COLUMBUS CHEMICAL INDUSTRIES

Safety Data Sheet

Sulfuric Acid ICP-OES High Purity

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Sulfuric Acid ICP-OES High Purity

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

Product Number: 5619

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:

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

Precautionary Statements:

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.

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

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

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	95-98	7664-93-9	231-939-5	H_2SO_4	98.08 g/mol
Water	Balance	7732-18-5	231-791-2	H_2O	18.00 g/mol

4. FIRST-AID MEASURES

Eyes	Rinse with plenty of water for at least 15 minutes. 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

Suitable (and unsuitable) extinguishing media	Product is not flammable. Use appropriate media for adjacent fire. Cool 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

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	Prevent spillage from entering drains. 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 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

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.
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

Appearance (physical state, color, etc.)	Clear, colorless liquid.
Odor	Odorless.
Odor threshold	Not Available
pH	1.2 at 5g/L
Melting point/freezing point	3°C (37°F)
Initial boiling point and boiling range	290°C (554°F)
Flash point	Not Flammable
Evaporation rate	Not Available
Flammability (solid, gas)	Not Flammable
Upper/lower flammability or explosive limit	Not Explosive
Vapor pressure	1.33 hPa (1.00 mmHg) at 145.8°C (294.4°F)
Vapor density	3.39
Density	1.84
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

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

Skin	Not Available
Eyes	Not Available
Respiratory	LD50 – Rat – 510 mg/m^3 – 2h
Ingestion	LD50 – Rat – 2,140 mg/kg

Carcinogenicity

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

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.

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

Aquatic Vertebrate	LC50 – Gambusia affinis – 42 mg/L – 96h
Aquatic Invertebrate	EC50 - Daphnia magna (Water flea) - 29 mg/l - 24 h
Terrestrial	Not Available

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

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

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

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

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	10/04/2018
Revision 1	12/06/2021

Disclaimer: The information provided in this Safety Data Sheet (“SDS”) is correct to the best of our knowledge, information, and belief at the date of publication. The information in this SDS relates only to the specific Product identified under Section 1, and does not relate to its use in combination with other materials or products, or its use as to any particular process. Those handling, storing, or using the Product should satisfy themselves that they have current information regarding the particular way the Product is handled, stored or used and that the same is done in accordance with federal, state and local law. WE DO NOT MAKE ANY WARRANTY, EXPRESS OR IMPLIED, INCLUDING (WITHOUT LIMITATION) WARRANTIES WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN OR WITH RESPECT TO FITNESS FOR ANY PARTICULAR USE. WE DO NOT ASSUME RESPOSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, INJURY, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT.