



SAFETY DATA SHEET

Sulfuric acid

This SDS is valid for all grades that start with catalog number
290

1. IDENTIFICATION OF SUBSTANCE / MIXTURE AND OF SUPPLIER

Product Identifier: High Purity Chemicals
Synonyms: Oil of vitriol
Other means of identification: CAS No. 7664-93-9
EINECS No.231-639-5

Recommended use of the chemical and restrictions on use:

Supplier Details:

Greenfield Global USA, Inc.
58 Vale Road, Brookfield,
CT 06804, USA.
Tel: 203.740.3471
Fax: 203.740.3481
CCN17213

Emergency Contact: CHEMTREC: 1.800.424.9300 (USA) / +1.703.527.3887 (International)

2. HAZARDS IDENTIFICATION

OSHA Hazards:

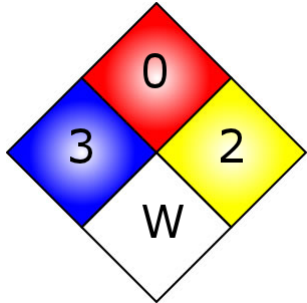
Corrosive, Target organ effect

Target Organs:

Lungs, Teeth



Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)
NFPA +1.703.527.3887 (INT)



GHS label elements, including precautionary statements



Signal Word:

DANGER!

Hazard statement(s)

H314

Causes severe skin burns and eye damage.

Precautionary statement(s)

P260

Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

P264

Wash hands thoroughly after handling.

P280

Wear protective gloves and eye and face protection.

P310

Immediately call a POISON CENTER or doctor/ physician.

P301 + P330 + P331

IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353

IF ON SKIN (or hair): Remove immediately all contaminated clothing.

P304 + P340

Rinse skin with water.

IF INHALED: Remove victim to fresh air and keep at rest in a position 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. Seek medical attention.

P363

Wash contaminated clothing before reuse.

P405

Store locked up.

P501

Dispose of contents and container to an approved waste disposal plant.

GHS Classification(s)

Skin corrosion (Category 1A)

Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)
Other hazards which do not result in classification: +1.703.527.3887 (INT)

Potential Health Effects:

Organ	Description
Eyes	Product will cause eye burns.
Ingestion	May be harmful if ingested.
Inhalation	May be harmful if inhaled. Product is destructive to the tissue of the mucous membranes and upper respiratory tract.
Skin	Harmful if absorbed through skin. Causes skin burns.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Chemical identity: Sulfuric acid
Common name / Synonym: Oil of vitriol
CAS number: 7664-93-9
EINECS number: 231-639-5
ICSC number: 0362
RTECS #: WS5600000
UN #: 1830
EC #: 016-020-00-8

% Weight	Material	CAS
28.9	Sulfuric acid	7664-93-9

4. FIRST AID MEASURES

General advice

Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Skin

Wash skin with soap and copious amounts of water. Seek medical attention.

Inhalation

Remove person to fresh air. If signs/symptoms continue, get medical attention. Give oxygen or artificial respiration as needed.

Eyes

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately. Keep rinsing while in transport to hospital.

Ingestion

DO NOT induce vomiting. If vomiting does occur, have victim lean forward to prevent aspiration. Rinse mouth with



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water. Seek medical attention. Never give anything by mouth to an unconscious individual. **+1.703.527.3887 (INT)**

5. FIRE FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media:

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):

Sulphur oxides are expected to be hazardous combustion products.

Special protective equipment and precautions for firefighters:

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Keep unopened containers cool by spraying with water.

Unusual Fire and Explosion Hazards:

- Vapors may travel to source of ignition and flash back.
- Vapors may settle in low or confined spaces.

Classification

Not flammable or combustible.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Use personal protective equipment. Avoid dust formation. Do not inhale vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental precautions:

Stop leak. Contain spill if possible and safe to do so. Prevent product from entering drains.

Methods and materials for containment and cleaning up:

Absorb with an inert dry material and place in an appropriate waste disposal container. Keep disposal containers closed when finished.

7. HANDLING AND STORAGE

Precautions for safe handling:

Do not inhale vapor or mist.

Conditions for safe storage, including any incompatibilities:

Keep in a tightly closed container in a dry, well-ventilated place. Keep containers upright to prevent leaks/spills.

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION +1.703.527.3887 (INT)

Control parameters, e.g., occupational exposure limit values or biological limit values:

Occupational Exposure Limits

Component	Source	Type	Value	Note
Sulfuric acid	US (ACGIH)	TWA	0.2 mg/m ³	ACGIH Threshold limit value
Sulfuric acid	US (OSHA)	TWA	1 mg/m ³	29 CFR 1910.1000 Table Z-1 Limits for Air Contaminants.

Appropriate engineering controls:

General room or local exhaust ventilation is usually required to meet exposure limit(s). Electrical equipment should be grounded and conform to applicable electrical code.

