

Material Safety Data Sheet

Product: R-471 Sulfuric Acid Titrating Solution (100ppm or greater drop Factor)

Date of Preparation: 1/07

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: R-471 Sulfuric Acid Titrating Solution (100ppm or greater drop factor)

Chemical Formula: Analytical Testing Reagent for Laboratory or Field Use

Sold By:

Manufacturer:

Masters Company, Inc.

890 Lively Blvd.

Wood Dale, IL 60191

Emergency Response No.:

800-424-9300 CHEMTREC®

Section 2 - Composition/Information on Ingredients

| Ingredient Name | CAS Number | % wt or % vol | OSHA PEL TWA STEL | ACGIH TLV TWA STEL | Other |
|----------------------------|------------|---------------|----------------------|-----------------------|-------|
| Sulfuric Acid | 7664939 | 0-5 | 1PPM | | |
| Non- Hazardous Ingredients | | 95-100 | | | |
| TOTAL | | 100 | | | |

Section 3 - Hazards Identification

+ + + + Emergency Overview + + + +

HMIS

| | |
|---|----------------------|
| 3 | HEALTH |
| 0 | FLAMMABILITY |
| 1 | REACTIVITY |
| J | PROTECTIVE EQUIPMENT |

+Sec.8

Potential Health Effects

Primary Entry Routes: Eye and Skin Contact.

Acute Effects: Burns of eyes and skin. Might cause nose and throat irritation.

Inhalation: High mist concentrations can cause irritation of eyes, nose, throat and lungs.

Eye: Severe burns

Skin: Severe burns.

Ingestion: Severe acid burns of mouth, throat, esophagus, and stomach. Gross overexposure may cause death.

Carcinogenity: IARC, NTP, and OSHA do not list this product or its components as a carcinogen.

Medical Conditions Aggravated by Long-term Exposure: No specific information provided on compounds at date of issue.

Chronic Effects: No studies have been conducted for this product

Section 4 - First Aid Measures

Inhalation: Remove to fresh air. Call a physician

Eye Contact: Flush eyes with a large amount of water for 15 minutes. Seek medical attention immediately if any irritation persists. After first aid, get appropriate in-plant, paramedic or community medical support. Do not try to neutralize the acid.

Skin Contact: Wash affected areas thoroughly with water for at least 15 minutes. Remove all contaminated personal protective equipment and clothing and shoes. Get medical attention while flushing skin. Keep affected area cool.

Ingestion: If swallowed, give 2 glasses of water to drink. DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician immediately and transfer promptly to medical facility.

Section 5 - Fire-Fighting Measures

Flash Point: Non-Flammable

Flash Point Method: Not applicable

Burning Rate: NIA

Auto ignition Temperature: NIA

LEL: NIA

UEL: NIA

Flammability Classification: Non Flammable

Extinguishing Media: Water fog, Alcohol foam, Carbon Dioxide, Dry Chemical

Unusual Fire or Explosion Hazards: None known other than material can splatter above 100°C/212°F.

Hazardous Combustion Products: Unknown, may generate flammable, potentially explosive hydrogen gas on contact with most metals.

Fire-Fighting Instructions: Do not release runoff from fire control methods to sewers or waterways.

Fire-Fighting Equipment: Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive-pressure mode.

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Section 6 - Accidental Release Measures

Spill/Leak Procedures:

Small Spills: Absorb with soda ash, or flush to sewer or ground with large amounts of water, after neutralization with soda ash.

Large Spills:

Containment: For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways. Neutralize with lime or soda ash.

Cleanup: Accumulate the absorbed materials and dispose of according to federal, state and local regulations.

Regulatory Requirements: Follow applicable OSHA regulations (29 CFR 1910.120)

Section 7 - Handling and Storage

Handling Precautions: Use the recommended safety controls and personal protective equipment as outlined. Fully review all data before handling of the material itself. Avoid contact with skin or eyes. Avoid breathing dust or mist. Keep from contact with clothing and other combustible materials. Observe good personal hygiene and housekeeping practices.

Storage Requirements: Do not store this material near any strong bases, oxidizers, flammables or any other type of reactive material. Do not expose the material to temperature extremes.

Regulatory Requirements: Store materials according to all local, state and federal guidelines that are established for corrosive acid chemical products.

Section 8 - Exposure Controls/Personal Protection

Engineering Controls:

Ventilation: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs (Sec. 2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

Administrative Controls:

Respiratory Protection: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. For emergency or non-routine operations (cleaning spills, reactor vessel, or storage tanks), wear an SCBA. *Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.* If respirators are used, OSHA requires a written respiratory protection program that includes at least: medical certification, training, fit testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

Protective Clothing/Equipment: Wear chemically protective gloves, boots, aprons, and gauntlets to prevent prolonged or repeated skin contact. Wear protective eyeglasses or chemical safety goggles, per OSHA eye-and face-protection regulations (29 CFR 1910.133). Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.

