

Section 1: Product & Company Information

Product Identifier: Sulfuric Acid, 78% Solution

Other Means of Identification

Product Number: No data available.

Recommended Use and Restrictions on Use

Recommended Use: Industrial raw material or processing agent.

Restrictions on Use: No data available.

Manufacturer / Importer / Supplier / Distributor Information

Company Name: CORECHEM Inc.

Address: 4320 Greenway Drive
Knoxville, TN 37918
USA

Information Telephone Number: 1-865-524-4239

Fax Number: 1-865-524-3375

Website: www.corecheminc.com

Contact Person: Regulatory Manager

E-mail: regulatory@corecheminc.com

Emergency Phone Number: Chemtrec® 1-800-424-9300 / Outside USA 1-703-527-3887 (monitored 24 hours/day)

Section 2: Hazards Identification

GHS Hazard Classification(s)

In accordance with OSHA Hazard Communication Standard 29 CFR 1910.1200 (HazCom 2012).

Physical Hazard(s)

Not classified.

Health Hazard(s)

Corrosion/Irritation, Skin – 1A

Environmental Hazard(s)

Not classified.

Label Elements

Signal Word

DANGER

Hazard Symbol(s)



Hazard Statement(s)

H314: Causes severe skin burns and eye damage.

Precautionary Statements

General

Not applicable.

Prevention

P260: Do not breathe dust/fume/gas/mist/vapors/spray.

P264: Wash face, hands and any exposed skin thoroughly after handling.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response

P301 + P330 + P331: IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304 + P340: IF INHALED: Remove to fresh air and keep at rest in a position 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 or doctor/physician.

P321: Specific treatment (see supplemental first aid instructions on this label).

P363: Wash contaminated clothing before reuse.

Storage

P405: Store locked up.

Disposal

P501: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Hazard(s) not otherwise classified (HNOC)

Extremely corrosive. Harmful or fatal if swallowed. Harmful if inhaled. Severe eyes and skin irritation. Possibility of damage to the upper respiratory tract and lung tissues.

Strong acid. Highly toxic to plants and aquatic organisms

Section 3: Composition/Information on Ingredients

Substance

Chemical Identity ²	Common Name/Synonym(s)	CAS # ³	Weight %	Impurity or Stabilizing Additive
Sulfuric Acid	Oil of Vitriol	7664-93-9	78%	No

1. Information regarding the composition and the percent ranges of the mixtures ingredients are not presented as it Confidential Business Information (CBI). Where a medical emergency exists (as determined by medical professional), timely disclosure of CBI is assured. The information omitted pertains to only the names of the substances and the concentration in the mixture (product) and can only be requested by a doctor/physician or Local/State/Provincial or Federal Authority.

2. Non-hazardous ingredients are not presented as to protect the proprietary formula of the product.

3. "—"Indicates ingredient is a mixture and contains multiple ingredients or may have no identifying CAS number.

Section 4: First-Aid Measures

General Information

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Wash contaminated clothing before reuse.

Inhalation

Remove to fresh air. If not breathing, institute rescue breathing. If breathing is difficult, ensure airway is clear and give oxygen. Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION!

Skin Contact

Immediately flush skin with plenty of water, for at least 15 minutes, while removing contaminated clothing and shoes. GET IMMEDIATE MEDICAL ATTENTION! Place contaminated clothing in closed container for storage until laundered or discarded. If clothing is to be laundered, inform person performing operation of contaminant's hazardous properties. Discard contaminated leather goods.

Eye Contact

Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. GET IMMEDIATE MEDICAL ATTENTION!

Ingestion

If victim is conscious and alert, give 1-3 glasses of water to dilute stomach contents. Rinse mouth out with water. Do not induce vomiting unless directed by medical personnel. Never give anything by mouth to an unconscious person. If spontaneous vomiting occurs keep head below hips to prevent aspiration and monitor for breathing difficulty. Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION!

Most important symptoms/effects, acute and delayed

Symptoms

No data available.

Indication of immediate medical attention and special treatment needed

Hazards

No data available.

Treatment

No data available.

Section 5: Fire-Fighting Measures

General Fire Hazards

Not flammable.

