

ALUMAGLO

SECTION 1. IDENTIFICATION

Product Identifier	ALUMAGLO
Other Means of Identification	ALUMAGLO -2, -3
Other Identification	Liquid
Product Family	Acid Cleaner
Recommended Use	ALUMINUM BRIGHTENER, ETCHANT AND CLEANER.
Restrictions on Use	For Industrial Use Only. KEEP AWAY FROM CHILDREN.
Manufacturer/Supplier Identifier	Velocity Chemicals Ltd., Unit #1- 9515 190th Street, Surrey, B.C. CANADA, V4N3S1, 604-881-4700, www.velocitychemicals.com
Emergency Phone No.	Not Available
SDS No.	0116
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SECTION 2. HAZARD IDENTIFICATION

Classification

Corrosive to metals - Category 1; Acute toxicity (Oral) - Category 3; Acute toxicity (Dermal) - Category 3; Acute toxicity (Inhalation) - Category 3; Skin corrosion - Category 1; Serious eye damage - Category 1

Label Elements



Danger

Causes severe skin burns and eye damage.
Liquid or vapours causes burns, which may be delayed.
Fatal in contact with skin.
Toxic if inhaled.
May be corrosive to metals.

Prevention:

Use only in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wear a NIOSH approved acid gas cartridge with a particulate N95, R95, or P95 filter if mists/vapours/fumes are present.
Wash hands and skin thoroughly after handling.

Response:

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IF ON SKIN: Wash with plenty of water for 60 minutes.

If skin irritation occurs: Get medical advice/attention.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for 60 minutes.

If eye irritation persists: Get medical advice/attention.

IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.

Immediately call a POISON CENTRE or doctor.

Get medical advice/attention for all exposures. Symptoms can be delayed.

See Section 4 of the SDS for further supplemental first aid information about specific treatment.

Storage:

Store in a cool, dry place away from incompatibles. Do not mix with any other chemicals. Keep container closed when not in use. Keep from freezing. Keep temperatures > 4 ° C and < 30 ° C.

Disposal:

Dispose of contents and container in accordance with local, regional, national and international regulations.

Other Hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	%	Other Identifiers	Other Names
Hydrofluoric acid	7664-39-3	5-10	Not applicable	
Phosphoric acid	7664-38-2	5-10	Not applicable	

Notes

Concentrations are expressed in % weight/weight.

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Move victim to fresh air. Administer oxygen (2.5% calcium gluconate if available. It can be oxygen nebulized with trained personnel) or cardiopulmonary resuscitation if necessary and as soon as possible. If patient is unconscious, give artificial respiration. Note: Mouth to mouth resuscitation is not recommended. Immediately call a Poison Centre or doctor.

Skin Contact

Immediately rinse skin with lukewarm, gently flowing water for at least 60 minutes. Remove contaminated clothing. Get immediate medical aid. Treat burned area immediately with the following: apply a 2.5% calcium gluconate gel to burned area, or immerse burned area with iced cold solution of 0.2% aqueous benzethonium chloride or 0.13% benzalkonium chloride. If immersion is not possible, soak clean towels with above solution and apply to the burned area as compresses. Compresses should be changed every two minutes. Prepared solutions of the above or calcium gluconate gel should be available at all times, and solutions should be changed annually.

Eye Contact

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for at least 60 minutes, while holding the eyelid(s) open. If eye irritation persists, get medical advice or attention. However, if no immediate physician available, apply one to two drops of 0.5% tetracaine hydrochloride solution followed by a second flush with water for another 15 minutes.

Ingestion

Give large amounts of water if conscious. Do not induce vomiting. May cause fluoride poisoning. Fluorides can cause irregular heartbeat, headache, nausea, vomiting, dizziness, drowsiness, confusion and convulsions. Treat accordingly. Immediately call a Poison Centre or doctor.

Most Important Symptoms and Effects, Acute and Delayed

At high concentrations

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If on skin: contact can cause pain, redness, burns, and blistering. Permanent scarring can result. If in eyes: contact causes severe burns with redness, swelling, pain and blurred vision. Permanent damage including blindness can result. If inhaled: can cause severe irritation of the nose and throat. Can cause severe lung injury. Symptoms may include coughing, shortness of breath, difficult breathing and tightness in the chest.

Immediate Medical Attention and Special Treatment

Target Organs

Skin, eyes, respiratory system.

Special Instructions

Not applicable.

Medical Conditions Aggravated by Exposure

Skin conditions, eye conditions, respiratory conditions.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Not combustible. Use extinguishing agent suitable for surrounding fire. Use water to keep non-leaking, fire-exposed containers cool.

Unsuitable Extinguishing Media

None known.

Specific Hazards Arising from the Product

Prolonged contact with sensitive metals like aluminum may form flammable hydrogen gas. Not sensitive to static discharge.

In a fire, the following hazardous materials may be generated: very toxic carbon monoxide, carbon dioxide; corrosive hydrogen fluoride; corrosive phosphorous oxides. other toxic vapours.

