

SAFETY DATA SHEET

SECTION 1: IDENTIFICATION OF THE MIXTURE AND OF THE COMPANY

Product Identifier	GROTEK PRO-SILICATE 0-0-4	
Product Use	Plant Fertilizer	
Use restrictions	Do not use for purposes other than those listed on the product label	
Manufacturer Information	Company Name	Greenstar Plant Products
	Address	9430-198 th Street, Langley BC Canada V1M 3C8
	Phone Number	+1-604-882-7699
	Email	info@getgreenstar.com
Emergency Phone Number		CHEMTREC 1-800-424-9300 / +1 703-527-3887 (24/7, 365 days/year)

SECTION 2: HAZARDS IDENTIFICATION

GHS CLASSIFICATION

HazCom 2012 GHS	Eye damage / Eye irritation Category 1 Skin irritation Category 2
WHMIS 2015	Eye damage / Eye irritation Category 1 Skin irritation Category 2

HAZARD SYMBOL & SIGNAL WORD	HAZARD STATEMENTS	PRECAUTIONARY STATEMENTS
 DANGER	H314: Causes serious eye damage H315: Causes skin irritation	P280: Wear protective gloves and eye protection / face protection P264: Wash hands and exposed skin thoroughly after handling P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a doctor P302+352: IF ON SKIN: Wash with plenty of water. P332+313: If skin irritation occurs, get medical advice / attention. P362+364: Take off contaminated clothing and wash it before reuse

SECTION 3: HAZARDOUS INGREDIENTS

CAS#	Substance name	Percent
1312-76-1	Potassium silicate solution	30%
7447-40-7	Potassium chloride	1.5%

To the current knowledge of the supplier, this product contains no components or impurities, in the concentrations applicable, that are classified as hazardous to health or the environment or influence the classification of this product



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Other Hazards

Product is a strong alkaline. Damaging and irritating effects on eyes and skin may be delayed and occur without the sensation of pain

SECTION 4: FIRST AID MEASURES

Description of first aid measures

EYE CONTACT

Rinse with a large gentle stream of water for a minimum for 15 minutes. Remove contact lenses, if present and easy to do so after 5 minutes. Continue rinsing. Get immediate medical attention

SKIN CONTACT

Wash with soap and water and rinse with plenty of clean water. If irritation persists, seek medical advice/attention

INHALATION

Remove victim to fresh air. Seek medical attention. Effects may be delayed

INGESTION

If swallowed, DO NOT INDUCE VOMITING. If vomiting occurs, lean forward with head down to avoid breathing in vomit. If conscious and alert, wash out mouth and give 200 – 300 ml of water to drink. Immediately call a POISON CENTRE or doctor

Most important symptoms and effects, both acute and delayed

High pH product - causes eye damage and skin irritation. Effects may be delayed and occur without the sensation of pain. Mists may be irritating to respiratory tract. If swallowed, may cause irritation to the mouth, esophagus and digestive tract

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Medical Conditions Aggravated by Exposure

Dermatitis, respiratory conditions

SECTION 5: FIRE FIGHTING MEASURES

Flammable

Will not burn or support combustion.

Suitable extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media

None known.

Hazardous Combustion Products

Oxides of carbon, potassium, and silicon, hydrogen chloride and/or chlorine gases, and other toxic and irritating fumes and gases may be formed.

Advice for fire-fighters

Special protective equipment for firefighters

Self-contained breathing apparatus and full protective clothing should be worn when fighting chemical fires.



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Special firefighting procedures

In the event of fire, use water spray to cool closed containers and knock-down toxic gases

SECTION 6: ACCIDENTAL RELEASE MEASURES

SPILL & LEAK PROCEDURES

SPILLED MATERIAL IS VERY SLIPPERY. Wear personal protection equipment outlined in SECTION 8. Ventilate area. Adsorb spill then shovel or sweep spilled material into dry labeled containers for disposal. Avoid the generation of mists. Flush area with water after clean-up.

Do not allow product or rinsing water to enter storm sewers, sanitary sewers, groundwater or soil.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with eyes, skin and clothing. Wear personal protection equipment outlined in SECTION 8 when handling. Avoid the generation of mists. Do not use with incompatible materials (SECTION 10). Have eyewash station and shower readily available. Keep container closed when not in use. Clean up spills promptly

Conditions for safe storage, including incompatibilities

Store in a cool, dry, well ventilated area. Do not store in aluminum, fiberglass, copper, brass, zinc or galvanized containers.

Avoid strong oxidizers. Lewis or mineral acids. Product may gel and generate heat when mixed with acid. May react with ammonium salts resulting in evolution of ammonia gas. Flammable hydrogen gas may be produced on contact with aluminum, tin, lead, and zinc.

