

Safety Data Sheet

ALUM NU

Section 1 - Chemical Product and Company Identification

Supplier's Information:

High Sierra Chemical
P.O BOX 848
Chippewa Falls, WI 54729
Phone: (715) 723-4915

Product Name: Alum Nu**Product Code:** 1209**Date of Issue:** May 23, 2017**Use Dilution Information:** Depending on use
2 to 4 oz of product, Up to 1 Gallon per Gallon Water

Section 2 - Hazard Identification

Product as a Concentrate**GHS Overview:**

Fatal if swallowed. Fatal if contact with skin, Fatal if inhaled. Causes severe skin burns and eye damage. Causes damage to organs(Bones, Kidney, Liver, Lung) through prolonged or repeated exposure. May be corrosive to metals. Causes serious eye damage

GHS Label Elements:**Signal Word:** Danger**Symbol:****Hazard Statements:**

Health Hazards

Acute toxicity - Oral

Acute toxicity - Dermal

Acute toxicity - Inhalation

Skin Corrosive / Irritation

Serious Eye Damage / Irritation

Specific Target Organ Toxicity (Bone, Kidney, Liver, Lung)

Precautionary Statements**Prevention:**

Do not breath mist. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. Use only outdoors or in well ventilated area. Do not eat, drink or smoke when using this product. Wear protective gloves / protective clothing / eye protection / face protection. Keep only in original container. In case of inadequate ventilation wear respiratory protection.

Response:

If swallowed Rinse mouth. DO NOT induce vomiting. If swallowed: immediately call a poison control center / doctor. Rinse mouth. If on skin Wash with plenty of water. Take off immediately all contaminated clothing. If on skin(or hair): take off immediately all contaminated clothing and rise skin with water / shower and and wash clothing before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing, immediately call a poison control center / doctor. If in eyes: Immediately rinse with water for several minutes. Remove contact lens if present, continue rinsing eyes. Contact doctor immediately.

Storage: Keep locked up. Keep container tightly closed. Store in a well ventilated place. Store in corrosive resistant container with a acid resistant inner liner.

Disposal: Dispose of material in accordance with all local, State and Federal Regulations

Section 3 - Composition / Information on Ingredients

Product as a Concentrate

Hazardous Ingredients	Concentration Range	CAS Number
Hydrofluoric Acid	7 - 12%	7664-39-3
Sulfuric Acid	8 - 15%	7664-93-9
Phosphoric Acid	4 - 9%	7664-38-2

Section 4 - First Aid Procedures

Product as a Concentrate:

Inhalation: If breathing is difficult, give oxygen. Immediately call a poison control center or doctor for treatment advice. Move person to fresh air. If breathing has ceased, start mouth-to-mouth artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Skin Contact: Immediately remove contaminated clothing, and any extraneous chemical, if possible to do so without delay. Initiate and maintain gentle and continuous irrigation until the patient receives medical care. If medical care is not promptly available, continue to irrigate for one hour. Cover wound with sterile dressing. A physician should be consulted for all exposures. Burns covering an area greater than fifty-two square centimeters (8 square inches) require immediate treatment by a medical doctor. Remove contaminated clothing. With gloved hand apply 2.5% calcium gluconate gel to the burn area.

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. A 1.0 pct calcium gluconate gel solution can be used to irrigate the eye using a syringe or continuous irrigation device. Get medical attention immediately.

Ingestion: Immediately call a poison control center or doctor for treatment advice. If ingested give milk or calcium gluconate by mouth. Administer several vials of 10% aqueous calcium gluconate orally. (Calcium carbonate or an antacid containing calcium carbonate or magnesium carbonate or hydroxide may also be used). Do not give anything by mouth to an unconscious person. Do not induce vomiting. If vomiting occurs naturally, have the victim lean forward to reduce risk of asphyxiation.

Inhalation: May cause damage to mucous membranes in nose, throat, lungs, and bronchial system. Be aware that symptoms of lung edema (shortness of breath) may develop up to 24 hours after exposure. Eye contact: May cause temporary blindness and severe eye damage. Corrosive. Prolonged contact causes serious eye and tissue damage. Skin contact: May cause serious chemical burns to the skin. Ingestion: May cause burns in mucous membranes, throat, esophagus, and stomach.

