



| HMIS | |
|-----------------|---|
| HEALTH | 3 |
| FLAMMABILITY | 0 |
| PHYSICAL HAZARD | 0 |
| PPE | D |

SECTION 1: CHEMICAL PRODUCT & COMPANY IDENTIFICATION

| | |
|---|--|
| PRODUCT IDENTIFIER: Sulfur | Product# 150 |
| GENERAL USE: | Used as a part of a plant nutrition program. |
| PRODUCT DESCRIPTION: | A clear to slightly hazy, pale amber liquid having a unique characteristic odor. |
| SUPPLIER INFORMATION: | Huma, Inc. 1331 W Houston Avenue Gilbert, AZ 85233 |
| For Additional SDS call: PHONE: (480) 961-1220 | <div style="border: 1px solid black; padding: 5px; text-align: center; color: red; font-weight: bold;">EMERGENCY PHONE NUMBERS</div> CHEMTREC: (In the USA) 800-424-9300 (International) 703-527-3887 |

SECTION 2: HAZARDS IDENTIFICATION

HAZARDS OVERVIEW:

A clear to slightly hazy, pale amber, acidic liquid having a unique characteristic odor. The liquid and mists may cause severe irritation, or burns, to the eyes and skin. Inhalation of mists may be severely irritating, or corrosive, to the entire respiratory tract. Ingestion of this product may cause severe gastrointestinal irritation and central nervous system effects.



CLASSIFICATION: SKIN CORROSION – CATEGORY 1A

SIGNAL WORD: DANGER

HAZARD STATEMENT: H314; causes severe skin burns and eye damage

PRECAUTIONARY STATEMENT: P260; Do not breathe dusts/mist/vapors. P280; Wear protective gloves/protective clothing/eye protection/face protection P264; Wash hands thoroughly after handling



CLASSIFICATION: HAZARD CATEGORY 4

SIGNAL WORD: WARNING

HAZARD STATEMENT: H302; Harmful if Swallowed

PRECAUTIONARY STATEMENT: P301+P317—If swallowed, get emergency medical help. P330; Rinse Mouth P264; Wash hands thoroughly after handling, P270; Do not eat, drink or smoke when using this product.

SECTION 3: COMPOSITION & INFORMATION ON INGREDIENTS

| COMPONENT | CAS # | OSHA HAZARD | WT % | ACGIH | | OSHA | |
|---------------------------|-----------|---|--------|----------------------|------|----------------------|------|
| | | | | TLV _(TWA) | STEL | PEL _(TWA) | STEL |
| Ammonium Sulfate | 7783-20-2 | Eye, Skin & Respiratory Irritant; Human Central Nervous System Effects by Ingestion | 30 ± 5 | None | None | None | None |
| Ammonium Hydrogen Sulfate | 7803-63-6 | Corrosive; Moderately toxic by Ingestion | 6 ± 2 | None | None | None | None |

NDA = No Data Available

N/A = Not Applicable

SECTION 4: FIRST AID MEASURES

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| INHALATION: | If inhaled, immediately move to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; use the Holger Nielsen method (back pressure-arm lift) or proper respiratory device. If breathing is difficult, give oxygen. Call a physician. |
| EYE CONTACT: | In case of contact, immediately flush eyes with plenty of clean running water for at least 15 minutes, lifting the upper and lower lids occasionally. Remove contact lenses, if worn. Get medical attention if irritation persists. |
| SKIN CONTACT: | In case of contact, flush skin with plenty of clean running water. Remove contaminated clothing and shoes and wash before reuse. If irritation occurs and persists, get medical attention. |
| INGESTION: | If large quantities of this product are swallowed, call a physician immediately. DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. |
| NOTE TO PHYSICIANS: | Ammonium Hydrogen Sulfate with Ammonium Sulfate solutions has a moderate oral toxicity, but they also can be severely irritating and/or corrosive to the eyes, skin and mucous membranes. If ingested, consideration should be given to careful endoscopy as stomach or esophageal burns, perforations or strictures may occur. Careful gastric lavage with an endotracheal tube in place should be considered. Treat exposure symptomatically. |

