

Safety Data Sheet

Sulfuric Acid 50% (v/v) Reagent

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Sulfuric Acid 50% (v/v) Reagent

Synonyms/Generic Names: Battery Acid, Dihydrogen Sulfate, Oil of Vitriol

Product Number: 9836

Product Use: Industrial, Manufacturing or Laboratory use

Manufacturer: Columbus Chemical Industries, Inc.
N4335 Temkin Rd.
Columbus, WI. 53925

For More Information: 920-623-2140 (Monday-Friday 8:00-4:30)
www.columbuschemical.com

In Case of Emergency Call: CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

2. HAZARDS IDENTIFICATION

Hazard Not Otherwise Classified (HNOC): None

Signal Words: Danger

Pictograms:



GHS Classification:

| | |
|------------------------|-------------|
| Skin corrosion | Category 1A |
| Serious eye damage | Category 1 |
| Acute aquatic toxicity | Category 3 |

GHS Label Elements, including precautionary statements:

Hazard Statements:

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| H314 | Causes severe skin burns and eye damage. |
| H402 | Harmful to aquatic life. |

Precautionary Statements:

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| P260 | Do not breathe dusts or mists. |
| P264 | Wash hands thoroughly after handling. |
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P301+P330+P331 | IF SWALLOWED: Rinse mouth. Do not induce vomiting. |

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| P303+P361+P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. |
| P304+P340 | IF INHALED: Remove person to fresh air and keep 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. |
| P310 | Immediately call a POISON CENTER/doctor/physician. |
| P363 | Wash contaminated clothing before reuse. |
| P405 | Store locked up. |
| P501 | Dispose of contents/container in accordance with local regulations. |

Potential Health Effects

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| Eyes | Causes severe eye burns. |
| Inhalation | May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. |
| Skin | May be harmful if absorbed through skin. Causes skin burns. |
| Ingestion | May be harmful if swallowed. |

NFPA Ratings

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|------------------------|---|
| Health | 3 |
| Flammability | 0 |
| Reactivity | 2 |
| Specific hazard | W |

HMIS Ratings

| | |
|-------------------|---|
| Health | 3 |
| Fire | 0 |
| Reactivity | 2 |

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Component | Weight % | CAS # | EINECS# / ELINCS# | Formula | Molecular Weight |
|---------------|----------|-----------|-------------------|--------------------------------|------------------|
| Sulfuric Acid | 60-62 | 7664-93-9 | 231-939-5 | H ₂ SO ₄ | 98.08 g/mol |
| Water | Balance | 7732-18-5 | 231-791-2 | H ₂ O | 18.00 g/mol |

4. FIRST-AID MEASURES

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| Eyes | Immediately rinse with plenty of water for at least 15 minutes and get medical attention immediately. |
| Inhalation | Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately. |
| Skin | Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention immediately. |
| Ingestion | Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately. |

5. FIRE-FIGHTING MEASURES

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| Suitable (and unsuitable) extinguishing media | Product is not flammable. Use appropriate media for adjacent fire. Cool unopened containers with water. |
| Special protective equipment and precautions for firefighters | Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots. |
| Specific hazards arising from the chemical | Emits toxic fumes (sulfur oxides, hydrogen sulfide gas) under fire conditions. (See also Stability and Reactivity section). |

6. ACCIDENTAL RELEASE MEASURES

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| Personal precautions, protective equipment and emergency procedures | See section 8 for recommendations on the use of personal protective equipment. |
| Environmental precautions | Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements. |
| Methods and materials for containment and cleaning up | Neutralize spill with sodium bicarbonate or lime. Absorb spill with noncombustible absorbent material, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations. |

7. HANDLING AND STORAGE

Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Avoid formation of aerosols.

Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure controls:

| Component | Exposure Limits | Basis | Entity |
|---------------|-----------------------|-------|--------|
| Sulfuric Acid | 0.2 mg/m ³ | TLV | ACGIH |
| | 1 mg/m ³ | PEL | OSHA |
| | 1 mg/m ³ | REL | NIOSH |
| | 15 mg/m ³ | IDLH | OSHA |

TWA: Time Weighted Average over 8 hours of work.

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit during x minutes.