Treatment: This advice is provided to the attending physician because of the specific properties of hydrogen fluoride and hydrofluoric acid. All cases of ingestion and airway exposure, and skin burns with hydrofluoric acid >20% should be regarded as potentially fatal. Patients who have burns and pain within minutes of exposure can be assumed to have been exposed to concentrated acid and are at risk of rapid clinical deterioration and death. Burns can be accompanied by absorption of fluoride through the skin with sequestration of circulating calcium leading to hypocalcemia and hyperkalemia from the release of cell contents. Fatal cardiac dysrhythmias may ensue. A person who has HF burns greater than 25 square inches or who has been burned with concentrated HF should be admitted immediately to an intensive care unit and carefully monitored by EKG for 24 to 48 hours. Blood sampling should be taken to monitor circulating fluoride, potassium and calcium levels. Hemodialysis may be necessary for fluoride removal and correction of hyperkalemia for fluoride removal and correction of hyperkalemia. HF inhaled in high concentrations may cause acute inflammation and edema of the airway and acute pulmonary edema. Anyone who has been exposed to HF gas or mists and experiences respiratory irritation should be admitted to and monitored in an intensive care unit. In some cases, if the eyes are exposed to HF, it may penetrate to internal structures resulting in irreversible damage. HF skin burns are usually accompanied by severe, throbbing pain, which is thought to be due to irritation of nerve endings by increased levels of potassium ions entering the extracellular space to compensate for the reduced levels of calcium ions entering the extracellular space to compensate for the reduced levels of calcium ions which have been bound to the fluoride. RELIEF OF PAIN IS AN IMPORTANT GUIDE TO THE SUCCESS OF TREATMENT. Following inhalation exposure, a 2.5% calcium gluconate solution can be given by nebulizer.

In case of shortness of breath, give oxygen. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately. Ensure that medical personnel are aware of the materials involved, and take precautions to protect themselves. Keep victim warm. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Section 5 - Fire Fighting Information

Product as a Concentrate:

Conditions of Flammability: This product is not flammable. Use extinguishing agent suitable for the type of surrounding fire.

Suitable Fire Extinguishing Media: Use water mist, foam, dry chemical or carbon dioxide.

Hazardous Thermal Decomposition Products: Hazardous decomposition products formed under fire conditions: Carbon oxides. By heating and fire, toxic and explosive vapors/gases may be formed. Contact with metals causes formation of flammable and explosive gases such as Hydrogen Gas.

Specific Fire - Fighting Methods: Promptly isolate the scene by removing all persons from the area if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special Protective Equipment for Firefighters: Wear self-contained breathing apparatus for firefighting if necessary.

Section 6 - Accidental Spill Procedures

Product as a Concentrate:

Personal Precautions: Initiate company's spill response procedures immediately. Keep people out of the area. Put on appropriate personal protective equipment (See Section 8). Do not touch or walk through spilled material.

Environmental Precautions: Avoid contact with spilled material and prevent runoff contact with soil and surface waterways.

Methods for Cleaning Up: Follow company's spill response procedures. Keep people away from spill area. Put on appropriate personal protective equipment (See Section 8). Absorb / Neutralize liquid material. Use a tool to scoop up solid or absorbed material and put into appropriate labeled container. Use a water rinse for a final clean-up.

Section 7 - Handling and Storage

Product as a Concentrate

Handling: Do not get in eyes, on skin, or on clothing. Do not breathe vapor or fumes. Use only in adequately ventilated areas. Wash thoroughly after handling.

Storage: Keep out of the reach of children. Keep container tightly closed. Store between the following temperatures: -25°C and 40°C.

Section 8 - Exposure Controls / Personal Protection

Control Parameters:

Ingredients Name

Hydrofluoric Acid

Sulfuric Acid

Phosphoric Acid

Exposure Limits

ACGIH TLV: 2.5 mg/m³

NIOSH TWA: 3 mg/m³

ACGIH TLV: 1 mg/m³

NIOSH TWA: 1 mg/m³

ACGIH TLV: 1 mg/m³

NIOSH TWA: 1 mg/m³

Appropriate Engineering Controls: Use only in adequate ventilation. If user operations generate dust, fumes, gas, vapor, or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

Section 8 - Exposure Controls / Personal Protection

Exposure Guidelines

Hydrofluoric Acid 8h TWA (Time Weighted Average) = 3 ppm (AIHA Standard)

Eye Protection: Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Hand Protection: Use chemical resistant, impervious gloves.

Skin Protection: Complete suit protecting against chemicals, flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance.

Respiratory Protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEEN (EU)

Hygiene Measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking, and using lavatory and at the end of working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Section 9 - Physical and Chemical Properties

Product as a Concentrate:

Physical State: Liquid

Color: Clear

Odor: Strong Acidic

pH: <1.0

Flash Point: None

Explosion Limits: None

Flammability: Will not burn or support combustion

Melting Point: None

Boiling Point: <100°C

Evaporation Rate: Not Determined

Vapor Pressure: Not Determined

Vapor Density: Not Determined

Specific Gravity: 1.08 +/- 0.02 (?)