SECTION 5: FIRE FIGHTING MEASURES

| | | | |
|---|--|------------------------------|--|
| Flashpoint and Method: | This product does not flash. | | |
| Flammable Limits (in air, % by volume) | Lower: Not applicable | Upper: Not applicable | |
| Autoignition Temperature: | Not applicable | | |
| GENERAL HAZARD: | This product is not combustible, but it may generate flammable/explosive Hydrogen gas on contact with some metals, such as Aluminum. The Uniform Fire Code health hazard classification for this product is: Corrosive (Acidic) . It may produce hazardous mists or hazardous decomposition products. | | |
| FIRE FIGHTING INSTRUCTIONS: | EXTINGUISHING MEDIA: Water, foam, CO ₂ or dry chemicals. Use a water spray or fog to cool the containers exposed to the heat of a fire. | | |
| FIRE FIGHTING EQUIPMENT: | Fire fighters should wear full protective equipment, including self-contained breathing apparatus. | | |
| HAZARDOUS COMBUSTION PRODUCTS: | When heated to dryness and decomposition, it emits toxic Ammonia gas, nitrogen oxides and sulfur oxides with trace or ultra-trace toxic oxide amounts of potassium, phosphorus, iron, manganese, magnesium, calcium, zinc and sodium. | | |

SECTION 6: ACCIDENTAL RELEASE MEASURES

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| RELEASE TO LAND: | Wearing recommended protective equipment and clothing, dike the spill and pick up the bulk of liquid using pumps or a vacuum truck, or absorb the liquid in sand or a commercially absorbent material. Place in approved containers for recovery, disposal, or satellite accumulation. Neutralize the acidity, of the remaining liquid, using sodium bicarbonate, limestone, or other agent appropriate for neutralizing acidic liquids, that will not release Ammonia gas. Flush the spill area with water; collect the rinsates for disposal or sewer, as appropriate. |
| RELEASE TO WATER: | Wear recommended protective equipment and clothing if contact with hazardous material can occur. Stop or divert water flow. Dike contaminated water and remove for disposal and/or treatment. As appropriate, notify all downstream users of possible contamination. |

SECTION 7: HANDLING AND STORAGE

| | | | |
|-----------------------------|--|--------------------------|---------|
| STORAGE TEMPERATURE: | Ambient | STORAGE PRESSURE: | Ambient |
| GENERAL: | Store in a cool, dry, well-ventilated, area away from incompatible materials and products. Do not get this product in eyes, on skin or on clothing. Wear recommended personnel protective equipment when handling this product. Do not breathe mists, vapors, fumes or aerosols. Use only with adequate ventilation. Do not take internally. Keep the container tightly closed when not in use. Wash thoroughly after handling this product. | | |

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

CONTROL MEASURES: Use a local or general, mechanical exhaust ventilation system capable of maintaining emissions, in the work area, below the levels that may cause irritation.

RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

RESPIRATOR: For exposure to those levels that may cause irritation, wear a NIOSH-approved full facepiece or half mask air-purifying cartridge respirator equipped with a good mist / particulate cartridge or supplied air. **Note:** Always consult the respirator manufacturer's data when determining the suitability of respiratory protective devices prior to use.

EYES: Wear chemical goggles (recommended by ANSI Z87.1-1979), unless a full facepiece respirator is worn. **Note:** Always consult the protective eyewear manufacturer's data when determining the suitability of protective eyewear prior to use.

GLOVES: Wear Neoprene, Nitrile, Butyl Rubber or Natural Rubber gloves. **Note:** Always consult the glove manufacturer's permeation data when determining the suitability of gloves prior to use.

CLOTHING & EQUIPMENT: Wear a Neoprene, Nitrile, Butyl Rubber or Natural Rubber apron when handling this product. An eye wash station and safety shower should be available in the work area. **Note:** Always consult the clothing/equipment manufacturer's permeation data when determining the suitability of clothing/equipment prior to use.

FOOTWEAR: Wear Neoprene, Nitrile, Butyl Rubber or Natural Rubber boots. **Note:** Always consult the footwear manufacturer's permeation data when determining the suitability of footwear prior to use.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---------------------------------|------------------------------------|--|--------------------------|
| Appearance: | Clear to slightly hazy, pale amber | Bulk Density (pounds/ft³): | Not applicable |
| Physical State: | Liquid | Vapor Pressure: | No data available |
| Odor: | Unique, characteristic | Vapor Density (air=1): | No data available |
| Odor Threshold: | No data available | Evaporation Rate (n-Butyl Acetate=1): | No data available |
| Molecular Formula: | Mixture | VOC Content / Organic Matter: | No data available / 0.1% |
| Molecular Weight: | Not applicable | % Volatile: | No data available |
| Boiling Point: | Greater than 100° C. (212° F.) | Solubility in H₂O: | Soluble |
| Freezing/Melting Point: | Less than 0° C. (32° F.) | Octanol/Water Partition Coefficient: | No data available |
| Specific Gravity: | 1.20 – 1.30 @ 20° C. | pH (as is): | 0.5 - 1.5 |
| Density (pounds/gallon): | Approximately 10.35 | pH (1% solution): | No data available |

SECTION 10: STABILITY AND REACTIVITY

GENERAL: This product is stable and hazardous polymerization will not occur.

