

Section 1: Product & Company Information

Product Identifier: Sulfuric Acid, 93 – 98% solution

Other Means of Identification

Product Number: 125015-120-0750
125016-120-0750

Recommended Use and Restrictions on Use

Recommended Use: Water treatment Chemical, Manufacture of pulp, paper, and paper products.
Restrictions on Use: None known.

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)

Corrosive to Metals - 1

Health Hazard(s)

Corrosion/Irritation, Skin – 1A
(Corrosion)Damage/Irritation, Eye - 1
Specific Target Organ Toxicity (STOT)-Respiratory Irritation, Single exposure - 3

Environmental Hazard(s)

Aquatic, Acute - 3
Aquatic, Chronic - 3

Label Elements

Signal Word

DANGER

Hazard Symbol(s)



Hazard Statement(s)

H290: May be corrosive to metals.
H314: Causes severe skin burns and eye damage.
H318: Causes serious eye damage.
H335: May cause respiratory Irritation.
H402: Harmful to aquatic life.
H412: Harmful to aquatic life with long lasting effects.

Precautionary Statements

General

Not applicable.

Prevention

P234: Keep only in original container.
P260: Do not breathe dust/fume/gas/mist/vapors/spray.
P261: Avoid breathing dust/fume/gas/mist/vapors/spray.
P264: Wash face, hands, and any exposed skin thoroughly after handling.
P271: Use only outdoors or in a well-ventilated area.
P273: Avoid release to the environment.

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.
 P312: Call a POISON CENTER or doctor/physician if you feel unwell.
 P321: Specific treatment (see supplemental first aid instructions on this label).
 P363: Wash contaminated clothing before reuse.
 P390: Absorb spillage to prevent material damage.

Storage

P403 + P233: Store in a well-ventilated place. Keep container tightly closed.
 P405: Store locked up.
 P406: Store in corrosive resistant container with a resistant inner liner.

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)

None known.

Section 3: Composition/Information on Ingredients

Substance

Chemical Identity ²	Common Name/Synonym(s)	CAS # ³	Weight %	Impurity or Stabilizing Additive
Sulfuric Acid	Drying Acid, Battery Acid, Oil of Vitriol, Dihydrogen Sulfate, Electrolyte Acid, Matting Acid	7664-93-9	93 – 98%	No

- Information regarding the composition and the percent ranges of the mixtures ingredients are not presented as its 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.
- Non-hazardous ingredients are not presented as to protect the proprietary formula of the product.
- "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 victim to fresh air and keep at rest in a position comfortable for breathing. Call a physician or poison control center immediately.

Skin Contact

Take off immediately all contaminated clothing. Wash off IMMEDIATELY with plenty of water for at least 15-20 minutes. Get medical attention immediately! Wash clothing separately before reuse. Destroy or thoroughly clean contaminated shoes.

Eye Contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Ingestion

Call a physician or poison control center immediately. Rinse mouth thoroughly. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content does not get into the lungs.

Most important symptoms/effects, acute and delayed

Symptoms

Contact with this material will cause burns to the skin, eyes, and mucous membranes.

Indication of immediate medical attention and special treatment needed

Hazards

No data available.

Treatment

Provide general supportive measures and treat symptomatically. Symptoms may be delayed.

Section 5: Fire-Fighting Measures

General Fire Hazards

Material may react violently with water. Contact with moisture or water may generate sufficient heat to ignite nearby combustible

Suitable (and Unsuitable) Extinguishing Media

Suitable Extinguishing Media

Dry chemical. Foam. Carbon dioxide (CO₂).

Unsuitable Extinguishing Media

Avoid water in straight hose stream; will scatter and spread fire.

Specific Hazards Arising from the Chemical

During fire, gases hazardous to health may be formed.

Special Protective Equipment and Precautions for Firefighters

Special Fire-Fighting Equipment Procedures

In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials.

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. Cool containers exposed to heat with water spray and remove container if no risk is involved. Do not allow runoff from firefighting to enter drains or waterways.

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

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 spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Following product recovery, flush area with water.

Small Spills: Absorb spill with vermiculite or other inert material. Clean surface thoroughly to remove residual contamination.

Never return spills in original containers for re-use. For waste disposal, see Section 13 of the SDS.

Notification Procedures

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions

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

Section 7: Handling and Storage

Precautions for Safe Handling

Use caution when handling/transferring. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Do not breathe mist or vapor. Use only with adequate ventilation. Wear appropriate personal protective equipment. Transfer and storage systems should be compatible. Observe good industrial hygiene practices.

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. Store product locked up.

Section 8: Exposure Controls/Personal Protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Value	Source
Sulfuric Acid	PEL	1 mg/m ³	US OSHA Table Z-1
Sulfuric Acid	TWA	0.2 ppm	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:

Odorless

Odor Threshold:

No data available.

pH:

< 1 (at 25°C)

Melting Point/Freezing Point:

-35 °C to 11 °C (-31°F to 52°F)

Initial Boiling Point and Boiling Range:

379 °F to 621°F (192.78°C to 327.22°C) @ 760mm Hg

Flash Point:

Not applicable.