Environmental precautions

This product is acutely toxic to aquatic life due to its low pH. Do not allow product to enter storm sewers, sanitary sewers, groundwater or soil.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Occupational exposure limits

No specific limits apply. An exposure limit of 2 mg / m² (15 min TWA) is recommended by analogy with potassium hydroxide

Recommended monitoring procedures

Monitor workplace air quality to determine the effectiveness of the ventilation or other control measures and / or the necessity to use respiratory protective equipment

Engineering controls

Provide adequate local / general exhaust ventilation

Personal protection equipment

Eye / Face Protection

chemical safety goggles or face shield when there is a potential for eye contact

Skin protection

Hand protection

Wear chemical gloves - Nitrile, latex or PVC

Body protection

Wear long sleeved shirt and pants or coveralls when handling this product

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Respiratory protection	NIOSH approved respirator equipped with mist / fume cartridges when occupational limits are exceeded
Hygiene measures	Wash hands after handling, before eating, smoking and using the toilet and at the end of the work day. Ensure that eyewash stations and safety showers are close to the workstation area
Environmental exposure controls	Do not allow product to enter storm sewers, sanitary sewers, groundwater or soil.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid	Colour	NAV	Odour	NAV
pH	11.4	Density	NAV	Solubility in water	Soluble
Specific gravity	NAV	Melting point	NAV	Decomposition temperature	NAV
Flammable?	Not flammable	Boiling point	NAV	Viscosity	NAV

SECTION 10: STABILITY AND REACTIVITY

Reactivity	Reacts with aluminum, zinc, tin and their alloys to create hydrogen gas which may form an explosive mixture with air. May react violently on contact with acids. Reacts with sugar residues to form carbon monoxide
Chemical stability	Stable under normal conditions of use and storage
Conditions to avoid	Do not mix with acids or ammonia salts. Avoid the generation of mists
Incompatibility	See Reactivity section
Hazardous decomposition products	Oxides of carbon, potassium, and silicon, hydrogen chloride and/or chlorine gases, and other toxic and irritating fumes and gases may be formed.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological effects

Acute Toxicity	Product is not acutely toxic
Irritation/ Corrosion	Corrosive to eyes and irritating to skin, digestive and respiratory tracts. Effects are due to the high pH of the product
Sensitization	Does not meet criteria
Carcinogenicity	Ingredients not listed as carcinogens by ACGIH, IARC, or NTP
Mutagenicity	NAV
Reproductive toxicity	NAV
Repeated dose toxicity	NAV

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SECTION 12: ECOLOGICAL INFORMATION

Potassium Silicate: The Ecotoxicity of this product has not been tested. The following data is reported for chemically similar sodium silicates on a 100% solids basis:

96 hour median tolerance:

- Fish (*Gambusia affinis*), 2320 ppm
- Water fleas (*Daphnia magna*), 247 ppm
- Snail eggs (*Lymnea*), 632 ppm
- Amphipoda, 160 ppm

Environmental Fate: not persistent in aquatic systems. High pH acutely toxic to aquatic life. Does not bioaccumulate or bioconcentrate up the food chain

Potassium Chloride:

Not subject to further degradation processes in the environment. In soil, transport / leaching of potassium and chloride is affected by type of soil, pH and organic matter.

LC₅₀; Species: *Daphnia magna* (Water flea); Conditions: freshwater; static; Concentration: 29 mg/L for 96 hr /total

LC₅₀; Species: *Oncorhynchus mykiss* (Rainbow trout, donaldson trout, wt 0.8-1.2 g); Conditions: freshwater; static; Concentration: 1610 mg/L (95% confidence limit: 1223 - 2119 m/L) for 48 hr /total

LC₅₀; Species: *Gambusia affinis* (Western mosquitofish, female); Conditions: freshwater; static; Concentration: 435 mg/L for 96 hr /total

Bioaccumulation	Not applicable - inorganic product
Other adverse effects	The high pH of this material can be acutely toxic to the aquatic environment

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of this product and / or its container in accordance with Federal, state, provincial, and local regulations. Do not allow product to enter sewers or the environment.

SECTION 14: TRANSPORT INFORMATION

SHIPPING	TDG	Not a dangerous good for transport
	DOT	Not a dangerous good for transport

SECTION 15: REGULATORY INFORMATION

This product has been classified in accordance with WHMIS 2015 and OSHA HazCom 2012

DSL: all components of this product are on Canada's DSL list

TSCA: all components of this product are on US EPA's TSCA Chemical Substances Inventory

SECTION 16: OTHER INFORMATION

As of the date of this document, the foregoing information is believed to be accurate and is provided in good faith to comply with applicable laws. However, no warranty or representation of law or fact, with respect to such Information is intended or given

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