

Shanghai Aladdin Biochemical Technology Co., Ltd.  
No. 809, Chuhua Branch Road, Fengxian District, Shanghai

# SAFETY DATA SHEET

Version: v1  
Revision Date: 2024-01-22  
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## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifiers

Product name : p-Toluenesulfonyl chloride(PTSC)  
Product Number : T104622  
Brand : aladdin  
CAS-No. : 98-59-9

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

Identified uses : Laboratory chemicals, Manufacture of substances.

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

Company : Shanghai Aladdin Biochemical Tech Co.,Ltd  
Address : 36 Xinjinqiao Road, Shanghai  
Telephone : 400-620-6333  
Fax : no data available

### 1.4 Emergency telephone number

Emergency Phone : 0532-83889090

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)  
Corrosive to Metals (Category 1), H290

Skin irritation (Category 2), H315

Serious eye damage (Category 1), H318

Skin sensitization (Category 1), H317

### 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H290

May be corrosive to metals

H303

May be harmful if swallowed

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H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
Precautionary statement(s)	
P234	Keep only in original container.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash hands [and ...] thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P312	Call a POISON CENTER or doctor/... if you feel unwell.
P390	Absorb spillage to prevent material damage.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
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.
P333+P313	IF SKIN irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P405	Store locked up.
P406	Store in corrosive resistant/... container with a resistant inner liner.
P501	Dispose of contents/container to an approved waste disposal plant.
P304+P340+P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Synonyms	: Tosyl chloride; Toluene-4-sulfonyl chloride; PTSC
Formula	: C <sub>7</sub> H <sub>7</sub> ClO <sub>2</sub> S
Molecular weight	: 190.65
CAS No.	: 98-59-9
EC-NO.	: 202-684-8

Component	Classification	Concentration
p-Toluenesulfonyl chloride(PTSC)	no data available	reagent grade,98%

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## SECTION 4: First aid measures

### 4.1 Description of first aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

In case of skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

In case of eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

If swallowed

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

no data available

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media

Use dry chemical, carbon dioxide or alcohol-resistant foam.

Unsuitable extinguishing media

no data available

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

Carbon oxides Sulfur oxides Hydrogen chloride gas Combustible. Caution! in contact with water product releases: Hydrogen chloride gas Fire may cause evolution of: Sulfur oxides, Hydrogen chloride gas Vapors are heavier than air and may spread along floors. Forms explosive mixtures with air on intense heating. Development of hazardous combustion gases or vapours possible in the event of fire.

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### 5.4 Further information

no data available

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## SECTION 6: Accidental release measures

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

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

### 6.2 Environmental precautions

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

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

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

### 6.4 Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Operators should be specially trained and strictly abide by the operating procedures. Operation and disposal should be carried out in a place with local ventilation or general ventilation facilities. Avoid eye and skin contact and avoid breathing vapor. See Section 8 for personal protective measures. Keep away from fire and heat sources, and smoking is strictly prohibited in the workplace. Use explosion-proof ventilation systems and equipment. If canning is required, the flow rate should be controlled, and there should be a grounding device to prevent the accumulation of static electricity. Avoid contact with incompatible substances such as oxidizing agents (see section 10 for incompatible substances). When handling, it should be lightly loaded and unloaded to prevent damage to packaging and containers. Empty containers may be harmful residues. Wash hands after use and prohibit eating or drinking in the workplace. Equipped with the corresponding variety and quantity of fire fighting equipment and leakage emer

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

Store in a cool, ventilated warehouse. Moisture sensitivet.

### 7.3 Specific end use(s)

no data available

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

### 8.2 Exposure controls

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#### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Personal protective equipment

##### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN166(EU).

##### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of Regulation (EU)2016/425 and the standard EN 374 derived from it.

##### Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

##### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a fullface particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection,use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN(EU).

