MATERIAL SAFETY DATA SHEET

I. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: FORMULA 783 **DATE: March 5, 2007**

SUPPLIER: Melrose Chemicals Ltd.
2323-46th ave.
Lachine, QC
CANADA H8T 3C9
Tel: +1 (514) 631-2998
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PRODUCT USE: Scale remover

II. COMPOSITION/ INFORMATION ON INGREDIENTS

Chemical Identity:	EINECS #	CAS #	% Conc.	Classification
Hydrogen chloride	231-595-7	7647-01-0	10 - 30	T, C; R23, 35
Sulphamidic acid	226-218-8	5329-14-6	3 - 7	Xi; R36/38, R52/53
Hydrofluoric acid	231-634-8	7664-39-3	7 - 13	T+, C; R26/27/28, 35
Etidronic acid	220-552-8	2809-21-4	3 - 7	C; R10, 35
Alcohol C14-15, ethoxylated	polymer	68951-67-7	1 - 5	X_n N; R22, 41, 50
Ingredients according to Directive 2004/648/EC				
Phosphonates	<5%			
Nonionic surfactants	<5%			
Perfume	<5%			

III. HAZARDS IDENTIFICATION

Hazard classification of product according to Directive 1999/45/EC: C, corrosive
Hazards for humans: Causes severe burns. Irritating to respiratory system.
Hazards for environment: Strong acid, pH value of water can harm water-organisms.

IV. FIRST AID MEASURES

Contact with skin: Wash off in flowing water or shower. Wash contaminated clothing before re-use.
Contact with eyes: Immediately flush eyes with water for 15 minutes and call a physician.
Inhalation: Remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a physician.
Ingestion: Drink one glass of water immediately. **Do not induce vomiting**. Call Regional Poison Control Centre at once or see your local hospital emergency at once.

V. FIRE FIGHTING MEASURES

Conditions of flammability: Not applicable.
Means of extinction: Not applicable.
Hazardous combustion products: Not applicable.
Unusual fire and explosion hazards: Non combustible material; contact with some metals may generate hydrogen gas.

VI. ACCIDENTAL RELEASE MEASURES

Procedures to be followed in case of spills or leaks: Do not allow chemical to enter sewers or waterways. With large spills, dike for later disposal. Evacuate upwind; wear protective clothing, dilute spilled acid to reduce fumes, neutralize. Protect metal structures from acid.
Personal protective equipment to be used: Protective gloves and safety glasses.

VII. HANDLING AND STORAGE

Special handling procedures and equipment: Smoking or open lights should not be permitted near open drums, tank trucks, or storage tanks. Use explosion proof lights and flashlights. When diluting, always add acid to water, never water to acid. Heat is generated upon dilution.
Specific storage requirements: Do not store near excessive heat or open flame. Store in closed containers. Do not freeze.

VIII. EXPOSURE CONTROL/PERSONAL PROTECTION

Respiratory Protection: Self-contained breathing apparatus must be worn when concentrations are high or unknown. Canister type respirators are suitable when concentrations are known to be very low (<1%).

Protective Gloves: Rubber or neoprene.
Eye Protection: Chemical safety goggles to prevent eye contact.
Additional Protective Equipment: Rubber boots, coat and pants; safety shower and an eye wash facility should be available.
Ventilation: General ventilation with a good source of make-up air recommended for all indoor situations. Local ventilation recommended at source of contamination generation. Ventilation should be adequate enough to maintain air concentrations below the designated exposure limit.

IX. PHYSICAL AND CHEMICAL PROPERTIES

Flashpoint and method of determination: Not applicable.
Flammable limits (% in air): LOWER: Not applicable. **UPPER:** Not applicable.
Auto-Ignition temp.: Not applicable.
Physical State: Liquid
Vapour density: Not determined.
Coefficient of n-octanol/water distribution: Not determined.
Odour: Acid.
Boiling Point: 104°C
Specific Gravity: 1.06
Freezing Point: -15°C
Vapour Pressure: Not determined.
pH: 1.2 - 2.5
Evaporation Rate: Not determined.
Colour: Green
Solubility in water: Complete
Odour threshold: Not applicable.