Solubility: Completely soluble

Viscosity: Same as water

Autoignition Temp: None

Section 10 - Stability and Reactivity

Product as a Concentrate

Stability: Stable under recommended storage condition

Possibility of Hazardous Reactions: To prevent oxidation prevent long term exposure to air. If storing in a partially filled container fill headspace with an inert gas such as nitrogen.

Conditions to Avoid: Heat and light

Materials to Avoid: Extremely reactive or incompatible materials such as bases, or metals.

Reactive or incompatible with the following materials: Oxidizers.

Slightly reactive or incompatible with the following materials: Metals.

Hazardous Decomposition Products: Hazardous decomposition products formed under fire conditions. Carbon oxides.

Section 10 - Toxicological Information (cont.)

Routes of Exposure: Skin Contact, Eye Contact, Inhalation, Ingestion.

Product as a Concentrate

Acute Effects:

Skin Contact: Fatal in contact iwth skin, Causes severe skin burns. Causes permanent skin damage (scarring)

Eye Contact: Causes severe eye burns. May cause blindness.

Inhalation: Fatal if inhaled. Causes respiratory tract burns

Ingestion: Fatal if swallowed. Causes digective tract burns.

Chronic Effects

This product is not classified as a carcinogen by OSHA, IARC, ACGIH, or NTP. This product has not been shown to produce genetic changes when tested on bacterial or animal cells. This produt does not contain known reproductive or developmental toxins. Prolonged or repeated exposues can cause drying or dermatitis of skin improper storage and handling may lead to the formation a possible skin sensitizer.

Section 11 - Ecological Information

Product as a Concentrate

Aquatic and Terrestrial Toxicity

Product / Ingredient Name	Results	Species	Exposure
Hydrofluoric Acid	Acute LC50 - 50 mg/l	Mosquito Fish	96 Hours
	Acute LC50 - 4090 mg/kg	Rat	24 Hours
Sulfuric Acid	Acute LC50 - 40 mg/l	Rainbow Trout	96 Hours
	Acute LC50 - 2140 mg/kg	Rat	24 hours
Phosphoric Acid	Acute LC50 - 136 mg/l	Mosquito Fish	96 Hours
	Acute LC50 - 1530 mg/kg	Rat	24 Hours

Section 13 - Disposal Methods & Considerations

Product as a Concentrate

Disposal Methods: Burn in chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated Packaging: Dispose of as unused product.

RCRA Classification: None

Section 14 - Transportation Information

DOT (U.S. Department of Transportation)

UN Number: UN2922

DOT Classification: Corrosive , Toxic

DOT Proper Shipping Name: Corrosive Liquid, Toxic, NOS,
(Contains Hydrofluoric Acid and Sulfuric Acid)

Shipping Class: 8, 6.1

Packaging Group: II

IMO / IMDG

UN Number: UN2922

IMO / IMDG Classification: Corrosive , Toxic

IMO / IMDG Proper Shipping Name: Corrosive Liquid, Toxic, NOS,
(Contains Hydrofluoric Acid and Sulfuric Acid)

Shipping Class: 8, 6.1

Packaging Group: II

Section 15 - Regulatory Information

Product as a Concentrate

U.S. Federal Regulations

CERCLA Hazardous Substance List (40 CFR 302.4): All components are listed.

TSCA 8(b) Inventory: All components are listed or exempt.

SARA 302/304/311/312 Extremely Hazardous Substances: Hydrofluoric Acid and Sulfuric Acid

SARA 313	Product Names	CAS Number	Concentration:
	Hydrofluoric Acid	7664-39-3	7 - 12%
	Sulfuric Acid	7664-93-9	8 - 15%

California Prop. 65

Sulfuric Acid CAS# 7664-93-9

Proposition 65: California Safe Drinking Water and Toxic Information Act of 1986

Sulfuric Acid CAS# 7664-93-9

SARA Title III (Section 313)

Hydrofluoric Acid	7664-39-3	7 - 12%
Sulfuric Acid	7664-93-9	8 - 15%

Section 16 - Other Information

Hazardous Material Information System (U.S.A.)

NFPA RATING

0 = Non-Hazardous
1 = Slight Hazard
2 = Hazardous
3 = Extreme Hazard
4 = Deadly



National Fire Protection Association (U.S.A.)

HEALTH	3
FLAMMABILITY	0
REACTIVITY	1
PERSONAL	H

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Note to Reader:

This above information is believed to be correct with respect to the formula used to manufacture the product in the country of origin. As data, standards, and regulations change, and conditions of use and handling are beyond our control, NO WARRANTY, EXPRESS OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CONTINUING ACCURACY OF THIS INFORMATION.