

MATERIAL SAFETY DATA SHEET

Section 1 - Chemical Product and Company Identification

MSDS Name: p-Toluenesulfonic acid monohydrate
Catalog Numbers: AC421210000, AC421210050, AC421211000, AC421215000, A320-500, A320500LC, NC9264629, NC9406138, NC9555931
Synonyms: Benzenesulfonic acid, 4-methyl-, monohydrate; Toluene, 4-sulfonic acid, monohydrate; PTSA monohydrate.
Company Identification: Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
For information in the US, call: 201-796-7100
Emergency Number US: 201-796-7100
CHEMTREC Phone Number, US: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#: 6192-52-5
Chemical Name: p-Toluenesulfonic acid monohydrate
%: > 97.5
EINECS#: unlisted
Hazard Symbols:
Risk Phrases:

Text for R-phrases: see Section 16

Hazard Symbols: XI



Risk Phrases: 36/37/38

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Danger! Hygroscopic (absorbs moisture from the air). May be harmful if swallowed. Causes severe eye irritation and possible eye injury. Corrosive to metal. Causes skin and respiratory tract irritation. Target Organs: Respiratory system, eyes, skin.

Potential Health Effects

Eye: Causes severe eye irritation and possible burns.
Skin: Causes skin irritation. Not expected to cause an allergic skin reaction.
Ingestion: May be harmful if swallowed.
Inhalation: Dust is irritating to the respiratory tract.
Chronic: Chronic exposure may cause effects similar to those of acute exposure.

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, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.

Ingestion: If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

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:

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. Contact with metals may evolve flammable hydrogen gas.

Extinguishing Media: Use water spray, dry chemical, or carbon dioxide.

Autoignition 350 deg C (662.00 deg F)
Temperature:
Flash Point: 180 deg C (356.00 deg F)
Explosion Not available
Limits: Lower:
Explosion Not available
Limits: Upper:
NFPA Rating: health: 3; flammability: 1; instability: 0;

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. Avoid generating dusty conditions. Provide ventilation.

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. Keep container tightly closed. Avoid breathing dust. Do not get in eyes. Avoid contact with skin and clothing.

Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits +-----+-----+-----+-----+-----+

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
p-Toluenesulfonic a listed cid anhydrous	none listed	none listed	none
p-Toluenesulfonic a listed cid monohydrate	none listed	none listed	none

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OSHA Vacated PELs: p-Toluenesulfonic acid anhydrous: None listed p-Toluenesulfonic acid monohydrate: None listed

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:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Crystals
Color: white
Odor: none reported
pH: Not applicable
Vapor Pressure: 0.0000027 mm Hg @ 25 deg C
Vapor Density: Not available
Evaporation Rate: Not applicable.
Viscosity: Not available
Boiling Point: 140 deg C @ 20 mmHg (284.00°F)
Freezing/Melting Point: 103 deg C (217.40°F)
Decomposition Temperature: Not available
Solubility in water: Soluble
Specific Gravity/Density: Not available.
Molecular Formula: C7H8O3S.H2O
Molecular Weight: 190.22

Section 10 - Stability and Reactivity

Chemical Stability:	Stable under normal temperatures and pressures.
Conditions to Avoid:	Dust generation, moisture, excess heat.
Incompatibilities with Other Materials	Metals, strong oxidizing agents, strong bases.
Hazardous Decomposition Products	Carbon monoxide, oxides of sulfur, carbon dioxide.
Hazardous Polymerization	Has not been reported.

Section 11 - Toxicological Information

RTECS#: CAS# 104-15-4: XT6300000
CAS# 6192-52-5: DB7164000

LD50/LC50: RTECS:
CAS# 104-15-4: Oral, rat: LD50 = 2480 mg/kg;
.
RTECS:
CAS# 6192-52-5: Oral, mouse: LD50 = 1683 mg/kg;
Oral, rat: LD50 = 2570 mg/kg;
.
Other: Skin absorption LD50 guinea pig: no evidence at 1.0 g/kg. Skin irritation, guinea pig: Moderate. Repeated skin application, guinea pig: Moderate exacerbation. Skin sensitization, guinea pig: Did not sensitize any animals tested. Eye irritation: Severe (Eastman Kodak Company)

Carcinogenicity: p-Toluenesulfonic acid anhydrous - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
p-Toluenesulfonic acid monohydrate - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found
Teratogenicity: No information found
Reproductive: No information found
Neurotoxicity: No information found
Mutagenicity: No information found
Other: No information found.

Section 12 - Ecological Information

Ecotoxicity: Fish: Fathead Minnow: > 100 mg/l; 96 hr; LC50

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification. RCRA P-Series: None listed. RCRA U-Series: None listed.

Section 14 - Transport Information

US DOT
Shipping Name: ARYL SULFONIC ACIDS, SOLID
Hazard Class: 8
UN Number: UN2585
Packing Group: III
Canada TDG
Shipping Name: ARYLSULPHONIC ACIDS, SOLID
Hazard Class: 8
UN Number: UN2585
Packing Group: III

Section 15 - Regulatory Information

US Federal

TSCA

CAS# 104-15-4 is listed on the TSCA Inventory.

CAS# 6192-52-5 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the Inventory (40CFR720.3(u)(2)).

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 104-15-4: acute. CAS # 6192-52-5: acute.

Section 313

No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depletors. This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority

Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

**OSHA:
STATE**

p-Toluenesulfonic acid anhydro can be found on the following state right to know lists: Pennsylvania, Massachusetts. p-Toluenesulfonic acid monohydrate is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XI

Risk Phrases:

R 36/37/38 Irritating to eyes, respiratory system and skin.

Safety Phrases:

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

S 37 Wear suitable gloves.

WGK (Water Danger/Protection)

CAS# 104-15-4: 1

CAS# 6192-52-5: 1

Canada

CAS# 104-15-4 is listed on Canada's DSL List

Canadian WHMIS Classifications: E

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# 104-15-4 is not listed on Canada's Ingredient Disclosure List.

CAS# 6192-52-5 is not listed on Canada's Ingredient Disclosure List.

Section 16 - Other Information

MSDS Creation Date: 6/24/1999

Revision #5 Date 5/20/2005

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.