SAFETY DATA SHEET

AquaT™ Phos-Doff

SECTION 1: IDENTIFICATION

Product identifier used on a label:	**AquaT™ Phos-Doff**
Product code:	5479
HS Code:	282739
Recommended use of the chemical and restrictions on use:	Waste water treatment.
Chemical family:	Mixture.
Name, address and phone # of supplier:	Aqua Bond Inc. 440 Passmore Ave. Toronto, 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:
ACUTE TOXICITY – ORAL: CATEGORY 4 – Harmful if swallowed.
SKIN CORROSION/IRRITATION: CATEGORY 2 – Causes skin irritation.
EYE DAMAGE/IRRITATION: CATEGORY 1 – Causes serious eye damage.
SPECIFIC TARGET ORGAN TOXICITY, SINGLE EXPOSURE: CATEGORY 2 – May cause damage to liver and/or kidney.
ASPIRATION HAZARD: CATEGORY 1 – May be fatal if swallowed and enters airways.

Label elements:



Signal word: Danger

Hazard statements:
H302: Harmful if swallowed.
H315: Causes skin irritation.
H318: Causes serious eye damage.
H371: May cause damage to liver and/or kidney.
H304: May be fatal if swallowed and enters airways.

Precautionary statements:
P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P260: Do not breathe dust/fume/gas/mist/vapours/spray.
P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P330: Rinse mouth.
P331: Do NOT induce vomiting.

P302+P352: IF ON SKIN: Wash with plenty of water.
P332+P313: If skin irritation occurs: Get medical advice/attention.
P362+P364: Take off contaminated clothing and wash it before reuse.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310: Immediately call a POISON CENTER or doctor/physician.
P308+P311: IF exposed or concerned: call a POISON CENTER or doctor/physician.
P405: Store Locked up.
P501: Dispose of contents in accordance with applicable regional, national and local laws and regulations.

Other hazards: Not available.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/ mixture: Mixture

Ingredient name	**CAS Number**	**Concentration (%)**
Ferric chloride	7705-08-0	60-70
Liquid Glass	1344-09-8	1-10
Water	7732-18-5	30-40

Concentrations are shown as ranges due to batch variation.

SECTION 4: FIRST-AID MEASURES

Description of first aid measures:

Ingestion: If swallowed, get medical help immediately. Give two glasses of water to drink. Do not induce vomiting.

Inhalation: After high vapour exposure, remove to fresh air. If it is suspected that the fumes are still present, the rescuer should wear an appropriate mask or breathing apparatus. Keep person warm and at rest. If breathing is difficult give oxygen. If breathing has stopped begin artificial respiration. Maintain open airway and loosen tight clothing. Get medical attention immediately.

Skin contact: Flush with running water for at least 15 minutes. Remove contaminated clothing, taking care not to contaminate eyes. Seek medical attention of irritation persists. Wash contaminated clothing before reuse.

Eye contact: Flush with running cool running water for at least 15 minutes keeping eyelids open. Get medical attention immediately.

Notes to physician:

There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient. Any material aspirated during vomiting may cause lung injury. Therefore, emesis should be induced mechanically or pharmacologically. If it is considered necessary to evacuate the stomach contents, this should be done by means least likely to cause aspiration (such as: Gastric lavage after endotracheal intubation). Victims of chemical exposure must be taken for medical attention. Rescuers should be taken for medical attention, if necessary. Take a copy of the label and SDS to physician or health professional with victim.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media:	
Suitable	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable	None known.
Special hazards arising from the substance:	Reacts with most metals, especially when dilute: hydrogen gas release which is flammable.
Hazardous thermal decomposition products:	Not available.
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-fighters:	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in 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. Shut off all ignition sources. 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. Use spark-proof tools and explosion-proof equipment. 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. Store and use away from heat, sparks, open flame or any other ignition source. Empty containers retain product residue and can be hazardous. Do not reuse container. NEVER pour water into this substance.
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 alkali such as caustic soda and alkali metals.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters:

Exposure limits

Ingredient	**Exposure limits**
Ferric chloride	**ACGIH TLV** 1 mg/m3 **OSHA** STEL: 3 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:	Liquid. Reddish/brown color.
Odor:	Slightly iron/acidic.
Odor threshold:	Not available.

pH (@ 1%):	2-3
Melting point:	Not available.
Freezing point:	Not available.
Initial boiling point and boiling range:	115°C (240°F)
Flash point:	Not applicable.
Evaporation rate (n-Butil Acetate=1):	1
Flammability:	Non-combustible.
Upper and lower flammability limits:	Not applicable.
Vapour pressure (mm of Hg @ 20°C):	14.7
Vapour density:	Not available.
Relative density:	1.39-1.42
Solubility:	Soluble in water, hot or cold.
Partition coefficient n-octanol/water:	Not available.
Auto-ignition temperature:	Not available.
Decomposition temperature:	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:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid:	Isolate from extreme heat, and open flame. Possibility of decomposition. Release of dangerous gasses (hydrogen chloride).
Incompatible materials:	Material is stable when properly handled. Material is acidic and corrodes all common metals except titanium. Avoid contact with strong alkalis and alkali metals.
Hazardous decomposition products:	May release hydrogen chloride gas at elevated temperatures.
Hazardous polymerization:	Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on the likely routes of exposure:	SKIN AND EYES: yes INHALATION: yes INGESTION: yes

Potential health effects (acute):	EYE: Severe burns to eyes, redness, tearing, blurred vision. INHALATION: Severe respiratory tract irritation may occur. Vapor harmful. The applicable occupational exposure limit value should not be exceeded during any part of working exposure. SKIN: Severe burns to skin, defatting, dermatitis. INGESTION: Harmful or fatal if swallowed.
Delayed and immediate effects, chronic effects from short and long term exposure:	Clinical signs and symptoms may not appear for up to 24 hours. Concentrations as low as 2% may cause symptoms with prolonged skin contact. When exposure is suspected, immediate medical attention is critical to minimize damage. Systemic fluoride toxicity can cause hypocalcemia, hypomagnesemia, hyperkalemia, pulmonary edema, metabolic acidosis, ventricular arrythmias and possible death.
Potential chronic health effects:	Not available.
Carcinogenicity:	Not available.
Sensitization:	Not available.

Toxicological effects:

Acute toxicity:

Product	**Result**	**Species**	**Dose**	**Exposure**
Ferric chloride	Draize test eye irritancy	Rabbit	250 ug	-
	LC50 inhalation	Mouse	320 mg/m^3/2H	-
	LC50 inhalation	Rat	510 mg/m^3	-
	Oral	Rat	2140 mg/kg	-

Aspiration hazard: No data available.

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

Name	**Result**	**Species**	**Exposure**
Ferric chloride	LC50 49mg/L Tap water, 20° C	Bluegill (Sunfish)	48 hours
	LC50 100-330 mg/L Aerated water	Flounder	48 hours

Persistence and degradability Tis product is completely biodegradable.

Bioaccumulative potential Not available.

Mobility in soil: Not 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:	UN2582
UN proper shipping name:	FERRIC CHLORIDE SOLUTION
Transport hazard class:	8
Packing group:	III
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

United States

Toxic Substances Control Act (TSCA)	Listed.

Canada

Canadian Domestic Substances List (DSL):	Listed.

SECTION 16: OTHER INFORMATION

Revision date: January 18, 2020

Revision number: 4

UN = United Nations

Disclaimer

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