



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name SULFURIC ACID, VERITAS® DOUBLE DISTILLED from VYCOR
Catalog # 273
Version # 02
Revision date 19-Dec-2007
CAS # Mixture
Manufacturer information GFS Chemicals, Inc.
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2. Hazards Identification

Emergency overview DANGER

Reacts violently with water.
Corrosive. Causes skin and eye burns. Harmful if inhaled. Harmful if swallowed. Harmful if absorbed through the skin. Prolonged exposure may cause chronic effects.

OSHA regulatory status This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

Potential health effects

Routes of exposure Inhalation. Ingestion. Skin contact. Eye contact.

Eyes This product causes eye burns. Harmful in contact with eyes. Risk of serious damage to eyes. Do not get this material in contact with eyes.

Skin Causes skin burns. Harmful in contact with skin. Do not get this material in contact with skin.

Inhalation Causes burns. Harmful if inhaled. Irritating to respiratory system. Do not breathe dust/fume/gas/mist/vapors/spray.

Ingestion Harmful if swallowed. Components of the product may be absorbed into the body by ingestion. Ingestion may produce burns to the lips, oral cavity, upper airway, esophagus and possibly the digestive tract. Do not ingest.

Target organs Eyes. Respiratory system. Skin.

Potential environmental effects Components of this product are hazardous to aquatic life. May cause long-term adverse effects in the environment.

3. Composition / Information on Ingredients

Hazardous components	CAS #	Percent
SULFURIC ACID	7664-93-9	90 - 100
Non-hazardous components	CAS #	Percent
WATER	7732-18-5	2.5 - 10

4. First Aid Measures

First aid procedures

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Skin contact Remove material from skin immediately. Immediately flush skin with plenty of water. Remove and isolate contaminated clothing and shoes. Get medical attention immediately. For minor skin contact, avoid spreading material on unaffected skin. Wash clothing separately before reuse.

Inhalation

Move to fresh air. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician or poison control center immediately.

Ingestion

If material is ingested, immediately contact a poison control center. Have victim rinse mouth thoroughly with water. Do not induce vomiting without advice from poison control center. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Notes to physician

In case of shortness of breath, give oxygen. Keep victim warm.

General advice

In case of shortness of breath, give oxygen. Keep victim warm. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire Fighting Measures**Flammable properties**

May react violently with water. Not a fire hazard. The product is not flammable.

Extinguishing media**Suitable extinguishing media**

Foam. Carbon dioxide (CO₂). Water spray, fog (flooding amounts).

Protection of firefighters**Protective equipment and precautions for firefighters**

Do not get water inside containers.

6. Accidental Release Measures**Personal precautions**

Local authorities should be advised if significant spillages cannot be contained. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Ensure adequate ventilation. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering. Keep unnecessary personnel away.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not contaminate water.

Methods for containment

Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Prevent entry into waterways, sewers, basements or confined areas.

Methods for cleaning up

Should not be released into the environment.

Large Spills: Dike far ahead of liquid spill for later disposal. Flood spill with water. Large spills may be neutralized with dilute alkaline solutions of soda ash, or lime.

Small Spills: Neutralize the spilled material before disposal. Clean contaminated surface thoroughly.

Never return spills in original containers for re-use.

7. Handling and Storage**Handling**

Do not allow water to get into container because of a violent reaction. Do not get this material in contact with eyes. Do not get this material in contact with skin. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not get this material on clothing. Use only with adequate ventilation. Wear personal protective equipment. Avoid prolonged exposure. Wash thoroughly after handling. Avoid release to the environment. Handle and open container with care.

Storage

Keep in a well-ventilated place. Keep container tightly closed. Keep the container dry. Keep this material away from food, drink and animal feed. Keep out of the reach of children. Use care in handling/storage.

8. Exposure Controls / Personal Protection

Occupational exposure limits

ACGIH

Components	CAS #	Type	Value	Form
SULFURIC ACID	7664-93-9	TWA	0.2 mg/m ³	Thoracic fraction.

U.S. - OSHA

Components	CAS #	Type	Value	Form
SULFURIC ACID	7664-93-9	PEL	1 mg/m ³	
		TWA	1 mg/m ³	

Engineering controls

Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Respiratory protection

Wear positive pressure self-contained breathing apparatus (SCBA).

Hand protection

Protective gloves.

Eye / face protection

Do not get this material in contact with eyes. Wear chemical goggles. Face-shield.

