




G.K. Chemical Specialties Co. Inc.
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SAFETY DATA SHEET (SDS)

PRODUCT NAME: G-440 BRICK AND CONCRETE CLEANER CONCENTRATE		
HEALTH HAZARD RATING:	(4)- SEVERE HAZARD	NFPA Rating
FLAMMABILITY HAZARD RATING:	(0)- MINIMAL HAZARD	
REACTIVITY HAZARD RATING:	(1)- LOW HAZARD	
PERSONAL PROTECTION:	U - (Splash goggles, Gloves, Full protective suit, boots, Vapor respirator)	
HAZARD ALERT SIGN:		

SECTION 1 – IDENTIFICATION

PRODUCT IDENTIFIER	
PRODUCT NAME	G-440- BRICK AND CONCRETE CLEANER CONCENTRATE
MANUFACTURER'S NAME AND ADDRESS EMERGENCY PHONE NO.	G.K. Chemical Specialties Co. Inc. 90 Barbados Blvd. Scarborough, Ontario M1J 1K9 (416) 261-7182 / 905 427-7605/ 416-526-4037 CHEMTREC(24 HR EMERGENCY) 1-800-424-9300 International CHEMTREC: 1-703-527-3887
SUPPLIER'S NAME AND ADDRESS EMERGENCY PHONE NO.	
CHEMICAL NAME	NOT APPLICABLE
CHEMICAL FAMILY	ACID
TRADE NAME AND SYNONYMS	NOT APPLICABLE
MATERIAL USE	COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL CLEANING

G.K. Chemical Specialties Co. Inc. has compiled the information and recommendations contained in this Safety Data Sheet from sources believed to be reliable and to represent the most reasonable current opinion on the subject when the SDS was prepared. Although reasonable precautions have been taken in the preparation of the data contained herein, it is offered solely for your information, consideration and investigation.

G.K. Chemical Specialties Co. Inc. extends no warranty and assumes no responsibility as to the accuracy of the content or sufficiency of the information and expressly disclaims all liability for reliance thereon. This SDS provides guidelines for the safe handling of this product. It does not and cannot advise on all possible situations, therefore, your specific use of this product should be evaluated to determine if additional precautions are required. Individuals exposed to this product should read and understand this information and be provided pertinent training prior to working with this product.

G.K. Chemical Specialties Co. Inc. assumes no responsibility for personal injury or property damage to vendors, users or third parties caused by the material. Such vendors or users assume all risks associated with the use of the material.

INGREDIENTS. This SDS, under section of Ingredients, contains all ingredients listed under INGREDIENT DISCLOSURE LIST P.C. 1987-2719, 20/1/88 CANADA GAZETTE PART II VOL. 122, No 2 of HAZARDOUS PRODUCT ACT.

Percentage range of concentration of ingredients is expressed as percentage by weight of the total weight of the product. Ingredient List does not necessarily list all ingredients in the formulation and does not necessarily list all ingredient range of concentration, other than ingredients under the Disclosure List.

T.L.V. (units) or Threshold Limit Values refer to the limiting concentrations recommended by the Ministry of Labour. These values were adopted by the American Conference of Governmental Industrial Hygienists (A.C.G.I.H.). The figures refer to time-weighted average concentrations as P.P.M. (V/V) or mg/m³ for a normal working day or at any time for some materials.

"C.A.S REG. No." means the identification number assigned to a chemical substance by the Chemical Abstracts Service Division of the American Chemical Society.

"LC 50" means the concentration of a substance in air that when administered by means of inhalation over a specified length of time in an animal assay, is expected to cause the death of 50 per cent of a defined animal population.

"LD 50" means the single dose of a substance that, when administered by a defined route in an animal assay, is expected to cause death of 50 per cent of a defined animal population.

FLASH POINT. The minimum temperature at which a substance gives off flammable vapors which in contact with spark or flame will ignite.

