



Material Safety Data Sheet

1. Chemical Product and Company Identification

Product name: Crystal Green™

Manufacturer:

Ostara Nutrient Recovery Technologies Inc.
Suite 690 – 1199 West Pender St
Vancouver, BC,
V6E 2R1, Canada
(604) 408-6697

Emergency Contact Information:
(604) 961-5945

MSDS Number: 001

Chemical Names: Struvite; Magnesium Ammonium Phosphate Hexahydrate

CAS#: 15490-91-2 (Related CAS# 7785-21-9)

Chemical Formula: $MgNH_4PO_4 \cdot 6H_2O$

Chemical Family: N/A

Intended Use: Slow release fertilizer

Date of MSDS Preparation: April 27, 2006 **By:** Ahren Britton, P.Eng.

2. Composition/Information on Ingredients

Magnesium Ammonium Phosphate – Hexahydrate

Percentage Range: >97% w/w

CAS#: 15490-91-2

LD50: None Reported

LC50: None Reported

TLV: None Reported

PEL: None Reported

Ingredient WHIMIS Symbol: Not Applicable

Other Compounds, each

Percentage Range: <1% w/w

CAS#: NA

LD50: None Reported

LC50: None Reported

TLV: None Reported

PEL: None Reported

Ingredient WHIMIS Symbol: Not Applicable

3. Hazards Identification

Emergency Overview:

Appearance: Grey Pellets

Physical State: Solid

Odor: Musty or ammonia odor may develop when damp or heated

Hazard Description: Irritant to eyes, respiratory system and skin.

HMIS RATING

HEALTH: 0

FLAMMABILITY: 0

REACTIVITY: 0

NFPA RATING

HEALTH: 0

FLAMMABILITY: 0

REACTIVITY: 0

For additional information on toxicity, please refer to Section 11.

4. First Aid**ORAL EXPOSURE**

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

DERMAL EXPOSURE

In case of contact, immediately wash skin with soap and copious amounts of water.

EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

5. Fire Fighting Measures**FLASH POINT**

N/A

AUTOIGNITION TEMP

N/A

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific Hazard(s):

Emits toxic fumes under fire conditions.

6. Accidental Release Measures**PROCEDURE(S) OF PERSONAL PRECAUTION(S)**

Exercise appropriate precautions to minimize direct contact with skin or eyes and prevent inhalation of dust.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

7. Handling/Storage**HANDLING**

User Exposure: Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed. Store at temperature below 55°C

8. Exposure Controls/Protective Equipment

ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks.

Hand: Protective gloves.

Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

9. Physical/Chemical Properties

Appearance: Grey powder or pellets up to 5 mm in diameter

Physical State: Solid

Odor: Musty or ammonia odor may develop when damp or heated above 50°C

Molecular Weight	245 AMU
pH	N/A
BP/BP Range	N/A
MP/MP Range	N/A
Freezing Point	N/A
Vapor Pressure	N/A
Vapor Density	N/A
Saturated Vapor Conc.	N/A
SG/Density	1.7
Bulk Density	0.7
Odor Threshold	N/A
Volatile%	N/A
VOC Content	N/A
Water Content	N/A
Solvent Content	N/A
Evaporation Rate	N/A
Viscosity	N/A
Surface Tension	N/A
Partition Coefficient	N/A
Decomposition Temp.	>55°C
Flash Point	N/A
Explosion Limits	N/A
Flammability	N/A
Autoignition Temp	N/A
Refractive Index	N/A
Optical Rotation	N/A
Miscellaneous Data	N/A
Solubility	Insoluble in water
N/A = not available	

10. Stability/Reactivity

STABILITY

Stable: Stable.

Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Nitrogen oxides, Magnesium oxide, Phosphorous oxides.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

11.Toxicological Information**ROUTE OF EXPOSURE**

Skin Contact: May cause skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: May cause eye irritation.

Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.

Ingestion: May be harmful if swallowed.

SIGNS AND SYMPTOMS OF EXPOSURE

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12.Ecological Information

Contains high levels of nutrients (nitrogen, phosphorus and magnesium). As such unintentional introduction to waterways should be avoided.

No data available.

13.Disposal Conciderations

May be disposed of as a Non Hazardous Substance with normal trash.

Observe all federal, provincial/state, and local environmental regulations.

14.Transport Information**TDG**

Proper Shipping Name: None

Hazard Class: NA

PIN: NA

Group: NA

Subsidiary Risk: NA

Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

DOT

Proper Shipping Name: None

Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA

Non-Hazardous for Air Transport: Non-hazardous for air transport.

15.Regulatory Information**UNITED STATES REGULATORY INFORMATION**

SARA LISTED: No

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the

MSDS contains all the information required by the CPR.
DSL: No
NDSL: Yes

16. Other Information

User Responsibility: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

Ostara Nutrient Recovery Technologies Inc. ©2006