CONDITIONS TO AVOID: Do not store this product below 50° F (10° C) or above 90° F (30° C)

INCOMPATIBLE MATERIAL: Oxidizers, caustics & strong alkali, cyanides, sulfides, sulfites, chlorine releasers, Aluminum, Magnesium, Zinc and alloys of these metals.

HAZARDOUS DECOMPOSITION PRODUCTS: When heated to dryness and decomposition, it emits toxic Ammonia gas, with toxic oxides of nitrogen and sulfur plus trace or ultra-trace toxic oxide amounts of potassium, phosphorus, iron, manganese, magnesium, calcium, zinc and sodium.

SENSITIVITY TO MECHANICAL IMPACT: This product is not sensitive to mechanical impact.

SENSITIVITY TO STATIC DISCHARGE: This product is not sensitive to static discharge.

SECTION 11: TOXICOLOGICAL INFORMATION

| Components: | <u>Ammonium Sulfate</u> | <u>Ammonium Hydrogen Sulfate</u> |
|---|--|--|
| Eye Contact: | No data available | No data available |
| Skin Contact: | No data available | No data available |
| Oral Rat LD₅₀: | 2,840 mg/kg | No data available |
| Dermal Rabbit LD₅₀: | No data available | No data available |
| Inhalation Rat LC₅₀: | No data available | No data available |
| Human Data: | Oral Man TD _{Lo} : 1,500 mg/kg (Gastrointestinal effects) | No data available |
| Other Toxicological Data: | Intraperitoneal Mouse LD ₅₀ : 610 mg/kg | No data available |
| Carcinogenicity: | No data available | No data available |
| Teratogenicity: | No data available | No data available |
| Mutagenicity: | No data available | No data available |
| Synergistic Products: | None reported | None reported |
| Target Organs: | Eyes, Skin, Mucous membranes, Lungs & Central Nervous System | Eyes, Skin, Mucous membranes, Lungs & Central Nervous System |
| Medical Conditions Aggravated By Exposure: | Skin or Respiratory disorders | Skin or Respiratory disorders |

SECTION 12: ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE:

This product is soluble in water and may significantly affect the pH of water. No specific environmental fate data is available.

ENVIRONMENTAL CONSIDERATIONS:

The aquatic toxicity for this product has not been determined.

SECTION 13: DISPOSAL CONSIDERATIONS

RCRA 40 CFR 261 CLASSIFICATION: Non-RCRA Hazardous Waste (United States)

U.S. EPA WASTE NUMBER/DESCRIPTION: Not Applicable

If this product is disposed of as shipped, it does not meet the criteria of a hazardous waste as defined under 40 CFR 261, in that it does not exhibit the characteristics of a hazardous waste of Subpart C, nor is it listed as a hazardous waste under Subpart D due to toxicity. As a non-RCRA hazardous liquid waste, it should be disposed of in accordance with all local, state, and federal regulations. Consult state or local officials for proper disposal method.

SECTION 14: TRANSPORTATION INFORMATION

| | | | |
|--|--|---|---------------------------|
| DOT PROPER SHIPPING NAME: | Corrosive Liquid, n.o.s. (contains sulfuric acid) | | |
| | Hazard Class: 8 | UN Number: UN1760 | Packing Group: III |
| | Primary Label: Corrosive | Subsidiary Label(s): None Required | |
| | Primary/Subsidiary Placards: Corrosive | | |
| DOT Reportable Quantity (RQ): | Not Listed | RQ for Product: | Not Applicable |
| Marine Pollutant: | No | | |
| 2012 North American Emergency Response Guidebook No.: | 154 | | |
| TDG PROPER SHIPPING NAME: | Corrosive Liquid, n.o.s. (contains sulfuric acid) | | |
| | Hazard Class: 8 | UN Number: UN1760 | Packing Group: III |
| | Primary Label: Corrosive | Subsidiary Label(s): None Required | |
| | Primary/Subsidiary Placards: Corrosive | | |
| TDG Reportable Quantity (RQ): * | At least 5kg or 5 liters | | |
| TDG Schedule XII: | Not listed | | |
| Regulated Limit (RL): ** | Not Listed | RL for Product: | Not Applicable |
| Other Shipping Information: | None | | |

* Canadian Transportation of Dangerous Goods Regulations (TDGR), Part IX, Table I, Quantities or levels for Immediate Reporting: releases of reportable quantities, RQ, that meet the definition of a "dangerous occurrence" (a threat to life, health, property, or the environment) must be reported to the appropriate authorities as outlined in TDGR 9.13(1) and 9.14(1). ** Reporting to Environment Canada is required for any releases exceeding the regulated limits, RL, of 9.2 materials (primary or secondary). The regulated limits are found in Schedule XIII of the TDGR.