NIOSH- National institute for occupational safety and health

STEL- Short term exposure limit

TWA- Time-weighted average

PEL- Permissible exposure limit

ACGIH- American conference of governmental industrial hygienist

OSHA- Occupational safety and health act

SECTION 2 – HAZARD IDENTIFICATION

Dangerous Goods: **WHMIS:** CLASS E, CLASS D. DIV. 2A AND 2B

GHS CLASSIFICATION

Acute Toxicity (inhalation-Dust/Mists) – Category 2

Acute Toxicity (oral) – Category 2

Acute Toxicity (Dermal) – Category 1

Eye Damage/ Irritation –Category 1

Skin Corrosion/Irritation – Category 1, Category 1A

Respiratory Sensitization – Category 1A

Metal Corrosion- Category 1

HAZARDOUS SUBSTANCE (HSNO) CLASSIFICATION

Toxic liquid Class: D, DIV 2A AND 2B. Corrosive liquid Class: E

GHS Label Elements, including precautionary statements: Hazard Statements:

Signal word- DANGER

HAZARD STATEMENT

H314: Causes severe skin burns and eye damage,

H318: Causes serious eye damage

H335: May cause respiratory irritation,H302: Harmful if swallowed

H331: Toxic if inhaled

H290: May be corrosive to metals

H400: Very toxic to aquatic life

PREVENTION

P261: Avoid breathing dust/fumes/gas/mist/vapors/spray

P262: Do not get in eyes, on skin, or on clothing.

P271: Use only outdoors or in a well-ventilated area

P280: Wear protective gloves/ protective clothing/ eye protection/ face protection

P284: Wear respiratory protection

P405: Store locked up

P403 + P233: Store in a well- ventilated place. Keep containers tightly closed

P273: Avoid release to the environment

RESPONSE (SEE ALSO SECTION 4 – FIRST AID AND MEASURES)

P305+P351+P338- IF IN EYES: Rinse cautiously with water for several minutes: Remove contact lenses if present and easy to do so. Continue rinsing

P301 + P310: If swallowed: Immediately call a POISON CENTER or doctor/ physician.

P301 + P330 + P331" IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

P304 +P340 + P310: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician

P303 + P361 + P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water)

POTENTIAL HEALTH EFFECTS

INHALATION: May be harmful if inhaled. Causes respiratory tract irritation.

SKIN: Causes serious skin irritation and severe and painful chemical burns, which may not be immediately painful or visible. The latent period may be up to 24 hours.



	<p>EYE: Will cause serious damage. Will cause severe burns with destruction or opacification of the cornea.</p> <p>INGESTION: May be fatal if swallowed – severe burning of internal organs, pulmonary edema and death</p>
	<p>NOTE: The major ingredient of this formulation is Hydrofluoric acid and this is the most hazardous ingredient.</p> <p>DANGER: Product will severely damage glass, porcelain, marble, granite, aluminum siding, window frames, will burn grass and trees. Use with care only on the recommended surfaces. Cover well with plastic sheeting all other surfaces. Very important for the user to cover himself and follow all precautions. It is also very important for people that handle or use this product or similar products to have the items described under first aid and medical treatment available in their safety box. Caution: Most Medical facilities may not have them available. In case of an injury have a copy of this SDS available to present to the Medical facility.</p>

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS	APPROXIMATE CONCENTRATION%	C.A.S., N.A. OR U.N. NUMBERS	LD50 {SPECIFY SPECIES & ROUTE}	LC50 - RAT ROUTE: INHALATION
Hydrofluoric acid	15 - 25	7664-39-3		0.79 mg/L (Rat) 1h
Phosphoric acid	5 – 10	7664-38-2	Oral(Rat): 1530 mg/kg Dermal(Rabbit):2730mg/kg	>:850 mg/m ³ /1h
2-Butoxyethanol	5-10	111-76-2	Oral (Rat): 1300 mg/kg Dermal(Guinea pig): :>2000mg/kg	TLV: 25 ppm
Alcohols, C9-C11 Ethoxylated	<1	68439-46-3	Oral(Rat): 1400 mg/kg Dermal(Rat):>5000mg/kg	
Poly(oxy-1,2 ethanediyl) a-Hydro-w hydroxyl-decylethers Phosphate	<1	9004-80-2	Oral (Rat): >1,500 mg/kg	
Water, inert	Balance		Non-hazardous	

