



United States  
**Material Safety Data Sheet**

Miracle-Gro Lawn Products Inc  
14111 Scottslawn Road  
Marysville, Ohio 43041  
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

**MIRACLE GRO QUICK START TRANSPLANTING SOLUTION 4-8-4**

**1. Product and company identification**

MSDS # : 320000002910

**2. Hazards identification**

**Physical state** : liquid [liquid]  
**Color** : Clear Green  
**Odor** : mild Ammonia.  
**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).  
**Emergency Overview** : Keep out of reach of children.

**Potential acute health effects**

**Inhalation** : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.  
**Ingestion** : Toxic if swallowed.  
**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:  
upper respiratory tract  
skin  
eyes

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

**Over-exposure signs/symptoms**

**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)**

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### 3. Composition/information on ingredients

Name	CAS number	%
Potassium hydroxide (K(OH))	1310-58-3	>5 - <=10
Urea	57-13-6	>3 - <=5
Phosphoric acid	7664-38-2	>1 - <=3

### 4. First aid measures

- Eye contact** : Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
- Skin contact** : Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.
- Inhalation** : Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
- Ingestion** : Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Never give anything by mouth to an unconscious person.

### 5. Fire-fighting measures

- Flammability of the product** : In a fire or if heated, a pressure increase will occur and the container may burst.

#### 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  
phosphorus oxides  
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** : Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Put on appropriate personal protective equipment (see Section 8).
- Environmental precautions** : No specific hazard.

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**Methods for cleaning up**

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Dike spill area and do not allow product to reach soil, surface water, ground water or sewers. Contain and collect spillage with non-combustible, absorbent material and place in container for disposal.

**7. Handling and storage**

- