

Issue Date 10-May-2012

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Version 5

1. Identification of the Substance / Preparation and of the Company / Undertaking

Product Name Sulfuric Acid 50%(W/W)
Product Code 1774
UN/ID No UN2796
Recommended Use Industrial, Manufacturing or Laboratory use.
Restrictions on Use PREVENT DISPERSION OF MISTS!

Manufacturer Address

Anderson Chemical Company, 325 South Davis Avenue, Litchfield, MN 55355 (320-693-2477)

Emergency telephone number

Chemtrec 1-800-424-9300

2. Hazards Identification**Classification****OSHA Regulatory Status**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1
Corrosive to metals	Category 1

Label elements**Emergency Overview****Danger****Hazard statements**

Causes severe skin burns and eye damage
May be corrosive to metals

**Appearance** No information available**Physical state** liquid**Odor** Odorless**Precautionary Statements - Prevention**

Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
Keep only in original container

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician
Specific treatment (see Section 4 on this label)
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor/physician
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a POISON CENTER or doctor/physician
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

3. Composition / Information on Ingredients

Chemical Name	CAS No.	Weight-%	Trade Secret
Sulfuric acid	7664-93-9	49-51	

Any concentration shown as a range is due to batch variation or the exact percentage has been withheld as a trade secret.

4. First Aid Measures**Description of first aid measures****General advice**

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required. IF exposed or concerned: Get medical advice/attention.

Inhalation

Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention.

Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get immediate medical advice/attention.

Skin contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.

Ingestion

Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get immediate medical advice/attention.

Self-protection of the first aider

Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8). Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

Most important symptoms and effects, both acute and delayed**Symptoms**

Burning. Redness. May cause blindness. Coughing and/ or wheezing.

Indication of any immediate medical attention and special treatment needed**Note to physicians**

Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

5. Fire-fighting Measures**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Adding water to caustic solution generates large amounts of heat.

Small Fire

CO₂ (except for Cyanides). Dry chemical. Dry sand. Alcohol-resistant foam. Do not get water inside containers.

Large Fire

Move containers from fire area if you can do it without risk. CAUTION: Use of water spray when fighting fire may be inefficient. DO NOT GET WATER INSIDE CONTAINERS.

**Unsuitable extinguishing media
Specific hazards arising from the chemical**

Do not scatter spilled material with high pressure water streams.

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.

Explosion Data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Attention! Corrosive material. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Other information Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and cleaning up

Methods for containment Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Dike far ahead of liquid spill for later disposal. Do not direct water at spill or source of leak. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly.

7. Handling and Storage

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. When diluting, always add the product to water. Never add water to the product. Reacts violently with water.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

Incompatible materials Organic material. Alkali. Metals. Sulfides. Cyanide compounds. Hypohlorites. Do not add water to acid.

8. Exposure Controls / Personal Protection

Control parameters

Exposure Limits The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sulfuric acid 7664-93-9	TWA: 0.2 mg/m ³ thoracic particulate matter	TWA: 1 mg/m ³ (vacated) TWA: 1 mg/m ³	IDLH: 15 mg/m ³ TWA: 1 mg/m ³

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Face protection shield. Tight sealing safety goggles.

Hand protection Wear suitable gloves. Impervious gloves.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Environmental exposure controls Do not allow into any sewer, on the ground or into any body of water. Prevent product from

General hygiene considerations entering drains.
Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Wash hands before breaks and immediately after handling the product.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State:	Liquid	Odor:	Odorless
Appearance:	Clear	Odor Threshold:	No information available
Color:	Colorless to yellowish		
Property	Values	Remarks • Method	
pH:	1	pH Range: <1	
"Salt Out" Point (°F):		No information available	
Melting Point/Freezing Point:	-36.6 °C / -32 °F	No information available	
Boiling Point/Boiling Range:		No information available	
Flash Point:		No information available	
Evaporation Rate (BuAc=1):		No information available	
Flammability (solid, gas):		No information available	
Flammability Limits in Air:		No information available	
Upper Flammability Limit:		Lower Flammability Limit:	
Vapor Pressure (mm Hg) :		No information available	
Vapor density (Air =1)	3.4		
Specific Gravity (H₂O=1):	1.390-1.408		
Specific Gravity (2nd value):			
Water Solubility:	Completely soluble		
Solubility(ies):		No information available	
Partition Coefficient (n-octanol/water)		No information available	
Autoignition Temperature:		No information available	
Decomposition Temperature:		No information available	
Kinematic Viscosity:		No information available	
Dynamic Viscosity:		No information available	
Oxidizing Properties:	No information available		
Explosive Properties:	Contact with metals may evolve flammable hydrogen gas; Reacts violently with water; Sufficient heat may be produced to ignite combustible materials; Sealed containers may rupture when heated; Mixing acids of different strengths/concentrations can also pose an explosive risk in an enclosed space/container		