SECTION 4 – FIRST AID MEASURES

SKIN CONTACT	<p>Move victim immediately under safety shower or other water source and flush affected area thoroughly with large amounts of cool running water. Speed in washing off the acid is of primary importance. Remove all contaminated clothing while flushing with water. If 0.13 % benzalkonium chloride solution or 2.5% calcium Gluconate gel are available, the rinsing may be limited to 5 minutes, with the soaks or gel applied as soon as the rinsing is stopped.. If above are not available, rinsing must continue until medical treatment is rendered. While the victim is being rinsed with water, someone should alert first aid or medical personnel and arrange for subsequent treatment. Immediately after thorough washing, use one of the measures below:</p> <p>(1): Begin soaking the affected areas in iced 0.13% benzalkonium chloride solution. Use ice</p>
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	<p>cubes, not shaved ice, in order to prevent frostbite. If immersion is not practical, towels should be soaked with iced 0.13% benzalkonium chloride solution and used as compresses for the burned area. Compresses should be changed every two to four minutes. Do not use this solution for burns of the eyes, as benzalkonium chloride is an eye irritant. Continue this until pain is relieved or until more definitive medical treatment is provided.</p> <p>(2); Start massaging 2.5% Calcium Gluconate Gel into the burn site. Apply every 15 minutes and massage until pain and/ or redness disappears or until more definitive medical care is given. It is advisable for the individual applying the Gel to wear surgical gloves to prevent a possible secondary HF burn.</p> <p>During transportation to a medical facility or while waiting for a physician continue the benzalkonium chloride soaks or compresses or continue massaging Calcium Gluconate Gel.. The physician may advise to continue the treatment for 2-4 hours. Significant relief of the pain should be noted within the first 30 minutes. If the pain recurs continue the treatment. Sometimes it takes 6 hours. After the initial 30-60 minutes of treatment, less ice can be used so the bath is cool rather than cold. For small burns, or burns of the face, ears, and near mucous membranes, Calcium Gluconate Gel is very useful.</p>
EYE CONTACT	<p>Immediately hold eyelids open and flush with water for at least 15 minutes. Seek medical attention. Do not use the benzalkonium chloride solution described for skin treatment. If sterile 1% calcium gluconate solution is available, washing may be limited to 5 minutes, and then the 1% calcium gluconate solution should be used repeatedly to irrigate the eye using a syringe. See a doctor as soon as possible. If a physician is not immediately available, apply one or two drops of 0.5 % tetracaine hydrochloride solution or other aqueous, topical ophthalmic anesthetic and continue irrigation. Rubbing of the eyes is to be avoided.</p>
INHALATION	<p>Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention. Vapor exposures can cause skin and mucous membrane burns as well damage to pulmonary tissue. Burns of the oral mucosa or upper airway may cause severe swelling. The victim should be examined by a physician and held under observation for at least a 24 hour period. A solution of 2.5% Calcium Gluconate may be administered.</p>
INGESTION	<p>Harmful if swallowed. Do not induce vomiting. Drink large amounts of water followed by two glasses of milk or 2 ounces of milk of magnesia. Seek immediate medical attention. Do not give emetics or baking soda. Never give anything by mouth to an unconscious or convulsing person. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Treatment for the corrosive effects is the same as for ingestion of other strong acids. Systemic toxicity is very likely to occur and may require aggressive treatment.</p>
NOTES TO PHYSICIAN	<p>Product is corrosive material. Product contains 15-25 % Hydrofluoric acid as a major ingredient, which will create a serious hazard. In case of ingestion use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with frothy sputum, and high pulse pressure. Treat symptomatically. In case of skin contact burns from diluted product are difficult to distinguish from other chemical burns and usually appear as areas of erythema. However they may progress, if not treated, to areas of blistering, necrosis or ulceration. Burns from more concentrated product have a rather characteristic appearance and present as severely reddened, swollen areas with blanched, whitish regions which rapidly progress to blistering and necrosis. A thick granular exudate usually appears under these blisters which requires removal. Hydrofluoric Acid burns cause extreme pain. Relief of pain is an excellent indication of the success of treatment and, therefore, local anesthetics should be avoided. With respect to Quaternary Ammonium Compounds two solutions have been clinically successful. 0.13 % Benzalkonium Chloride (e.g. Zephiran) or 0.2 % Benzethonium Chloride (e.g. Hyamine 1622).</p>

