



Material Safety Data Sheet  
p-Toluenesulfonyl chloride

MSDS# 75732

Section 1 - Chemical Product and Company Identification

MSDS Name: p-Toluenesulfonyl chloride

Catalog AC139030000, AC139030020, AC139031000, AC139035000, AC220540000, AC220540100

Numbers: AC220540100, AC220541000, AC220545000, 13903-0250

Synonyms: Toluene-4-sulfonyl chloride; Tosyl chloride.

Company Identification:

Acros Organics BVBA  
Janssen Pharmaceuticaaan 3a  
2440 Geel, Belgium

Company Identification: (USA)

Acros Organics  
One Reagent Lane  
Fair Lawn, NJ 07410

For information in the US, call:

800-ACROS-01

For information in Europe, call:

+32 14 57 52 11

Emergency Number, Europe:

+32 14 57 52 99

Emergency Number US:

201-796-7100

CHEMTREC Phone Number, US:

800-424-9300

CHEMTREC Phone Number, Europe:

703-527-3887

Section 2 - Composition, Information on Ingredients

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CAS#: 98-59-9  
Chemical Name: p-Toluenesulfonyl chloride  
%: >99  
EINECS#: 202-684-8  
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Hazard Symbols:

C



Risk Phrases:

29 34

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Danger! Causes burns by all exposure routes. Contact with water liberates toxic gas. Target Organs: Respiratory system, gastrointestinal system, eyes, skin.

Potential Health Effects

Eye: Causes eye burns. Lachrymator (substance which increases the flow of tears).

Skin: Causes skin burns. This material is a vesicant, that is, it will induce blistering.

Ingestion: Causes gastrointestinal tract burns.

Inhalation: Causes chemical burns to the respiratory tract.

Chronic: Chronic exposure may cause effects similar to those of acute exposure. Repeated exposure to low concentrations of HCl vapor or mist may cause bleeding of nose and gums. Chronic bronchitis and gastritis have also been reported.

Section 4 - First Aid Measures

Eyes:	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid immediately.
Skin:	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.
Ingestion:	If swallowed, do NOT induce vomiting. Get medical aid immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
Notes to Physician:	Treat symptomatically and supportively.

#### Section 5 - Fire Fighting Measures

General Information:	As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. This material in sufficient quantity and reduced particle size is capable of creating a dust explosion.
Extinguishing Media:	Use carbon dioxide or dry chemical. DO NOT USE WATER OR FOAM.
Autoignition Temperature:	Not available.
Flash Point:	128 deg C ( 262.40 deg F)
Explosion Limits: Lower:	Not available
Explosion Limits: Upper:	Not available
NFPA Rating: ; Special Hazard:	-W-

#### Section 6 - Accidental Release Measures

General Information:	Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks:	Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation. Do not get water on spilled substances or inside containers.

#### Section 7 - Handling and Storage

Handling:	Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Do not breathe dust, mist, or vapor. Do not get in eyes, on skin, or on clothing. Do not allow contact with water.
Storage:	Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from water. Corrosives area. Do not store in metal containers.

#### Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
p-Toluenesulfonyl chloride	none listed	none listed	none listed

OSHA Vacated PELs: p-Toluenesulfonyl chloride: None listed

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels.

Exposure Limits

Personal Protective Equipment

Eyes:	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin:	Wear appropriate gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.  
Respirators: Wear a NIOSH/MSHA or European Standard EN 149 approved full-facepiece airline respirator in the positive pressure mode with emergency escape provisions.

#### Section 9 - Physical and Chemical Properties

Physical State: Crystalline powder

Color: white

Odor: characteristic odor

pH: Not available

Vapor Pressure: 1 mm Hg @ 88 deg C

Vapor Density: Not available

Evaporation Rate: Not available

Viscosity: Not available

Boiling Point: 134 deg C @ 10 mmHg ( 273.20°F)

Freezing/Melting Point: 67 - 69 deg C

Decomposition Temperature:

Solubility in water: Hydrolysis.

Specific Gravity/Density: 1.49 g/cm<sup>3</sup>

Molecular Formula: C<sub>7</sub>H<sub>7</sub>ClO<sub>2</sub>S

Molecular Weight: 190.64

#### Section 10 - Stability and Reactivity

Chemical Stability: Reacts with water to form corresponding acid. Material hydrolyzes in contact with moisture/water releasing toxic and corrosive fumes of hydrogen chloride and aqueous hydrochloric acid.

Conditions to Avoid: Incompatible materials, dust generation, exposure to moist air or water.

Incompatibilities with Other Materials: Water, strong oxidizing agents, strong bases.

Hazardous Decomposition Products: Hydrogen chloride, carbon monoxide, carbon dioxide, sulfur oxides (SO<sub>x</sub>), including sulfur oxide and sulfur dioxide.

Hazardous Polymerization: Has not been reported.

#### Section 11 - Toxicological Information

RTECS#: CAS# 98-59-9: None listed

LD50/LC50: RTECS: Not available.

Carcinogenicity: p-Toluenesulfonyl chloride - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Other: The toxicological properties have not been fully investigated.

#### Section 12 - Ecological Information

Not available

#### Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

#### Section 14 - Transport Information

US DOT

Shipping Name: CORROSIVE SOLIDS, WATER-REACTIVE, N.O.S.

Hazard Class: 8

UN Number: UN3096

Packing Group: II

Canada TDG

Shipping Name: CORROSIVE SOLIDS, WATER-REACTIVE, N.O.S.

Hazard Class: 8

UN Number: UN3096

Packing Group: II

#### Section 15 - Regulatory Information

## European/International Regulations

### European Labeling in Accordance with EC Directives

Hazard Symbols: C

Risk Phrases:

R 29 Contact with water liberates toxic gas.

R 34 Causes burns.

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

### WGK (Water Danger/Protection)

CAS# 98-59-9: 1

### Canada

CAS# 98-59-9 is listed on Canada's DSL List

Canadian WHMIS Classifications: E, F

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

CAS# 98-59-9 is not listed on Canada's Ingredient Disclosure List.

## US Federal

### TSCA

CAS# 98-59-9 is listed on the TSCA  
Inventory.

### Section 16 - Other Information

MSDS Creation Date: 12/02/1997

Revision #5 Date 7/20/2009

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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