

Material Safety Data Sheet

2-1-2 Fertilizer

1. Product and company identification

Product name	: 2-1-2 Fertilizer
Trade name	: ROOTBLAST
Material uses	: Fertilizer.
Supplier	: Rootblast International Inc. 2207 Kimball Road SE, Canton, Ohio, 44707 Tel: 330-453-5828 Fax: 330-453-5170
Manufacturer	: Enviro Granulation 5243 North Perth Line 89 Gowanstown, Ontario N0G 1Y0
MSDS authored by	: KMK Regulatory Services Inc.
<u>In case of emergency</u>	: INFOTRAC 1-800-535-5053 Outside U.S.A. call collect: 1-352-323-3500 24 hours/day, 7 days/week.

2. Hazards identification

Emergency overview

Physical state	: Solid. (Powder.) This material is not hazardous because of its coating.
Color	: Tan. [Light]
Odor	: Characteristic.
Hazard statements	: NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.
OSHA/HCS status	: While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.
Routes of entry	: Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Inhalation	: Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Ingestion	: No known significant effects or critical hazards.
Skin	: No known significant effects or critical hazards.
Eyes	: No known significant effects or critical hazards.

Potential chronic health effects

Chronic effects	: No known significant effects or critical hazards.
Carcinogenicity	: No known significant effects or critical hazards.
Mutagenicity	: No known significant effects or critical hazards.
Teratogenicity	: No known significant effects or critical hazards.
Developmental effects	: No known significant effects or critical hazards.
Fertility effects	: No known significant effects or critical hazards.
Target organs	: No known significant effects or critical hazards.

Over-exposure signs/symptoms

Inhalation	: No specific data.
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2. Hazards identification

- Ingestion** : No specific data.
Skin : No specific data.
Eyes : No specific data.
Medical conditions aggravated by over-exposure : None known.

See toxicological information (Section 11)

3. Composition/information on ingredients

United States

Name	CAS number	%
Limestone	1317-65-3	60 - 100
Calcium nitrate	10124-37-5	10 - 30
Sodium chloride	7647-14-5	5 - 10
Iron	7439-89-6	5 - 10
Ammonium phosphate	7722-76-1	1 - 5

Canada

Name	CAS number	%
Limestone	1317-65-3	60 - 100
Calcium nitrate	10124-37-5	10 - 30
Sodium chloride	7647-14-5	5 - 10
Iron	7439-89-6	5 - 10
Ammonium phosphate	7722-76-1	1 - 5

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 20 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if symptoms occur.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 20 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.
- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.
- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

5. Fire-fighting measures

- Flammability of the product** : No specific fire or explosion hazard.
- Extinguishing media**
- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Special exposure hazards** : 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.

5. Fire-fighting measures

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
 carbon dioxide
 carbon monoxide
 nitrogen oxides
 phosphorus oxides
 halogenated compounds
 metal oxide/oxides
- 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.

6. Accidental release measures

- Personal precautions** : 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. Put on appropriate personal protective equipment (see Section 8).
- 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 for cleaning up**
- Spill** : Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. Handling and storage

- Handling** : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas.
- Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

United States

Ingredient	Exposure limits
Limestone	NIOSH REL (United States, 6/2009). TWA: 5 mg/m ³ 10 hour(s). Form: Respirable fraction TWA: 10 mg/m ³ 10 hour(s). Form: Total OSHA PEL (United States, 6/2010). TWA: 5 mg/m ³ 8 hour(s). Form: Respirable fraction TWA: 15 mg/m ³ 8 hour(s). Form: Total dust
Sodium chloride	ACGIH TLV (United States). TWA: 10 mg/m ³ Form: Inhalable fraction. TWA: 3 mg/m ³ Form: Respirable dust OSHA PEL (United States). PEL: 5 mg/m ³ Form: Respirable dust PEL: 15 mg/m ³ Form: Total dust
Iron	ACGIH TLV (United States). TWA: 10 mg/m ³ 8 hour(s). Form: Inhalable particle.
Ammonium phosphate	ACGIH TLV (United States). TWA: 5 mg/m ³ 8 hour(s). Form: Dust

Canada

8. Exposure controls/personal protection

<u>Occupational exposure limits</u>		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	List name	ppm	mg/m ³	Other	ppm	mg/m ³	Other	ppm	mg/m ³	Other	Notations
Limestone	AB 4/2009	-	10	-	-	-	-	-	-	-	[3]
	BC 9/2010	-	3	-	-	-	-	-	-	-	[a]
		-	10	-	-	-	-	-	-	-	[b]
Ammonium phosphate Sodium chloride	QC 6/2008	-	10	-	-	20	-	-	-	-	[b]
	US ACGIH	-	5	-	-	-	-	-	-	-	[c]
		-	10	-	-	-	-	-	-	-	[d]
Iron		-	3	-	-	-	-	-	-	-	[a]
		-	10	-	-	-	-	-	-	-	[e]

[3]Skin sensitization

Form: [a]Respirable dust [b]Total dust [c]Dust [d]Inhalable fraction. [e]Inhalable particle.

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Respiratory : Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : 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.

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin : 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.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and chemical properties

Physical state : Solid. (Powder.) This material is not hazardous because of its coating.

