



SAFETY DATA SHEET

1 – IDENTIFICATION

IDENTIFIER	AQUA BARNACLE
PRODUCT CODE	8271, 8272, 8273, 8275
RECOMMENDED USE	Aluminum cleaner
RESTRICTIONS ON USE	Removes algae and barnacles.
SUPPLIER / MANUFACTURER	AUTO-CHEM INC 33 de Lyon Repentigny, QC J5Z 4Z3 450-654-9292 www.autochem.com
EMERGENCY TELEPHONE	CANUTEC 1-613-996-6666 (24 hours)

2 – HAZARD IDENTIFICATION

CLASSIFICATION	<p>Corrosive to metals 1 Acute toxicity, oral 4 Skin corrosion 1 Serious eye damage 1 Acute toxicity, inhalation 3 Specific target organ toxicity, single exposure; Respiratory tract irritation 3 Specific target organ toxicity, repeated exposure 1 Hazardous to the aquatic environment, acute hazard 2 Hazardous to the aquatic environment, long-term hazard 2</p>	
LABEL ELEMENTS		
SIGNAL WORD	DANGER	
HAZARD STATEMENT	<p>H290 H302 H314 H318 H331 H335 H372 H401 H411</p>	<p>May be corrosive to metals. Harmful if swallowed. Causes severe skin burns and eye damage. Causes serious eye damage. Toxic if inhaled. May cause respiratory irritation. Causes damage to organs through prolonged or repeated exposure. Toxic to aquatic life. Toxic to aquatic life with long lasting effects. ,</p>
PRECAUTIONARY STATEMENTS – PREVENTION	<p>P234 P260</p>	<p>Keep only in original packaging. Do not breathe dust, fume, gas, mist, vapours, spray.</p>

	P264 P270 P280 P271 P273	Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves, protective clothing, eye / face protection. Use only outdoors or in a well-ventilated area. Avoid release to the environment.
PRECAUTIONARY STATEMENTS – RESPONSE	P301+P312 P301+P330+P331 P303+P361+P353 P363 P304+P340 P310 P321 P305+P351+P338 P308+P313 P314 P390	IF SWALLOWED: Call a POISON CENTER / doctor if you feel unwell. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN: Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER / doctor. Specific treatment: see section 4 – FIRST AID. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical advice / attention. Get medical advice / attention if you feel unwell. Absorb spillage to prevent material damage.
PRECAUTIONARY STATEMENTS – STORAGE	P405 P403+P233 P406	Store locked-up. Store in a well-ventilated place. Keep container tightly closed. Store in a corrosion resistant container / container with a resistant inner liner.
PRECAUTIONARY STATEMENTS - ELIMINATION	P501	Dispose contents/containers according to municipal, provincial and federal regulations.
OTHER HAZARDS	Not applicable	

3 – COMPOSITION / INFORMATION ON INGREDIENTS

CHEMICAL NAME	C.A.S	CONCENTRATION
Chlorhydric acid	7647-01-0	7 - 13 *
Ammonium difluoride	1341-49-7	3 – 7 *
Ethoxylated alcohol C9 – C11	68439-46-3	1 – 5 *

* TRADE SECRET STATEMENT: The exact concentration of composition has been withheld as a trade secret.

4 – FIRST AID MEASURES

ROUTE OF EXPOSURE	Inhalation, eyes, skin, ingestion
INHALATION	IF INHALED: remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CONTROL CENTER or physician. Calcium gluconate 2.5% in alkaline solution can be given with oxygen nebuliser. Victim should be kept under observation for