Suitable (and Unsuitable) Extinguishing Media

Suitable Extinguishing Media

Small fire: Use carbon dioxide or dry chemical to extinguish fire.

Large fire: Flood fire area with large quantities of water, while knocking down vapors with fog. If insufficient water supply, knock down vapors only

Tank fire: Cool containers with flooding quantities of water until well after fire is out. Do not get water inside containers. Evacuate immediately if sound from safety vents or discoloration of tank. Stay clear of tanks engulfed in fire.

Unsuitable Extinguishing Media

No data available.

Specific Hazards Arising from the Chemical

Reacts with most metals (especially dilute concentrations): 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). Mixing acids of different strengths can also pose an explosive risk in an enclosed space/container.

Special Protective Equipment and Precautions for Firefighters

Special Fire-Fighting Equipment Procedures

Evacuate personnel to a safe area. Keep personnel removed 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 sodium bicarbonate or soda ash to prevent corrosion of metals and formation of hydrogen gas.

Special Protective Equipment for Fire-Fighters

As in any fire, wear self-contained breathing apparatus pressure-demand (OSHA/NIOSH approved or equivalent) and full protective gear.

Section 6: Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

Evacuate spill area. Isolate hazard area and deny entry to unnecessary or unprotected personnel. Stay upwind and keep out of low area. Remove all possible sources of ignition in the surrounding area. Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. See Section 8 of the SDS for Personal Protective Equipment. Ventilate contaminated area thoroughly shut off leaks if possible without personal risk.

Methods and Materials for Containment and Clean-Up

Soak up small spills with dry sand or diatomaceous earth. Contain large spills and cautiously dilute and neutralize with lime or soda ash. Caution should be exercised regarding personnel safety and exposure to the released product.

Notification Procedures

Notify local authorities and the National Response Center, if required. If the product is spilled and not recovered, or is recovered as a waste for treatment or disposal, the Reportable Quantity (US DOT) is 1,000 lbs. (based on the sulfuric acid content of the solution spilled).

Environmental Precautions

No data available.

Section 7: Handling and Storage

Precautions for Safe Handling

DO NOT get in eyes, on skin, or on clothing. Avoid breathing vapors or mist. Wear approved respirators if adequate ventilation cannot be provided. Wash thoroughly after handling. Do not eat, drink or smoke in areas of use or storage. NEVER add water to acid.

Conditions for Safe Storage, including any Incompatibilities

Avoid contact with combustible materials, water, metals and alkalis. Store in a vented container. This material should be stored and shipped in containers specially designed for sulfuric acid. DO NOT add water or other products to contents in containers as violent reactions with resulting high heat, pressure, and/or generation of hazardous acid mists.

Section 8: Exposure Controls/Personal Protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Value	Source
Sulfuric Acid	TWA	1 mg/m ³ (8 hour)	US OSHA Table Z-1
Sulfuric Acid	TWA	0.2 mg/m ³ (8 hour)	US. ACGIH Threshold Limit Values

Biological Limit Values

The product does not contain any relevant quantities of hazardous materials with assigned biological limit values.

Appropriate Engineering Controls

No data available.

Individual protection measures, such as personal protective equipment (PPE)

General Information

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. Eye wash facilities and emergency shower must be available when handling this product.

Eye/Face Protection

Wear safety glasses with side shields (or goggles) and a face shield. Wear a full-face respirator, if needed.

Skin Protection

Hand Protection

Wear appropriate chemical resistant gloves.

Other

Wear appropriate chemical resistant clothing.

Respiratory Protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information

Hygiene Measures

When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated footwear that cannot be cleaned. Wash hands before breaks and immediately after handling the product. Wash contaminated clothing before reuse. Avoid contact with eyes, skin, and clothing.

