

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

Printing date 01.02.2023

Version number 1

Revision: 01.02.2023

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

- **1.1 Product identifier**
- **Trade name:** *para-toluenesulfonic acid, solid*
- **Chemical Identification:**  
*Toluene-4-sulfonic acid*  
*p-Toluenesulfonic acid monohydrate*
- **Article number:** 911
- **CAS Number:**  
6192-52-5
- **EC number:**  
203-180-0
- **Index number:**  
016-030-00-2
- **Registration number** 01-2119538811-39
- **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**  
*Synthetic chemical*  
*Electroplating auxiliary*  
*Hardening agent/ Curing agent*
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
*Möller Chemie GmbH & Co. KG*  
*Bürgerkamp 1*  
*D-48565 Steinfurt*  
*Tel.: 02551/9340-0*  
*Fax: 02551/9340-60*
- **Further information obtainable from:** *Product safety department*
- **1.4 Emergency telephone number:**  
*Poison Control Center Mainz - 24 hour emergency service - Tel.: +49 (0) 6131/19240*

### SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS05 corrosion

*Skin Corr. 1C H314 Causes severe skin burns and eye damage.*



GHS07

*STOT SE 3 H335 May cause respiratory irritation.*

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
*The substance is classified and labelled according to the CLP regulation.*
- **Hazard pictograms**



GHS05



GHS07

- **Signal word** *Danger*
- **Hazard statements**  
*H314 Causes severe skin burns and eye damage.*

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*H335 May cause respiratory irritation.*

· **Precautionary statements**

*P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].*

*P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*

*P310 Immediately call a POISON CENTER/doctor.*

*P321 Specific treatment (see on this label).*

*P405 Store locked up.*

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

· **2.3 Other hazards**

*The product does not contain any substance above the legal limits included on the list for endocrine disrupting properties established under Article 59(1) of Regulation (EC) No 1907/2006 or under Commission Delegated Regulation (EU) 2017/2100 or of Commission Regulation (EU) 2018/605 has endocrine disrupting properties.*

· **Results of PBT and vPvB assessment**

· **PBT:**

*The product does not contain any substances above legal limits that meet the criteria for PBT (persistent, bioaccumulative and toxic).*

· **vPvB:**

*The product does not contain any substances above legal limits that meet the criteria for vPvB (very persistent and very bioaccumulative).*

### SECTION 3: Composition/information on ingredients

· **3.1 Substances**

· **CAS No. Description**

*6192-52-5 para-toluenesulfonic acid, solid*

· **Identification number(s)**

· **EC number:** 203-180-0

· **Index number:** 016-030-00-2

· **Specific concentration limits** STOT SE 3; C ≥ 20 %

### SECTION 4: First aid measures

· **4.1 Description of first aid measures**

· **General information:**

*Remove contaminated clothing immediately.*

*Take affected persons out of danger area and lay down.*

*Personal protection for the First Aider.*

· **After inhalation:**

*Move affected person out of the danger zone and into fresh air.*

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

*Seek medical treatment.*

· **After skin contact:**

*In case of contact with the skin, take off soiled, soaked clothing immediately and wash the skin immediately with plenty of water and soap.*

*Call a doctor immediately.*

· **After eye contact:**

*Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.*

· **After swallowing:**

*Rinse out mouth and then drink plenty of water.*

*Do not induce vomiting; call for medical help immediately.*

· **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

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- **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>, powder or water spray. Fight larger fire with alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**  
In case of fire, the following can be released:  
Irritant gases / vapors  
Sulphur dioxide (SO<sub>2</sub>)  
Carbon dioxide, pyrolysis products, toxic  
Carbon monoxide  
carbon dioxide  
Danger of formation of toxic Pyrolysis products
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

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

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Avoid formation of dust.  
Ensure adequate ventilation  
Use respiratory protective device against the effects of fumes/dust/aerosol.  
Wear protective clothing.  
Avoid contact with eyes and skin
- **6.2 Environmental precautions:**  
Do not allow to enter sewers/ surface or ground water.  
Damp down dust with water spray.
- **6.3 Methods and material for containment and cleaning up:**  
Pick up mechanically.  
Ensure adequate ventilation.
- **6.4 Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### **SECTION 7: Handling and storage**

- **7.1 Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of dust.  
Do not inhale resulting dusts / fumes.  
Avoid contact with eyes and skin.
- **Information about fire - and explosion protection:**  
The accumulation of fine dust in the presence of air can lead to a dust explosion hazard.  
Keep ignition sources away - Do not smoke.  
Protect from heat and direct sunlight.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
Keep container tightly closed and store in a cool, well-ventilated place.  
Do not use light metal containers.