	<p>For skin burns: If blisters are present they should be opened and drained prior to the use of Benzalkonium Chloride. Prolonged immersion in the iced Benzalkonium Chloride bath may result in discomfort due to excess chilling. Relief may be obtained by removing the part from the bath every ten to fifteen minutes for a few minutes and then reimmersing it. After the initial 30-60 minutes of treatment, less ice can be used so the bath is cool rather than cold. Large burns, or burns with delayed treatment may require the use of Calcium Gluconate injections in addition to or instead of the Benzalkonium Chloride soaks.</p> <p>Calcium Gluconate Gel: This is convenient to carry and can be used to initially treat small burns by massaging it promptly and repeatedly into the burned area, until pain is relived. The Gel may have to be used 4-6 times daily for 3-4 days. It is especially useful for burns on the face, near the mouth, eyes and ears.</p> <p>Calcium Gluconate Injections: After first aid measures have been taken for large and severe burns (over 25 in² or 160 cm²) injections of 5 % Calcium Gluconate solution may be required as the primary medical treatment. Injection may also be indicated for burns in which treatment has been delayed. Calcium Gluconate is normally packaged as a 10% solution, and must be diluted 50-50 with normal saline. Do not use Calcium Chloride which may result in additional damage. If above injections are used, the amount injected initially is small and should not exceed 0.5 cc/cm² of affected skin surface. A small-gauge needle (27-30 gauge) should be used and the burned area should be injected through multiple sites. The patient can advise when the pain stops, and this is an indicator of adequate treatment. After multiple injections in skin to avoid risk of infections use antibiotic creams.</p> <p>Burns of the fingers and nails: Nails permit penetration of Fluoride ions but prevent soaks or gels from being effective. It may be necessary to drill, split or even remove nails to allow the topical methods of treatment to be effective. If immersion in Benzalkonium Chloride solution is started immediately may not require any of the above. Some finger or hand burns can be treated by using a glove filled with Calcium Gluconate Gel.</p> <p>Eye injuries: Hydrofluoric acid can cause severe eye burns, which, if not properly treated, may result in blindness. The prognosis is not good if first aid treatment is delayed or inadequate. For minor exposures the following treatment has been successful. Mix 10 ml of 10% Calcium Gluconate with 100 ml of normal saline to give approximately a 1 % solution. With a syringe, irrigate the eye intermittently for a period of 15-30 minutes or until relief of pain occurs.</p> <p>Ingestion Injuries: After first aid is completed, the stomach may be lavaged with a solution of a Calcium containing antacid. The tube must be passed with care to prevent perforation.</p> <p>NOTE: With respect to all information provided above Physicians or Medical people can select above methods or other methods for treatment.</p>
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SECTION 5 – FIRE-FIGHTING MEASURES	
FLASH POINT (°C)	67°C- Flash Point for 2-Butoxyethanol
FLASH POINT METHOD	Closed Cup
AUTOIGNITION TEMPERATURE (°C)	230°C – Auto-ignition temperature for 2-Butoxyethanol
UPPER FLAMMABLE LIMIT (% VOL.)	10.6% - For 2-Butoxyethanol
LOWER FLAMMABLE LIMIT (% VOL.)	1.3% - For 2- Butoxyethanol
HAZARDOUS COMBUSTION PRODUCTS	Hydrogen Chloride gas, Oxides of Phosphorus, Phosphine, Carbon monoxide and Carbon dioxide
UNUSUAL FIRE/ EXPLOSION HAZARDS	Releases flammable hydrogen gas when reacting with metals
SENSITIVITY TO MECHANICAL IMPACT	No.

SENSITIVITY TO STATIC DISCHARGE	No
EXTINGUISHING MEDIA	Use extinguishing agents compatible with acid and appropriate for the burning material. Use water spray to keep fire-exposed containers cool
SPECIAL FIRE FIGHTING PROCEDURES	Fire fighters should wear full protective clothing, including self-contained breathing equipment. The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating and toxic gases and vapors. To neutralize this product use Soda ash or slaked lime.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

LEAK AND SPILL PROCEDURE	Stop leak. Move containers from spill area. Absorb spill with vermiculite absorbent material, neutralize the residue with a dilute solution of Sodium Carbonate, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. LARGE SPILL: Corrosive liquid. Stop leak if without risk. Do not touch spilled material. Use water spray curtain to knock down vapor drift. Neutralize the residue. Be careful that vapors are not present at a concentration level above TLV
ENVIRONMENTAL PRECAUTIONARY	Prevent entry into sewers or streams. Any release to the environment should be subject to federal or local reporting requirements.
PERSONAL PRECAUTIONARY MEASURES	Wear protective clothing during cleanup. See section 8 for recommendations on the use of personal protective equipment. Avoid breathing vapors, mist or gas. Avoid contact with clothing and skin

