SAFETY DATA SHEET
GroFull

Revision: 01/06/2024
Supersedes Revision: 12/06/2023

according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 2020/878 and US OSHA HCS 2015

Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Code: Z-GROFULL

Product Name: GroFull

Synonyms: Chelated micronutrient solution.

1.2 Relevant identified uses of the substance or mixture and uses advised against:

Relevant identified uses: For agricultural use only

1.3 Details of the Supplier of the Safety Data Sheet:

Company Name: Stoller
9090 Katy Freeway
Suite 400
Houston, TX 77024 United States of America

Phone Number:
1 (713)461-1493

Web site address: www.stollerusa.com

Email address: compliance@stollerusa.com

Information: 1 (800)539-5283

1.4 Emergency telephone number:

Emergency Contact: CHEMTREC, In the US and Canada call 1 (800)424-9300
CHEMTREC, From other countries call +1 (703)527-3887

Section 2. Hazards Identification

2.1 Classification of the Substance or Mixture:

Acute Toxicity: Oral, Category 4

Mild skin irritation, Category 3

Eye Irritation, Category 2

2.2 Label Elements:

GHS Signal Word: **Warning**

Hazard-determining components of labelling:

GHS Hazard Phrases:

H302 - Harmful if swallowed.

H316 - Causes mild skin irritation.

H319 - Causes serious eye irritation.

GHS Precautionary Phrases:

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.

GHS Response Phrases:

P301+312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P305+351+338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P330 - Rinse mouth.

P332+313 - If skin irritation occurs, get medical advice/attention.

P337+313 - If eye irritation persists, get medical advice/attention.

GHS Storage and Disposal Phrases:

P501 - Dispose of contents/container to ...

UFI:

2.3 Adverse Human Health Effects and Symptoms: Acute: Depending on the duration of contact, overexposure can irritate the eyes, skin, mucous membranes and any other exposed tissue.
Chronic: Expected toxicity hazard: slight Not known. Expected toxicity hazard: slight.

2.3.1 Inhalation: Prolonged exposure to low concentrations of vapors may cause irritation to throat and upper respiratory tract, headache, nausea, dizziness, and even unconsciousness.

2.3.2 Skin Contact: May be harmful if absorbed through the skin. Prolonged and/or repeated contact may cause irritation and/or dermatitis.

2.3.3 Eye Contact: Contact with product may cause redness, slight to severe eye irritation.

2.3.4 Ingestion: Harmful if swallowed. May cause gastrointestinal irritation with nausea, vomiting and diarrhea. The toxicological properties of this substance have not been fully investigated.

Section 3. Composition/Information on Ingredients

CAS # / RTECS #	Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	GHS Classification
2223656-19-5 NA	Ferrous EAHP	< 1.0 %	NA NA	No data available.
2222021-26-1 NA	Copper EAHP	< 1.0 %	NA NA	No data available.
2222021-18-1 NA	Magnesium EAHP	< 1.0 %	NA NA	No data available.
2222021-21-6 NA	Zinc EAHP	< 1.0 %	NA NA	Acute Tox.(I) 5: H333 Acute Tox.(O) 4: H302
2222021-23-8 NA	Manganese EAHP	< 0.5 %	NA NA	No data available.
2223656-17-3 NA	Cobalt EAHP	< 0.1 %	NA NA	Acute Tox.(O) 4: H302 Acute Tox.(I) 5: H333
7631-95-0 QA5075000	Sodium molybdate(VI) 01-2119489495-21	< 0.05 %	231-551-7 NA	No GHS classifications apply.
NA NA	Inert Ingredients	<95.0 %	NA NA	No data available.

Section 4. First Aid Measures

4.1 Description of First Aid Measures: Victims of severe exposure to chemicals must be taken to health providing centers for medical attention. Always bring with victim a copy of label and SDS of product to health professional.

In Case of Inhalation: Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

In Case of Skin Contact: Wipe off product and immediately wash affected area with abundant soap and water. Remove contaminated clothing taking care not to impregnate eyes. Seek medical attention if irritation occurs. Wash clothing before reuse.

In Case of Eye Contact: Hold eyelids apart and immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

In Case of Ingestion: Immediately contact a physician or poison control center for treatment advice. Victim should drink milk, egg whites or large quantities of water and be induced to vomiting. Never give anything by mouth to someone who is unconscious, having convulsions or unable to swallow.

4.2	**Important Symptoms and Effects, Both Acute and Delayed:**	To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Chronic manganese poisoning primarily involves the central nervous system. Early symptoms include languor, sleepiness and weakness in the legs. High incidence of pneumonia has been found in workers exposed to the dust or fume of some manganese compounds. The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
	Note for the Doctor:	Treat symptomatically and supportively.

