

SECTION 1 MATERIAL IDENTIFICATION

Specification number: 5

Manufacturer: Arichem, LLC
187 Sloss Industries Rd.
Ariton, AL 36311

Phone numbers: Product Information: 334/762-2314
8:00 AM to 4:30 PM Monday thru Friday
24Hr contact: 333/762-2314
Transport Emergencies:
Call CHEMTREC: 1/800/424-9300

DOT number: UN 2585

Shipping name: Aryl Sulphonic Acids, solid (Contains Toluene Sulfonic Acid)

(See Section 14)

Product name: P-Toluenesulfonic Acid Monohydrate

CAS name: Benzenesulfonic Acid, 4-methyl

CAS number: 6192-52-5

Formula: CH₃C₆H₄SO₃H-H₂O

HMIS Rating: Health 3; Flammability 1; Reactivity 1; Personal Protection H

NFPA Rating: Health 3; Flammability 1; Reactivity 1

Synonyms: Benzenesulfonic acid, 4-Methyl-Monohydrate; 4-Methylbenzene sulfonic acid, Monohydrate.

SECTION 2 COMPONENTS

	CAS#	% by wt.
P-Toluenesulfonic Acid Monohydrate	6192-52-5	89.0

This component is listed on the TSCA Inventory. See sections 3, 8, and 11 for exposure information.

SECTION 3 HAZARD IDENTIFICATION

EMERGENCY OVERVIEW

WHITE POWDER with slight characteristic odor. P-Toluenesulfonic Acid Monohydrate is a strong acid. It is corrosive to human tissue and reacts explosively with acetic anhydride + water (See reactivity Section 10). This material is a poison by ingestion. When heated to decomposition it emits toxic vapors of the SO_x type.

HEALTH: The health hazards associated with P-Toluenesulfonic Acid Monohydrate are due primarily to its acidity. It is a strong acid. Exposure of the eyes, mucous membranes, or prolonged exposure of the skin to this material may result in destruction of tissue. Also this material is a harmful by ingestion.

Effects of Contact

Eyes: Avoid contact. Acid burns vary from those that heal completely to those that cause blindness.

Skin: Avoid contact. The effects of contact, even of short duration, can range from minor irritation to acute destruction of tissue.

Ingestion: Strong acids are poisons if ingested. In addition they cause the same type tissue damage to the mucosal membranes of the mouth, esophagus, and stomach that they cause to the eyes and skin.

Inhalation: Under normal conditions, this material poses no inhalation hazard. At extreme temperatures, the vapors are toxic.

Carcinogenicity:

None of the components of this material are listed by NTP, OSHA, or IARC as a carcinogen or suspected carcinogen.

SECTION 4 FIRST AID

Eyes or skin contact: In case of contact with the eyes or skin immediately begin flushing with water. Continue for at least 20 minutes. It is preferable to use cool water, not hot or cold. Water of extreme temperatures can cause additional injuries.

Ingestion: If swallowed DO NOT INDUCE VOMITING. Get trained medical help immediately. If medical help is not available, one or two glasses of milk or water may be given. Do not exceed two glasses and never give anything by mouth to an unconscious person.

Inhalation: In case of exposure to concentrated vapors, immediately move the exposed person to fresh air. If they are not breathing, artificial respiration may be required. If breathing appears difficult give oxygen. Call for trained medical help immediately.

IN ALL CASES GET TRAINED MEDICAL HELP IMMEDIATELY.

NOTE TO PHYSICIAN: P-Toluenesulfonic Acid Monohydrate is a strong acid. The total acidity of this material is 26% by weight. The initial treatment of exposure to this material should be consistent with that for any strong acid. The initial signs and symptoms of exposure or ingestion may include: erythema and vesicle formation to penetrating ulcers for external contact, and crying, pain on swallowing, inability to swallow, mucous membrane burns, circumoral burns, hematemesis, abdominal pain, respiratory distress, shock and renal failure for ingestion. Initial treatment for exposure of the eyes or skin should consist of irrigation with copious amounts of water or saline. For the eyes, the use of anesthetic agents is permissible, and retraction of the eyelids to ensure that the conjunctival cul-de-sacs are well washed is recommended. Be sure to remove all contaminants. Flushing should be continued for at least 20 to 30 minutes. A complete eye exam should follow. DO NOT USE NEUTRALIZERS OR OTHER ADDITIVES. Where ingestion is involved, DO NOT INDUCE VOMITING. Immediate dilution (within 30 minutes of ingestion) with one or two glasses of milk or water is the treatment of choice. Alkaline substances or carbonate preparations are contraindicated since when administered they may produce increased amounts of heat and carbon dioxide gas which presents an unacceptable risk of gastric perforation.

SECTION 5 FIRE AND EXPLOSION DATA

This material will not readily ignite. At elevated temperatures sulfur oxides vapors evolve.

Flash point: >230oF (>110oC)

Flammable limits (air % by vol.):

- a. Lower explosive limit: not established
- b. Upper explosive limit: not established

Autoignition: not established

Extinguishing media:

Small Fires: Dry chemical, carbon dioxide, and foam.

