



Material Safety Data Sheet

Issuing Date 12/10/2010

1. PRODUCT AND COMPANY IDENTIFICATION

Revision Number 0

Product Name

Sulfuric Acid, 1:1

Product Code(s)

6141

Recommended Use

Laboratory chemicals. Industrial (not for food or food contact use).

Company

Lamotte Company, Inc.
802 Washington Avenue
P.O. Box 329
Chestertown, MD 21620
USA

Emergency Telephone Number

24 Hour Emergency Number (CHEM-TEL):
USA, Canada, Puerto Rico: 1-800-255-3924
Outside North American Continent (Call collect) 813-248-0585

2. HAZARDS IDENTIFICATION

Corrosive
DANGER! POISON!
Emergency Overview

Liquid and mist can cause severe burns to all body tissue
May be fatal if inhaled, or swallowed

Water reactive
Physical State Liquid

Odor Odorless

OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1201). Safety information is given for exposure to the reagent as sold and considers exposure to the chemical if user has direct eye and skin contact.

Potential Health Effects

Inhalation, skin contact, and ingestion

Principles Routes of Exposure

Acute Toxicity

Eyes

Skin

Inhalation

Ingestion

Chronic Effects

Aggravated Medical Conditions

Corrosive to the eyes and may cause severe damage including blindness.
Corrosive. Can cause redness, pain, and severe skin burns. May discolor the skin. Harmful if absorbed through skin.
Poison - may be fatal if inhaled. Inhalation of corrosive mist 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.
Corrosive. Causes burns. May be fatal if swallowed. Can cause immediate pain and burning in the mouth, throat, esophagus and GI tract. May cause nausea, vomiting, and diarrhea, and in severe cases death.
Chronic exposure to corrosive mists or vapors may cause erosion of the teeth. Chronic exposure to mists containing sulfuric acid is a cancer hazard.
Hypersensitivity may occur in those with preexisting skin disorders. Respiratory disorders. Preexisting eye disorders.

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3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight %
Sulfuric acid	7664-33-9	64
Water	7732-18-5	to 100%

4. FIRST AID MEASURES

General Advice
Do not get in eyes, on skin, or on clothing. Do not breathe dust/fume/gas/mist/vapor/spray. Immediately flush eyes with gentle stream of water for at least 15 minutes, occasionally lifting upper and lower eyelids. Call a physician immediately.

Eye Contact
Immediately flush eyes with soap and plenty of water for at least 15 minutes while removing all contaminated clothing and shoes. Excess acid on skin can be neutralized with a 2% solution of sodium bicarbonate in water. Call a physician immediately.

Skin Contact
Wash off immediately with soap and plenty of water for at least 15 minutes while removing all contaminated clothing and shoes. Excess acid on skin can be neutralized with a 2% solution of sodium bicarbonate in water. Call a physician immediately.

Inhalation
Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and contact emergency personnel. Call a physician immediately.

Ingestion
DO NOT INDUCE VOMITING. Drink plenty of water. Clean mouth with water. Call a physician immediately. Never give anything by mouth to an unconscious person.

Protection of First-aiders
Use personal protective equipment. See Section 8 for more detail. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Flammable Properties
Not flammable.

Flash Point
Not applicable

Suitable Extinguishing Media
Dry chemical or CO₂. DO NOT USE WATER.

Explosion Data
Specific Hazards Arising from the Chemical
Contact with metals may evolve flammable hydrogen gas. React vigorously with water.

NFPA
Health Hazard 3 Flammability 0 Stability 2 Physical and Chemical Hazards W

Personal Precautions
Ensure adequate ventilation. Avoid contact with skin, eyes and inhalation of vapors. Use personal protective equipment. Refer to Section 8.

Methods for Cleaning Up
Neutralize spill with alkaline material (sodium bicarbonate), being careful to prevent splattering, then containerize slurry and hold for later disposal. If local regulations permit, dilute slurry with water and rinse to drain with excess water. After cleaning, flush away traces with water.

Handling
Handle in accordance with good industrial hygiene and safety practice. Prevent contact with skin, eyes and clothing. Do not ingest. Do not eat, drink or smoke when using this product.

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Storage

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from incompatible materials such as cyanides or sulfides. Store away from strong bases or metals. Do not store near combustible materials. Keep out of the reach of children.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH REL
Sulfuric acid	TWA: 0.2 mg/m ³	TWA: 1 mg/m ³	IDLH: 10 mg/m ³
Water	None Known	None Known	TLV: 10000
	7732-18-5		None Known

Engineering Measures
Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment
Eye/Face Protection
Skin and Body Protection
Respiratory Protection

Hygiene Measures
Safety glasses with side-shields.
Wear protective gloves/clothing.
When workers are being concentrations above the exposure limit they must use appropriate certified respirators.

Physical and Chemical Properties

Appearance	Clear, colorless solution	Odor	Odorless
Physical State	Liquid	pH	<1
Flash Point	Not applicable	Autoignition Temperature	Not applicable
Boiling Point/Range	<100 °C / 214 °F	Flammability Limits in Air	Not applicable
Specific Gravity	-3.4 (water = 1)	Vapor Pressure	No information available
Vapor Density	No information available		

Stability
Stable under normal conditions of use and storage.

Incompatible Products
Water. Strong bases. Metals. Combustible materials. Cyanides. Sulfides. Formaldelyde.