Section 5. Fire Fighting Measures

5.1	**Suitable Extinguishing Media:**	Use water spray, dry chemical, carbon dioxide, or alcohol-resistant foam. Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.
	Unsuitable Extinguishing Media:	None known.
5.2	**Flammable Properties and Hazards:**	Toxic fumes may be generated under fire conditions.
	Hazardous Combustion Products:	None known.
	Flash Pt:	N.A.
	Explosive Limits:	LEL: N.A. UEL: N.A.
	Autoignition Pt:	N.A.
5.3	**Fire Fighting Instructions:**	As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.

Section 6. Accidental Release Measures

6.1	**Protective Precautions, Protective Equipment and Emergency Procedures:**	In case of a large spill, clear the affected area and protect people. Such releases should be responded to by trained personnel using pre-planned procedures. In the event of an incidental release, minimum Personal Protective Equipment must be worn: latex or rubber gloves and rubber boots, goggles or full face-shield and coveralls or long-sleeved shirt and pants. In case of a large spill, protect people by clearing and isolating the affected area.
6.2	**Environmental Precautions:**	Do not allow to enter drains or waterways.
6.3	**Methods and Material For Containment and Cleaning Up:**	It is necessary to contain the spill into the smallest area possible by diking, scooping, etc., and place liquid into an appropriate container, labeling it accordingly. If product is clean, use it as intended, following original label directions; should it get dirty or contaminated, salvage for proper disposal as waste. Absorb residual product onto dry carrier such as dirt, sand or any other absorbent material, then put in covered, labeled containers and dispose of as dry waste in accordance with Federal, State and Local waste disposal regulations.

Section 7. Handling and Storage

7.1	**Precautions To Be Taken in Handling:**	Use with adequate ventilation. Avoid breathing dust, mist, or vapor. Avoid contact with eyes, skin, or clothing. Avoid ingestion and inhalation. Empty containers may contain residual liquid or vapors and therefore should be handled the same as full containers.
7.2	**Precautions To Be Taken in Storing:**	Inspect all incoming containers before storage to ensure all are properly labeled and not damaged. Keep containers tightly closed when not in use. Store in a cool, dry place, away from direct sunlight, sources of intense heat or where freezing is possible. Store away from food, feed, clothing materials and living quarters. Whenever possible, place

chemicals on secondary containers or diked area. Store a maximum of three pails high; do not stack pallets. Store Keylate Micronutrients in fiberglass, polyethylene or polyolefin.

Section 8. Exposure Controls/Personal Protection

8.1 Exposure Parameters:

CAS #	Chemical Name	Jurisdiction	Recommended Exposure Limits	Notations
7631-95-0	Sodium molybdate(VI)	France VL	TWA: 5 mg/m3 STEL: 10 mg/m3	

Recommended Exposure Limits: No occupational exposure limits have been established for this mixture.

8.2 Exposure Controls:

8.2.1 Engineering Controls (Ventilation etc.): General ventilation is usually adequate. Local exhaust should be used if needed for safe, comfortable working conditions. An eye bath and washing facilities should be readily available.

8.2.2 Personal protection equipment:

Eye Protection: Face shield and safety glasses. Safety glasses. Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Protective Gloves: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact: Minimum layer thickness: 0.11 mm Break through time: 480 min.

This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers.

Other Protective Clothing: Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Wear long sleeve shirt, long pants, and protective shoes with socks.

Respiratory Equipment (Specify Type): A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use. If the respirator is the sole means of protection, use a full-face supplied air respirator.

Work/Hygienic/Maintenance Practices: Handle in accordance with good industrial hygiene and safety practice. Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove all dirty or contaminated clothing and wash it before reusing, as well as any other PPE.

8.2.3 Environmental Exposure Controls: Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high-water mark. Do not contaminate water when disposing of equipment wash water.

Exposure Scenarios: No data available.

Section 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Physical States:	[ ] Gas [X] Liquid [ ] Solid
Appearance and Odor:	Dark green color.
pH:	7.8 - 9.8
Melting Point:	N.E.
Boiling Point:	N.E.
Flash Pt:	N.A.
Evaporation Rate:	N.E.
Saturated Vapor Concentration:	N.E.
Flammability (solid, gas):	Product is non-flammable.
Explosive Limits:	LEL: N.A. UEL: N.A.
Vapor Pressure (vs. Air or mm Hg):	N.E. No data.
Vapor Density (vs. Air = 1):	N.E.
Specific Gravity (Water = 1):	1.05 - 1.09
Density:	~ 1.0690 G/ML (~ 8.92 - LB/GA)
Solubility in Water:	No data.
Octanol/Water Partition Coefficient:	N.E.
Autoignition Pt:	N.A.
Decomposition Temperature:	N.E.
Viscosity:	N.E.
Explosive Properties:	No data available.
Information on other hazards:	No data available.

