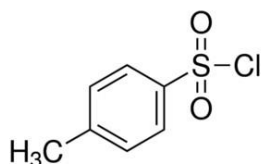


SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Trade Name	P-Toluene Sulfonyl Chloride
Chemical name	PTSC; P-Toluenesulfonyl Chloride; Tosyl Chloride; Para Toluene Sulfonyl Chloride; P-Toluene Sulphonyl Chloride
Chemical Formula	C ₇ H ₇ ClO ₂ S



Chemical class	Substance
CAS No	98-59-9

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

Identified Use(s)	Industrial
Uses Advised against	None

Details of the supplier of the safety data sheet

Company Identification	AROMATIC ALLIED AND ORGANICS PVT LTD E-9(D), KESHWANA INDUSTRIAL AREA, RIICO NEEMRANA DIST. KOTPUTLI-BEHROR, RAJASTHAN-303108, INDIA
Contact Number	(091) 9871176909
E-Mail (competent person)	sales@aaolindia.com
Emergency Number	(091) 9999498760

SECTION 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture

Physical hazards	Met. Corr. 1 - H290
Health hazards	Skin Corr. 1C - H314 Eye Dam. 1 - H318 Skin Sens. 1A - H317 STOT SE 3 - H335
Environmental hazards	Not Classified
OSHA defined hazards	Not Classified

Label Elements

Hazard Symbol



Signal word(s)

Hazard statement(s)

Warning
 H290 May be corrosive to metals.
 H314 Causes severe skin burns and eye damage.
 H317 May cause an allergic skin reaction.
 H335 May cause respiratory irritation..

Precautionary statement(s)

P234 Keep only in original packaging.
 P261 Avoid breathing dust.
 P264 Wash contaminated skin thoroughly after handling.
 P271 Use only outdoors or in a well-ventilated area.

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P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+P352 IF ON SKIN: Wash with plenty of water.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing.
Rinse skin with water or shower.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. 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.
P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P363 Wash contaminated clothing before reuse.
P390 Absorb spillage to prevent material damage.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P406 Store in a corrosion-resistant container with a resistant inner liner.
P501 Dispose of contents/ container in accordance with national regulations.

Other hazards

None Known

Additional Information

None

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous ingredient(s)	CAS Number	%W/W
p-Toluene Sulfonyl Chloride	98-59-9	>98%

SECTION 4: FIRST AID MEASURES

Description of first aid measures

Inhalation

Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention. Place unconscious person on their side in the recovery position and ensure breathing can take place

Skin Contact

It is important to remove the substance from the skin immediately. Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes and get medical attention. Chemical burns must be treated by a physician

Eye Contact

Rinse immediately with plenty of water. Do not rub eye. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes and get medical attention.

Ingestion

Rinse mouth thoroughly with water. Give a few small glasses of water or milk to drink. Stop if the affected person feels sick as vomiting may be dangerous. Never give anything by mouth to an unconscious person. Place unconscious person on their side in the recovery position and ensure breathing can take place. Keep affected person under observation. Get medical attention if symptoms are severe or persist.

Most important symptoms and effects, both acute and delayed

General information

The severity of the symptoms described will vary dependent on the concentration and the length of exposure.



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Inhalation	A single exposure may cause the following adverse effects: Severe irritation of nose and throat. Symptoms following overexposure may include the following: Corrosive to the respiratory tract.
Ingestion	May cause sensitisation or allergic reactions in sensitive individuals. May cause chemical burns in mouth, oesophagus and stomach. Symptoms following overexposure may include the following: Severe stomach pain. Nausea, vomiting.
Skin contact	May cause skin sensitisation or allergic reactions in sensitive individuals. Causes severe burns. Symptoms following overexposure may include the following: Pain or irritation. Redness. Blistering may occur.
Eye contact	Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.
Indication of any immediate medical attention and special treatment needed	Treat symptomatically. May cause sensitisation or allergic reactions in sensitive individuals.
General information	Get medical attention if any discomfort continues. Show this Safety Data Sheet to the medical personnel. Chemical burns must be treated by a physician.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media

Extinguish with carbon dioxide or dry powder. Use fire-extinguishing media suitable for the surrounding fire.