	at least 24 hours.
DERMAL	IF ON SKIN: Take off immediately all contaminated clothing. Rinse skin with water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. Use a 2.5% calcium gluconate gel to penetrate by continuous massage in burn area until pain subsides.
OCULAR	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. Get immediate qualified medical attention, preferably by an eye specialist. Irrigate with 1% calcium gluconate in a normal saline solution during 1 to 2 hours to prevent or reduce lesions to the cornea.
ORAL	NEVER give anything orally if victim is losing consciousness, is unconscious or having convulsions. Rinse mouth with water thoroughly. DO NOT INDUCE VOMITING. Ask victim to drink two glasses of water. If vomiting occurs naturally, lean victim forward to reduce risks of aspiration. Continue to drink water. Several glasses of milk or several spoonfuls of milk of magnesia can be administered for their calming effect. Get immediate medical care.
NOTE TO PHYSICIAN	Specific treatment: Burns on large area of skin (>150 cm ²), in case of exposition by ingestion or important inhalation, several serious effects may occur. Watch for and take measures for hypocalcaemia, cardiac arrhythmias, hypomagnesaemia and hyperkalemia. Kidney dialysis may be needed. Severe contact with skin may require use of calcium gluconate administered subcutaneously, except in the fingers area – unless physician has experience with this method – because of risks of tissue damage due to pressure increase. Treat as chemical pneumonia.

5 – FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA	Use any extinction method appropriate for surrounding materials. If water is used, it must be in large quantities as water spray, contact of product with water generates heat and solutions are corrosive.
UNSUITABLE EXTINGUISHING MEDIA	Do not disperse material with direct water jet.
SPECIFIC HAZARDS	Carbon oxides, fluorhydric acid, chlorine compounds, acrid smoke.
PROTECTIVE EQUIPMENT	Fire-fighters must wear protective equipment and NIOSH approved self-contained breathing apparatus.
PRECAUTIONS	Acid reacts with water and may splash personnel. Do not let water run-off reach sewers, ditches or waterways.

6 – ACCIDENTAL RELEASE MEASURES

PROTECTIVE EQUIPMENT	Wear appropriate respiratory equipment (See Section 8). Avoid direct contact with product. Remove non-essential personnel.
CONTAINMENT AND CLEAN UP	Ventilate spill area. Stop spill if safe to do so. Contain and absorb with an inert absorbing material for future disposal (See Section 13). Prevent spill from entering sewers or waterways. Retain water run-off if applicable. Inform proper authorities if necessary.
ENVIRONMENTAL PRECAUTIONS	Avoid entering sewers, waterways or restricted areas. Eliminate according to municipal, provincial and federal regulations.

7 – HANDLING AND STORAGE

HANDLING	Containers must be identified correctly. Handle in a well ventilated area. Avoid breathing dust, vapours or mists. Avoid contact with eyes, skin and clothes. Keep containers closed when not in use. Empty containers may contain residues and must be handled as hazardous waste. Maintain good personal hygiene before eating, drinking or smoking. Do not eat, drink or smoke while using the product or in proximity. Wash contaminated clothing before reuse.
STORAGE	Store in a well-ventilated place. Keep cool. Store away from incompatible materials. Keep containers closed.
INCOMPATIBLE MATERIALS	Strong oxidizing agents, strong reducing agents, alkalis, prolonged contact with some metals.

8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

CHEMICAL NAME	C.A.S.	SOURCE	VALUE
Chlorhydric acid	7647-01-0	NIOSH NIOSH NIOSH OSHA CSST	TWA 2 ppm TLV 5 ppm, 7 mg/m ³ IDLH 50 ppm TLV 5 ppm, 7 mg/m ³ TLV 5 ppm, 7.5 mg/m ³
Ammonium difluoride	1341-49-7	CSST OSHA ACGIH NIOSH NIOSH	TWA 2.5 mg/m ³ TWA 2.5 mg/m ³ TWA 2.5 mg/m ³ TWA 2.5 mg/m ³ IDLH 500 mg/m ³
Ethoxylated alcohol C9 – C11	68439-46-3		No established limits.

ENGINEERING CONTROLS	Use process enclosures, local exhaust ventilation or other engineering controls to maintain airborne levels to an acceptable level.
RESPIRATORY PROTECTION	Maintain atmospheric concentrations below exposure limits. If exposure exceeds occupational exposure limits, use an appropriate NIOSH approved respirator. In case of spill or leak resulting in unknown concentration, use a NIOSH approved supplied air respirator.
PROTECTIVE EQUIPMENT AND CLOTHING	Wear chemical / impermeable gloves or other protective clothing to prevent repeated or continuous contact with the skin during handling and usage. Wear goggles to prevent mist, vapours or dust to contact eyes. Insure that eyewash stations, showers and cleaning stations are near to work station.
OCULAR PROTECTION	Chemical goggles; also wear a face shield if splashing hazard exists.
GENERAL HYGIENE RECOMMENDATIONS	Ensure that eyewash stations and safety showers are proximal to the work-station location. Avoid production of high concentrations of dust, vapours or mists. Avoid contact with skin and eyes. Avoid breathing dust, vapours or mists. Never eat, drink or smoke near work stations. Good hygiene is recommended after using this product. Clean clothing before reuse.

