



SAFETY DATA SHEET

1. Identification

Product identifier Nutra Green
Other means of identification
Product Number 210
Recommended use Plant Nutrients
Recommended restrictions None known.
Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Grigg Brothers
Address P.O. Box 128
Albion, ID 83311
Telephone General Assistance 888-246-8873
208-673-6340
E-mail info@griggbros.com
Emergency phone number Poison Control 800-222-1222

2. Hazard(s) identification

Physical hazards Not classified.
Health hazards Acute toxicity, oral Category 5
Acute toxicity, dermal Category 5
Environmental hazards Hazardous to the aquatic environment, acute hazard Category 3
Hazardous to the aquatic environment, long-term hazard Category 3
OSHA defined hazards Not classified.
Label elements
Hazard symbol None.
Signal word Warning
Hazard statement May be harmful if swallowed. May be harmful in contact with skin. Harmful to aquatic life. Harmful to aquatic life with long lasting effects.
Precautionary statement
Prevention Avoid release to the environment.
Response Call a poison center/doctor if you feel unwell.
Storage Store away from incompatible materials. Products should be stored above 12.8°C (55°F).
Storage of bulk products is best suited for original manufacturing containers. If required, storage in a polypropylene storage tank with polypropylene fittings is recommended. Metal storage tanks and fittings are not recommended for long term.
Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC) None known.
Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
MAGNESIUM CHLORIDE		7791-18-6	5 - < 10
TRADE SECRET*		Proprietary*	5 - < 10
MANGANESE SULPHATE		7785-87-7	1 - < 3

Chemical name	Common name and synonyms	CAS number	%
COPPER (II) SULFATE PENTAHYDRATE		7758-99-8	< 1
ZINC SULFATE MONOHYDRATE		7446-19-7	< 0.3
Other components below reportable levels			80 - < 90

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and water. Get medical advice/attention if you feel unwell. Get medical attention if irritation develops and persists. Wash contaminated clothing before reuse.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent product from entering drains. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

7. Handling and storage

Precautions for safe handling	Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Wash contaminated clothing before reuse. Observe good industrial hygiene practices.
--------------------------------------	---

Conditions for safe storage, including any incompatibilities

Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
MANGANESE SULPHATE (CAS 7785-87-7)	Ceiling	5 mg/m ³

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
MANGANESE SULPHATE (CAS 7785-87-7)	TWA	0.1 mg/m ³	Inhalable fraction.
		0.02 mg/m ³	Respirable fraction.
TRADE SECRET	TWA	1 mg/m ³	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
COPPER (II) SULFATE PENTAHYDRATE (CAS 7758-99-8)	TWA	1 mg/m ³	Dust and mist.
MANGANESE SULPHATE (CAS 7785-87-7)	STEL	3 mg/m ³	Fume.
	TWA	1 mg/m ³	Fume.
TRADE SECRET	TWA	1 mg/m ³	

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection

Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Other

Wear appropriate chemical resistant clothing.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state

Liquid.

Form

Liquid.

Color

Green.

Odor

Slight.

Odor threshold

Not available.

pH

2.8

Melting point/freezing point

374 °F (190 °C) estimated

Initial boiling point and boiling range

2573.6 °F (1412 °C) estimated

Flash point

Not available.

Evaporation rate

Not available.

Flammability (solid, gas)

Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.

Vapor pressure 0.00001 hPa estimated

Vapor density Not available.

Relative density Not available.

Solubility(ies)

Solubility (water) Not available.

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity Not available.

Other information

Percent volatile 38.22 % estimated

Specific gravity 1.36

VOC (Weight %) 0.63 % estimated

10. Stability and reactivity

Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability Material is stable under normal conditions.

Possibility of hazardous reactions No dangerous reaction known under conditions of normal use.

Conditions to avoid Contact with incompatible materials.

Incompatible materials Strong oxidizing agents.

Hazardous decomposition products No hazardous decomposition products are known.

11. Toxicological information**Information on likely routes of exposure**

Inhalation Prolonged inhalation may be harmful.

Skin contact May be harmful in contact with skin.

Eye contact Direct contact with eyes may cause temporary irritation.

Ingestion May be harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity May be harmful if swallowed. May be harmful in contact with skin.

Components	Species	Test Results
-------------------	----------------	---------------------

COPPER (II) SULFATE PENTAHYDRATE (CAS 7758-99-8)

Acute**Oral**

LD100	Mouse	50 mg/kg
-------	-------	----------

LD50	Rat	960 mg/kg
------	-----	-----------

Components	Species	Test Results
MAGNESIUM CHLORIDE (CAS 7791-18-6)		
Acute		
Oral		
LD50	Rat	2800 mg/kg
MANGANESE SULPHATE (CAS 7785-87-7)		
Acute		
Oral		
LD100	Mouse	305 mg/kg
ZINC SULFATE MONOHYDRATE (CAS 7446-19-7)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/kg
Oral		
LD50	Mouse	57 mg/kg
	Rat	623 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	
	Not listed.
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Components	Species	Test Results
COPPER (II) SULFATE PENTAHYDRATE (CAS 7758-99-8)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna) 0.0058 - 0.0073 mg/l, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus) 0.66 - 1.15 mg/l, 96 hours
MAGNESIUM CHLORIDE (CAS 7791-18-6)		
Aquatic		
Crustacea	EC50	Calanoid copepod (Eudiaptomus padanus padanus) 95 - 342 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas) 1580 - 2740 mg/l, 96 hours
MANGANESE SULPHATE (CAS 7785-87-7)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna) 7.09 - 9.36 mg/l, 48 hours

Components	Species	Test Results
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>) 24.3 - 38.9 mg/l, 96 hours
ZINC SULFATE MONOHYDRATE (CAS 7446-19-7)		
Aquatic		
Crustacea	EC50	Rotifer (<i>Philodina acuticornis</i>) 0.3 mg/l, 48 hours
Fish	LC50	Rainbow trout, donaldson trout (<i>Oncorhynchus mykiss</i>) 0.162 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
One or more components are not listed on TSCA.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

MANGANESE SULPHATE (CAS 7785-87-7) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No**SARA 313 (TRI reporting)**

Chemical name	CAS number	% by wt.
MANGANESE SULPHATE	7785-87-7	1 - < 3
COPPER (II) SULFATE PENTAHYDRATE	7758-99-8	< 1

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

MANGANESE SULPHATE (CAS 7785-87-7)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.**US state regulations****US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

US. Massachusetts RTK - Substance List

COPPER (II) SULFATE PENTAHYDRATE (CAS 7758-99-8)

ZINC SULFATE MONOHYDRATE (CAS 7446-19-7)

US. New Jersey Worker and Community Right-to-Know Act

COPPER (II) SULFATE PENTAHYDRATE (CAS 7758-99-8)

MANGANESE SULPHATE (CAS 7785-87-7)

ZINC SULFATE MONOHYDRATE (CAS 7446-19-7)

US. Pennsylvania Worker and Community Right-to-Know Law

COPPER (II) SULFATE PENTAHYDRATE (CAS 7758-99-8)

TRADE SECRET (CAS Proprietary)

ZINC SULFATE MONOHYDRATE (CAS 7446-19-7)

US. Rhode Island RTK

MANGANESE SULPHATE (CAS 7785-87-7)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision**Issue date** 08-11-2015**Revision date** 08-12-2015

Version #

02

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision Information

GHS: Classification