X. STABILITY AND REACTIVITY

Chemical stability: Stable under normal conditions. Hazardous polymerization will not occur.
Incompatible substances: Avoid strong oxidizing and reducing agents. Will react with solid or liquid alkalies such as sodium hydroxide, potassium hydroxide and ammonium hydroxide.
Conditions of reactivity: Avoid contamination with reactive substances. Do not mix with alkaline materials.
Hazardous decomposition products: Reacts with some metals to produce hydrogen which may form explosive mixtures with air. When heated, hydrogen chloride is released which is corrosive and extremely irritating.

XI. TOXICOLOGICAL INFORMATION

Probable route of exposure: Splashes on skin and in eyes.
Exposure Limits: LD_{50} (Calculated) 3000 mg/kg
Effect of acute and chronic exposure to product: Causes severe burns. Irritating to respiratory system.
Irritating: No
Sensitisation to product: No
Carcinogenicity: Data not available.
Reproductive toxicity: Data not available.
Teratoxicity: Data not available.
Mutagenicity: Data not available.
Name of toxicologically synergistic product(s): Data not available.

XII. ECOLOGICAL CONSIDERATIONS

Environmental toxicity information: Product conforms to the regulations regarding the biodegradability of the surfactants. (Directive 2004/648/EC).

XIII. DISPOSAL CONSIDERATIONS

For the product: EC disposal code №:
20 01 29 (detergent containing dangerous substances).
For the packaging: EC disposal code №:
15 01 02 (plastic packaging). Can be recycled.

XIV. TRANSPORT INFORMATION

CARRIAGE BY ROAD (CROSSING BORDERS) ADR/RID:

ADR/RID Class:	8	C9
Hazard Identification Number:	80	
UN Number:	1760	
Packing group:	III	

Label: 8
UN proper shipping name: CORROSIVE LIQUID N.O.S. (Hydrochloric Acid)

TRANSPORT BY SEA IMDG:

IMDG Class: 8
UN Number: 1760
Packing group: III
EMS Number: F-A, S-B
Label: 8
Marine pollutant: No
UN proper shipping name: CORROSIVE LIQUID N.O.S. (Hydrochloric Acid)

TRANSPORT BY AIR ICAO-TI and IATA-DGR:

ICAO/IATA Class: 8
UN Number: 1760
Packing group: III
Label: 8
UN proper shipping name: CORROSIVE LIQUID N.O.S. (Hydrochloric Acid)

XV. REGULATORY INFORMATION

Inventory Status: TSCA (USA), CEPA (Canada, DSL), EINECS (EU), China, TCCL (Korea, KECI), RA 6969 (Philippines, PICCS), NICNAS (Australia, AICS), IEC (Japan).
WHMIS CLASSIFICATION: Class D, div 2a., Class E
Danger symbol: C, corrosive

Risk phrases: 35 Causes severe burns.
37 Irritating to respiratory system.
Safety phrases: 26 In case of contact with eyes rinse immediately with plenty of water and seek medical advice.
36/37/39 Wear suitable protective clothing and eye/face protection.
46 If swallowed seek medical advice immediately and show this container or label.

XVI. OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian *Controlled Products Regulations* and the MSDS contains all the information required by the Canadian *Controlled Products Regulations*.
This Material Safety Data Sheet is in conformation with Directive 2001/58/EC. R-Sentences of ingredients in paragraph II:
R10 Flammable.
R22 Harmful if swallowed.
R23 Toxic by inhalation.
R26/27/28 Very toxic on inhalation, in contact with skin and if swallowed.
R35 Causes severe burns.
R36/38 Irritating to eyes and skin.
R41 Risk of serious damage to eyes.
R50 Very toxic to aquatic organisms.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Replaces: M.S.D. dated: March 5, 2004 **Version:** 8

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