9 – PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Transparent, green liquid.
ODOUR	Acrid.
ODOUR TRESHOLD	Not available.

pH	1.90
MELTING / FREEZING POINT	0°C
INITIAL BOILING POINT	100°C
FLASH POINT	Not applicable.
EVAPORATION RATE	Not available.
FLAMMABILITY	Not applicable.
LOWER FLAMMABLE/EXPLOIVE LIMIT	Not applicable.
UPPER FLAMMABLE/EXPLOSIVE LIMIT	Not applicable.
VAPOUR PRESSURE	Not available.
VAPOUR DENSITY	Not available.
RELATIVE DENSITY	1.05
SOLUBILITY (in water)	Soluble.
PARTITION COEFFICIENT (n-octanol/water)	Not available.
AUTO-IGNITION TEMPERATURE	Not available.
DECOMPOSITION TEMPERATURE	Not available.
VOC (w/w)	0 g/L (0 Kg/Kg)
VISCOSITY	< 50 cps.

10 – STABILITY AND REACTIVITY

REACTIVITY	Stable under recommended usage.
CHEMICAL STABILITY	Stable under normal usage conditions.
HAZARDOUS REACTIONS	Polymerization will not occur.
CONDITIONS TO AVOID	Incompatible materials, freezing.
INCOMPATIBLE MATERIALS	Strong oxidizing agents, strong reducing agents, alkalis, prolonged contact with some metals.
HAZARDOUS DECOMPOSITION PRODUCTS	Carbon oxides, fluorhydric acid, chlorine compounds.
ADDITIONAL INFORMATION	None.

11 – TOXICOLOGICAL INFORMATION

ACUTE EFFECTS	
INHALATION	Can irritate the nose, throat and respiratory system. Symptoms can appear after several hours. Severe exposure can cause burns of the nose and throat, inflammation of the lungs and pulmonary oedema. Other toxic effects can appear, including hypocalcaemia, which must be treated immediately.
DERMAL	Liquid and vapour can cause burns which may not be immediately be painful or visible. The product can penetrate the skin and attack tissues and bones. Burns over a large area (25 sq. in.) can cause hypocalcaemia and other toxic effects which can be fatal. Can cause burns in case of prolonged contact.
OCULAR	Liquid and vapour can cause an irritation or burn of the cornea.
ORAL	Ingestion can cause severe burns of the mouth, throat and stomach and can be

	fatal. Ingestion can cause hypocalcaemia and systemic poisoning is possible unless medical treatment is promptly initiated.		
CHRONIC EFFECTS			
INHALATION	Irritation of respiratory tract.		
DERMAL	Contact with a dilute solution may cause burns. Prolonged contact may cause fluorosis of teeth and bones.		
OCULAR	Eye irritation.		
ORAL	No data.		
ADDITIONAL INFORMATION			
CARCINOGENIC EFFECTS (IARC)	Chlorhydric acid	7647-01-0	Group 3: Not classifiable as to its carcinogenicity to humans.
MUTAGENIC EFFECTS	No data.		
TERATOGEN EFFECTS	No data.		
REPRODUCTION	No data.		
SENSIBILISATION	No data.		
TARGET ORGANS	No data.		
AGGRAVATED CONDITIONS	No data.		
SYNERGISTIC SUBSTANCES	No data.		

CHEMICAL NAME	C.A.S.	LD50 ORAL mg/kg	LD50 DERMAL mg/kg	LC50 INHALATION
Chlorhydric acid	7647-01-0	900, rabbit	No data.	1038 mg/m ³ , 4h, rat
Ammonium difluoride	1341-49-7	130, rat	No data.	No data.
Ethoxylated alcohol C9 – C11	68439-46-3	2000 – 3340, rat	>2000, rabbit	No data.