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- **Information about storage in one common storage facility:**  
Store away from oxidising agents.  
Keep away from alkalis.  
Do not store with sodium or calcium hypochlorite solution.
- **Further information about storage conditions:**  
Protect from humidity and water.  
The product is very hygroscopic  
Store tightly closed, dry, at 15 - 20 ° C.
- **Storage class:** 8 A
- **7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:** Not required.
- **DNELs**  
6192-52-5 p-Toluenesulfonic acid monohydrate  
Long-term exposure - systemic effects - inhalation: 53.6 mg/m<sup>3</sup>  
Long term exposure - Systemic effects - Dermal: 7.6 mg/kg
- **PNECs**  
6192-52-5 p-Toluenesulfonic acid monohydrate  
Fresh water: 0.073 mg/l  
Sea water: 0.0073 mg/l  
intermittent release: 0.73 mg/l  
Sewage treatment plant: 58 mg/l  
Freshwater sediment: 0.0577 mg/kg dw  
Seawater sediment: 0.00577 mg/kg dw  
Soil: 0.016 mg/kg dw
- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Appropriate engineering controls** No further data; see item 7.
- **Individual protection measures, such as personal protective equipment**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing  
Do not eat, drink, smoke or sniff while working.  
Avoid contact with the eyes and skin.  
Do not inhale dust / smoke / mist.  
Wash hands before breaks and at the end of work.  
Use skin protection cream for skin protection.
- **Respiratory protection:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Hand protection**



Protective gloves

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

- **Material of gloves**  
Nitrile rubber, NBR  
Butyl rubber, BR  
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.

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- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye/face protection**



Tightly sealed goggles

- **Body protection:** Acid resistant protective clothing

## SECTION 9: Physical and chemical properties

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

#### · General Information

- |   |                             |
|---|-----------------------------|
| · <b>Colour:</b>  | White                       |
| · <b>Odour:</b>   | Characteristic              |
| · <b>Odour threshold:</b>   | Not determined.             |
| · <b>Melting point/freezing point:</b>                            | 99-103 °C                   |
| · <b>Boiling point or initial boiling point and boiling range</b> | ca. 140 °C                  |
| · <b>Flammability</b>   | Product is not flammable.   |
| · <b>Lower and upper explosion limit</b>                          |                             |
| · <b>Lower:</b>   | Not determined.             |
| · <b>Upper:</b>   | Not determined.             |
| · <b>Flash point:</b>   | ca. 180 °C                  |
| · <b>Decomposition temperature:</b>                               | > 150 °C                    |
| · <b>pH (650 g/l) at 20 °C</b>                                    | < 1                         |
| · <b>Viscosity:</b>   |                             |
| · <b>Kinematic viscosity</b>                                      | Not applicable.             |
| · <b>Dynamic:</b>   | Not applicable.             |
| · <b>Solubility</b>   |                             |
| · <b>water at 20 °C:</b>  | 700 g/l                     |
| · <b>Partition coefficient n-octanol/water (log value)</b>        | Not determined.             |
| · <b>Vapour pressure at 20 °C:</b>                                | < 0.1 hPa                   |
| · <b>Density and/or relative density</b>                          |                             |
| · <b>Density at 20 °C:</b>  | 1.2 - 1.3 g/cm <sup>3</sup> |
| · <b>Relative density</b>   | Not determined.             |
| · <b>Vapour density</b>   | Not applicable.             |
| · <b>Particle characteristics</b>                                 | See item 3.                 |

### · 9.2 Other information

- |  |  |
|--|--|
| · <b>Appearance:</b>   | No further relevant information available.   |
| · <b>Form:</b>   | Solid  |
| · <b>Important information on protection of health and environment, and on safety.</b> |  |
| · <b>Explosive properties:</b>   | The product is not explosive, but the formation of explosive / ignitable vapor / air mixtures is possible. |
| · <b>Change in condition</b>   |  |
| · <b>Evaporation rate</b>  | Not applicable.  |

### · Information with regard to physical hazard classes

- |                               |      |
|-------------------------------|------|
| · <b>Explosives</b>           | Void |
| · <b>Flammable gases</b>      | Void |
| · <b>Aerosols</b>             | Void |
| · <b>Oxidising gases</b>      | Void |
| · <b>Gases under pressure</b> | Void |
| · <b>Flammable liquids</b>    | Void |

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· <b>Flammable solids</b>	Void
· <b>Self-reactive substances and mixtures</b>	Void
· <b>Pyrophoric liquids</b>	Void
· <b>Pyrophoric solids</b>	Void
· <b>Self-heating substances and mixtures</b>	Void
· <b>Substances and mixtures, which emit flammable gases in contact with water</b>	Void
· <b>Oxidising liquids</b>	Void
· <b>Oxidising solids</b>	Void
· <b>Organic peroxides</b>	Void
· <b>Corrosive to metals</b>	Void
· <b>Desensitised explosives</b>	Void

