no generan ninguna relación jurídica contractual.

#### · Abreviaturas y acrónimos:

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)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Líquidos inflamables – Categoría 2

Skin Irrit. 2: Corrosión o irritación cutáneas – Categoría 2

Repr. 2: Toxicidad para la reproducción – Categoría 2

STOT SE 3: Toxicidad específica en determinados órganos ( exposición única) – Categoría 3

STOT RE 2: Toxicidad específica en determinados órganos (exposiciones repetidas) – Categoría 2

Asp. Tox. 1: Peligro por aspiración – Categoría 1