##### Control of environmental exposure

If safety requires, prevent further leakage or spillage. Do not let the product enter the sewer.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

a) Appearance	form: powder, needles and/or Chunks color: White to off-white
b) Odour	no data available
c) Odour Threshold	no data available
d) pH	no data available
e) Melting point/freezing point	no data available
f) Initial boiling point and boiling range	no data available
g) Flash point	no data available
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapour pressure	no data available
l) Vapour density	no data available
m) Relative density	no data available
n) Water solubility	no data available

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- o) Partition coefficient: n-octanol/water no data available
- p) Auto-ignition temperature no data available
- q) Decomposition temperature no data available
- r) Viscosity no data available
- s) Explosive properties N no data available
- t) Oxidizing properties N no data available

## 9.2 Other safety information

no data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Risk of explosion with: Alkali metals conc. sulfuric acid Risk of ignition or formation of inflammable gases or vapours with: carbides lithium silicide Fluorine Generates dangerous gases or fumes in contact with: Aluminum hydrides formaldehyde Metals strong alkalis Sulfides Exothermic reaction with: Amines potassium permanganate salts of oxyhalogenic acids semimetallic oxides semimetallic hydrogen compounds Aldehydes vinylmethyl ether

### 10.4 Conditions to avoid

Strong heating.

### 10.5 Incompatible materials

Metals

### 10.6 Hazardous decomposition products

no data available

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - male and female - 4.680 mg/kg (OECD Test Guideline 401)

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

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Skin - Rabbit Result: Irritating to skin. - 24 h (OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit Result: Causes serious eye damage. (OECD Test Guideline 405)

Respiratory or skin sensitisation

Local lymph node assay (LLNA) - Mouse Result: positive (OECD Test Guideline 429)

Germ cell mutagenicity

Test Type: In vitro mammalian cell gene mutation test Test system: Mouse lymphoma test Metabolic activation:

Metabolic activation Method: OECD Test Guideline 476 Result: positive Test Type: Micronucleus test Species:

Mouse Cell type: Red blood cells (erythrocytes) Application Route: Intraperitoneal injection Method: OECD Test

Guideline 474 Result: negative

Carcinogenicity

no data available

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Additional Information

Repeated dose toxicity - Rat - male and female - Oral - LOAEL (Lowest observed adverse effect level) - 150 mg/kg

spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Blistering, Lachrymation, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## SECTION 12: Ecological information

### 12.1 Toxicity

Toxicity to fish static test LC50 - *Oryzias latipes* (Orange-red killifish) - > 100 mg/l - 96 h (OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates static test EC50 - *Daphnia magna* (Water flea) - > 334 mg/l - 48 h (OECD Test Guideline 202) Toxicity to algae static test ErC50 - *Pseudokirchneriella subcapitata* (green algae) - > 100 mg/l - 72 h (US-EPA) static test NOEC - *Pseudokirchneriella subcapitata* (green algae) - 2,6 mg/l - 72 h (US-EPA)

Toxicity to bacteria static test NOEC - activated sludge - 580 mg/l - 3 h (OECD Test Guideline 209)

### 12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 28 d Result: 60 % - Readily biodegradable. (OECD Test Guideline 301D)

### 12.3 Bioaccumulative potential

no data available

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## 12.4 Mobility in soil

no data available

## 12.5 Results of PBT and vPvB assessment

no data available

## 12.6 Other adverse effects

no data available

## SECTION 13:

### 13.1 Disposal considerations

Product

Recycle to process, if possible. Consult your local regional authorities and an expert of disposal. You may be able to dissolve or mix material with a combustible solvent and little by little burn in a chemical incinerator equipped with an afterburner and scrubber system. If a large amount of the substance is burned at a time, an explosion may occur.

Observe all federal, state and local regulations when disposing of the substance.

Contaminated packaging

Dispose of as unused product.

## SECTION 14: Transport information

DOT (US)

UN number: 3261

Packing group: III

Class: 8

Proper shipping name: CORROSIVE  
SOLID, ACIDIC, ORGANIC, N.O.S. (p-  
toluenesulphonyl chloride)

Reportable Quantity(RQ): no data  
available

Poison Inhalation Hazard: no data  
available

Environmental Hazards: no

IMDG

UN number: 3261

Packing group: III

EMS-No: no data available

Proper shipping name: CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (p-toluenesulphonyl chloride)

IATA

UN number: 3261

Packing group: III

Class: 8

Proper shipping name: CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (p-toluenesulphonyl chloride)

## SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

## SECTION 16: Other information

Further information

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information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Aladdin Co. Ltd. and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.

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