

Safety Data Sheet

Sulfuric Acid, Concentrated 18 M

CAROLINA[®]
www.carolina.com

Section 1 Product Description

Product Name: Sulfuric Acid, Concentrated 18 M
Recommended Use: Science education applications
Synonyms: Oil of Vitriol; , Hydrogen Sulfate
Distributor: Carolina Biological Supply Company
2700 York Road, Burlington, NC 27215
1-800-227-1150
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)
Chemtrec: 800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

DANGER



Causes severe skin burns and eye damage. Causes serious eye damage. Toxic if inhaled. May cause cancer. Harmful to aquatic life.

GHS Classification:

Skin Corrosion/Irritation Category 1A, Serious Eye Damage/Eye Irritation Category 1, Carcinogenicity Category 1A, Acute Toxicity - Inhalation Dust / Mist Category 3, Hazardous to the aquatic environment - Acute Category 3

Other Safety Precautions: IF exposed or concerned: Get medical advice/attention.

Acute Toxicity Dermal Contains 100 % of the mixture consists of ingredient(s) of unknown toxicity

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%
Sulfuric Acid, Concentrated 18M	7664-93-9	100

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Eyes: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Skin Contact: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
Ingestion: IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

Section 5 Firefighting Procedures

Extinguishing Media: Use dry chemical, CO2 or appropriate foam.
Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards: Non-combustible but contact with water or moisture may generate sufficient heat to ignite combustible materials Contact with water produces sulfuric acid.
Hazardous Combustion Products: Sulfur Oxides

Section 6 Spill or Leak Procedures

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Steps to Take in Case Material Is Released or Spilled:

Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations found in Section 8 of this SDS. Additional precautions may be necessary based on special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred. Also consider the expertise of employees in the area responding to the spill.

Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Do not allow the spilled product to enter public drainage system or open waterways.

Section 7

Handling and Storage

- Handling:** Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. 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. Never add water to this product.
- Storage:** Store in a well-ventilated place. Keep container tightly closed. Store locked up. Keep container tightly closed in a cool, well-ventilated place.
- Storage Code:** White - Corrosive. Separate acids from bases; separate oxidizer acids from organic acids.

Section 8

Protection Information

Chemical Name	ACGIH		OSHA PEL	
	(TWA)	(STEL)	(TWA)	(STEL)
Sulfuric Acid, Concentrated 18M	0.2 mg/m ³ TWA (thoracic fraction)	N/A	1 mg/m ³ TWA	N/A

Control Parameters

Engineering Measures:

Local exhaust ventilation, process enclosures, or other engineering controls are necessary when handling or using this product to avoid overexposure.

Personal Protective Equipment (PPE): Respiratory Protection:

Lab coat, apron, eye wash, safety shower.
Respiratory protection may be required to avoid overexposure when handling this product. General or local exhaust ventilation is the preferred means of protection. Use a respirator if general room ventilation is not available or sufficient to eliminate symptoms. NIOSH approved air purifying respirator with acid gas cartridge and dust/mist filter

Respirator Type(s): Eye Protection:

Wear chemical splash goggles when handling this product. Additionally, wear a face shield when the possibility of splashing of liquid exists. Have an eye wash station available.

Skin Protection:

Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves:

Nitrile - Extra Thick (8 mm)

Section 9

Physical Data

Formula: H₂SO₄
Molecular Weight: 98.08
Appearance: Colorless, Oily Liquid
Odor: Strong Pungent
Odor Threshold: No data available
pH: -1.26
Melting Point: 10 C
Boiling Point: 280 C
Flash Point: No data available
Flammable Limits in Air: No data available

Vapor Pressure: 0.7 hPa at 25°C
Evaporation Rate (BuAc=1): No data available
Vapor Density (Air=1): No data available
Specific Gravity: 1.834-1.836 at 20°C
Solubility in Water: Soluble
Log Pow (calculated): No data available
Autoignition Temperature: No data available
Decomposition Temperature: No data available
Viscosity: 0.24
Percent Volatile by Volume: No data available

Section 10

Reactivity Data

Reactivity: Moderately reactive - See below
Chemical Stability: Stable under normal conditions.

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Conditions to Avoid: Contact with water
Incompatible Materials: Water, Organic Compounds, Strong reducing agents, Acetaldehydes, Amines
Hazardous Decomposition Products: Sulfur Oxides
Hazardous Polymerization: Will not occur

Section 11 Toxicity Data

Routes of Entry: Inhalation.
Symptoms (Acute): Respiratory disorders
Delayed Effects: Dental Erosion

Acute Toxicity:

Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Sulfuric Acid, Concentrated 18M	7664-93-9	Oral LD50 Rat 2140 mg/kg	Not determined	INHALATION LC50 GUINEA PIG 18 MG/M3 INHALATION LC50 Rat 510 MG/M3 INHALATION LC50 Mouse 320 MG/M3

Carcinogenicity:

Chemical Name	CAS Number	IARC	NTP	OSHA
Sulfuric Acid, Concentrated 18M	7664-93-9	Not listed	Not listed	Listed

Chronic Effects:

Mutagenicity: No evidence of a mutagenic effect.
Teratogenicity: No evidence of a teratogenic effect (birth defect).
Sensitization: No evidence of a sensitization effect.
Reproductive: No evidence of negative reproductive effects.
Target Organ Effects:
Acute: No information available
Chronic: Respiratory system

Section 12 Ecological Data

Overview: Slight ecological hazard. In high concentrations, this product may be dangerous to plants and/or wildlife.
Mobility: This material is expected to have high mobility in soil. It absorbs weakly to most soil types.
Persistence: Biodegradation, adsorption to sediment, and bioconcentration to aquatic organisms should not be significant.
Bioaccumulation: Bioconcentration is not expected to occur.
Degradability: No data
Other Adverse Effects: No data

Chemical Name	CAS Number	Eco Toxicity
Sulfuric Acid, Concentrated 18M	7664-93-9	96 HR LC50 BRACHYDANIO RERIO > 500 MG/L [STATIC] 24 HR EC50 DAPHNIA MAGNA 29 MG/L

Section 13 Disposal Information

Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.
Waste Disposal Code(s): If discarded, this product is considered a RCRA corrosive waste, D002.

Section 14 Transport Information

Ground - DOT Proper Shipping Name: **Air - IATA Proper Shipping Name:**

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UN1830
Sulfuric Acid
Class 8
P.G. II

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Section 15

Regulatory Information

TSCA Status: All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Sulfuric Acid, Concentrated 18M	7664-93-9	Sulfuric acid	1000 lb RQ	1000 lb final RQ; 454 kg final RQ	1000 lb TPQ	No

California Prop 65: WARNING: This product contains a chemical known to the state of California to cause cancer.

Section 16

Additional Information

Revised: 09/09/2015

Replaces: 09/03/2014

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The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health