

MATERIAL SAFETY DATA SHEET
Sulfuric acid

Section 1 - Chemical Product and Company Identification

MSDS Name: Sulfuric acid

Catalog Numbers: 12464-0000, 12464-0010, 12464-0011, 12464-0025, 12464-0026, 12464-5000, 12464-5001, 13361-0000, 13361-0010, 13361-0011, 13361-0025, 13361-0026, 13361-0051, 30207-0000, 30207-0010, 30207-0011, 30207-0025, 30207-0026, 38827-0000, 42452-0000, 42452-0025, 42452-0026, 42452-5000, 42452-5001

Synonyms:
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

CAS#	Chemical Name:	%	EINECS#
7664-93-9	Sulfuric acid		231-639-5

Hazard Symbols: C

Risk Phrases: 35

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Causes severe burns.
Potential Health Effects
Eye: Causes severe eye burns. May result in corneal injury. Causes redness and pain.

Skin: Causes skin burns. Causes redness and pain. Continued contact can cause tissue necrosis.

Ingestion: May cause severe and permanent damage to the digestive tract. Causes gastrointestinal tract burns. May be harmful if swallowed.

Inhalation: Harmful if inhaled. May cause irritation of the respiratory tract with burning pain in the nose

and throat, coughing, wheezing, shortness of breath and pulmonary edema. Causes chemical burns to the respiratory tract. Inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. Causes corrosive action on the mucous membranes.

Chronic: Prolonged inhalation may cause respiratory tract inflammation and lung damage. Prolonged or repeated skin contact may cause dermatitis. Prolonged or repeated inhalation may cause nosebleeds, nasal congestion, erosion of the teeth, perforation of the nasal septum, chest pain and bronchitis. Prolonged or repeated eye contact may cause conjunctivitis. Repeated exposure may cause erosion of teeth. Prolonged or repeated exposure can cause psychic abnormalities such as anxiety, depression and excitability.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid immediately.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Notes to Physician: Monitor arterial blood gases, chest x-ray, and pulmonary function tests if respiratory tract irritation or respiratory depression is evident. Treat dermal irritation or burns with standard topical therapy. Effects may be delayed. 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. Water Reactive. Material will react with water and may release a flammable and/or toxic gas. Oxidizer. Greatly increases the burning rate of combustible materials. Contact with water can cause violent liberation of heat and splattering of the material. Reacts violently with water. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. May ignite or explode on contact with steam or moist air. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water.

Extinguishing Media: Use water spray to cool fire-exposed containers. Use extinguishing media most appropriate for the surrounding fire. DO NOT USE WATER!

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Avoid runoff into storm sewers and ditches which lead to waterways. Provide ventilation. Use water spray to reduce vapors, do not put water directly on leak, spill area or inside container. Cover with dry earth, dry sand, or other non-combustible material followed with plastic sheet to minimize spreading and contact with water.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Do not allow water to get into the container because of violent reaction. Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Do not allow contact with water. Use only in a chemical fume hood.

Storage: Do not store near combustible materials. Do not store in direct sunlight. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from water. Corrosives area. Do not store near alkaline substances. Store protected from moisture.

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

CAS# 7664-93-9:

United States OSHA: 1 mg/m³ TWA

Belgium - TWA: 1 mg/m³ VLE Belgium - STEL: 3 mg/m³ VLE

France - VME: 1 mg/m³ VME France - VLE: 3 mg/m³ VLE

Germany: 0.5 mg/m³ TWA (inhalable fraction, battery manufacture, metal working in a close

Japan: 1 mg/m³ Ceiling

Malaysia: 1 mg/m³ TWA

Netherlands: 1 mg/m³ MAC

Spain: 1 mg/m³ VLA-ED Spain: 3 mg/m³ VLA-EC

Personal Protective Equipment

Eyes: Wear chemical splash goggles.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Clear liquid

Color: colorless

Odor: odorless

pH: 1 (1N aq.sol.)

Vapor Pressure: 1mmHg @146 deg C

Viscosity: 21 mPa.s @25 deg C

Boiling Point: 290 deg C @760mmHg (554.00°F)

Freezing/Melting Point: 10 deg C (50.00°F)

Autoignition Temperature: Not available

Flash Point: Not available

Explosion Limits: Lower: Not available

Explosion Limits: Upper: Not available

Decomposition Temperature:

Solubility in water: miscible with water

Specific Gravity/Density: 1.840

Molecular Formula: H₂O₄S

Molecular Weight: 98.07

Section 10 - Stability and Reactivity

Chemical Stability: Combines vigorously with water with the evolution of heat. Reported to have exploded when in a sealed container. This was most likely due to pressure of hydrogen by reduction of water. Hygroscopic: absorbs moisture or water from the air.

Conditions to Avoid: Incompatible materials, light, excess heat, exposure to moist air or water.

Incompatibilities with Other: Water, metals, strong oxidizing agents, reducing agents, bases, chlorates, copper, finely powdered metals, iron, nitrates, nitrites, perchlorates, permanganates,

Materials phosphorus, zinc, hydrogen peroxide, antimony, phosphorus oxide, cyanides (e.g. potassium cyanide, sodium cyanide), combustible and flammable materials (e.g. alkyl resins, asphalt, gasoline, grease, methyl acetone, polystyrene, polyurethane), lead, nitromethane, arsenic, azides, cellulose, carbides, fulminates, picrates, organic materials, halides.

Hazardous Decomposition Products Oxides of sulfur, hydrogen gas.

Hazardous Polymerization Has not been reported.

Section 11 - Toxicological Information

RTECS#: CAS# 7664-93-9: WS5600000

LD50/LC50: RTECS:
CAS# 7664-93-9: Draize test, rabbit, eye: 250 ug Severe;
Inhalation, mouse: LC50 = 320 mg/m³/2H;
Inhalation, mouse: LC50 = 320 mg/m³;
Inhalation, rat: LC50 = 510 mg/m³/2H;
Inhalation, rat: LC50 = 510 mg/m³;
Oral, rat: LD50 = 2140 mg/kg;
.
Other:

Carcinogenicity: Sulfuric acid - ACGIH: A2 - Suspected Human Carcinogen (contained in strong inorganic acid mists) California: carcinogen, initial date 3/14/03 (Strong inorganic acid mists containing sulfuric acid). NTP: Known carcinogen (Strong inorganic acid mists containing s). IARC: Group 1 carcinogen

Other: See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Ecotoxicity: Fish: Bluegill/Sunfish: 49 mg/l; 48 H; TLm (tap water @ 20°C)
Fish: Bluegill/Sunfish: 24.5 ppm; 48 H; TLm (fresh water)

Section 13 - Disposal Considerations

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

Section 14 - Transport Information

	IATA	IMO	RID/ADR
Shipping Name:	SULPHURIC ACID	SULPHURIC ACID	SULPHURIC ACID
Hazard Class:	8	8	8
UN Number:	1830	1830	1830
Packing Group:	II	II	II

USA RQ: CAS# 7664-93-9: 1000 lb final RQ; 454 kg final RQ

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: C

Risk Phrases:

R 35 Causes severe burns.

Safety Phrases:

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

S 30 Never add water to this product.

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# 7664-93-9: 2

Canada

CAS# 7664-93-9 is listed on Canada's DSL List

US Federal

TSCA

CAS# 7664-93-9 is listed on the TSCA Inventory.

Section 16 - Other Information

MSDS Creation Date: 12/24/1999

Revision #1 Date 8/12/2004

Revisions were made in Sections: General revision.

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