Conditions to Avoid
Excessive heat. Incompatible products. Direct sunlight.

Hazardous Decomposition Products
Hydrogen gas, Sulfur oxides.

Hazardous Reactions
Reacts violently with water. Contact with metals may evolve flammable hydrogen gas.

Hazardous Polymerization
Hazardous polymerization does not occur.

Acute Toxicity

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Irritation
Sulfuric acid	2140 mg/kg (Rat)	None Known	610 mg/m ³ (Rat) 2h

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Water	90 ml/gal (Part)	None Known	None Known
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Chronic Toxicity
Chronic exposure to corrosive mists or vapors may cause erosion of the teeth. Chronic exposure to mists containing sulfuric acid is a cancer hazard.

Chemical Name	ACGH	IARC	MTS	OSHA
Sulfuric acid	A2	Group 1	None Known	X
Water	None Known	None Known	None Known	None Known

Chemical Name	EU - Endocrine Disruptors - Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Interactors
Sulfuric acid	None Known	None Known	None Known
Water	None Known	None Known	None Known

12. ECOLOGICAL INFORMATION

Ecotoxicity
The material may be toxic to aquatic life.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Microtox	Daphnia Magna Water
Sulfuric acid	None Known	LC50 - 500 mg/L Birehydratic ratio 95 h	None Known	EC50 = 23 mg/L 24 h
Water	None Known	None Known	None Known	None Known

Bioaccumulation/Accumulation
When released into the soil, this material may leach into ground water. When released into the air, this material may be removed from the atmosphere to a moderate extent by wet or dry deposition.

Chemical Name	Log Pow
Sulfuric acid	None Known
Water	None Known

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method
Dispose according to federal, state, and local regulations. If permitted, neutralize reagent with sodium bicarbonate/sodium carbonate, add slurry to large volume of water to dilute, rinse to drain with excess water.

Chemical Name	RCRA - Halogenated Organic Compounds
Sulfuric acid - 7664-93-9	None Known
Water - 7732-18-5	None Known

Chemical Name	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Sulfuric acid - 7664-93-9	None Known	None Known	None Known
Water - 7732-18-5	None Known	None Known	None Known

14. TRANSPORT INFORMATION

DOT
Proper Shipping Name SULFURIC ACID (> 51%ACID)
Hazard Class 8
UN-No 1830
Packaging Group II

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Reportable Quantity (RQ)	1000
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ATA
UN-No 1830
Proper Shipping Name SULFURIC ACID (>51% ACID)
Hazard Class 8
Packaging Group II

IMDGIMO
Proper Shipping Name SULFURIC ACID
Hazard Class 8
UN-No 1830
Packaging Group II

15. REGULATORY INFORMATION

International Inventories

Component	TSCA	DSL	ENRECS/ELIN	ENCS	IECSC	KECL	PRCS	ANCS
Sulfuric acid	Present	X	CS	1-430; 1-724	X	KE-32570	X	X
Water	Present	X	X	ENCS	X	KE-33400	X	X

U.S. Federal Regulations

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 312.

Chemical Name	CAS No	Weight %	SARA 313 - Threshold Values %
Sulfuric acid	7664-93-9	64	10
Water	7732-18-5	10 100%	None Known

SARA 311/312 Hazard Categories
Acute Health Hazard Yes
Chronic Health Hazard No
File Hazard No
Sudden Release of Pressure Hazard No
Reactive Hazard Yes

Clean Water Act
This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sulfuric acid	1000 lb	None known	None known	X
Water	7664-93-9 (64)	None known	None known	None known
	7732-18-5 (10 100%)	None known	None known	None known

Chemical Name	CAS No	Weight %	HAPs title	VOC Chemicals	Class 1 Ozone Depleters	Class 2 Ozone Depleters
Sulfuric acid	7664-93-9	64	None known	None known	None known	None known
Water	7732-18-5	10 100%	None known	None known	None known	None known

CERCLA

Sulfuric Acid

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Chemical Name Sulfuric acid Water	Hazardous Substances RGE 1000 lb None Known	Extremely Hazardous Substances RGE 1000 lb None Known
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U.S. State Regulations

California Proposition 65
Warning: California Proposition 65 has classified "strong inorganic acid mists containing sulfuric acid" as a chemical known to the State of California to cause cancer. This classification applies only to "mists" containing sulfuric acid and not to sulfuric acid or sulfuric acid solutions, as is this solution.

Chemical Name Sulfuric acid Water	CAS No. 7664-93-9 7732-18-5	California Prop. 65 Carcinogen None Known
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Chemical Name Sulfuric acid Water	Massachusetts X None Known	New Jersey X None Known	Pennsylvania X None Known	Illinois X None Known	Rhode Island X None Known
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International Regulations

Mexico - Grade

Chemical Name Sulfuric acid Water	Carbinogen Status None AZ None Known	Exposure Limits Mexico: TVAS 1 mg/m ³ None Known
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Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class
E Corrosive material
D1A Very toxic materials



Chemical Name Sulfuric acid	NFPA X
16 OTHER INFORMATION	
NFPA	HMS
PPE	Transport Symbol

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Reactivity	3
	4
	2

Prepared By

Regulatory Affairs Department

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Revision Date

Revision Note

Initial Release.

Disclaimer

The information provided on this MSDS 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

End of MSDS

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