IDLH: Immediately Dangerous to Life or Health

WEEL: Workplace Environmental Exposure Levels

CEIL: Ceiling

Personal Protection

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| Eyes | Wear chemical safety glasses or goggles, and face shield. |
| Inhalation | Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator. |
| Skin | Wear nitrile or rubber gloves, and full body suit. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. |
| Other | Not Available |

Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

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| Appearance (physical state, color, etc.) | Clear, colorless liquid. |
| Odor | Odorless. |
| Odor threshold | Not Available |
| pH | 1 |
| Melting point/freezing point | Not Available |
| Initial boiling point and boiling range | Not Available |
| Flash point | Not Flammable |
| Evaporation rate | Not Available |
| Flammability (solid, gas) | Not Flammable |
| Upper/lower flammability or explosive limit | Not Explosive |
| Vapor pressure | Not Available |
| Vapor density | Not Available |
| Specific gravity | 1.52 |
| Solubility (ies) | Soluble in water. |
| Partition coefficient: n-octanol/water | Not Available |
| Auto-ignition temperature | Not Available |
| Decomposition temperature | Not Available |

10. STABILITY AND REACTIVITY

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| Chemical Stability | Stable |
| Possibility of Hazardous Reactions | Will not occur. |
| Conditions to Avoid | Moisture. |
| Incompatible Materials | Bases, halides, organic material, carbides, chlorates, fulminates, nitrates, picrates, cyanides, cyclopentadiene, cyclopentanone oxime, nitroaryl amines, hexalithium disilicide, phosphorus (III) oxide, powdered metals. |
| Hazardous Decomposition Products | Sulfur oxides, hydrogen sulfide gas. |

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

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| Skin | Not Available |
| Eyes | Not Available |
| Respiratory | Not Available |
| Ingestion | Not Available |

Carcinogenicity

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| IARC | 1: Carcinogenic to humans (Sulfuric Acid aerosol). |
| ACGIH | A2: Suspected human carcinogen (Sulfuric Acid aerosol). |
| NTP | No components 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 components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. |

Signs & Symptoms of Exposure

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| Skin | Burning, itching, redness, inflammation upon exposed tissue. |
| Eyes | Eye burns, watering eyes. |
| Respiratory | Burning, choking, coughing, shortness of breath. |
| Ingestion | Nausea, vomiting, diarrhea, burning, severe pain. |

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| Chronic Toxicity | May cause bleeding of nose and gums, nasal and oral mucosal ulceration, conjunctivitis, yellowing of teeth and erosion of tooth enamel. |
| Teratogenicity | Not Available |
| Mutagenicity | Not Available |
| Embryotoxicity | Not Available |
| Target Organ(s) | Teeth, Lungs |
| Reproductive Toxicity | Not Available |
| Respiratory/Skin Sensitization | Not Available |

12. ECOLOGICAL INFORMATION

Ecotoxicity

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|-----------------------------|---------------|
| Aquatic Vertebrate | Not Available |
| Aquatic Invertebrate | Not Available |
| Terrestrial | Not Available |

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|--------------------------------------|----------------------|
| Persistence and Degradability | Not Available |
| Bioaccumulative Potential | Does not accumulate. |
| Mobility in Soil | Not Available |
| PBT and vPvB Assessment | Not Available |
| Other Adverse Effects | Not Available |

13. DISPOSAL CONSIDERATIONS

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| Waste Product or Residues | Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product or residue. |
| Product Containers | Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container. |

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

14. TRANSPORTATION INFORMATION

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| US DOT | UN1830, Sulfuric acid, 8, pg II |
| TDG | UN1830, SULFURIC ACID, 8, PG II |
| IMDG | UN1830, SULFURIC ACID, 8, PG II |
| Marine Pollutant | No |
| IATA/ICAO | UN1830, Sulfuric acid, 8, pg II |

15. REGULATORY INFORMATION

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| TSCA Inventory Status | All ingredients are listed on the TSCA Active inventory. |
| DSL / NDSL | All ingredients are listed on the DSL inventory. |
| California Proposition 65 | Not Listed |
| Rhode Island: Hazardous Substance List | Listed: Sulfuric Acid |

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| Massachusetts: Toxic or Hazardous Substance List, Right to Know | Not Listed |
| Pennsylvania: Hazardous Substance List | Listed: Sulfuric Acid |
| New Jersey: Right to Know Hazardous Substance List | Listed: Sulfuric Acid |
| SARA 302 | Listed: Sulfuric Acid |
| SARA 304 | Listed: Sulfuric Acid |
| SARA 311 | Acute Health Hazard. |
| SARA 312 | Acute Health Hazard. |
| SARA 313 | Listed: Sulfuric Acid (aerosol forms only) |
| WHMIS Canada | Class D1A: Poisonous and infectious material – Immediate and serious effects – Very toxic. Class E: Corrosive material. |

16. OTHER INFORMATION

| Revision | Date |
|------------|------------|
| Original | 03/27/2013 |
| Revision 1 | 08/06/2014 |
| Revision 2 | 03/04/2015 |
| Revision 3 | 11/07/2017 |
| Revision 4 | 12/03/2021 |

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