SECTION 7 – HANDLING AND STORAGE

HANDLING PROCETURES	Avoid contact with skin and eyes. Avoid ingestion. Avoid inhalation of mists and vapors. Use good industrial hygiene practices in handling this product. Keep container closed when not in use. Use only with adequate ventilation. Always wear recommended personal protective equipment. Follow all warnings. Avoid all contact, even with diluted product, with skin eyes and clothing.
STORAGE NEEDS	Keep container tightly closed. Store in a cool area. Keep out of the reach of children. Keep in properly labeled containers. Store in Polyethylene containers. Do not store in metal containers. Hydrogen flammable gas will be generated if stored in metal containers. Do not store in Glass containers. This product will damage glass containers. Keep away from incompatible products.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION REQUIREMENTS	The purpose and the intended uses of this product is to be used outside. In closed areas good ventilation is recommended. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective. The most hazardous ingredient in this product is Hydrogen Fluoride. ACGIH TLV- TWA: 0.5 ppm, TWA: 2.5mg/m ³ , Ceiling: 2ppm (skin) OSHA PEL- (vacated) TWA: 3ppm, TWA: 2.5mg/m ³ , (vacated) STEL: 6 ppm, TWA: 3ppm. NIOSH IDLE: 30 ppm, TWA: 3 ppm, TWA: 2.5 mg/m ³ Ceiling: 6 ppm, 5 mg/m ³ Figures for Hydrofluoric acid
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PROTECTIVE EQUIPMENT	Ensure that eyewash stations are proximal to the work-station location. The selection of personal protective equipment will vary depending on the condition of use
EYE/TYPE	Splash goggles (plastic lenses), full face plastic shield
RESPIRATORY/TYPE	Approved/ certified vapor respirator when airborne concentration exceed exposure limits. Approved respirator by NIOSH for Hydrofluoric Acid.
GLOVE/TYPE	Nitrile, Vinyl, Butyl impervious gloves
FOOTWEAR/TYPE	Boots. Chemical resistant and as specified by the workplace
BODY/TYPE	Protective clothing is required. Use impervious clothing (apron, coveralls, chemical protective suit). The selection of personal protective equipment will vary depending on the conditions of use.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES	
APPEARANCE – PHYSICAL STATE	Colorless to slightly yellow liquid
ODOUR	Strong pungent, irritating
ODOUR THRESHOLD (PPM)	Not available
PH	3.85 ± 0.5 concentrate, 1 part to 3 parts water = 4.05 ± 0.5
MELTING POINT (°C)	See freezing point
BOILING POINT (°C)	>100°C (212° F) INITIAL
FREEZING POINT (°C)	Close to 0°C (32° F)
EVAPORATION RATE	>1.00 (n-Butyl Acetate)
FLAMMABILITY	Not combustible
FLASH POINT (°C)	67°C – For: 2- Butoxyethanol
AUTO IGNITION TEMPERATURE	Not available
DECOMPOSITION TEMPERATURE	Not available
VAPOUR DENSITY	(air= 1) 1.267 @ 20°C
VAPOUR PRESSURE	@ 20°C 110 mmHg
SOLUBILITY	Completely soluble in water
VISCOSITY	Thin liquid
% VOLATILE BY VOLUME	Not available
SPECIFIC GRAVITY	1.07 ± 0.03 gm / cm ³ @ 20°C

SECTION 10 – STABILITY AND REACTIVITY	
REACTIVITY	Exothermic reaction with incompatible materials
CHEMICAL STABILITY	Stable under normal conditions
POSSIBILITY OF HAZARDOUS REACTIONS	Arise in contact with incompatible materials. Forms flammable and explosive Hydrogen gas through corrosion of metals.
CONDITIONS TO AVOID	Avoid incompatible materials.
INCOMPATIBLE MATERIALS	Avoid contact with strong oxidizers, strong bases, metals, metal oxides, amines, carbonates other alkaline materials. Also perchlorates, nitrates, peroxides, carbides, cyanides, sulfides, permanganates, aldehydes, vinyl methyl ether, propylene oxide, Vinyl acetate, silicates
HAZARDOUS DECOMPOSITION PRODUCTS	Hydrofluoric acid gas, Oxides of Phosphorous, Phosphine, Carbon Dioxide (CO ₂), Carbon monoxide (CO)

