ESSENTIAL CHEMISTRY. INNOVATIVE SOLUTIONS.

SAFETY DATA SHEET

Print Date: August 23, 2017

Section 1: Product & Company Information

Product Identifier: **Sulfuric Acid, 40% Solution**

Other Means of Identification
Product Number: No data available.

Recommended Use and Restrictions on Use
Recommended Use: Laboratory chemicals, Manufacture of substances.
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)
Corrosive to Metals - 1

Health Hazard(s)
Corrosion/Irritation, Skin – 1A
(Corrosion)Damage/Irritation, Eye - 1

Environmental Hazard(s)
Not classified.

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.

Precautionary Statements
General
Not applicable.

Prevention
P234: Keep only in original container.
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.
P390: Absorb spillage to prevent material damage.

Storage

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

Mixture

Chemical Identity [2]	Common Name/Synonym(s)	CAS # [3]	Weight %	Impurity or Stabilizing Additive
Sulfuric Acid	-	7664-93-9	40%	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

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

Skin Contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

Eye Contact

Continue rinsing eyes during transport to hospital. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Ingestion

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

No data available.

Suitable (and Unsuitable) Extinguishing Media

Suitable Extinguishing Media

Extinguishing powder, alcohol resistant foam, carbon dioxide, water fog

Unsuitable Extinguishing Media

No data available.

Specific Hazards Arising from the Chemical

Sulfur Oxides

Special Protective Equipment and Precautions for Firefighters

Special Fire-Fighting Equipment Procedures

No data available.

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 with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

Notification Procedures

No data available.

Environmental Precautions

Do not let product enter drains.

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

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Section 8: Exposure Controls/Personal Protection

Control Parameters

Occupational Exposure Limits

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

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.

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

Odor: No data available.

Odor Threshold: No data available.

pH:	1.2 at 5 g/l
Melting Point/Freezing Point:	3 °C (37 °F)
Initial Boiling Point and Boiling Range:	No data available.
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:	1.33 hPa (1.00 mmHg) at 145.8 °C (294.4 °F)
Vapor Density (air =1)**:**	3.39
Relative Density (water=1)**:**	1.303 g/cm^3
Solubility(ies):	
Solubility in water:	No data available.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-Ignition Temperature:	No data available.
Decomposition Temperature:	No data available.
Viscosity:	No data available.

Other Information:

Molecular Weight:	98.08 g/mol
Formula:	H_2SO_4

Section 10: Stability and Reactivity

Reactivity
No data available.

Chemical Stability
Material is stable under normal conditions.

Possibility of Hazardous Reactions
No data available.

Conditions to Avoid
No data available.

Incompatible Materials
Bases, Halides, Organic materials, Carbides, fulminates, Nitrates, picrates, Cyanides, Chlorates, alkali halides, Zinc salts, permanganates, e.g. potassium permanganate, Hydrogen peroxide, Azides, Perchlorates., Nitromethane, phosphorous, Reacts violently with:, cyclopentadiene, cyclopentanone oxime, nitroaryl amines, hexalithium disilicide, phosphorous(III) oxide, Powdered metals

Hazardous Decomposition Products
No data available.

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
No data available.

Aquatic Invertebrates
No data available.

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
No data available.

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:	UN2796
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, B2, B15, IB2, N6, 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) #:	157

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 chemicals(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 chemicals(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:	No
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: 1
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: 0
Fire Hazard: 0
Reactivity Hazard: 0
Special: N/A
(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

Prepared By: Regulatory Manager
Version #: 001
Issue Date: August 26, 2015
Revision Date: -
Revisions: -

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

The information in this SDS was obtained from sources which we believe are reliable. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS. The conditions or methods of handling, storage, use, and disposal of the product are beyond our control and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.