Special Protective Equipment and Precautions for Fire-fighters

Wear NIOSH/OSHA approved, self contained breathing apparatus for fire fighting situations. Use water spray to cool all nearby fire exposed surfaces.

Chemical protective clothing (e.g. chemical splash suit) and positive pressure SCBA may be necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Do not touch damaged containers or spilled product unless wearing appropriate protective equipment. Use the personal protective equipment recommended in Section 8 of this safety data sheet. Remove or isolate incompatible materials as well as other hazardous materials.

Environmental Precautions

Concentrated product: it is good practice to prevent releases into the environment.

Methods and Materials for Containment and Cleaning Up

Review Section 7 (Handling) of this safety data sheet before proceeding with clean-up. Large spills or leaks: dike spilled product to prevent runoff. Recover material by vacuum or pump into a suitable waste container. Small spills or leaks: stop or reduce leak if safe to do so. Contain and soak up spill with absorbent that does not react with spilled product. Place used absorbent into suitable, covered, labelled containers for disposal.

Reuse material if possible, or otherwise dispose in accordance with local regulations.

Other Information

Contact supplier, local fire and emergency services for help. Report spills to local health, safety and environmental authorities, as required.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

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Use good hygiene practices. It is good practice to: avoid breathing product; avoid skin and eye contact and wash hands after handling.

Only use where there is adequate ventilation. Wear personal protective equipment to avoid direct contact with this chemical. Do not get in eyes, on skin or on clothing. Do not breathe in this product. Avoid generating vapours or mists.

Conditions for Safe Storage

Store in an area that is: cool, ventilated, separate from incompatible materials (see Section 10: Stability and Reactivity). Keep temperatures > 4 ° C and < 30 ° C. Empty containers may contain hazardous residue. Store separately. Keep closed. Follow all precautions given on this safety data sheet. Comply with all applicable health and safety regulations, fire and building codes.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Hydrofluoric acid	0.5 ppm as Fluorides (F) Skin	2 ppm as Fluorides (F) Skin	3 ppm as Fluorides (F)	6 ppm as Fluorides (F)	Not established	Not established
Phosphoric acid	1 mg/m3	3 mg/m3	1 mg/m3	3 mg/m3		

(Hydrofluoric acid) : IDLH= 30 ppm. (Phosphoric acid) : IDLH = 1000 mg/m3

ACGIH® = American Conference of Governmental Industrial Hygienists. TLV® = Threshold Limit Value. OSHA = US Occupational Safety and Health Administration. PEL = Permissible Exposure Limits. AIHA® = AIHA® Guideline Foundation. WEEL® = Workplace Environmental Exposure Limit. Short-term TWA = Time-Weighted Average with specified time limit. TWA = Time-Weighted Average. C = Ceiling limit. IDLH= Immediately Dangerous to Life or Health.

Appropriate Engineering Controls

Use local exhaust ventilation, if general ventilation is not adequate to control amount in the air. Provide eyewash and safety shower if contact or splash hazard exists.

Individual Protection Measures

Eye/Face Protection

Wear chemical safety goggles and face shield when contact is possible.

Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.

Suitable materials are: butyl rubber, natural rubber, neoprene rubber, Viton®/butyl rubber.

Respiratory Protection

Wear a NIOSH approved acid gas cartridge with a particulate N95, R95, or P95 filter if mists/vapours/fumes are present. Respirator may be a full-face acid gas/mist, a self contained breathing apparatus or a supplied air.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Clear colourless liquid.
Odour	Strong
Odour Threshold	Not available
pH	< 1.0 (100% solution)
Melting Point/Freezing Point	Not available (melting); Not available (freezing)
Boiling Range	Not available
Flash Point	Not applicable
Evaporation Rate	Not available
Flammability (solid, gas)	Not applicable
Upper/Lower Flammability or Explosive Limit	Not applicable (upper); Not applicable (lower)

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Vapour Pressure	Not available
Vapour Density (air = 1)	Not available
Relative Density (water = 1)	1.06 at 20 °C
Solubility	Soluble in water; Not available (in other liquids)
Partition Coefficient, n-Octanol/Water (Log Kow)	Not available
Auto-ignition Temperature	Not applicable
Decomposition Temperature	Not available
Viscosity	Not available (kinematic); Not available (dynamic)

SECTION 10. STABILITY AND REACTIVITY

Reactivity

None known.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

None expected under normal conditions of storage and use.

Conditions to Avoid

Freezing. Prolonged exposure to high temperatures. Incompatible materials.

Incompatible Materials

Reacts with or incompatible with: strong bases (e.g. sodium hydroxide), strong oxidizing agents (e.g. perchloric acid), oxidizing agents (e.g. peroxides), strong reducing agents (e.g. hydrides), organic materials, glass, silica, metals (e.g. aluminum). Prolonged contact with sensitive metals like aluminum may form flammable hydrogen gas.

Corrosive to: aluminum alloys, zinc alloys, cast iron, carbon steel.

