

SAFETY DATA SHEET

1. IDENTIFICATION

Product Name: **Sulfuric Acid 5 - 35%**
Synonyms: Sulphuric acid, dihydrogen sulfate, oil of vitriol, H₂SO₄
CAS Number: 7664-93-9
Product Use: Chemical industry, water treatment, fertilizer, pulp and paper

Manufacturer/Supplier: Integrated Water Mangement
289 Cortland Rd.
Dryden, NY, 13053
607-844-4276

Transportation Emergency Number: 1-800-255-3924

2. HAZARDS IDENTIFICATION

GHS Classification

Physical Hazards	Corrosive to metals	Category 1
Health Hazards	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Carcinogenicity	Category 1
	Specific target organ toxicity, single exposure	Category 3
Environmental Hazards	Hazardous to aquatic environment, acute	Category 3
	Hazardous to aquatic environment, chronic	Category 3

GHS Label Elements



Signal Word: **DANGER!**

Hazard Statements

- May be corrosive to metals.
- Causes severe skin burns and eye damage.
- May cause respiratory irritation.
- May cause cancer.
- Harmful to aquatic life.

Precautionary Statements

- Obtain special instructions before use.

SAFETY DATA SHEET

Do not handle until all safety precautions have been read and understood.
Keep only in original packaging.
Do not breathe dusts or mists.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN: Take off immediately all contaminated clothing. Rinse skin with water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice.
Immediately call a POISON CENTER or doctor.
Call a POISON CENTER or doctor if you feel unwell.
Specific treatment (see first aid section).
Wash contaminated clothing before reuse.
Absorb spillage to prevent material-damage.

Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

Dispose of contents in accordance with local/regional/national/international regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	Weight %
Sulfuric Acid	7664-93-9	5 - 35

4. FIRST AID MEASURES

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison control center or physician. If not breathing, give artificial respiration. Take precautions to avoid secondary contamination by residual acids. If difficulty breathing, administer oxygen.

Eye: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do so and continue rinsing. Consult a physician immediately. If medical treatment is delayed, repeat flushing with tepid water.

Skin: Remove contaminated clothing immediately and rinse skin with water for at least 15 minutes. Do not apply creams or ointments before or during washing phase. Seek immediate medical attention. Continue the application of cold, wet compresses while patient is in transport. Wash contaminated clothing before reusing.

Ingestion: Do NOT induce vomiting. If victim is conscious and alert, rinse mouth with water and give ½ to 1 cup of water or milk to dilute material. If spontaneous vomiting occurs, keep head below hips to prevent aspiration. If victim is unconscious, do not induce vomiting or give anything by mouth. Obtain immediate medical attention.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Dry chemical. Foam. Carbon dioxide. Do not use water jet as an extinguisher, as this will spread the fire

Fire Fighting Procedures: Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Move containers from fire area if you can do so without risk. Evacuate personnel to a safe area. Keep personnel removed

SAFETY DATA SHEET

and upwind of fire. Generates heat upon addition of water, with possibility of spattering. Wear full protective clothing. Runoff from fire control may cause pollution. Neutralize run-off with lime, soda ash, etc., to prevent corrosion of metals and formation of hydrogen gas. Wear self-contained breathing apparatus if fumes or mists are present.

Unusual Fire and Explosion Hazards: Reacts with most metals, especially when dilute: Hydrogen gas release (Extremely flammable, explosive). Risk of explosion if acid combined with water, organic materials or base solutions in enclosed spaces (Vacuum trucks, tanks, etc.). Mixing acids of different strengths/concentrations can also pose an explosive risk in an enclosed space/container.

Combustion Products: Releases of sulfur dioxide at extremely high temperatures.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: Immediately evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Environmental Precautions: Avoid discharge into drains, water courses or onto the ground.

Methods and Materials for Containment and Cleaning Up: Should not be released into the environment. Large Spills – Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Deactivation materials include lime, limestone, sodium carbonate (soda ash), sodium bicarbonate, and dilute sodium hydroxide. Prevent entry into waterways, sewer, basements or confined areas. Small Spills – Wipe up with absorbent material. Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see Section 13 of the SDS.

7. HANDLING AND STORAGE

Precautions for Safe Handling: Wear appropriate personal protective equipment. Do not get in eyes, on skin, on clothing. Do not breathe mist or vapor. Observe good industrial hygiene practices. Do not empty into drains. Product is extremely hygroscopic. NEVER add water to acid. Dilution reaction is violent and will generate large amounts of heat and chemical mists.

Conditions for Safe Storage, Including Any Incompatibilities: Store in a well-ventilated place. Store away from incompatible materials. Store in containers specially designed for this product and strength. Keep away from heat, sparks and open flame.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters:

Component	OSHA PEL-TWA	ACGIH TLV-TWA
Sulfuric Acid (CAS 7664-93-9)	1 mg/m ³	0.2 mg/m ³

Engineering Controls: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

Personal Protective Equipment (PPE)

Eye/Face Protection: Wear safety glasses with side shields (or goggles). Face-shield. Wear a full-face respirator, if needed.

Skin Protection: Chemical resistant gloves. Wear appropriate chemical resistant clothing.