Skin protection

Do not get this material in contact with skin. Do not get this material on clothing. Wear appropriate chemical resistant gloves. Wear appropriate chemical resistant clothing. Structural firefighters protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations. Use chemical splash goggles and face shield (ANSI Z87.1 or approved equivalent). Wear chemical protective equipment that is specifically recommended by the manufacturer. It may provide little or no thermal protection.

General hygiene considerations

Do not get this material in contact with eyes. Do not get this material in contact with skin. Do not get this material on clothing. When using, do not eat, drink or smoke. Keep away from food and drink. Handle in accordance with good industrial hygiene and safety practice.

General

Structural firefighters protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations.

9. Physical & Chemical Properties

Appearance	Clear. Viscous.
Color	Colorless.
Odor	Odorless.
Odor threshold	Not available.
Physical state	Liquid.
Form	Liquid.
pH	< 0
Melting point	-4 °F (-20 °C)
Freezing point	Not available.
Boiling point	554 °F (290 °C)
Flash point	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Vapor pressure	0 hPa estimated
Vapor density	3.4
Specific gravity	1.84
Relative density	1.84 g/cm ³
Solubility (water)	Miscible, generates much heat
Partition coefficient (n-octanol/water)	Not available.

Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Molecular weight	98.0900
Molecular formula	H2SO4

10. Chemical Stability & Reactivity Information

Chemical stability	Stable at normal conditions.
Conditions to avoid	Exposure to moisture. Exposure to water vapor. Reacts violently with alkaline material. This product may react with reducing agents. Do not mix with other chemicals.
Incompatible materials	Incompatible with bases. This product may react with reducing agents. Contact with metals may evolve flammable hydrogen gas.
Hazardous decomposition products	May include oxides of sulphur.
Possibility of hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological Information

Acute effects	Causes burns.	
Acute Inhalation Toxicity: LC50 value		
SULFURIC ACID	7664-93-9	Guinea pig 0.018 mg/l 8 h Young animal

Toxicology data for the preparation

Acute LC50: 0.03 mg/l, Guinea pig, Inhalation, estimated

Chronic effects	Hazardous by OSHA criteria. Prolonged exposure may cause chronic effects.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Corrosivity	Hazardous by OSHA criteria.

12. Ecological Information

Ecotoxicity	Components of this product are hazardous to aquatic life. Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.
Environmental effects	Harmful to aquatic life.
Persistence and degradability	Not available.

13. Disposal Considerations

Waste codes	D002: Waste Corrosive material [pH ≤2 or ≥12.5, or corrosive to steel]
Disposal instructions	Dispose of this material and its container at hazardous or special waste collection point. Do not allow this material to drain into sewers/water supplies. Solutions with low pH-value must be neutralized before discharge. Dispose in accordance with all applicable regulations.
Waste from residues / unused products	Taking into account local regulations the product may be disposed of as waste water after neutralisation.

14. Transport Information

DOT

Basic shipping requirements:

Proper shipping name Sulfuric acid with more than 51 percent acid

Hazard class 8

UN number UN1830

Packing group II

Additional information:

Special provisions A3, A7, B3, B83, B84, IB2, N34, T8, TP2, TP12

Packaging exceptions 154

Packaging non bulk 202

Packaging bulk 242

ERG number 137



15. Regulatory Information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

CERCLA/SARA Hazardous Substances - Not applicable.

US EPCRA (SARA Title III) Section 302 - Extremely Hazardous Spill: Reportable quantity

SULFURIC ACID 7664-93-9 1000 LBS

US EPCRA (SARA Title III) Section 302 - Extremely Hazardous Substance: Threshold Planning Quantity

SULFURIC ACID 7664-93-9 1000 LBS

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

SULFURIC ACID 7664-93-9 1.0 %

CERCLA (Superfund) reportable quantity

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

Section 302 extremely hazardous substance Yes

Section 311 hazardous chemical Yes

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of New and Existing Chemicals (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US - New Jersey Community RTK (EHS Survey): Reportable threshold

SULFURIC ACID 7664-93-9 500 LBS

US - Pennsylvania RTK - Hazardous Substances: Listed substance

SULFURIC ACID 7664-93-9 Listed.

16. Other Information

Further information

HMIS® is a registered trade and service mark of the NPCA.

HMIS® ratings

Health: 4*
Flammability: 0
Physical hazard: 1

NFPA ratings

Health: 4
Flammability: 0
Instability: 1

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Issue date

19-Dec-2007

This data sheet contains changes from the previous version in section(s):

This document has undergone significant changes and should be reviewed in its entirety.