Section 9: Physical and Chemical Properties

Appearance:	
Physical State:	Liquid
Color:	Colorless to Amber
Odor:	
	Pungent
Odor Threshold:	
	No data available.
pH:	
	< 1.0
Melting Point/Freezing Point:	
	-40 °F – 30 °F
Initial Boiling Point and Boiling Range:	
	215 °F – 440 °F
Flash Point:	
	No data available.
Evaporation Rate (butyl acetate=1):	
	No data available.
Flammability (solid, gas):	
	No data available.
Upper/Lower Limit on Flammability or Explosive Limits	
Flammability Limit – Upper:	No data available.
Flammability Limit – Lower:	No data available.
Explosive Limit – Upper:	No data available.
Explosive Limit – Lower:	No data available.
Vapor Pressure:	
	No data available.
Vapor Density (air =1):	
	3.4
Relative Density (water=1):	
	1.84
Solubility(ies):	
Solubility in water:	100%
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	
	No data available.
Auto-Ignition Temperature:	
	No data available.
Decomposition Temperature:	
	340 °C
Viscosity:	
	Negligible
Other Information:	
Molecular Weight:	98.08
Formula:	H ₂ SO ₄

Section 10: Stability and Reactivity

Reactivity

Reacts violently with water, organic substances and base solutions with evolution of heat and hazardous mists.

Chemical Stability

Material is stable under normal conditions.

Possibility of Hazardous Reactions

Hazardous polymerization does not occur.

Conditions to Avoid

No data available.

Incompatible Materials

Water; alkaline solutions; metals, metal powder; carbides; chlorates; fulminates; nitrates; picrates; strong oxidizing, reducing or combustible organic materials. Hazardous gases are evolved on contact with chemicals such as cyanides, sulfides, and carbides.

Hazardous Decomposition Products

Possibility of hazardous decomposition if heated and in contact with sources of ignition. Release of toxic gases and vapors (Sulfur oxides (SO₂, SO₃)).

Section 11: Toxicological Information

Information on routes of exposure

Ingestion: No data available.

Inhalation: No data available.

Skin Contact: No data available.

Eye Contact: No data available.

Information on Toxicological Effects

Acute Toxicity (List all possible routes of exposure)

Oral

Sulfuric Acid: LD50 (Rat): 2,140 mg/kg

Dermal

No data available.

Inhalation

No data available.

Repeated Dose Toxicity

No data available.

Skin Corrosion/Irritation

No data available.

Serious Eye Damage/Eye Irritation

No data available.

Respiratory/Skin Sensitization

No data available.

Carcinogenicity

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans

Group 1, Carcinogenic to humans. (Strong Inorganic Acid Mists Only)

US. National Toxicology Program (NTP) Report on Carcinogens

Known to be human carcinogen. (Strong Inorganic Acid Mists Only)

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Germ Cell Mutagenicity

In Vitro

No data available.

In Vivo

No data available.

Reproductive Toxicity

No data available.

Specific Target Organ Toxicity – Single Exposure

No data available.

Specific Target Organ Toxicity – Repeated Exposure

No data available.

Aspiration Hazard

No data available.

Other Effects

No data available.

Section 12: Ecological Information

Ecotoxicity

Acute Hazards to the Aquatic Environment

Fish

Sulfuric Acid: LC50 (Bluegill sunfish, 48 h): 49 mg/l

Sulfuric Acid: LC50 (Flounder, 48 h): 100 – 330 mg/l

Aquatic Invertebrates

Sulfuric Acid: LC50 (Shrimp, 48 h): 80 – 90 mg/l

Toxicity to Aquatic Plants

No data available.

Chronic Hazards to the Aquatic Environment

Fish

No data available.

Aquatic Invertebrates

No data available.

Toxicity to Aquatic Plants

No data available.

Persistence and Degradability

Biodegradation

There are no data on the degradability of this product.

BOD/COD Ratio

No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

No data available on bioaccumulation.

Partition Coefficient n-octanol / water (log Kow)

No data available.

Mobility in Soil

When released into the soil, this material may leach into groundwater.

Other Adverse Effects

No data available.

Section 13: Disposal Considerations

Disposal Instructions

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/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Contaminated Packaging

Handle contaminated packages in the same way as the substance itself. Emptied containers may retain hazardous residue and explosive vapors. Keep away from heat, sparks, and flames. Do not cut, puncture, or weld on or near this container. Follow label warnings until container is thoroughly cleaned or destroyed.