SECTION 11 –TOXICOLOGICAL INFORMATION	
TOXICITY EFFECTS ON ANIMALS	Acute oral toxicity (LD50): 80 mg/kg (Guinea pig), Test substance 2 % solution HF. LC50- Inhalation (Rat): 2240 ppm (1 hour) Test substance- gas
TOXIC EFFECTS ON HUMANS	<p>Inhalation: Will cause chemical burns to the respiratory tract, leading to sore throat, coughing, shortness of breath and delayed lung edema.</p> <p>Ingestion: Corrosive: will cause circulatory system failure. Causes severe digestive tract burns with abdominal pain, vomiting, and possible death. May cause corrosion and permanent tissue destruction of the esophagus and digestive tract. Even dilute solutions of 2% Hydrofluoric acid are very corrosive</p> <p>Skin contact: Will be absorbed through the skin in harmful amount. Contact with liquid is corrosive and causes severe burns and ulceration, Even dilute 2 % solutions of Hydrofluoric acid will cause severe burns which may not be immediately painful or visible. Product will penetrate skin and attack underlying tissues and bones. Once absorbed into blood through the skin Hydrofluoric acid reacts with blood calcium and may cause cardiac arrest.</p> <p>Eye contact: May cause irreversible eye injury if not treated promptly. Contact with liquid is corrosive to the eyes and causes severe burns even diluted to 2% Hydrofluoric acid. Both liquid and vapor causes corneal burns.</p>
CHRONIC EFFECTS ON HUMANS	Chronic exposure may entail dental or skeletal fluorosis.
CARCINOGENICITY	No evidence
TERATOGENICITY	No data available
MUTAGENICITY	No evidence
REPRODUCTIVE EFFECTS	No evidence

SECTION 12 –ECOLOGICAL INFORMATION	
ECOTOXICITY DATA	<p>Because of the low PH of this product, it would be expected to produce significant ecotoxicity upon exposure to organisms and aquatic system. Most aquatic species do not tolerate PH lower than 5.5 for extended period. Dangerous to aquatic life in high concentrations. Aquatic Toxicity: 60 ppm/*/fish/lethal/fresh water. (* time period not specified) Hydrofluoric acid will get neutralized by natural alkalinity. Will react with calcium, magnesium, sodium, silicon dioxide in water and soil to form fluorides.</p> <p>Acute toxicity to fish (Sodium fluoride): 419 ppm/96/hr/mosquito fish/fresh water, >300 ppm/48hr/shrimp/LC50/salt water, EC50-48H: 26 mg/L-Daphnia magna(water flea)/fresh water, EC50-96h: 10.5 mg/L-Daphnia magna/salt water</p>
BIODEGRADABILITY	Does not bioaccumulate. Hydrofluoric acid dissociates in water and lowers the PH of water. It will be neutralized by naturally occurring alkalinity in water and soil. Not biodegradable. Biological Oxygen Demand (BOD): None
PRODUCTS OF DEGRADATION	Gets neutralized by alkalinity present in natural environment. Reacts with calcium in water and soil to form calcium fluoride, with magnesium to for magnesium fluoride, with silicon dioxide to form silicon fluoride and with sodium to form sodium fluoride.

SECTION 13 – DISPOSAL CONSIDERATIONS	
WASTE DISPOSAL	Disposal of all wastes must be done in accordance with municipal, provincial and federal regulations

INFORMATION ON SAFE HANDLING FOR DISPOSAL INCLUDING ANY CONTAMINATED PACKAGING	Suitable waste facility
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SECTION 14 – TRANSPORT INFORMATION	
UN NUMBER	1790
UN PROPER SHIPPING NAME	HYDROFLUORIC ACID SOLUTION, with not more than 60 % hydrofluoric acid
TRANSPORT HAZARD CLASS	CLASS: 8 (6.1)
PACKAGING GROUP	II
ENVIRONMENTAL HAZARDS	YES
TRANSPORT IN BULK, if applicable	NOT AVAILABLE
SPECIAL PRECAUTIONS	Guide to Canadian Transportation/Emergency Response Guidebook (ERG): # 157

SECTION 15 – REGULATORY INFORMATION	
SAFETY HEALTH & ENVIRONMENTAL REGULATIONS SPECIFIC TO THE PRODUCT	U.S. TSCA inventory Status: All components of this product are either on the Toxic Substances Control Act (TSCA) INVENTORY List or exempt. Canadian DSL Inventory Status: All components of this product are either on the Domestic Substances List (DSL) or the Non-Domestic Substances List (NDSL) or exempt.

SECTION 16 – OTHER INFORMATION	
PREPARED BY:	Gus Kaklamanos - Chemist
TELEPHONE NO.:	416-261-7182
DATE OF THE LATEST REVISION OF SDS:	October 5, 2017