



# United States Material Safety Data Sheet

The Ortho Group  
P.O. Box 190  
Marysville, Ohio 43040  
United States

24 h. EMERGENCY TELEPHONE NUMBER  
CHEMTREC (U.S.) 1-800-424-9300  
CHEMTREC (International) 1-703-527-3887  
Non-Emergency Calls 1-937-644-0011

## ORTHO ROSE & FLOWER INSECT CONTROL PLUS MIRACLE-GRO PLANT FOOD GRANULES 7-9-7

### 1. Product and company identification

MSDS # : 320000002353  
EPA Registration Number: : 228-587-239

### 2. Hazards identification

**Physical state** : solid [Granular]

**Color** : Black. Brown. Light green  
**Odor** : Fertilizer  
**Signal word** : CAUTION!

**Precautionary measures** : Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use only with adequate ventilation. Do not eat, drink or smoke when using this product. Keep container closed. Use personal protective equipment as required. Wash thoroughly after handling.

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Emergency Overview** Causes moderate eye irritation.  
Avoid contact with eyes, skin and clothing.  
Wash throughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

#### Potential acute health effects

**Inhalation** : Harmful if inhaled. 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.  
**Target organs** : Contains material which causes damage to the following organs:  
skin  
eyes

**Potential chronic health effects** : See section 11 for more information.

#### Over-exposure signs/symptoms

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- Inhalation** : No specific data.  
**Ingestion** : No specific data.  
**Skin** : No specific data.  
**Eyes** : No specific data.  
**Medical conditions aggravated by over-exposure** : Pre-existing skin disorders may be aggravated by over-exposure to this product.  
**See toxicological information (Section 11)**

### 3. Composition/information on ingredients

Name	CAS number	%
Limestone	1317-65-3	>30 - <=40
Urea	57-13-6	>5 - <=10
Magnesium oxide (MgO)	1309-48-4	>1 - <=3
Sulfuric acid	7664-93-9	>1 - <=3
Sulfuric acid, iron(2+) salt (1:1)	7720-78-7	>1 - <=3

### 4. First aid measures

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.  
**Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.  
**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. Get medical attention immediately.  
**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 immediately.  
**Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed.

### 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.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
 carbon dioxide  
 carbon monoxide  
 nitrogen oxides  
 sulfur oxides

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**Special protective equipment for fire-fighters** : metal oxide/oxides  
 : 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. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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**

**Small spill** : Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

**Large spill** : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of 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. Avoid exposure - obtain special instructions before use. Do not get in eyes or on skin or clothing. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**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**

**Occupational exposure limits**

Ingredient	Exposure limits
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Limestone	<p><b>OSHA PEL (1993-06-30)</b> PEL: Permissible Exposure Level 15 mg/m3 Form: Total dust</p> <p><b>OSHA PEL (1993-06-30)</b> PEL: Permissible Exposure Level 5 mg/m3 Form: Respirable fraction</p> <p><b>OSHA PEL (1993-06-30)</b> PEL: Permissible Exposure Level 15 mg/m3 Form: Total dust</p> <p><b>OSHA PEL (1993-06-30)</b> PEL: Permissible Exposure Level 5 mg/m3 Form: Respirable fraction</p> <p><b>NIOSH REL (1994-06-01)</b> Time Weighted Average (TWA) 10 mg/m3 Form: Total</p> <p><b>NIOSH REL (1994-06-01)</b> Time Weighted Average (TWA) 5 mg/m3 Form: Respirable fraction</p>
Urea	<p><b>AIHA WEEL (1999-01-01)</b> Time Weighted Average (TWA) 10 mg/m3</p>
Magnesium oxide (MgO)	<p><b>OSHA PEL (1993-06-30)</b> PEL: Permissible Exposure Level 15 mg/m3 Form: total particulates</p> <p><b>ACGIH TLV (2003-01-01)</b> Notes: The agent (mixture, or exposure circumstance) is not classifiable as to its carcinogenicity to humans. Refers to Appendix A -- Carcinogens. ACGIH 2003 Adoption Inhalable fraction</p> <p>TLV-TWA: Threshold Limit Value - Time weighted average</p> <p>PEL: Permissible Exposure Level 10 mg/m3 Form: Inhalable fraction</p>
Sulfuric acid	<p><b>NIOSH REL (1994-06-01)</b> Time Weighted Average (TWA) 1 mg/m3</p> <p><b>ACGIH TLV (2004-01-01)</b> Notes: Suspected human carcinogen. Refers to Appendix A -- Carcinogens. ACGIH 2004 Adoption Sulfuric acid contained in strong inorganic acid mists Thoracic fraction. See Appendix C, paragraph B. Thoracic Particulate Mass TLVs (TPM-TLVs) for those materials that are hazardous when deposited anywhere within the lung airways and the gas-exchange region.</p> <p>TLV-TWA: Threshold Limit Value - Time weighted average</p> <p>PEL: Permissible Exposure Level 0.2 mg/m3</p>

**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. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
- Engineering measures** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants 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

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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, particulate filter 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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Eyes** : Protective eyewear is not required, but may be used in situations where contact is expected.
- Skin** : Wear long-sleeved shirt, long pants, shoes with socks. Remove and wash contaminated clothing before reuse.
- 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 [Granular]
- Flash point** : Not Applicable
- Burning time** : Not Applicable
- Auto-ignition temperature** : Not Applicable
- Flammable limits** : Not Applicable
- Density** : 55 lb/ft<sup>3</sup>
- Color** : Black. Brown. Light green
- Odor** : Fertilizer
- pH** : Not Applicable
- Boiling/condensation point** : Not Applicable
- Melting/freezing point** : Not Applicable
- Relative density** : Not Applicable
- Vapor pressure** : Not Applicable
- Vapor density** : Not Applicable
- Volatility** : Not Applicable
- Odor threshold** : Not Applicable
- Evaporation rate** : Not Applicable
- Viscosity** : Not Applicable
- Solubility** : Not Applicable
- Solubility in water** : Not Applicable

## **10. Stability and reactivity**

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<b>Chemical stability</b>	:	The product is stable.
<b>Conditions to avoid</b>	:	No specific data.
<b>Incompatible materials</b>	:	No specific data.
<b>Hazardous decomposition products</b>	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
<b>Possibility of hazardous reactions</b>	:	Under normal conditions of storage and use, hazardous reactions will not occur.