12 – ECOLOGICAL INFORMATION

Ammonium difluoride	1341-49-7
LC50 364 mg/L	Pimephales promelas




Ethoxylated alcohol C9 – C11	68439-46-3
LC50 0.29 – 72 mg/L, 48h	Daphnia magna
LC50 0.7 – 12.3 mg/L, 96h	Lepomis macrochirus
LC50 0.48 – 13 mg/L, 96h	Pimephales promelas
LC50 0.9 – 2.7 mg/L, 96h	Oncorhynchus mykiss
LC50 1.8 – 4.5 mg/L, 96h	Leuciscus idus
EC50 0.9 – 39 mg/L, 96h	Algea
NOEC 1 – 4 mg/L, 7 days	Daphnia magna
NOEC 0.4 – 4 mg/L, 7 days	Lepomis macrochirus

PERSISTENCE AND DEGRADABILITY	Not available.
BIOACCUMULATIVE POTENTIAL	Not available.
SOIL MOBILITY	Not available.
OTHER ADVERSE EFFECTS	Not available.
ADDITIONAL INFORMATION	Do not let material or fire-fighting water run-off enter sewers or waterways. Obstruct drains and ditches. Affected areas must be cleaned and restored to their original conditions or to the satisfaction of the authorities.

13 – DISPOSAL CONSIDERATIONS

DISPOSAL METHOD	Disposal of all wastes must be done in accordance with municipal, provincial and federal regulations.
CONTAMINATED PACKAGING	Empty containers should be recycled or disposed of through an approved waste management facility.

14 – TRANSPORT INFORMATION

TRANSPORT OF DANGEROUS GOODS (CANADA)				
UN NUMBER	PROPER SHIPPING NAME	CLASS	PACKING GROUP	PLACARD
2922	CORROSIVE LIQUID, TOXIC N.O.S. (Chlorhydric acid, ammonium difluoride)	8 (6.1)	II	 
LIMITED QUANTITY: 1L				

MARINE POLLUTANT	No.
SPECIAL PRECAUTIONS	Avoid freezing and incompatible materials.

15 – REGULATORY INFORMATION

CANADA	
CEPA	All components of this product are either listed or exempt from listing on the Domestic substances List (DSL).
USA	
TSCA	All components of this product are either listed or exempt from listing on the Toxic Substances Control Act (TSCA) Inventory.

16 – OTHER INFORMATION

VERSION	2.0
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DATE	24 April 2018
PREPARED BY	AUTO-CHEM INC
ABBREVIATIONS	ABBREVIATIONS
ACGIH	American Conference of Governmental Industrial Hygienists
AIHA	American Industrial Hygiene Association
CAS	Chemical Abstract Service
CEPA	Canadian Environmental Protection Act
CIRC	Centre International pour la Recherche sur le Cancer
CL / LC	Concentration létale /Lethal concentration
DL / LD	Dose létale / Lethal dose
CE / EC	Concentration efficace / Effective concentration
IARC	International Agency for Research on Cancer
LCPE	Loi Canadienne sur la Protection de l'Environnement
LES/NDSL	Liste extérieure des substances / Non domestic substances list
LIS/DSL	Liste intérieure des substances / Domestic substances list
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program (U.S.A.)
OSHA	Occupational Safety and Health Administration (U.S.A.)
PEL	Permissible Exposure Limit
SIMDUT	Système d'information sur les matières dangereuses utilisées au travail
STEL	Short-term Exposure Limit
STOT	Specific target organ toxicity
TCOC	Toxicité pour certains organes cibles
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
TWA	Time Weighted Average
USEPA	United States Environmental Protection Agency
VECD	Valeur exposition courte durée
VEMP	Valeur exposition moyenne pondérée
WHMIS	Workplace Hazardous Materials Information System
NOTICE TO READER	All information appearing herein is based upon data obtained from the manufacturer and/or recognized technical sources. While the information is believed to be accurate, Auto-Chem makes no representations as to its accuracy or sufficiency. Conditions of use are beyond Auto-Chem's control and therefore users are responsible to verify this data under their own operation conditions to determine whether the product is suitable for their particular purposes and they assume all risks of their use, handling and disposal of the product or from the publication or use of, or reliance upon, information contained herein. This information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process