

1. MATERIAL IDENTIFICATION

Specification number: 26

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. 1760 (See Section 14)

Shipping name: Corrosive liquids, N.O.S.
(contains xylenesulfonic acid, sulfuric acid)

Product name: Xylenesulfonic Acid

CAS name: Xylenesulfonic Acid

CAS number: 25321-41-9

Formula: (CH₃)₂C₆H₃SO₃H
HMIS rating: Health 3; Flammability 1; Reactivity 1; Personal
Protection: H

Synonyms: Dimethyl Benzene Sulfonic Acid

2. COMPONENTS

Material	CAS#	% by wt.
Xylenesulfonic Acid	25321-41-9	95.0
Sulfuric Acid	7664-93-9	2.0

These components are listed in TSCA Inventory. See sections 3, 8, and 11 for exposure information.

3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW

Brown liquid (when heated) or solid (at room temperature) with slight characteristic odor. Xylenesulfonic acid is a strong acid. It is also moderately toxic if taken internally. The sulfuric acid component (2.0% by wt.) reacts violently with water and explosively with sodium metal (see reactivity section 10). Direct contact with corrosive material can result in severe damage to human tissue. When heated to decomposition it emits toxic vapors of the SO_x type.

HEALTH:

The health hazard associated with this material is due to the acidity of the material. Xylenesulfonic Acid is a strong acid solution made up of xylenesulfonic acid (95.0% by wt.) and sulfuric acid (2.0% by wt.). Exposure of the eyes, skin, or mucous membranes to this material may result in destruction of human tissue. Also, this material is harmful by ingestion and inhalation.

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 mouth and mucous membranes of the mouth, esophagus, and stomach that they cause to the eyes and skin.

Inhalation: Sulfuric acid is primarily responsible for the inhalation hazard posed by Xylenesulfonic Acid 94%. At room temperature sulfuric acid gives off toxic and corrosive vapors. Normally, exposure to concentrations of 0.125-0.5 ppm is annoying, exposure to 1.5-2.5 ppm is unpleasant and exposure to 10-20 ppm unbearable. Workers exposed to low concentrations gradually lose their sensitivity. As a result, exposure to greater concentrations becomes possible and with this comes the danger of severe exposure resulting in erosion of teeth, chemical pneumonitis, and in extreme cases loss of consciousness with serious lung damage.

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

4. FIRST AID

Eyes or skin contact: In the event 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 the event of exposure to concentrated vapors, immediately move the exposed person to fresh air. If they are not breathing give artificial respiration. If breathing appears difficult give oxygen. Call for trained medical help immediately.

IN ALL CASES GET TRAINED MEDICAL HELP IMMEDIATELY.

NOTE TO PHYSICIAN

This material is a strong acid consisting of Xylenesulfonic Acid (95.0% by wt.) and Sulfuric Acid (2.0% by wt.). The total acidity of the material is 26-27 percent 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.

5. FIRE AND EXPLOSION DATA

Xylenesulfonic Acid is corrosive. Two (2) percent of this material is free sulfuric acid which is a strong acidic oxidizer. Sulfuric acid reacts explosively with sodium and other metals to yield hydrogen gas. At elevated temperatures sulfur oxides vapors evolve.

Flash point: 203°F (95°C)

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. Do not direct stream directly at material. Use fog to control vapors.

Fire and Explosion:

1. Combustion products contain Sulfur Oxides.
2. Sulfuric acid (2.0%) is a strong oxidizer, and reacts vigorously with water. It reacts explosively with sodium metal. See Section 10.

