



MATERIAL SAFETY DATA SHEET

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SECTION 1 - COMPANY INFORMATION

Aluminum Brightner

Product usage: Treatment for aluminum surfaces
Product type: Water based inorganic acid detergent blend
WHMIS Class: E, D1A
Hazard Rating: HEALTH: (3) Severe; FIRE (0) Insignificant; REACTIVITY: (2) Moderate
TDG: SEE RECENT BILL OF LADING FOR CURRENT CLASSIFICATION

TDG Class: Not Controlled

Supplier name and address:
Corporate Chemicals & Equipment
7 Neilson Street
St. Catharines, ON L2M 5V9
(905) 682-8888

Manufacturer's name and address
Refer to Supplier



Emergency Telephone# CANUTEC (613) 996-6666

SECTION 2 - HAZARDOUS INGREDIENTS

INGREDIENT	%	CAS#	TOXICITY
Hydrogen Fluoride (Hydrofluoric Acid)	5 - 15	7664-39-3	LC50 (animal) from 456 to 1774 PPM/1 hr. TLV = 3 PPM or 2.5 mg/m ³ as F. Severe burns, not immediately visible.
Sulphuric Acid	5 - 15	7664-93-9	LD50 (oral rat) 155 mg/kg, (dermal rabbit) >3 g/kg;
Phosphoric Acid	5 - 25	7664-38-2	LD50 (oral rat) 1500 mg/kg Corrosive LC50 (oral rat) 1530 mg/kg.

SECTION 3 - HAZARDS IDENTIFICATION

Physical state Liquid. [Liquid.]

Emergency overview: **DANGER !**
CAUSES DIGESTIVE TRACT, EYE AND SKIN BURNS.
CAUSES RESPIRATORY TRACT IRRITATION.
Do not ingest. Do not get in eyes, on skin or on clothing. Avoid breathing vapours, spray or mists. Use only with adequate ventilation. Keep container closed. Wash thoroughly after handling.

Routes of entry : Skin contact, Eye contact, Inhalation, Ingestion

Potential acute health effects

Severely irritating to the respiratory system.

Eyes: Corrosive to eyes.

Skin: Corrosive to the skin.

Inhalation: Severely irritating to the respiratory system.

Ingestion: Causes burns to mouth, throat and stomach.

See toxicological information (section 11)



SECTION 4 - FIRST AID MEASURES

Effects of Acute Exposure to:

- Skin:** Causes burns which may not be immediately painful or visible. Hydrofluoric acid will penetrate skin and attack underlying tissues and bone.
- Eyes:** May cause severe burns and permanent eye damage.
- Ingestion:** Can cause severe mouth, throat and stomach burns. Can affect kidney function and be fatal if swallowed. Profound and possibly fatal hypocalcemia is likely to occur unless medical treatment is promptly initiated.
- Inhalation:** Mild exposure: Can irritate nose, throat and respiratory system. Severe exposure: Can cause nose and throat burns, lung inflammation and pulmonary edema. Also depletes calcium levels in the body if not promptly treated resulting in death due to hypocalcemia.
- Unusual Chronic Toxicity:** Hydrofluoric acid: Bone and joint changes in humans (fluorosis). Embryo toxic in the rat at 0.47 - 5.0 mg./cu.m./4hr. daily for duration of gestation.

First Aid Procedures...

- Skin:** Remove contaminated clothing immediately. Wash exposed areas with copious amounts of running water. Use alkaline soap or a 2% solution of sodium bi-carbonate if available. If irritation occurs, immerse and soak affected area in a 0.13% iced aqueous benzethonium chloride solution for 15 - 30 minutes (saturated compresses can be used if area can't be immersed). Get medical attention immediately for even minor burns.
- Eyes:** Flush with water running water for 15 minutes lifting the upper and lower eyelids occasionally. Do not use benzethonium chloride solution on eyes. 1 or 2 drops of 0.5% pontocaine hydrochloride solution followed by a second irrigation for 15 minutes. Get medical attention.
- Ingestion:** Do not induce vomiting. If victim is alert and not convulsing, give 1-2 glasses of water to dilute material. Immediately contact local poison control centre. Vomiting should be induced under the direction of a physician or a poison control centre. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomitus, rinse mouth and administer more water. Immediately transport victim to an emergency facility.
- Inhalation:** Move victim to fresh air. Give artificial respiration only if breathing has stopped. Give cardiopulmonary resuscitation (CPR) if there is no is no breathing and no pulse. Obtain medical attention immediately.

SECTION 5 - FIRE FIGHTING MEASURES

- Flash point:** Not flammable.
- Flammability:** Not flammable.
- Combustion products:** Oxides of carbon. Hydrogen fluoride fumes are released.
- To Extinguish:** Not applicable

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures: Wear appropriate protective equipment. Isolate for 800 metres or 0.5 miles in all directions if tank, rail car, or tank truck is involved in fire. Evacuate downwind areas as conditions warrant to prevent exposure and to allow vapours or fumes to dissipate. Spills may expose downwind areas to toxic or flammable concentrations over considerable distances in some cases.

Environmental Precautionary Measures: Prevent entry into sewers or streams, dike if needed.

Procedure for Clean Up: Eliminate all ignition sources. Contain spill by diking. If fire potential exists, blanket spill with alcohol type aqueous film-forming foam or use water fog stream to disperse vapours. Neutralize the residue with sodium carbonate or crushed limestone. Absorb with an inert dry material and place in an appropriate waste disposal container. Flush area with water to remove trace residue



SECTION 7 - HANDLING AND STORAGE

THIS PRODUCT IS VERY HAZARDOUS. As with all chemicals there are known and unknown effects on humans. Minimize exposure of all chemicals, including this product, to skin, respiratory system, and eyes. Keep out of reach of children. Avoid contamination of food. Rinse work area after use. Properly label all containers. Do not store product in glass containers. Wash thoroughly after handling. Store in cool dry area WITH CONTROLLED ACCESS. Do not freeze.