Flash point : Not available.

Burning time : Not available.

Burning rate : Not available.

Auto-ignition temperature : Not available.

Flammable limits : Not available.

Color : Tan. [Light]

9. Physical and chemical properties

Odor	: Characteristic.
Taste	: Not available.
Molecular weight	: Not applicable.
Molecular formula	: Not applicable.
pH	: [Conc. (% w/w): 1%]
Boiling/condensation point	: Not available.
Melting/freezing point	: Not available.
Critical temperature	: Not available.
Relative density	: 2.75
Vapor pressure	: Not available.
Vapor density	: Not available.
Volatility	: Not available.
Odor threshold	: Not available.
Evaporation rate	: Not available.
SADT	: Not available.
Viscosity	: Not available.
Ionicity (in water)	: Not available.
Dispersibility properties	: Not available.
Solubility	: Very slightly soluble in the following materials: cold water and hot water.
Physical/chemical properties comments	: Not available.

10. Stability and reactivity

Chemical stability	: The product is stable.
Conditions to avoid	: No specific data.
Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials, acids and alkalis. Slightly reactive or incompatible with the following materials: metals.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.

11. Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Calcium nitrate	LD50 Oral	Rat	302 mg/kg	-
Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-

Chronic toxicity

There is no data available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Sodium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

Sensitizer

Skin : There is no data available.

11. Toxicological information

Respiratory : There is no data available.

Carcinogenicity

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Calcium nitrate	-	2A	-	-	-	-

Mutagenicity

There is no data available.

Teratogenicity

There is no data available.

Reproductive toxicity

There is no data available.

12. Ecological information

Ecotoxicity : No known significant effects or critical hazards.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Calcium nitrate	Acute LC50 2400000 ug/L Fresh water	Fish - Lepomis macrochirus - 5 to 9 cm - 1 to 9 g	96 hours
Sodium chloride	Acute EC50 2430000 ug/L Fresh water Acute EC50 402600 to 469200 ug/L Fresh water Acute LC50 1042 mg/L Fresh water	Algae - Navicula seminulum Daphnia - Daphnia magna Crustaceans - Ceriodaphnia dubia - <24 hours	96 hours 48 hours 48 hours
Iron	Acute LC50 1000000 ug/L Fresh water Chronic NOEC 0.314 g/L Fresh water Chronic NOEC 100 mg/L Fresh water Acute EC50 3700 ug/L Fresh water Acute LC50 33000 to 100000 ug/L Marine water Acute LC50 6.48 ug/L Marine water	Fish - Morone saxatilis - Larvae Daphnia - Daphnia pulex Fish - Gambusia holbrooki - Adult Aquatic plants - Lemna minor Crustaceans - Crangon crangon Fish - Periophthalmus waltoni - Adult	96 hours 21 days 8 weeks 4 days 48 hours 96 hours

Persistence/degradability

There is no data available.

Other adverse effects : No known significant effects or critical hazards.

13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. 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. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	Not regulated.	-	-	-		-
TDG Classification	Not regulated.	-	-	-		-
IMDG Class	Not regulated.	-	-	-		-
IATA-DGR Class	Not regulated.	-	-	-		-

PG* : Packing group

Exemption to the above classification may apply.

AERG : Not applicable.

15. Regulatory information

United States

HCS Classification : Not regulated.

U.S. Federal regulations : TSCA 8(a) IUR Exempt/Partial exemption: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

SARA 302/304/311/312 extremely hazardous substances: No products were found.

SARA 302/304 emergency planning and notification: No products were found.

SARA 302/304/311/312 hazardous chemicals: Limestone; Calcium nitrate; Sodium chloride

SARA 311/312 MSDS distribution - chemical inventory - hazard identification:

Limestone: Immediate (acute) health hazard; Calcium nitrate: Fire hazard; Iron: Fire hazard; Sodium chloride: Immediate (acute) health hazard, Delayed (chronic) health hazard

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 313

	Product name	CAS number	Concentration
Form R - Reporting requirements	Calcium nitrate Ammonium phosphate	10124-37-5 7722-76-1	10 - 30 1 - 5
Supplier notification	Calcium nitrate Ammonium phosphate	10124-37-5 7722-76-1	10 - 30 1 - 5

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: Limestone

New York : None of the components are listed.

New Jersey : The following components are listed: Limestone; Calcium nitrate

Pennsylvania : The following components are listed: Limestone

15. Regulatory information

California Prop. 65

No products were found.

Canada

WHMIS (Canada) : Not controlled under WHMIS (Canada).

Canadian lists

Canadian NPRI : The following components are listed: Nitrate ion; Ammonia (total)

CEPA Toxic substances : None of the components are listed.

Canada inventory : At least one component is not listed in DSL but all such components are listed in NDSL.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

16. Other information

Label requirements : NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.

Hazardous Material Information System (U.S.A.) : **Health** : 1 **Flammability** : 0 **Physical hazards** : 1

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) : **Health** : 1 **Flammability** : 0 **Instability** : 1

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History

Date of issue mm/dd/yyyy : 01/15/2012

Date of previous issue : 11/06/2004

Version : 2

Revised Section(s) : 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16

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Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.