Section 14: Transportation Information

US Department of Transportation (DOT)

UN Number: UN1830
UN Proper Shipping Name: Sulfuric Acid
Technical Name: -
Hazard Class: 8
Subsidiary Hazard Risk: -
Packing Group: II
DOT Label/Placard Exemptions: Not determined
Special Provisions: A3, A7, B3, B83, B84, IB2, N34, T8, TP2
Packaging Exceptions: 49CFR 173.154
Packaging Non-Bulk: 49CFR 173.202
Packaging Bulk: 49CFR 173.242
Reportable Quantity (RQ): 1,000lb (454kg)
Marine Pollutant: No
Poison Inhalation Hazard: No
Special precautions for user: Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
Emergency Response Guidebook (ERG) #: 137

Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.

Section 15: Regulatory Information

US Federal Regulations

Toxic Substance Control Act (TSCA), Chemical Substance Inventory, Section 8(b)

This product or ingredient(s) are listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substance List (40 CFR 302.4)

The following chemical(s) in this material are subject to reporting levels established by CERCLA:
Sulfuric Acid (CAS# 7664-93-9)

Clean Air Act (CAA), Section 112(r)

No chemical(s) in this material are subject to the reporting requirements of CAA.

Emergency Planning and Community Right-To-Know Act (EPCRA)

EPCRA 302 Extremely Hazardous Substance

The following chemical(s) in this material are subject to reporting levels established by SARA Title III, Section 302:
Sulfuric Acid (CAS# 7664-93-9)

EPCRA 304 Emergency Response Notification

The following chemical(s) in this material are subject to reporting levels established by SARA Title III, Section 304:
Sulfuric Acid (CAS# 7664-93-9)

EPCRA 311/312 Emergency and Hazardous Materials Reporting

Fire Hazard: No
Sudden Release of Pressure: No
Reactive: Yes
Acute (Immediate) Health Hazard: Yes
Chronic (Delayed) Health Hazard: Yes

EPCRA 313 Toxic Chemical Release Inventory (TRI) Reporting

This material does not contain any chemical(s) with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)

This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Important Note: Due to the changing nature of regulatory requirements, the information in this document should NOT be considered all-inclusive or authoritative. Users should make their own investigations to determine the suitability of the information for their particular purposes. International, Federal, State and Local regulations should be consulted to determine compliance with all required reporting requirements.

Section 16: Other Information

Hazardous Materials Identification System (HMIS®) Classification

Health Hazard: **3**

Chronic Health Hazard: *

Flammability: **0**

Physical Hazard: **2**

(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

National Fire Protection Association (NFPA 704) Rating

Health Hazard: **3**

Fire Hazard: **0**

Reactivity Hazard: **2**

Special: **W**

(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

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Key to Abbreviations and Acronyms

ATE - Acute Toxicity Estimate

BCF - Bioconcentration Factor

EC50 - Effective concentration, 50%

IDHL – Immediately Dangerous to Life and Health

Kg – Kilogram

l – Liter

lb – Pound

LC50 - Lethal Concentration, 50%

LD50 - Lethal Dose, 50%

mg - milligram

ml – milliliter

N/A – Not Applicable

N/D – Not Determined

PEL – Permissible Exposure Limit

REL – Recommended Exposure Limit

STEL – Short-term Exposure Limit

TWA - Time weighted average

ACGIH - American Conference of Industrial Hygienists

AIHA – American Industrial Hygiene Association

BEI - Biological Exposure Indices

CAS – Chemical Abstracts Service

DOT – US Department of Transportation

EPA – US Environmental Protection Agency

GHS - Globally Harmonized System of Classification and Labelling of Chemicals

IARC - International Agency for Research on Cancer

IATA - International Air Transport Association

IBC - Intermediate Bulk Container

IMDG - International Maritime Dangerous Goods

NIOSH – National Institute for Occupational Safety and Health

NTP – National Toxicology Program

OSHA – US Occupational Health and Safety Administration

SARA – US EPA Superfund Amendments and Reauthorization Act

TSCA – US EPA Toxic Substances Control Act

UN - United Nations

References

HSDB® - Hazardous Substances Data Bank

Disclaimer

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