Large Fires: Water fog may be used but do not direct stream directly at material. Use fog to control vapors.

Fire and Explosion: Combustion products contain sulfur oxides.

Fire Fighting Instructions:

1. Use self-contained positive pressure breathing apparatus and chemical resistant protective clothing. (Structural fire fighting clothing is not effective for acids.)
2. Approach fire from upwind.
3. Dike fire control water for later disposal.

SECTION 6 ACCIDENTAL RELEASE MEASURES

1. Do not touch or walk through spilled material. Stop leak if it can be done safely.

KEEP DRY if possible. Wear adequate personal protective equipment while working with spill. See Section 8 for additional information on PPE.

2. Small Spills: Take up with a clean, dry shovel and place into a suitable container for later disposal or recycle. See Section 13.

3. Large Spills: Secure spill area. Use same procedure as for small spills. If material is exposed to water, dike around spill and save for later evaluation.

See Section 13 for disposal information.

4. Do not leave spill unattended.

SECTION 7 HANDLING AND STORAGE

Handling:

1. This is a strong acid. Handle with care.
2. Handle in well-ventilated area. In dusty conditions, use a NIOSH/MSHA approved dust/mist respirator. See Section 8 for PPE information.
3. In routine handling of closed containers use chemical goggles and face shield, acid resistant gloves, and an acid resistant apron.
4. Where direct contact is possible, use additional chemical resistant protective clothing.

Storage:

1. Store in a sealed polyethylene lined container.
2. Store in a cool, dry, well-ventilated location. (Do not store above 140oF or 60oC for long periods).
3. Store material separately from combustibles and other reactive materials. See reactivity details in Section 10.
4. Do not stack boxes over four (4) high.
5. Do not puncture containers.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

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1. The Permissible Exposure Level for nuisance dust particulate is 15mg/m³ for total dust and 5mg/m³ for the respirable fraction. Handle in a well-ventilated area.
2. In dusty conditions, use a NIOSH/MSHA approved dust/mist air purifying respirator or airline-supplied respirator depending on concentration.
3. In routine handling of closed containers use chemical goggles and face shield, acid resistant gloves, and an acid resistant apron.
4. Where direct contact is possible, use additional chemical resistant protective clothing.

Exposure limits: OSHA PEL: 15mg/m³ Total dust, 5mg/m³ Respirable dust

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White powder
Odor: Slight characteristic odor
Physical state: Solid
Total acidity: 25 to 26 percent by weight
Vapor pressure (mmHg): not established
Vapor density (air=1): not established
Boiling point: 284oF (140oC) @ 20mmHg
Melting point: 107oF (41oC)
Solubility in water: 0.67g/ml at 77o F (25o C)
Percent volatile by volume: not established
Specific gravity (H₂O=1): 0.72g/ml at 77o F (25o C)

SECTION 10 STABILITY AND REACTIVITY

Stability: Stable
Hazardous Polymerization: Will not occur.
Incompatibility: Ferrous metals, leather, and cotton. Reacts explosively with acetic anhydride+water.
Decomposition Products: SO_x vapors.

SECTION 11 TOXICOLOGICAL INFORMATION

Toxicity: oral-rat, LD₅₀: 2480mg/Kg; oral-mouse; LD₅₀: 400mg/Kg
Exposure Limits: OSHA PEL is 15mg/m³ Total dust and 5mg/m³ Respirable dust

SECTION 12 ECOLOGICAL INFORMATION

Environmental hazard. Keep out of waterways.

SECTION 13 DISPOSAL INFORMATION

Upon disposal, P-Toluenesulfonic Acid Monohydrate may become an EPA hazardous waste due to corrosivity (D002). Recycle or dispose of in accordance with Federal, State, and Local regulations. This information is for P-Toluenesulfonic Acid Monohydrate in its original form. Any alteration of this material may void this information.

SECTION 14 TRANSPORTATION INFORMATION

Proper shipping name: Aryl Sulphonic Acids, Solid
(Contains P-Toluene Sulfonic Acid Monohydrate)
Hazard class: 8 (Corrosive)
UN no.: UN 2585
DOT/IMO label: Corrosive

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Special provisions: None

Packaging:

a. Group: III

b. Authorization: 49 CFR 173.213 or 173.240

c. Exceptions: 49 CFR 173.154

Quantity limitations:

a. Passenger, aircraft or rail: 25.0 Kilograms

b. Cargo only, aircraft: 100.0 Kilograms

Stowage provisions: A

Reportable quantity: none

SECTION 15 REGULATORY INFORMATION

TSCA STATUS: On TSCA Inventory

CERCLA RQ: None

SARA TITLE III:

Section 302 TPQ: None

Section 304 EHS: None

Section 311/312: Acute

Section 313: None

RCRA WASTE NUMBER: None

California Proposition 65: None

WHIMS: None

SECTION 16 OTHER INFORMATION

Section(s) revised: Header inserted, MSDS date and superceding date changed.

MSDS date: 11/01/2006

Supersedes date: 01/30/01

The data of this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material. While the data contained herein is based on technical data that Arichem, LLC believes to be reliable, it is intended for use by persons having technical skill and at their own discretion and risk.