Fire Fighting Instructions:

1. Evacuate unauthorized personnel.
2. Use self-contained positive pressure breathing apparatus and chemical resistant protective clothing. (Structural fire fighting clothing is not effective for acids.)
3. Approach fire from upwind.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Liquid (when heated) or solid (at room temperature)

Odor: Slight characteristic odor

Physical state: Liquid (when heated) or solid (at room temperature)

Total acidity: 26-27 percent by weight

Vapor pressure (mmHg): not established

Vapor density(air=1): not established

Boiling point: not established

Freezing point: 120°F (49°C)

Solubility in water: 100% at 77°F (25°C)

Percent volatile by volume: not established

Specific gravity (H₂O=1): 1.3 at 77°F (25°C)

10. STABILITY AND REACTIVITY

1. Xylenesulfonic Acid (95.0% by wt.)

- a. Stability: Stable
- b. Hazardous Polymerization: Will not occur.
- c. Incompatibility: Ferrous metals, leather, cotton.
- d. Decomposition Products: SO_x vapors.

2. Sulfuric Acid (2.0% by wt.)

- a. Stability: Stable
- b. Hazardous Polymerization: Will not occur.

- c. May react with water, bases, organic material, halogen, metals, metal acetylides, oxides and hydrides, strong oxidizing agents (examples include chlorates and permanganates) and reducing agents and many other reactive substances. Hazardous gases are evolved on contact with chemicals such as cyanides, sulfides, and carbides. Decomposition products: at 340oF (171oC) yields highly toxic vapors.

11. TOXICOLOGICAL INFORMATION

1. Xylenesulfonic Acid: intraperitoneal-mouse; LD50 : 500mg/kg
2. Sulfuric Acid: inhalation-human; TClO : 3mg/m3/24W unreported-man;
LDLo :135mg/kg (unspecified route of administration) oral-rat; LD50 :
2140mg/kg inhalation-rat; LC50 : 510mg/m3
PEL 1mg/m3
OSHA: TLV 1mg/m3
ACGIH: STEL 3mg/m3

The Sulfuric Acid component poses a chronic threat in two ways. First, repeated exposure to unspecified concentrations of Sulfuric Acid has reportedly caused chronic conjunctivitis, tracheobronchitis, stomatitis, and dermatitis. Second, a number of studies have indicated that exposure to sulfuric acid, or acid mist in general, is associated with laryngeal cancer. However, note that neither NTP or IARC list Sulfuric Acid as a known or suspected carcinogen.

12. ECOLOGICAL INFORMATION

Environmental hazard. Keep out of waterways.

13. DISPOSAL INFORMATION

Upon disposal Xylenesulfonic Acid may become an EPA hazardous waste due to corrosivity (D002). This material contains 2% by weight of sulfuric acid. Sulfuric acid has a CERCLA reportable quantity of 1000 pounds. Recycle or dispose of in accordance with Federal, State, and Local regulations. Please note that this information is for Xylenesulfonic Acid in its original form. Any alteration of this material can void this information.

14. TRANSPORTATION INFORMATION

Proper shipping name: Corrosive liquids, n.o.s. (contains xylenesulfonic acid, sulfuric acid)
Hazard class: 8 (Corrosive)
UN no.: UN 1760
DOT/IMO label: Corrosive
Special provisions: A7, B10, T42 (49 CFR)
Packaging Group: I
b. authorization: 49 CFR 173.243 or 173.201
c. exceptions: none

Quantity limitations:

- a. passenger, aircraft or rail: 0.5 liters
b. cargo only, aircraft: 2.5 liters
Stowage provisions: B, 40
Reportable quantity: Sulfuric acid: 1000 pounds

15. REGULATORY INFORMATION

TSCA STATUS: Listed TSCA Inventory
CERCLA RQ:

- a. Xylenesulfonic acid: None
- b. Sulfuric Acid: 1000 pounds

SARA TITLE III:
Section 302 TPQ:
Sulfuric Acid 1000 pounds
Section 304 EHS: None
Section 311/312: Acute, fire
Section 313:
Sulfuric Acid: Yes (1%)

RCRA WASTE NUMBER: None
California Proposition 65: None
WHIMS: Sulfuric Acid: Listed 1.0%

16. OTHER INFORMATION

Section(s) revised: All revised to new format and to include most up-to-date information MSDS date: 11/06
Supersedes date: 06/94
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.