9.2 Other Information

9.2.1 Information with regard to physical hazard classes

Information with regard to primary physical hazard:

9.2.2 Other safety characteristics

Section 10. Stability and Reactivity

10.1	**Reactivity:**	N.A.
10.2	**Stability:**	Unstable [ ] Stable [X]
10.3	**Conditions To Avoid - Hazardous Reactions:**	None known.
	Possibility of Hazardous Reactions:	Will occur [ ] Will not occur [X]
10.4	**Conditions To Avoid - Instability:**	Stable under normal condition, but avoid extreme heat and contact with incompatible materials.
10.5	**Incompatibility - Materials To Avoid:**	Strong oxidizing agents.
10.6	**Hazardous Decomposition or**	Hazardous decomposition products formed under fire conditions. Carbon oxides, nitrogen oxides (NOx), toxic fumes of zinc oxide.

Byproducts:

Section 11. Toxicological Information

11.1 Information on Toxicological Effects: Mutagenicity: This product has not been investigated for mutagenic effects. Embryotoxicity: This product has not been investigated for embryotoxic effects. Teratogenicity: This product has not been investigated for teratogenic effects. Reproductive Toxicity: This product has not been investigated for toxic reproductive effects.

Irritation or Corrosion: No data available.

Symptoms related to Toxicological Characteristics: No data available.

Sensitization: The sensitizing properties of this product have not been thoroughly investigated.

Chronic Toxicological Effects: No data available.

Carcinogenicity/Other Information: The carcinogenic properties of this product have not been thoroughly investigated.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

11.2 Information on other hazards: No data available.

Section 12. Ecological Information

12.1 Toxicity: No environmental impact studies have been performed with this product. The available data on this plant nutrient material does not indicate any undue hazard to the environment under anticipated use and storage. All work practices must be aimed at preventing environmental contamination. Any waste due to spillage or leakage should be contained and disposed of accordingly, see above under Section 6 "Accidental Release Measures."

12.2 Persistence and Degradability: No data available.

12.3 Bioaccumulative Potential: No data available.

12.4 Mobility in Soil: No data available.

12.5 Results of PBT and vPvB assessment: No data available.

12.6 Endocrine disrupting properties: No data available.

12.7 Other adverse effects: No data available.

Section 13. Disposal Considerations

13.1 Waste Disposal Method: This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local waste regulatory authority. Dispose of empty container in a sanitary landfill or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. Avoid contaminating water by disposal of equipment wash waters or other product wastes.

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

Section 14. Transport Information

14.1 LAND TRANSPORT (US DOT):

DOT Proper Shipping Name:

DOT Hazard Class:

UN/NA Number:

14.1 LAND TRANSPORT (European ADR/RID):

ADR/RID Shipping Name:

UN Number:

Hazard Class:

14.2 MARINE TRANSPORT (IMDG/IMO):

IMDG/IMO Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. Contains cupric sulfate.

UN Number:

Packing Group:

Hazard Class:

Marine Pollutant: Yes

14.3 AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name: Trade Name: GroFull

Regulated for ground and air transport in containers of 100 Gallons which reach the threshold limit RQ of 10 lbs of Copper Sulfate.

UN Number:

Packing Group:

Hazard Class:

Additional Transport Information: Placards / Markings: N.A.

Emergency Response Guide Number: N.A.

Reportable Quantity: N.A.

Section 15. Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
2223656-19-5	Ferrous EAHP	No	No	No
2222021-26-1	Copper EAHP	No	No	No
2222021-18-1	Magnesium EAHP	No	No	No
2222021-21-6	Zinc EAHP	No	No	No

2222021-23-8	Manganese EAHP	No	No	No
2223656-17-3	Cobalt EAHP	No	No	No
7631-95-0	Sodium molybdate(VI)	No	No	No
NA	Inert Ingredients	No	No	No

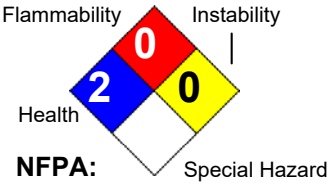
Regulatory Information: TSCA Inventory: In compliance with inventory requirements for commercial purposes.

15.2 Chemical Safety Assessment:

Section 16. Other Information

Revision Date: 01/06/2024

Hazard Rating System:



NFPA:

Additional Information About This Product: No data available.

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