SECTION 8 - EXPOSURE CONTROLS & PROTECTIVE EQUIPMENT

Ventilation: Provide adequate ventilation. Fumes and mist are poisonous and corrosive. Do not mist.
Breathing Protection: Suitable breathing mask or respirator if mists or vapours are present.
Skin Protection: Impervious rubber gloves, rubber boots, full rubber suit and face shield.
Eye Protection: Full face shield. Contact lenses should not be worn.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear colourless liquid	Density (g/ml):	1.10 to 1.15
pH as is:	< 1.0	Freezing point:	-10 Deg. C.
pH use dilution:	Approx. 1 - 2	Boiling Point:	102 Deg. C.
Solubility in water:	Soluble in all proportions	Evaporation Rate:	Same as water
Odour:	Slight, Pungent	Viscosity:	Same as water

SECTION 10 - REACTIVITY & STABILITY DATA

Product is stable. Contact with metals releases flammable hydrogen gas. Avoid glass as it is dissolved. Do not mix with chlorinated bleach products, chlorine gas is released. Do not mix with strong acids and alkali nor powders as heat and gases are generated.

SECTION 11 - TOXICOLOGICAL INFORMATION

Principle Routes of Exposure

Ingestion: Corrosive. May cause burns of the mouth, throat and stomach. May cause abdominal discomfort, nausea, vomiting and diarrhea. May cause kidney damage.

Skin Contact: Corrosive! Effects on the skin may be delayed and damage may occur without the onset of pain. Hydrofluoric Acid may cause severe skin burns which will be slow in healing. The fluoride ion readily penetrates the skin causing destruction of deep tissue layers and even bone. The subcutaneous tissue may be affected, becoming blanched (whitened) and bloodless. Gangrene of the affected areas may follow.

Inhalation: Corrosive to the respiratory passage. May cause sore throat, coughing, labored breathing and lung congestion / inflammation.

Eye Contact: Corrosive. Symptoms include pain, redness and tearing. Causes blurred vision. May cause permanent eye damage.

Additional Information: Severe Hydrofluoric Acid exposure may result in systemic fluoride poisoning. Hydrofluoric acid can deeply penetrate into tissues. Additionally, the free fluoride ions can bind calcium ions at the cell membrane, increase the potassium permeability and alter the membrane electrical potential. This results in spontaneous depolarization of the nervous tissue. Fluoride is a bone seeker, and excessive amounts will produce weakening and degeneration of the bone structure. Intake of more than 6 mg of fluorine per day may result in fluorosis, bone and joint damage. Hypocalcemia and hypomagnesemia can occur from absorption of fluoride ion into blood stream. After prolonged high intake in adults bony changes occur characterized by hardening or abnormal density of bone (osteosclerosis), benign bony growths projecting outward from the surface of the bone. Ingestion and skin contact may cause an abnormal reduction of blood calcium (hypocalcemia) and kidney damage since fluorides precipitate calcium stored in the body. There may also be heart, asthma, nerve, intestinal and rheumatism problems.

Acute Test of Product:

Acute Oral LD50: Not Available.

Acute Dermal LD50: Not Available.

Acute Inhalation LC50: Not Available.

Carcinogenicity Comment: No additional information available.

Reproductive Toxicity/ Teratogenicity/ Embryotoxicity/ Mutagenicity: Not Available.



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SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicological Information:

Ingredients	Ecotoxicity - Fish Specie Data	Acute Crustaceans	Toxicity: Ecotoxicity- Freshwater Algae Data
Hydrogen Fluoride	LC50 48 h (Leuciscus idus) 660 mg/L	N/A	N/A

Other Information:

Environmental Fate: If the pH is > 6.5, soil can bind fluorides tightly. High calcium content will immobilize fluorides, which can be damaging to plants when present in acid soils. Environmental Toxicity: This material is expected to be slightly toxic to aquatic life.

SECTION 13 - WASTE DISPOSAL

Disposal method: Neutralize with sodium bicarbonate, sodium carbonate, or lime, caution heat is generated. Package solid neutralized material in suitable plastic container such as a pail. Dispose of small neutralized amount in landfill sight. For larger amounts, contact local environmental department and environmental authorities.

SECTION 14 - TRANSPORTATION INFORMATION

DOT (U.S.):

DOT Shipping Name: HYDROFLUORIC ACID

DOT Hazardous Class 8 (6.1)

DOT UN Number: UN1790

DOT Packing Group: II

DOT Reportable Quantity (lbs): Not Available.

Note: No additional remark.

Marine Pollutant: No.

TDG (Canada):

TDG Shipping Name: HYDROFLUORIC ACID

Hazard Class: 8 (6.1)

UN Number: UN1790

Packing Group: II

Note: No additional remark.

Marine Pollutant: No.

SECTION 15 - REGULATORY INFORMATION

Prepared by: Technical Dept.

Telephone: (905) 682-8888

SECTION 16 - OTHER INFORMATION

References: Suppliers Material Safety Data Sheets.

Preparation Date: July 1/2011

NOTICE: The data and information presented herein are based upon tests, research and reports which are considered by us to be reliable and believed to be accurate. The data and information are presented without warranty, guarantee or liability on our part, and are presented to the customer for his own consideration, investigation and verification. If user requires independent information on ingredients in this or any other material, we recommend contact with Canadian Centre for Occupational Health and Safety (CCOHS) in Hamilton, Ontario (905 572-4400)