Safety Stations: Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section -9 Physical and Chemical Properties

Physical State: Liquid

Appearance and Odor: Clear Liquid/Slight Odor

Vapor Pressure: N.I.A.

Vapor Density (Air=1): N.I.A.

Specific Gravity (H₂O=1, at 4°C): 1.01-1.03

pH: <1.00

Water Reactivity: May liberate heat when dissolved in water

Water Solubility: Complete

Other Solubilities: Not Determined

Boiling Point: 212°F

Freezing/Melting Point: NA

% Volatile: ---

Evaporation Rate: 1.0

Section 10 - Stability and Reactivity

Stability: This product is stable at room temperature in closed containers under normal storage and handling conditions. However, avoid temperature extremes.

Polymerization: Hazardous polymerization will not occur.

Chemical Incompatibilities: Avoid contact with, Strong Alkalis, Oxidizers or any other type of reactive material.

Conditions to Avoid: Excessive temperatures. Contact with any type of reactive chemicals

Hazardous Decomposition Products: Toxic gases can evolve at high temperatures. Flammable or explosive hydrogen gas will evolve when in contact with most metal alloys.

Section 11 - Toxicological Information

Eye Effects: Severe burns

Acute Inhalation Effects: Might produce irritation and or burning to the respiratory system

Skin Effects: Severe burns

Acute Oral Effects: Severe burns. Over exposure may cause death.

Chronic Effects: No chronic effects are known to be attributable to this product.

Carcinogenicity: No carcinogenic effects are known to be applicable for the formulation components of this product.

Mutagenicity: No mutagenic effects are known to be applicable for the formulation components of this product.

Teratogenicity: No studies have been performed.

**See NIOSH, RTECS, for additional toxicity data.

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Section 12 - Ecological Information

Ecotoxicity: No specific data is available on this product. However, for the chemical components which make up this product, there may be specific data available and in the public domain. Consult the data available for each individual raw material component.

Environmental Fate: No studies have been conducted for this specific product.

Environmental Degradation: Not tested for this product blend

Soil Absorption/Mobility: Not tested for this product blend

Section 13 - Disposal Considerations

Disposal: Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable federal, state and local regulations.

Disposal Regulatory Requirements:

Container Cleaning and Disposal: Triple rinse and neutralize the empty containers with water before disposal to re-conditioned or land field or garbage.

Section 14 - Transport Information

DOT Transportation Data (49 CFR 172.101):

| Shipping Name: Corrosive liquid N.O.S. | Packaging Authorizations | Quantity Limitations |
|--|--------------------------|---|
| Contains: Sulfuric acid | | |
| Hazard Class: 8 | a) Exceptions: | a) Passenger, Aircraft or Railcar: b) Cargo Aircraft Only: |
| UN No. 1760 | | |
| Label Code: C | | |
| HMIS Label Code: 301J | | |
| Emergency Response No: 154 | | |
| P.G.: III | | |
| Dot Label: Corrosive | | |

Section 15 - Regulatory Information

EPA Regulations:

RCRA Hazardous Waste Number: Product blend is not listed (40 CFR 261.33)

RCRA Hazardous Waste Classification (40 CFR 261.): Product blend is not classified.

CERCLA Hazardous Substance (40 CFR 302.4) Product blend is unlisted specific per RCRA, Sec. 3001; CWA, Sec. 311 (b) (4); CWA, Sec. 307 (a), CAA, Sec. 112 CERCLA Reportable Quantity (RQ): 1000 lb **Contains:** Sulfuric acid

SARA 313 Codes:

SARA Toxic Chemical: SEE CERCLA

Sara 302/304 Extremely Hazardous Substance

SARA EHS (Extremely Hazardous Substance): SEE CERCLA

Threshold Planning Quantity (TPQ): 1000 lbs **Contains:** Sulfuric Acid

OSHA Regulations:

Air Contaminant (20 CFR 1910.1000, Table Z-1, Z-1-A): See Section 2

OSHA Specifically Regulated Substance (29 CFR 1910.): See Section 2

State Regulations: As a product-blend, the materials are generally not listed. Check with your local state regulatory board for more detailed information regarding the specific components of this product.

Section 16 - Other Information

Prepared By: G. Garcia, Technical Director

Revision Notes:

USER'S RESPONSIBILITY

The information and recommendations contained herein cannot cover all possible situations which the user may experience during processing. Each aspect of your operation should be examined to determine if, or where, additional precautions may be necessary. All health and safety information contained in this bulletin should be provided to your employees or customers. It is your responsibility to use this information to develop appropriate work practice guidelines and employee instructional programs for your operation.

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