### SECTION 10: Stability and reactivity

- **10.1 Reactivity**  
May react violently with alkalis.  
May be corrosive to metals.
- **10.2 Chemical stability** Stable under specified storage conditions.
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.  
Protect from moisture.
- **10.3 Possibility of hazardous reactions**  
Exothermic reactions with strong oxidizing agents and alkalis.  
Corrosive to metals.  
Reacts with metals forming hydrogen.  
Forms explosive gases/fumes.
- **10.4 Conditions to avoid** Heat, flames and sparks.
- **10.5 Incompatible materials:**  
Strong oxidizing agents  
Alkalis  
Hypochlorites
- **10.6 Hazardous decomposition products:**  
Carbon monoxide  
Sulphur dioxide  
Carbon dioxide  
Hydrogen  
Irritant gases/vapours  
Danger of formation of toxic Pyrolysis products

### SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.

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

Dermal	LD50	>2.000 mg/kg (rabbit)
Inhalative	LC50/ 4h	mg/l (rat)

- **Skin corrosion/irritation**  
Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**  
Causes severe skin burns and eye damage.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **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** Based on available data, the classification criteria are not met.

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- **STOT-single exposure**  
May cause respiratory irritation.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
- **11.2 Information on other hazards**
- **Endocrine disrupting properties** Substance is not listed.


### SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:**  
Algae toxicity: ErC50/72h: 73 mg/l *Pseudokirchnerella subcapitata*, OECD 201  
Fish toxicity: LC50/96h: > 325 mg/l *Leuciscus idus*, OECD 203  
Toxicity to microorganisms: EC10/3h: 240 mg/l, OECD209, NOEC: 580 mg/l, OECD 209  
Toxicity to daphnia and other aquatic invertebrates: EC50/48h: > 103 mg/l *daphnia magna*, OECD 202
- **12.2 Persistence and degradability** Easily biodegradable
- **12.3 Bioaccumulative potential** Keine wesentliche Bioakkumulation
- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).
- **vPvB:** This substance is not considered to be very persistent nor very bioaccumulative (vPvB).
- **12.6 Endocrine disrupting properties** For information on endocrine disrupting properties see section 11.
- **12.7 Other adverse effects** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
The product may not be released into the environment without control.  
Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

### SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation** Disposal according to local regulations.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

### SECTION 14: Transport information

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>· <b>14.1 UN number or ID number</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>                   | UN2585  |
| <ul style="list-style-type: none"> <li>· <b>14.2 UN proper shipping name</b></li> <li>· <b>ADR</b></li> <li>· <b>IMDG, IATA</b></li> </ul> | 2585 ALKYL SULPHONIC ACIDS, SOLID<br>ALKYL SULPHONIC ACIDS, SOLID |
| <ul style="list-style-type: none"> <li>· <b>14.3 Transport hazard class(es)</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>               |   |
| <div style="text-align: center;">  </div>               |   |
| <ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>   | 8 Corrosive substances.<br>8                                      |

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· <b>14.4 Packing group</b> · <b>ADR, IMDG, IATA</b>	III
· <b>14.5 Environmental hazards:</b> · <b>Marine pollutant:</b>	No
· <b>14.6 Special precautions for user</b> · <b>Hazard identification number (Kemler code):</b> · <b>EMS Number:</b> · <b>Segregation groups</b> · <b>Stowage Category</b> · <b>Segregation Code</b>	Warning: Corrosive substances. 80 F-A,S-B (SGG1) Acids A SG36 Stow "separated from" SGG18-alkalis. SG49 Stow "separated from" SGG6-cyanides
· <b>14.7 Maritime transport in bulk according to IMO instruments</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADR</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	5 kg Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
· <b>Transport category</b> · <b>Tunnel restriction code</b>	3 E
· <b>IMDG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	5 kg Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
· <b>UN "Model Regulation":</b>	UN 2585 ALKYL SULPHONIC ACIDS, SOLID, 8, III

### 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.
- **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**  
Substance is not listed.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

### SECTION 16: Other information

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

- **Department issuing SDS:** Product safety department
- **Contact:** Mrs. Steyer
- **Abbreviations and acronyms:**  
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
ICAO: International Civil Aviation Organisation  
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
GHS: Globally Harmonised System of Classification and Labelling of Chemicals

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EINECS: European Inventory of Existing Commercial Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
DNEL: Derived No-Effect Level (REACH)  
PNEC: Predicted No-Effect Concentration (REACH)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
Skin Corr. 1C: Skin corrosion/irritation – Category 1C  
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

EU