SAFETY DATA SHEET

Green-Bond Fe

SECTION 1: IDENTIFICATION

Product identifier used on a label:	**Green-Bond Fe**
Product code:	5002
Recommended use of the chemical and restrictions on use:	Ferrous metal pre-treatment.
Chemical family:	Mixture.
Name, address and phone # of supplier:	Aqua Bond Inc. 440 Passmore ave. Scarborough, ON, M1V 5J8 (416) 754-7211
24 Hr. Emergency phone #	**CANUTEC (613) 996-6666**

SECTION 2: HAZARDS IDENTIFICATION

Classification of the chemical: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazard classification:
SKIN CORROSION- CATEGORY 1
EYE DAMAGE- CATEGORY 1
STOT-SE- CATEGORY 2

Label elements:



Signal word: DANGER

Hazard statements:
H314 Causes severe skin burns and eye damage.
H371 May cause damage to organs (respiratory system).

Precautionary statements:
P260 Do not breathe mists.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P270 Do not eat, drink or smoke when using this product.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P363 Wash contaminated clothing before reuse.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310 Immediately call a POISON CENTER/doctor.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for sevral minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405 Store locked up.
P501 Dispose of contents in accordance with local/regional/national/

	international regulations.
Other hazards:	None known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/ mixture: Mixture

Ingredient name	**CAS Number**	**Concentration (%)**
Water	7732-18-5	80-90
MSA	75-75-2	1-5
Polyoxyethylene ether	68439-50-9	1-5
Sodium hydroxide	1310-73-2	1-5

Concentrations are shown as ranges due to batch variation.

SECTION 4: FIRST-AID MEASURES

Description of first aid measures:

Ingestion	Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Seek immediate medical attention.
Inhalation	If inhaled, remove to fresh air. If breathing is difficult, administer oxygen if available. Seek immediate medical attention.
Skin contact	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash skin with soap and water. Do not reuse clothing or shoes until cleaned. If irritation develops, seek medical attention.
Eye contact	Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek medical attention immediately.

Most important symptoms and effects, both acute and delayed:
The product has a high pH so rinsing the exposed area needs to be done quickly to avoid severe burns.
Indication of any immediate medical attention and special treatment needed:
Treat symptomatically.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media:

Suitable	Dry chemicals, carbon dioxide, alcohol foam, water spray.
Unsuitable	None known.
Special hazards arising from the substance:	None known.
Hazardous thermal decomposition products:	Carbon oxides.
Special protective actions for fire-fighters:	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
Special protective equipment for fire-	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in

fighters:	positive pressure mode.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
Environmental precautions:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Methods and materials for containment and cleaning up:	Small spill: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. Large spill: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.
Special spill response procedures:	In case of transportation accident, contact CHEMTREC at 1-800-424-9300.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling:	Put on appropriate personal protective equipment. Avoid exposure -obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
Conditions for safe storage:	Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials, food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be resealed and kept upright. Do not store in unlabeled containers.

Incompatible materials: Strong acids, reducing agents, organic materials, metals.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters:

Exposure limits:

Sodium hydroxide	**OSHA PEL** 2 mg/m3 **ACGIH** Ceiling: 2 mg/m3 **NIOSH** Ceiling: 2 mg/m3
Engineering controls:	Use with adequate ventilation to keep worker exposure to airborne contaminants below any recommended or statutory limits.
Individual protection measures:	Eyes/face: Chemical splash goggles and face shield. Skin: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Respiratory: Wear appropriate respirator when ventilation is inadequate. Be sure to use a NIOSH approved respirator or equivalent.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Colourless liquid.
Odor:	Mild.
Odor threshold:	Not available.
pH:	>12
Melting point:	Not available.
Freezing point:	Not available.
Initial boiling point and boiling range:	100-110°C
Flash point:	Not applicable.
Evaporation rate:	Not available.
Flammability:	Not flammable.
Upper and lower flammability limits:	Not applicable.
Vapour pressure:	Not available.
Vapour density:	Not available.
Relative density:	0.9-1.1
Solubility:	Soluble in water.
Partition coefficient n-octanol/water:	Not available.
Auto-ignition temperature:	Not available.

Decomposition temperature:	Not available.
Viscosity:	Not available.

SECTION 10: STABILITY AND REACTIVITY

Reactivity:	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability:	Stable.
Possibility of hazardous reactions:	Will not occur.
Conditions to avoid:	Keep away from incompatible materials.
Incompatible materials:	Strong alkaline materials, reducing agents, organic materials, metals and heat.
Hazardous decomposition products:	Will not decompose under normal conditions.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on the likely routes of exposure:	SKIN AND EYES: yes INHALATION: yes INGESTION: yes
Potential health effects (acute):	EYE: Causes eye burns. Symptoms include itchiness, burning sensation. INHALATION: May irritate respiratory tract when exposure is prolonged. SKIN: Causes skin burns. Symptoms include blistering, itching, swelling. INGESTION: Harmful if swallowed. May cause burns to digestive tract.
Delayed and immediate effects, chronic effects from short and long term exposure:	The product causes burns to the skin and eyes. Long term exposure causes defatening of the skin leading to dermatitis.
Potential chronic health effects:	Not available.
Carcinogenicity:	Components of this product are not listed as suspected carcinogens.
Mutagenicity:	No known significant effects or critical hazards.
Teratogenicity:	No known significant effects or critical hazards.
Developmental effects:	No known significant effects or critical hazards.
Fertility effects:	No known significant effects or critical hazards.
Sensitization:	No known significant effects or critical hazards.
Toxicological effects:	
Acute toxicity:	

Product	**Result**	**Species**	**Dose**	**Exposure**
MSA	LD50 oral	Rat	200-400mg/kg	-
	LC50	Rat	1.95mg/L	4 hours

Acute toxicity estimate:

Route	**ATE value**
Oral	5602 mg/kg

Irritation/corrosion: Category 1
Specific target organ toxicity single exposure: Category 2, respiratory system.
Specific target organ toxicity repeated exposure: Not available.
Aspiration hazard: Not available.

SECTION 12 ECOLOGICAL INFORMATION

Toxicity No data available.
Persistence and degradability No data available.
Bioaccumulative potential No data available.
Mobility in soil: No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal methods: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and nonrecyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: TRANSPORT INFORMATION

	TDG
UN Number:	Not regulated.
UN proper shipping name:	-
Transport hazard class:	-
Packing group:	-
Environmental hazard:	No.
Special precautions for user:	**Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

SECTION 15: REGULATORY INFORMATION

Canada inventory (DSL): All components are listed on DSL.

SECTION 16: OTHER INFORMATION

Revision date: April 17, 2017

ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

UN = United Nations

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