SAFETY DATA SHEET

Respiratory Protection: When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Use a positive-pressure, air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Liquid, clear-sl. turbid, colorless-sl. gray
Odor	Odorless
Odor threshold	Not available
pH	< 1
Melting/freezing point	-59 - 0°C
Boiling point	100 - 116°C
Flash point	Not available
Evaporation rate	Not available
Flammability	Not available
Upper/lower flammability limits	Not available
Vapor pressure	< 0.3 mmHg (25°C) [93% solution]
Vapor density	Not available
Relative density	1.03 – 1.27
Solubility	100% (water)
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not available
Viscosity	< 2.5 cP (20°C)

10. STABILITY AND REACTIVITY

Reactivity: The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical Stability: Material is stable under normal conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur.

Conditions to Avoid: Contact with metal may release flammable hydrogen gas. Contact with incompatible materials. Do not mix with other chemicals.

Incompatible Materials: Incompatible with bases, amines, metals and organic compounds. This product may react with reducing agents.

Hazardous Decomposition Products: Sulfur oxides.

11. TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Ingestion: Causes digestive tract burns. Ingestion may produce burns to the lips, oral cavity, upper airway, esophagus and possibly the digestive tract.

Inhalation: Vapors and mist will irritate throat and respiratory system and cause coughing.

Skin Contact: Causes skin burns.

Eye Contact: Causes eye burns. Permanent eye damage or blindness could result.

Symptoms Related to Physical, Chemical and Toxicological Characteristics: Contact with this material will cause burns to the skin, eyes and mucous membranes. Permanent eye damage including blindness could result.

SAFETY DATA SHEET

Acute Toxicity Values:

Component	Route	Species	Value
Sulfuric Acid (CAS 7664-93-9)	Oral LD ₅₀	Rat	2,140 mg/kg
	Inhalation LD ₅₀	Rat	510 mg/m ³ (2 hr)

Skin Corrosion/Irritation: Causes severe skin burns and eye damage.

Serious Eye Damage/Irritation: Causes serious eye damage.

Respiratory or Skin Sensitization: Not available.

Germ Cell Mutagenicity: Not available.

Carcinogenicity: May cause cancer by inhalation (mist).
ACGIH Group A2 – Suspected human carcinogen.
IARC Group 1 – Carcinogenic to humans.

Reproductive Toxicity: Not available.

Specific Target Organ Toxicity (STOT) – Single Exposure: May cause respiratory irritation.

Specific Target Organ Toxicity (STOT) – Repeated Exposure: Not available.

Aspiration Hazard: Not available.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Component	Species	Value
Sulfuric Acid (CAS 7664-93-9)	Bluegill sunfish (<i>Lepomis macrochirus</i>)	16 mg/L (LC ₅₀ -48 hr)
	Water flea (<i>Daphnia magna</i>)	> 100 mg/L (EC ₅₀ -48 hr)
	Western mosquitofish (<i>Gambusia affinis</i>)	42 mg/L (LC ₅₀ -96 hr)

Persistence/Degradability: Not available.

Bioaccumulation: The products of biodegradation may be more toxic than the original product.

Soil Mobility: Not available.

Other Adverse Affects: No other adverse environmental effects are expected from this component.

13. DISPOSAL CONSIDERATIONS

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers or water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents and container in accordance with local, regional, national and/or international regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

SAFETY DATA SHEET

14. TRANSPORT INFORMATION

U.S. Department of Transportation (DOT)

UN/NA Number: UN 2976
Proper Shipping Name: SULFURIC ACID *with not more than 51% acid*
Hazard Class: 8
Packing Group: PG II
Marine Pollutant: No
Labels Required: Corrosive
Reportable Quantity: 1,000 lb

15. REGULATORY INFORMATION

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants:

Sulfuric Acid (CAS 7664-93-9) – No

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention 40 CFR 68.130:

Sulfuric Acid (CAS 7664-93-9) – No

Clean Water Act (CWA) 40 CFR 401.15:

Sulfuric Acid (CAS 7664-93-9) – No

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) 40 CFR 302.4:

Sulfuric Acid (CAS 7664-93-9) - Yes

SARA Section 302 Extremely Hazardous Substance 40 CFR 355:

Sulfuric Acid (CAS 7664-93-9) – Yes

SARA Section 311/312 40 CFR 370:

Sulfuric Acid (CAS 7664-93-9) – Yes

SARA Section 313 40 CFR 372:

Sulfuric Acid (CAS 7664-93-9) – Yes, acid aerosols

Toxic Substances Control Act (TSCA):

Sulfuric Acid (CAS 7664-93-9) – Yes

Canadian Environmental Protection Act, Domestic Substance List (CEPA-DSL):

Sulfuric Acid (CAS 7664-93-9) – Yes

California Proposition 65:

Sulfuric Acid (CAS 7664-93-9) – Yes

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA):

Not Applicable

SAFETY DATA SHEET

16. OTHER INFORMATION

HMIS RATINGS

Health	3
Flammability	0
Reactivity	0

NFPA RATINGS

Health	3
Flammability	0
Reactivity	0

<u>Revision Date</u>	<u>Section(s) Updated</u>
04.29.15	N/A
06.18.15	Footer

Disclaimer

The information on this Safety Data Sheet reflects the latest information and data that we have on hazards, properties and handling of this product under the recommended conditions of use. Any use of this product or method of application which is not described in the Product Data Sheet is the responsibility of the user.