



Issuing Date 4/2/2012

Revision Number 0

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name	ALKALINITY TITRATION REAGENT
Product Code(s)	4015
Recommended Use	Test kit reagent. 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

WARNING!

Emergency Overview

Harmful if swallowed

May cause severe eye and skin irritation

May cause irritation of respiratory tract

Appearance Clear, colorless

Physical State Liquid

Odor Odorless

OSHA Regulatory Status 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

Principle Routes of Exposure Eye contact, Skin contact, Ingestion, Inhalation.

Acute Toxicity

Eyes

Contact with eyes may cause severe irritation. Causes irritation, redness, and pain.

Skin

Irritating to skin. Symptoms can include redness, itching, and pain. Prolonged or repeated contact may dry skin and cause irritation.

Inhalation

Depending on exposure, the effects from inhalation of corrosive mists can vary from mild irritation to serious damage to respiratory tract. Effects are expected to be less severe than for exposure to higher concentrations which symptoms can include coughing, nausea, vomiting.

Ingestion

Harmful if swallowed. Causes irritation or burns to the digestive and respiratory tract. 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 Effects

Aggravated Medical Conditions

Hypersensitivity may occur in those with preexisting skin disorders. Respiratory disorders. Preexisting eye disorders.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula

Hin H

Chemical Name	CAS-No	Weight %
Sulfuric acid	7664-93-9	0.1
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/vapors/spray.

Eye Contact

Immediately flush eyes with gentle stream of water for at least 15 minutes, occasionally lifting upper and lower eyelids. 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. Consult a physician.

Inhalation

Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and contact emergency personnel.

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.

5. FIRE-FIGHTING MEASURES

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 most metals causes the formation of explosive and flammable hydrogen gas. React vigorously with water.

NFPA

Health Hazard 1

Flammability 0

Stability 0

Physical and Chemical Hazards W

HMIS

Health Hazard 1

Flammability 0

Stability 1

6. ACCIDENTAL RELEASE MEASURES

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.

7. HANDLING AND STORAGE

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.

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 IDLH
Sulfuric acid 7664-93-9	TWA: 0.2 mg/m ³	TWA: 1 mg/m ³	IDLH: 15 mg/m ³ TWA: 1 mg/m ³
Water 7732-18-5	None Known	None Known	None Known

Engineering Measures Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment

Eye/Face Protection Safety glasses with side-shields.

Skin and Body Protection Wear protective gloves/clothing.

Respiratory Protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear, colorless	Odor	Odorless
Physical State	Liquid	pH	1
Flash Point	Not applicable	Autoignition Temperature	Not applicable
Boiling Point/Range	No data available	Flammability Limits in Air	Not applicable
Vapor Pressure	No information available	Vapor Density	No information available

10. STABILITY AND REACTIVITY

Stability Stable under normal conditions of use and storage.

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

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

Hazardous Decomposition Products Hydrogen gas. Sulfur oxides (SO_x).

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

Hazardous Polymerization Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sulfuric acid	2140 mg/kg (Rat)	None Known	510 mg/m ³ (Rat) 2 h
Water	90 mL/kg (Rat)	None Known	None Known

Chronic Toxicity

Chemical Name	ACGIH	IARC	NTP	OSHA
Sulfuric acid	A2	Group 1	Known	X
Water	None Known	None Known	None Known	None Known

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 Toxicity Program)

Known - Known Carcinogen

OSHA: (Occupational Safety & Health Administration)

X - Present

Endocrine Disruptor Information

Chemical Name	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
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 Flea)
Sulfuric acid	None Known	LC50> 500 mg/L Brachydanio rerio 96 h	None Known	EC50 = 29 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	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Sulfuric acid - 7664-93-9	None Known	None Known	None Known	None Known
Water - 7732-18-5	None Known	None Known	None Known	None Known

14. TRANSPORT INFORMATION

DOT Not regulated

IATA Not regulated

IMDG/IMO Not regulated

15. REGULATORY INFORMATION

International Inventories

Component	TSCA	DSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Sulfuric acid 7664-93-9 (0.1)	Present	X	X	1-430; 1-724	X	KE-32570	X	X
Water 7732-18-5 (to 100%)	Present	X	X	ENCS	X	KE-35400	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 372

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values %
Sulfuric acid	7664-93-9	0.1	1.0
Water	7732-18-5	to 100%	None Known

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire 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 7664-93-9 (0.1)	1000 lb	None Known	None Known	X
Water 7732-18-5 (to 100%)	None Known	None Known	None Known	None Known

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contain any HAPs.

Chemical Name	CAS-No	Weight %	HAPS data	VOC Chemicals	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Sulfuric acid	7664-93-9	0.1	None Known	None Known	None Known	None Known
Water	7732-18-5	to 100%	None Known	None Known	None Known	None Known

CERCLA

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Sulfuric acid	1000 lb	1000 lb
Water	None Known	None Known

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	CAS-No	California Prop. 65
Sulfuric acid	7664-93-9	Carcinogen
Water	7732-18-5	None Known

U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Sulfuric acid	X	X	X	X	X
Water	None Known	None Known	None Known	None Known	None Known

International Regulations**Mexico - Grade**

Chemical Name	Carcinogen Status	Exposure Limits
Sulfuric acid	A2	Mexico: TWA= 1 mg/m ³
Water	None Known	None Known



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

Component	WHMIS Hazard Class
Sulfuric acid 7664-93-9 (0.1)	1 % D1A E
Water 7732-18-5 (to 100%)	Uncontrolled product according to WHMIS classification criteria

Chemical Name	NPRI
Sulfuric acid	X

16. OTHER INFORMATION

NFPA	HMIS	PPE	Transport Symbol						
	<table><tr><td>Health Hazard</td><td>1</td></tr><tr><td>Fire Hazard</td><td>0</td></tr><tr><td>Reactivity</td><td>1</td></tr></table>	Health Hazard	1	Fire Hazard	0	Reactivity	1		
Health Hazard	1								
Fire Hazard	0								
Reactivity	1								

Prepared By
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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