Unsuitable Extinguishing Media

Do not use the following: Foam. Water.

Special hazards arising from the substance or mixture

Severe corrosive hazard. Water used for fire extinguishing, which has been in contact with the product, may be corrosive. Thermal decomposition or combustion products may include the following substances: Very products toxic or corrosive gases or vapours. Carbon monoxide (CO). Carbon dioxide (CO₂). Hydrogen chloride (HCl). Sulphurous gases (SO_x).

Protective actions during firefighting

Avoid breathing fire gases or vapours. Evacuate area. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke. Ventilate closed spaces before entering them. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. Avoid discharge to the aquatic environment. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

Fire fighting equipment/instructions

Regular protection may not be safe. Wear chemical protective suit. Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk. Do not touch or walk into spilled material. Avoid inhalation of dust. Use suitable respiratory protection if ventilation is inadequate. Avoid contact with skin and eyes.



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Methods and material for containment and cleaning up	Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. This product is corrosive. Collect spillage with a shovel and broom, or similar and reuse, if possible. Collect and place in suitable waste disposal containers and seal securely. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. For waste disposal, see Section 13.
Environmental precautions	The product may affect the acidity (pH) of water which may have hazardous effects on aquatic organisms. Avoid discharge to the aquatic environment.
Additional Information	For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling	Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Keep container tightly sealed when not in use. This product is corrosive. Immediate first aid is imperative. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.
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Conditions for safe storage, including any incompatibilities

Storage Temperature	Store away from incompatible materials (see Section 10). Store locked up. Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage. Store in corrosive resistant container with a resistant inner liner. Air and light sensitive. Store under inert gas.
Storage Class	Corrosive Storage

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Biological limit values	Keep container tightly sealed when not in use. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels
Appropriate engineering Controls	Provide adequate general and local exhaust ventilation. Ensure the ventilation system is regularly maintained and tested. Good general ventilation should be adequate to control worker exposure to airborne contaminants. Observe any occupational exposure limits for the product or ingredients.

Individual protection measures, such as personal protective equipment

Protective Equipment



Eye/face protection

Wear tight-fitting, chemical splash goggles or face shield. If inhalation hazards exist, a fullface respirator may be required instead.

Skin protection

Wear protective gloves. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with European Standard EN374. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.
Wear appropriate clothing to prevent any possibility of skin contact.

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Respiratory protection	Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with European Standard EN14387. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN136. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140.
General hygiene Considerations	Wash after use and before eating, smoking and using the toilet. Do not eat, drink or smoke when using this product.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Property	Value
Appearance	Crystalline powder.
Colour	White/off-white.
Odour	Characteristic.
Odour threshold	No information available.
pH	No information available.
Melting point	67 - 71°C/152.6 - 159.8°F
Initial boiling point and range	No information available.
Flash point	128°C/262.4°F Closed cup.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Upper/lower flammability or explosive limits	No information available.
Vapour pressure	No information available.
Vapour density	No information available.
Relative density	1.49
Bulk density	800 kg/m ³
Solubility(ies)	Alcohols. Benzene Ether.
Partition coefficient	No information available.
Auto-ignition temperature	No information available.
Decomposition Temperature	No information available.
Molecular weight	190.65

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions
Possibility of hazardous reactions	Risk of explosion with: Alkali metals, sulfuric acid Risk of ignition or the formation of flammable gases/ vapours with: Fluorine, Lithium silicide Carbides Generates Hazardous gases/ fumes with: Alkali metals, Aluminium. hydrides Formaldehyde Sulfides
Conditions to avoid	Avoid exposure to high temperatures or direct sunlight. Protect from moisture.
Incompatible materials	Mild steel. Stainless steel. Aluminium. May be corrosive to metals.
Hazardous decomposition products	Does not decompose when used and stored as recommended. Thermal decomposition or products combustion products may include the following substances: Corrosive gases or vapours. Carbon monoxide (CO). Carbon dioxide (CO ₂). Hydrogen chloride (HCl). Sulphurous gases (SO _x).

