* * * MATERIAL SAFETY DATA SHEET * * *

I – CHEMICAL PRODUCT & COMPANY IDENTIFICATION

PARKSIDE PROFESSIONAL PRODUCTS
4777 Kent Avenue
Niagara Falls, Ontario L2H 1J5

PHONE: (905) 358-8364

PRODUCT NAME: LONGHAUL 306
PRODUCT USE: Acidic Aluminum Brightener
PRODUCT CODE: FH306
FAX: (905) 358-9680

HMIS RATINGS:

Health	3
Flammability	0
Reactivity	1

EMERGENCY TELEPHONE NUMBER: CANUTEC (613) 996-6666 **Preparation Date:** December 1, 2014

2 – HAZARD IDENTIFICATION

Irritancy of Product: CORROSIVE
Physical State: liquid
EMERGENCY: DANGER! Extremely corrosive! Causes severe burns and eye damage. Exposure to hydrogen fluoride can produce harmful health effects that may not be immediately apparent.

Route(s) of Entry: eye, skin contact, ingestion, inhalation

Acute Effects

Eye: Contact can result in corneal damage or blindness, immediate pain, severe burns.
Skin Contact: CORROSIVE to the skin. Skin contact causes serious skin burns which may not be immediately apparent or painful. Symptoms may be delayed 8 hours or longer. The fluoride ion readily penetrates the skin, causing destruction of deep tissue layers, even bone.
Ingestion: CORROSIVE. Can cause sore throat, abdominal pain, diarrhea, vomiting, severe burns of the digestive tract and kidney dysfunction.
Inhalation: Severely corrosive to the respiratory tract. May cause sore throat, coughing, laboured breathing and lung congestion/inflammation.

See Toxicological information (Section 11 and 3)

3 – COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Wt/Wt %	CAS #	LD50 (mg/kg)	LC50
Hydrogen Fluoride (Hydrofluoric Acid)	1-10	7664-39-3	not available	1276 1 hour inhalation mouse
Sulphuric Acid	15-35	7664-93-9	2140 oral rat	320 mg/m^3 2 hour inhalation mouse

4 - FIRST AID MEASURES

Inhalation: Remove victim to fresh air. If symptoms persist, call a physician.
Eye Contact: IMMEDIATELY flush eyes with running water, for at least 15 minutes, keeping eyelids open. Consult a doctor immediately.
Skin Contact: Flush skin with plenty of water, for at least 15 minutes, while removing contaminated clothing. Call physician immediately. Wash contaminated clothing before reuse. Obtain medical attention.
Ingestion: Immediately call physician. DO NOT induce vomiting. Give several glasses of water. Never give anything by mouth if victim is unconscious, is rapidly losing consciousness or is convulsing.

Note to Physician for Hydrogen Fluoride (HF) exposure: GENERAL: For burns of moderate areas (greater than 8 square inches), ingestion and significant inhalation exposure, severe systemic effects may occur, and admission to a critical care unit should be considered. Monitor and correct for hypocalcemia, cardiac arrhythmias, hypomagnesemia and hyperkalemia. In some cases renal dialysis may be indicated. INHALATION: Treat as chemical pneumonia. Monitor for hypocalcemia, 2.5% calcium gluconate in normal saline by nebulizer or by IPPB with 100% oxygen may decrease pulmonary damage. Bronchodilators may also be administered. SKIN: for deep skin burns or contact with concentrated HF (over 50%) solution, consider infiltration about the affected area with 5% calcium gluconate (equal parts of 10% calcium gluconate and sterile saline for injection). Burns beneath the nail may required splitting the nail and application of calcium gluconate to the exposed nail bed. For certain burns, especially of the digits, use of intra-arterial calcium gluconate may be indicated. EYES: Irrigation may be facilitated by use of Morgan lens or similar ocular irrigator, using 1% aqueous calcium gluconate solution (50ml of calcium gluconate 10 in 500ml normal saline).
AS AN ALTERNATIVE FIRST AID PROCEDURE: The effect of HF, i.e. onset of pain, particularly in dilute solutions, may not be felt for up to 24 hours. It is important, therefore, that persons using HF have immediate access to an effective antidote even when they are away from their work place in order that first aid treatment can be commenced immediately. We recommend that any person in contact with HF should carry, or have access to, a tube of HF Antidote Gel at all times; ideally one tube at the work place, one on the person and one at home. It is imperative that any person who has been contaminated by HF should seek medical advice when the treatment by HF Antidote Gel has been applied.

5 - FIRE FIGHTING MEASURES

Conditions of Flammability:	not flammable
UFL:	not applicable
LFL:	not applicable
Flash Point and Test Method:	not applicable
Sensitivity to Static Discharge or Mechanical Impact:	not sensitive
Auto-Ignition Temperature:	none
Hazardous Combustion Products:	not applicable
Means of Extinction:	as appropriate for burning of surrounding products
Special Firefighting Procedures:	not applicable

6 – ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Wear adequate personal protective equipment (Section 8).
Environmental Precautions:	No special precautions required.
Methods for Cleaning Up:	Recover and reuse as much of the product as possible. Restrict access to area until completion of clean up. Ensure trained personnel conduct clean up. Do not touch spilled material.

7 – HANDLING & STORAGE

Safe Handling Procedures:	Product is corrosive. Avoid contact with skin, eyes and clothing. Wear proper protective equipment, including rubber gloves.
Storage Requirements:	Store, in a cool, dry area. Keep away from incompatible materials (see Section 10).
Special Packaging Materials:	Plastic or other corrosion-resistant containers. Do not use glass containers! Hydrogen fluoride attacks glass and other silicon containing compounds. Reacts with silica to produce silicon tetrafluoride, a hazardous colourless gas.