Hazardous Decomposition Products

Very toxic carbon monoxide, carbon dioxide; corrosive hydrogen fluoride; corrosive phosphorous oxides.

SECTION 11. TOXICOLOGICAL INFORMATION

Information presented below is for the entire product, unless otherwise specified.

Likely Routes of Exposure

Skin contact; eye contact; skin absorption; inhalation.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Hydrofluoric acid	170 ppm (mouse) (4-hour exposure)	Not available	500 mg/kg (mouse)
Phosphoric acid	213 mg/m ³ (rat) (4-hour exposure)	1530 mg/kg (rat)	2740 mg/kg (rabbit)

Skin Corrosion/Irritation

Causes severe irritation or burns to skin. Contact can cause pain, redness, burns, and blistering. Permanent scarring can result.

Serious Eye Damage/Irritation

Contact causes severe burns with redness, swelling, pain and blurred vision. Permanent damage including blindness can result.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

At high concentrations causes severe nose and throat irritation, severe lung injury. Symptoms may include coughing, shortness of breath, difficult breathing and tightness in the chest.

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Skin Absorption

(Hydrofluoric acid) harmful effects of hydrogen fluoride can be delayed through skin absorption. Absorption of fluorides may cause severe metabolic disturbances resulting in irregular heartbeat and depression of the central nervous system. Also, see "Other information" in this Section.

Aspiration Hazard

Not known to be an aspiration hazard.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

At high concentrations : prolonged exposure will cause skin and eye damage, lung damage or respiratory disorder, pneumonia, pulmonary edema and shock. Absorption of fluorides may lead to fluorosis (bone and joint damage), ossification of ligaments, liver and kidney damage.

Respiratory and/or Skin Sensitization

Not known to be a respiratory sensitizer. Not known to be a skin sensitizer.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Hydrofluoric acid	Not Listed	Not designated	Not Listed	Not Listed
Phosphoric acid	Group 1	Not Listed	Not Listed	Not Listed

Not known to cause cancer.

IARC Class Group 1: for strong inorganic acid mists (by inhalation) containing phosphoric acid only (occupational exposure to; exposure circumstance). The Group 1 class applies when phosphoric acid is combined with other strong acids such as nitric acid, hydrochloric acid & sulfuric acid. IARC classification does not apply to phosphoric acid itself or phosphoric acid solutions.

Key to Abbreviations

IARC = International Agency for Research on Cancer. Group 1 = Carcinogenic to humans. NTP = National Toxicology Program. OSHA = US Occupational Safety and Health Administration. ACGIH® = American Conference of Governmental Industrial Hygienists.

Reproductive Toxicity

Development of Offspring

Not known to harm the unborn child.

Sexual Function and Fertility

Not known to cause effects on sexual function or fertility.

Germ Cell Mutagenicity

Not known to be a mutagen.

Other Information

Reaction of fluoride with body calcium may occur by any route of exposure to hydrofluoric acid. This can cause a marked lowering of serum calcium (hypocalcemia) and other metabolic changes which may result in a fatal outcome. In particular, arrhythmia of the heart leading to cardiovascular failure as well as renal failure may occur.

No information was located for: Effects on or via Lactation, Interactive Effects

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life, based on low pH of mixture, based on acute toxicity tests.

Acute Aquatic Toxicity

Chemical Name	LC50 Fish	EC50 Crustacea	ErC50 Aquatic Plants	ErC50 Algae
Hydrofluoric acid	51 mg/L (Oncorhynchus mykiss (rainbow trout); 96-hour)	97 mg/L (Daphnia magna (water flea); 48-hour)		48 mg/L (96-hour)

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Phosphoric acid	138 mg/L (Gambusia affinis (Mosquito fish); 96- hour)			
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Persistence and Degradability

No ingredient of this product or its degradation products is known to be highly persistent.

Bioaccumulative Potential

This product and its degradation products are not expected to bioaccumulate.

Mobility in Soil

If released into the environment, this product is expected to move rapidly through the soil, based on physical and chemical properties.

Other Adverse Effects

There is no information available.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

Recycle and reuse product, if possible. Recommended disposal methods are for the product, as sold. (Used material may contain other hazardous contaminants). The required hazard evaluation of the waste and compliance with the applicable hazardous waste laws are the responsibility of the user.

SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
Canadian TDG	2922	Corrosive Liquid, Toxic, N.O.S. (Phosphoric & Hydrofluoric acid Mixture)	8 (6.1)	II
US DOT	2922	Corrosive Liquid, Toxic, N.O.S. (Phosphoric & Hydrofluoric acid Mixture)	8 (6.1)	II

Environmental Hazards Not applicable

Special Precautions Not applicable

Transport in Bulk according to International Maritime Organization Instruments

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all of the information required by the Controlled Products Regulations.

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

All ingredients are listed on the DSL/NDSL.

USA

Toxic Substances Control Act (TSCA) Section 8(b)

All ingredients are listed on the TSCA Inventory.

SECTION 16. OTHER INFORMATION

SDS Prepared By Technical Department

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