SECTION 11: TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	
Inhalation	Corrosive to the respiratory tract. Symptoms following overexposure may include the following: Severe irritation of nose and throat.
Skin Contact	May cause skin sensitisation or allergic reactions in sensitive individuals. Causes severe burns. Symptoms following overexposure may include the following: Pain or



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	irritation. Redness. Blistering may occur.
Eye Contact	Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.
Ingestion	May cause sensitisation or allergic reactions in sensitive individuals. May cause chemical burns in mouth, oesophagus and stomach. Symptoms following overexposure may include the following: Severe stomach pain. Nausea, vomiting.
Skin corrosion/irritation	Causes severe skin burns and eye damage.
Serious eye damage/eye Irritation	Causes serious eye damage.
Symptoms related to the physical, chemical and toxicological characteristics	Skin disorders and allergies. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Respiratory or skin sensitization	
Respiratory sensitization	Based on available data, the classification criteria are not met.
Skin sensitization	May cause an allergic skin reaction.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic
Information on toxicological effects	
Acute Toxicity	Not Classified
Carcinogenicity	Product not listed as carcinogenic by IARC, ACGIH, NTP, or OSHA
IARC Monographs. Overall Evaluation of Carcinogenicity	Not listed.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)	Not regulated.
US. National Toxicology Program (NTP) Report on Carcinogens	Not listed.
Reproductive toxicity	Not Classified
Specific target organ toxicity - single exposure	May cause respiratory irritation. Target organs: Respiratory system, lungs
Specific target organ toxicity - repeated exposure	Not classified
Aspiration hazard	Not Applicable

SECTION 12: ECOLOGICAL INFORMATION

Aquatic	LC50 Fish: >100 mg/l. (relatively harmless). EC ₅₀ Aquatic Invertebrates, 48 hours: > 334 mg/l, EC ₅₀ Aquatic Plants, 72 hours: > 100 mg/l, NOEC Aquatic Plants, 72 hours: 2.6 mg/l
Biodegradability	60% - 28 days. The product is readily biodegradable
Bioaccumulative potential	Will not bioaccumulation
Mobility in soil	Will not occur

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal instructions products	The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.
Contaminated packaging	Do not empty into drains. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Incineration or landfill should only be considered when recycling is not feasible.



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SECTION 14: TRANSPORT INFORMATION

	Road Transport ADR/RID	Road Transport US D.O.T.	Sea Transport IMDG	Air Transport ICAO/IATA
UN Number	3261	3261	3261	3261
Proper Shipping Name	CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.	CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.	CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.	CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.
Transport Hazard class	8	8	8	8
Packaging group	III	III	III	III
Hazard Label				
	Corrosive	Corrosive	Corrosive	Corrosive
Marine pollutant	No			
Dangerous for the environment	No			
Special precautions for user	Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.			
IMDG Code segregation	1. Acids group			
EmS	F-A, S-B			
ADR transport category	3			
Emergency Action Code	2X			
Hazard Identification Number	80			
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not Applicable			

SECTION 15: REGULATORY INFORMATION

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.	
Toxic Substances Control Act (TSCA)	TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D) Not regulated.	
CERCLA Hazardous Substance List (40 CFR 302.4)	Not listed.	
SARA 304 Emergency release notification	Not regulated	
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)	Not regulated.	
EU legislation	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Commission Regulation (EU) No 2015/830 of 28 May 2015. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).	
International Inventory		
Country(s) or region	Inventory name	On inventory (yes/no)
Canada	Domestic Substances List (DSL)	Yes
EU	EINECS/ELINCS	No



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SECTION 16: OTHER INFORMATION

Classification procedures
according to Regulation (EC)
1272/2008
Hazard statements in full

Eye Dam. 1 - H318: Skin Corr. 1C - H314: STOT SE 3 - H335: Skin Sens. 1A -
H317: : Expert judgement. Met. Corr. 1 - H290: : Expert judgement

Training advice
Date of Issue
Date of Revision

H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.
Only trained personnel should use this material.
01-09-2024

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