8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation and Engineering Controls: A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the Contaminate at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Protective Equipment:

Respiratory:	If the HF exposure limit is exceeded, a full facepiece respirator with an acid gas cartridge may be worn up to 50 times the exposure limit or the maximum use concentrations specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. WARNING: Air purifying respirators do not protect workers in oxygen-deficient atmospheres. Since the IDLH is low (30ppm), the above cartridge system is not specifically approved for HF. (3M Respirator Selection Guide).
Skin:	Wear protective clothing, including boots or safety shoes with polyvinyl chloride (PVC) or neoprene. Wear coveralls with long sleeves, gauntlets and gloves of PVC or neoprene. A high degree of protection is obtained with an air-inflated suit with mask and safety belt. Use protection suitable for conditions.
Eyes:	Use chemical goggles and/or a full face shield.

9 - PHYSICAL & CHEMICAL PROPERTIES

Physical State: liquid	**Viscosity:** not available	**Vapour Pressure:** not available
Water Factor: not available	**Appearance:** clear colourless	**pH:** < 1
Vapor Density: not available	**Evaporation Rate:** not applicable	**Odour:** none
Specific Gravity: 1.10 – 1.15 (water = 1)	**Boiling Point:** not available	**Odour Threshold:** not available
Freezing Point: not available	**Solubility:** very soluble	**VOC's:** not applicable
Percentage Volatile by Weight: not available	**Coefficient of Oil/Water Distribution:** essentially 0	

10 – STABILITY & REACTIVITY

Conditions of Chemical Instability: normally stable

Hazardous Decomposition Products: toxic chlorine and fluorine fumes

Incompatible Substances: Strong bases, reactive materials. When diluting DO NOT add water to the acid. Add acid to water. Hydrogen fluoride is incompatible with arsenic trioxide, phosphorus pentoxide, ammonia, calcium oxide, sodium hydroxide, vinyl acetate, ethylenediamine, acetic anhydride, alkalis, organic materials, most common metals, rubber, leather, water, strong bases, carbonates, sulfides, cyanides, oxides of silicon, especially glass, concrete, silica, fluorine. Will also react with steam or water to produce toxic fumes.

Conditions to Avoid: Unintentional contact with water and moisture. Keep containers tightly closed when not in use.

11 – TOXICOLOGICAL INFORMATION

UFL: Not established for this product. See Section 2 for values for ingredients.
LFL: Not established for this product. See Section 2 for values for ingredients.
Exposure Limits: ACGIH-TLV Hydrogen Fluoride: - OSHA Permissable Exposure Limit (PEL): 3 ppm (TWA)
ACGIH Threshold Limit Value (TLV) : 3 ppm Ceiling as F 2 ppm (Ceiliing) for Hydrogen Chloride
Carcinogenicity: None of the ingredients is listed by IARC, ACGIH, NTP and OSHA as carcingogen.
Teratogenicity, Mutagenicity, Other Reproductive Effects: Hydrogen fluoride is investigated as mutagen and reproductive effector.
Sensitization to Material: not reported
Conditions Aggravated by Exposure: skin conditions
Synergistic Materials: none known
Chronic Exposure: Intake of more than 6mg 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.
Aggravation of Pre-Existing Conditions: Persons with pre-existing skin disorders, eye problems, or impaired kidney or respiratory function may be more susceptible to the effects of HF.

12 – ECOLOGICAL INFORMATION

Environmental Effects: Product is corrosive. Low pH (acidity) of material is harmful to aquatic life. Contains Hydrogen Fluoride.
Environmental Fate: If the pH is 6.5, soil cane bind fluorides tightly. High calcium content will immobilize fluorides, which can be damaging to plants when present in acid solids.
Environmental Ecotoxicity: This material is expected to be slightly toxic to aquatic life.
60ppm/*/Fish/Lethal/Fresh Water*=time period not specified
300ppm/48hr/Shrimp/LC50/Aerated Saltwater – extremely harmful

13 – DISPOSAL CONSIDERATION

Handling for Disposal: Reuse if possible.
Methods of Disposal: Use only licensed waste disposal services. Follow Federal, Provincial & local regulations.

14 – TRANSPORT INFORMATION

Shipping Description: TDG – Corrosive Liquid, Acidic, Inorganic, N.O.S. (Hydrofluoric Acid, Sulphuric Acid), Class 8 UN3264, PGII

Certain shipping modes or package sizes may have exceptions from the transport regulations. The classification provided may not reflect those exceptions and may not apply to all shipping modes or package sizes.
UN CLASSIFICATION: 3264
See shipping documents for specific transportation information.

15 – REGULATORY INFORMATION

WHMIS: D1A, E
Canada Inventory: All components are listed or exempted.
Canadian NPRI: The following components are listed: sulphuric acid & hydrogen fluoride

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and this MSDS contains all the information required by the CPR.

16 – OTHER INFORMATION

References:

1. ACGIH, Threshold Limit Values and Biological Exposure Indices for 2003.
2. International Agency for Research on Cancer Monographs, Supplement 7, 1988.
3. Canadian Centre for Occupational Health and Safety, CHEMINFO database.
4. Material Safety Date Sheets from raw materials suppliers.
5. N. Irving Sax. Dangerous Properties of Industrial Materials, Seventh Edition.