MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name	**SULFURIC ACID, SOLUTION, 0.02 N**
Catalog #	1198
Version #	02
Revision date	11-Aug-2009
CAS #	Mixture
CAS #	7664-93-9
Manufacturer information	GFS Chemicals, Inc. P.O. Box 245 Powell, OH 43065 US www.gfschemicals.com Fax 740-881-5989 Phone 740-881-5501 Toll Free 800-858-9682 Emergency Assistance Chemtrec 800-424-8300

2. Hazards Identification

Emergency overview	May cause skin and eye irritation.
OSHA regulatory status	This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).
Potential health effects	
Routes of exposure	Ingestion. Skin contact. Eye contact.
Eyes	May irritate eyes. Do not get this material in contact with eyes.
Skin	May cause skin irritation.
Inhalation	May cause irritation of respiratory tract. Do not breathe dust/fume/gas/mist/vapors/spray.
Ingestion	Do not ingest.
Signs and symptoms	May cause eye/skin irritation.
Potential environmental effects	May cause long-term adverse effects in the environment.

3. Composition / Information on Ingredients

Non-hazardous components	CAS #	Percent
WATER	7732-18-5	90 - 100
SULFURIC ACID	7664-93-9	0 - 0.1

4. First Aid Measures

First aid procedures

Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Continue rinsing. Get medical attention if irritation develops and persists.
Skin contact	Remove and isolate contaminated clothing and shoes. Immediately flush skin with plenty of water. Get medical attention if irritation develops and persists. Wash clothing separately before reuse.
Inhalation	If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Do not use mouth-to-mouth method if victim inhaled the substance. Get medical attention if symptoms persist.

Ingestion Rinse mouth. Give water to drink and get medical attention. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting without advice from poison control center. 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. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

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

General advice Immediate medical attention is required. 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 No unusual fire or explosion hazards noted. The product is not flammable.

Extinguishing media

Suitable extinguishing media Water. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO_2). Use extinguishing agent suitable for type of surrounding fire.

Protection of firefighters

Protective equipment and precautions for firefighters In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers. Cool containers exposed to flames with water until well after the fire is out.

Specific methods In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers.

6. Accidental Release Measures

Personal precautions Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained. Keep upwind. Keep out of low areas. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

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, sewer, basements or confined areas.

Methods for cleaning up Should not be released into the environment.

Large Spills: Dike far ahead of spill for later disposal. Large spills, dilute, then neutralize with caustic solution.

Small Spills: Neutralize small amounts with sodium bicarbonate or lime and flush to sewer with large amounts of water. Clean surface thoroughly to remove residual contamination. Following product recovery, flush area with water.

Never return spills in original containers for re-use.

7. Handling and Storage

Handling 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. Do not use in areas without adequate ventilation. Wash thoroughly after handling. Avoid release to the environment. Handle and open container with care.

Storage Store in a well-ventilated place. Keep container tightly closed. 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/m3	Thoracic fraction.

U.S. - OSHA

Components	CAS #	Type	Value	Form
SULFURIC ACID	7664-93-9	PEL	1 mg/m3	
		TWA	1 mg/m3	

Engineering controls Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment. Do not breathe dust/fume/gas/mist/vapors/spray.

Hand protection Wear protective gloves.

Eye / face protection Wear chemical goggles. Do not get in eyes.

Skin protection Do not get this material in contact with skin. Do not get this material on clothing. Wear chemical protective equipment that is specifically recommended by the manufacturer. Chemical resistant gloves.

General hygeine considerations Do not get in 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.

Color Colorless.

Odor Odorless.

Odor threshold Not available.

Physical state Liquid.

Form Liquid.

pH 1.7

Melting point < 32 °F (< 0 °C)

Freezing point Not available.

Boiling point > 212 °F (> 100 °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 Not available.

Vapor density Not available.

Specific gravity 1

Relative density 1 g/cm3

Solubility (water) Miscible.

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Percent volatile > 99 %

Molecular weight 98.0900 g/mol

Molecular formula H_2SO_4

10. Chemical Stability & Reactivity Information

Chemical stability Material is stable under normal conditions.

Hazardous decomposition products	No hazardous decomposition products are known.
Possibility of hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological Information

Acute effects May cause skin and eye irritation.

Acute Inhalation: LC 50

SULFURIC ACID	7664-93-9	Guinea pig 0.03 mg/l 8 h
SULFURIC ACID	7664-93-9	Rat 347 mg/l 1 h
SULFURIC ACID	7664-93-9	Guinea pig 0.018 mg/l 8 h Young animal

Toxicology data for the preparation

Acute LC50: 25.26 mg/l, Guinea pig, Inhalation, estimated

Carcinogenicity Strong inorganic mists containing sulfuric acid are now considered to be carcinogenic so avoid conditions which may cause the solution to become a vapor or mist. This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

Corrosivity Hazardous by OSHA criteria.

12. Ecological Information

Ecotoxicity Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems. Contains a substance which causes risk of hazardous effects to the environment.

Environmental effects An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Persistence and degradability Not available.

13. Disposal Considerations

Disposal instructions Do not allow this material to drain into sewers/water supplies. This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Solutions with low pH-value must be neutralized before discharge. Dispose in accordance with all applicable regulations.

Waste from residues / unused products Not applicable.

14. Transport Information

DOT

Not regulated as dangerous goods.

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.

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 - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
Section 302 extremely hazardous substance	No
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	No
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: 2 Flammability: 0 Physical hazard: 0
NFPA ratings	Health: 2 Flammability: 0 Instability: 0
Disclaimer	The information in the sheet was written based on the best knowledge and experience currently available. 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	11-Aug-2009
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.