Evaporation Rate (butyl acetate=1):

1

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:

<0.3 mmHg @ 25 °C (77 °F)
< 0.6 mm hg @ 38 °C (100 °F)

Vapor Density (air =1):

No data available.

Relative Density (water=1):

1.102 - 1.188 @ 60° F

Solubility(ies):

Solubility in water: Miscible

Solubility (other): No data available.

Partition coefficient (n-octanol/water):

No data available.

Auto-Ignition Temperature:

No data available.

Decomposition Temperature:

644 ° F (340 °C)

Viscosity:

13.6 mm ²/s (25 °C/ 77 °F)

Other Information:

Molecular Weight: 98.08 g/mol

Formula: H₂SO₄

Section 10: Stability and Reactivity

Reactivity

Reacts Violently with strong alkaline substances. This product may react with reducing agents. May be corrosive to metals. This product reacts with water and will generate heat.

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. Organic compounds. This product may react with reducing agents.

Hazardous Decomposition Products

Sulfur oxides.

Section 11: Toxicological Information

Information on 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.

Information on Toxicological Effects

Acute Toxicity (List all possible routes of exposure)

Oral

Sulfuric Acid: LD₅₀ (Rat): 2140 mg/kg

Dermal

No data available.

Inhalation

Sulfuric Acid: LC₅₀ (Rat, 1 h): 347 mg/l

Sulfuric Acid: LC₅₀ (Guinea Pig, 8 h): 0.018 mg/l

Repeated Dose Toxicity

No data available.

Skin Corrosion/Irritation

Causes severe skin burns.

Serious Eye Damage/Eye Irritation

Causes serious eye damage.

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 Mist Only)

US. National Toxicology Program (NTP) Report on Carcinogens

Known to be human carcinogen. (Strong Inorganic Acid Mist 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 mutagenic components identified.

In Vivo

No mutagenic components identified.

Reproductive Toxicity

None known.

Specific Target Organ Toxicity – Single Exposure

May cause respiratory irritation.

Specific Target Organ Toxicity – Repeated Exposure

None known.

Aspiration Hazard

Not classified.

Other Effects

Prolonged, repeated exposure to acid fumes/mists may cause chronic bronchitis, irritation or skin, mucous membranes, and gastrointestinal tract and erosion of the teeth.

Section 12: Ecological Information

Ecotoxicity

Acute Hazards to the Aquatic Environment

Fish

Sulfuric Acid: LC₅₀ (Fish, 96 h): 60 mg/l

Sulfuric Acid: LC₅₀ (Western Mosquitofish (Gambusia Affinis, 96 h): 42 mg/l

Sulfuric Acid: LC₅₀ (Lepomis macrochirus) 16-28 mg/l, 96 hours

Aquatic Invertebrates

Sulfuric Acid: EC₅₀ (Daphnia magna) 29 mg/l, 24 hours

Toxicity to Aquatic Plants

Sulfuric Acid: EC₅₀ (Pseudokirchneriella Subcapitata) > 100 mg/l, 24 hours.

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

Partition Coefficient n-octanol / water (log Kow)
No data available.

Mobility in Soil

This product is water soluble and may disperse into the soil.

Other Adverse Effects

The product may affect the acidity (pH factor) in water with risk of harmful effects to aquatic organisms.

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 with more than 51 percent 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 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: N/A
(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	ACGIH - American Conference of Industrial Hygienists
BCF - Bioconcentration Factor	AIHA – American Industrial Hygiene Association
EC50 - Effective concentration, 50%	BEI - Biological Exposure Indices
IDHL – Immediately Dangerous to Life and Health	CAS – Chemical Abstracts Service
Kg – Kilogram	DOT – US Department of Transportation
l – Liter	EPA – US Environmental Protection Agency
lb – Pound	GHS - Globally Harmonized System of Classification and Labelling of Chemicals
LC50 - Lethal Concentration, 50%	IARC - International Agency for Research on Cancer
LD50 - Lethal Dose, 50%	IATA - International Air Transport Association
mg - milligram	IBC - Intermediate Bulk Container
ml – milliliter	IMDG - International Maritime Dangerous Goods
N/A – Not Applicable	NIOSH – National Institute for Occupational Safety and Health
N/D – Not Determined	NTP – National Toxicology Program
PEL – Permissible Exposure Limit	OSHA – US Occupational Health and Safety Administration
REL – Recommended Exposure Limit	SARA – US EPA Superfund Amendments and Reauthorization Act
STEL – Short-term Exposure Limit	TSCA – US EPA Toxic Substances Control Act
TWA - Time weighted average	UN - United Nations

References

HSDB® - Hazardous Substances Data Bank

Disclaimer

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