SECTION 15: REGULATORY INFORMATION

| COMPONENTS: | <u>Ammonium Sulfate</u> | <u>Ammonium Hydrogen Sulfate</u> |
|---------------------------------------|--|--|
| <u>OSHA Target Organs:</u> | Eyes, Skin, Mucous membranes, Lungs & Central Nervous System | Eyes, Skin, Mucous membranes, Lungs & Central Nervous System |
| <u>Carcinogenic Potential:</u> | | |
| Regulated by OSHA: | No | No |
| Listed on NTP Report: | No | No |
| Listed by IARC: | No | No |
| IARC Group: | Not applicable | Not applicable |
| ACGIH Appendix A: | Not listed | Not listed |
| A1 Confirmed Human: | Not applicable | Not applicable |
| A2 Suspected Human: | Not applicable | Not applicable |

U.S. EPA Requirements

Release Reporting

CERCLA (40 CFR 302)

| | | |
|----------------------------|----------------|----------------|
| Listed Substance: | Not listed | Not listed |
| Reportable Quantity: | Not applicable | Not applicable |
| Category: | Not applicable | Not applicable |
| RCRA Waste No.: | Not applicable | Not applicable |
| Unlisted Substance: | Not applicable | Yes |
| Reportable Quantity: | Not applicable | 100 pounds |
| Characteristic: | Not applicable | Corrosivity |
| RCRA Waste No.: | Not applicable | Not listed |

SECTION 15: REGULATORY INFORMATION (Continued from page 5)

COMPONENTS: Ammonium Sulfate Ammonium Hydrogen Sulfate

SARA TITLE III

Section 302 & 303 (40 CFR 355):

| | | |
|--------------------------|----------------|----------------|
| Listed Substance: | Not listed | Not listed |
| Reportable Quantity: | Not applicable | Not applicable |
| Planning Threshold: | Not applicable | Not applicable |

Section 311 & 312 (40 CFR 370):

| | | | | | |
|------------------------------|-----------------------|---|---------------------------|-------------------------------|---------------------------------|
| Hazard Categories (product): | Fire: <u>N</u> | Sudden Release of Pressure: <u>N</u> | Reactive: <u>N</u> | Acute Health: <u>Y</u> | Chronic Health: <u>N</u> |
| Planning threshold: | 10,000 pounds | 10,000 pounds | | | |

Section 313 (40 CFR 372):

| | | |
|-------------------------------|--------------------|--------------------|
| Listed Toxic Chemical: | Yes (Aqua Ammonia) | Yes (Aqua Ammonia) |
| Reporting Threshold: | 10,000 pounds | 10,000 pounds |

U.S. TSCA Status

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|-----------------------------|-----|-----|
| Listed (40 CFR 710): | Yes | Yes |
|-----------------------------|-----|-----|

State Regulations

State of California: Safe Drinking Water and Toxins Enforcement Act, 1986 (Proposition 65):

| | | |
|---------------------|----|----|
| Carcinogen: | No | No |
| Reproductive Toxin: | No | No |

Other Regulations

| | |
|----------------------------------|------------|
| State Right To Know Laws: | None Known |
|----------------------------------|------------|

Canadian Regulations

Product Information:

| | |
|-------------------------|---------------------------|
| Controlled Product: | Yes |
| WHMIS Hazard Symbols: | Corrosive Material |
| WHMIS Class & Division: | E |

Ingredient Information:

| | | |
|--------------------|-----|-----|
| IDL Substance: | No | Yes |
| DSL or NDSL Lists: | DSL | DSL |

SECTION 16: OTHER INFORMATION

EPA Registration number: Not applicable

Approved Product Uses: Used as part of a plant nutrition program.

Special Notes:

This product is not manufactured, or formulated to contain substances, which the State of California has found to cause cancer and/or birth defects or other reproductive harm. However, as it contains mined minerals, this product may contain trace (parts per million) or ultra-trace (parts per billion) of elements known to the State of California to cause cancer, birth defects or other reproductive harm.

Special Instructions: Store Sulfur in a cool, dry, well ventilated, area away from incompatible materials and products. Do not add this product to strong alkali or caustic materials, as this can generate a lot of heat and it can liberate toxic, corrosive Ammonia gas. Do not add this product to hypochlorite bleaches, chlorine sanitizers or chlorinated cleaners as this can liberate toxic, corrosive Chlorine gas and/or chloramines.

SDS Revision Information: Revised Date: 6/28/2023

SDS Distributed by: Huma, Inc.

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| Prepared By: Anna Carpenter | Date Prepared: October 21, 2014 |
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