

1. PRODUCT AND COMPANY IDENTIFICATION

| | |
|-----------------------------------|---|
| Product Name | ALKALINITY TITRATION REAGENT B |
| Product Code(s) | 4493 |
| 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 H₂SO₄ in H₂O

| 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 CO ₂ . 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

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|--------------------------------|---|
| 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

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|-----------------|---|
| 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 in 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 |

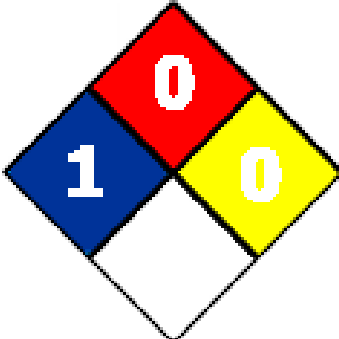

Canada

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 border="1" style="width: 100%;"> <tr> <td style="background-color: #0000FF; color: white;">Health Hazard</td> <td style="text-align: center; font-weight: bold;">1</td> </tr> <tr> <td style="background-color: #FF0000; color: white;">Fire Hazard</td> <td style="text-align: center; font-weight: bold;">0</td> </tr> <tr> <td style="background-color: #FFFF00; color: black;">Reactivity</td> <td style="text-align: center; font-weight: bold;">1</td> </tr> </table> | Health Hazard | 1 | Fire Hazard | 0 | Reactivity | 1 |  | |
| Health Hazard | 1 | | | | | | | | |
| Fire Hazard | 0 | | | | | | | | |
| Reactivity | 1 | | | | | | | | |

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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