Individual protection measures, such as personal protective equipment:

Respiratory protection:

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection:

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection:

Use chemical safety goggles and/or a full face shield where splashing is possible. Use equipment approved by appropriate government standards, such as NIOSH (US) or EN166 (EU) Maintain eye wash fountain and quick-drench facilities in work area.

Skin and body protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Hygiene measures:

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (<i>physical state, color, etc.</i>)	Slightly viscous, clear to slightly cloudy liquid
pH	1.2
Freezing point	200 °C (392 °F)
Initial boiling point and boiling range	290 °C (554 °F)
Vapor pressure	1.33 hPa (1.00 mmHg) at 145.8 °C (294.4 °F)
Vapor Density	3.39 - (Air = 1.0)

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Relative Density	1.84 g/cm ³	+1.703.527.3887 (INT)
Solubility(ies)	soluble	
Partition coefficient n-octanol/water(ies)	No Data Available.	
Auto-ignition temperature	524 °C (975 °F)	
Decomposition temperature	205 °C (401 °F)	
Formula (SULFURIC ACID)	H ₂ O ₄ S	
Molecular Weight (SULFURIC ACID)	98.08 g/mol	

10. STABILITY AND REACTIVITY

Possibility of hazardous reactions	No data available
Conditions to avoid (e.g., static discharge, shock or vibration)	No data available
Incompatible materials	Bases, Halides, Organic materials, Carbides, fulminates, Nitrates, picrates, Cyanides, Chlorates, alkali halides, Zinc salts, permanganates, e.g. potassium permanganate, Hydrogen peroxide, Azides, Perchlorates., Nitromethane, phosphorous, Reacts violently with: cyclopentadiene, cyclopentanone oxime, nitroaryl amines, hexalithium disilicide, phosphorous(III) oxide, Powdered metals
Hazardous decomposition products	Hazardous Decomposition Products Under Fire Conditions: Sulphur oxides, Sodium oxides.

11. TOXICOLOGICAL INFORMATION

- Sulfuric acid 7664-93-9

Product Summary:

No data available for the teratogenic, mutagenic or reproductive toxicity effects of this product.

Acute Toxicity:

LC50 (Inhalation)	Rat	510 mg/m ³	2 hours
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Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.



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Other Hazards

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12. ECOLOGICAL INFORMATION

- Sulfuric acid 7664-93-9

Ecotoxicity (aquatic and terrestrial, where available):

Acute fish toxicity (SULFURIC ACID)

LC50 / 96 h / Mosquito fish - 42 mg/l

13. DISPOSAL CONSIDERATIONS

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging:

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Offer unused and non-recyclable solutions to a licensed disposal company. Contact local licensed professional waste disposal service to dispose of this material.

14. TRANSPORT INFORMATION

Description of waste residues and information on their safe handling and methods of disposal:

UN number	1830
UN proper shipping name	Sulfuric acid
Transport hazard class(es)	8
Packing group (if applicable)	II

Reportable Quantity

1000 lbs

IMDG

UN-Number: 1830 Class: 8 Packing Group: II

EMS-No: F-A, S-B



Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)

Proper shipping name: SULPHURIC ACID

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Marine pollutant: No

IATA

UN-Number: 1830 Class: 8 Packing Group: II

Proper shipping name: Sulfuric acid

15. REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product in question:

OSHA Hazards

Corrosive, Target organ effect

All ingredients are on the following inventories or are exempted from listing

Country	Notification
Australia	AICS
Canada	DSL
China	IECS
European Union	EINECS
Japan	ENCS/ISHL
Korea	ECL
New Zealand	NZIoC
Philippines	PICCS
United States of America	TSCA

SARA 302 Components

The following components are subject to reporting levels established by SARA Title III, Section 302: Sulfuric acid CAS-No. 7664-93-9 Revision Date 2007-07-01

SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313: Sulfuric acid CAS-No. 7664-93-9 Revision Date 2007-07-01

SARA 311/312 Hazards

Acute Health Hazard

Chronic Health Hazard

Massachusetts Right To Know Components

Sulfuric acid CAS-No. 7664-93-9 Revision Date 2007-07-01

Pennsylvania Right To Know Components

Sulfuric acid CAS-No. 7664-93-9 Revision Date 2007-07-01



PHARMCO
by Greenfield Global

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New Jersey Right To Know Components

Sulfuric acid CAS-No. 7664-93-9 Revision Date 2007-07-01

California Prop 65 Components

WARNING! This product contains a chemical known to the State of California to cause cancer. Sulfuric acid
CAS-No. 7664-93-9 Revision Date 2007-09-28

**16. OTHER INFORMATION:
INCLUDING INFORMATION ON PREPARATION AND REVISION OF THE SDS**

Disclaimer

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