## 11. Toxicological information

### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Product	LD50 Oral	Rat	> 5,000 mg/kg	-
Product	LC50 Inhalation	Rat	> 2.11 mg/l	4 h
Product	LD50 Dermal	Rat	> 5,000 mg/kg	-

Conclusion/Summary Toxic to humans or animal life.

### Irritation/Corrosion

Skin	Non-irritating
Eyes	May cause eye irritation.
Respiratory	May cause respiratory irritation

### Sensitizer

Conclusion/Summary	Skin	Not sensitizing
	Respiratory	Not available.

### Chronic toxicity

Conclusion/Summary No known significant effects or critical hazards.No known significant effects or critical hazards.

### Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Conclusion/Summary	No known significant effects or critical hazards.No known significant effects or critical hazards.			

### Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Magnesium oxide (MgO)	A4					
sulphuric acid	A2	1			Proven	

### Mutagenicity

Conclusion/Summary No known significant effects or critical hazards.No known significant effects or critical hazards.

### Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Conclusion/Summary	No known significant effects or critical hazards.No known significant effects or critical hazards.			

### Reproductive toxicity

Conclusion/Summary No known significant effects or critical hazards.No known significant

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effects or critical hazards.

## 12. Ecological information

**Ecotoxicity** : This product is highly toxic to aquatic invertebrates.

### Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Sulfuric acid			
	Acute LC50 42 mg/l Fresh water	Fish - Western mosquitofish	4 d
Sulfuric acid, iron(2+) salt (1:1)			
	Acute LC50 3.6 mg/l Fresh water	Fish - Brook trout	4 d

**Conclusion/Summary** : No known significant effects or critical hazards.

### Persistence/degradability

**Conclusion/Summary** : No known significant effects or critical hazards.

**Partition coefficient: n-octanol/water** : No known significant effects or critical hazards.

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

## 13. Disposal considerations

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

## 14. Transport information

<u>Regulatory information</u>	<u>UN no.</u>	<u>Proper shipping name</u>	<u>Class</u>	<u>PG*</u>	<u>Note</u>
DOT		Not Regulated			
IATA (C)		Not Regulated			
IATA (P)					
IMDG		Not Regulated			
TDG		Not Regulated			
PG* : Packing group					

## 15. Regulatory information

### United States

**U.S. Federal regulations** : **United States - TSCA 12(b) - Chemical export notification:** None of the components are listed.  
**United States - TSCA 8(a) - Inventory update rule (IUR):** Not determined  
**SARA 302/304/311/312 extremely hazardous substances:** Sulfuric acid

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**SARA 302/304 emergency planning and notification:** Sulfuric acid  
**SARA 302/304/311/312 hazardous chemicals:** Sulfuric acid  
**SARA 311/312 MSDS distribution - chemical inventory - hazard identification:** Limestone: Acu Phosphoric acid, ammonium salt (1:2): Acu Urea: Acu, Del Magnesium oxide (MgO): Acu Sulfuric acid: Del: Acu, Del, Rea Sulfuric acid, iron(2+) salt (1:1): Acu, Del  
**United States - EPA Clean water act (CWA) section 311 - Hazardous substances:** Listed Sulfuric acid Sulfuric acid, iron(2+) salt (1:1) Sulfuric acid copper(2+) salt (1:1) Sulfuric acid, zinc salt (1:1)  
**Clean Air Act (CAA) 112 accidental release prevention:** No products were found.

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

**State regulations**

**Massachusetts :** The following components are listed: Limestone Magnesium oxide (MgO) Sulfuric acid Sulfuric acid, iron(2+) salt (1:1)

**New York :** None of the components are listed.

**New Jersey :** The following components are listed: Limestone Magnesium oxide (MgO) Sulfuric acid Sulfuric acid, iron(2+) salt (1:1)

**Pennsylvania :** The following components are listed: Limestone Magnesium oxide (MgO) Sulfuric acid Sulfuric acid, iron(2+) salt (1:1)

**International regulations**

**Canada inventory :** At least one component is not listed.

**International lists :** **Australia inventory (AICS):** At least one component is not listed.  
**New Zealand Inventory of Chemicals (NZIoC):** At least one component is not listed.  
**China inventory (IECSC):** At least one component is not listed.  
**Japan inventory:** At least one component is not listed.  
**Korea inventory:** At least one component is not listed.  
**Philippines inventory (PICCS):** At least one component is not listed.  
**Taiwan inventory (CSNN):** Not determined.  
**Malaysia Inventory (EHS Register):** Not determined.

**16.Other information**

**Hazardous Material Information System (U.S.A.) :**

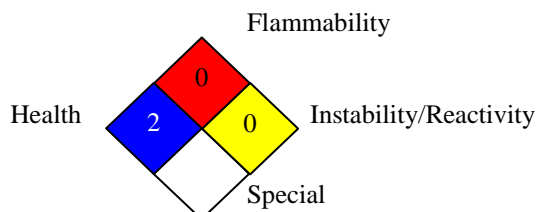
<b>Health</b>	1
<b>Flammability</b>	0
<b>Physical hazards</b>	0

**Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4**

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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.):



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