9.2. Other information

Softening Point:	No information available
Molecular Weight:	98.08
VOC Content(%):	No information available
Liquid Density	No information available
Bulk density	No information available

10. Stability and Reactivity

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	Exposure to air or moisture over prolonged periods. Extremes of temperature and direct sunlight.
Incompatible materials	Organic material. Alkali. Metals. Sulfides. Cyanide compounds. Hypohlorites. Do not add water to acid.
Hazardous decomposition products	Thermal decomposition can lead to release of irritating and toxic gases and vapors.

11. Toxicological Information**Information on likely routes of exposure****Product Information****Inhalation**

Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal.

Eye contact

Specific test data for the substance or mixture is not available. Causes burns. (based on components). Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.

Skin contact

Specific test data for the substance or mixture is not available. Causes severe burns.

Ingestion

Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics**Symptoms**

Redness. Burning. May cause blindness. Coughing and/ or wheezing.

Numerical measures of toxicity

No information available

Acute Toxicity:

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 4,196.08 mg/kg

Unknown Acute toxicity

51 % of the mixture consists of ingredient(s) of unknown toxicity

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

51 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

51 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

51 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

51 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Component Information

Chemical name	Oral LD ₅₀ :	Dermal LD ₅₀ :	LC ₅₀ (Lethal Concentration):
Sulfuric acid 7664-93-9	= 2140 mg/kg (Rat)	-	= 0.375 mg/L (Rat) 4 h
Water 7732-18-5	> 90 mL/kg (Rat)	-	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Skin corrosion/irritation**

Causes severe burns.

Serious eye damage/eye irritation

Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

Respiratory or skin sensitization

No information available.

Germ cell mutagenicity

No information available.

Carcinogenicity

Classification based on data available for ingredients. See section 2 for classified hazards based on component information.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Sulfuric acid	A2	Group 1	Known	X

7664-93-9				
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ACGIH (American Conference of Governmental Industrial Hygienists)

A2 - Suspected Human Carcinogen

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

NTP (National Toxicology Program)

Known - Known Carcinogen

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Reproductive toxicity No information available.**STOT - single exposure** No information available.**STOT - repeated exposure** No information available.**Target Organ Effects:** Respiratory system, Eyes, Skin, Teeth.**Other Adverse Effects:** No information available.**Aspiration hazard** No information available.**12. Ecological Information****Ecotoxicity** The environmental impact of this product has not been fully investigated.

Chemical name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Sulfuric acid 7664-93-9	-	500: 96 h Brachydanio rerio mg/L LC50 static	-	-

Persistence and Degradability: No information available.**Bioaccumulation:** There is no data for this product.**Other Adverse Effects:** No information available.**13. Disposal Considerations****Waste treatment methods****Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.**Contaminated packaging** Do not reuse empty containers.**14. Transport Information****DOT**

Proper shipping name SULFURIC ACID
Hazard Class 8
UN/ID No UN2796
Packing Group II
Description UN2796, SULFURIC ACID, 8, PG II



15. Regulatory Information

International Inventories

AICS	Complies
TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies

Chemical name	AICS	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS
Sulfuric acid	Present	Present ACTIVE	Present	-	Present	-	Present	Present [23017]	Present	Present
Water	Present	Present ACTIVE	Present	-	Present	-	Present	Present [32224]	Present	Present

Inventory Legend

- AICS** - Australian Inventory of Chemical Substances
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances

RESTRICTIONS - REACH TITLE VII No information available

US Federal Regulations

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	SARA Extremely Hazardous Substances TPQ
Sulfuric acid	1000 lb	1000 lb	1000 lb TPQ

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Percent by Weight
Sulfuric acid	49.0-51.0

SARA 311/312 Hazards

- Corrosive to metals
- Acute toxicity - Inhalation (Dusts/Mists)
- Serious eye damage or eye irritation
- Skin corrosion or irritation

U.S. State Right-to-Know Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals

Strong inorganic acid mists containing sulfuric acid is a Proposition 65 Chemical. **DO NOT** create acids mists.

16. Other Information

<u>NFPA</u>	Health hazards 3	Flammability 0	Instability 2	Physical and Chemical Properties -
<u>HMIS</u>	Health hazards 3	Flammability 0	Physical hazards 2	Personal protection X

Prepared By

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14-Sept-2020-Updated Section 15

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet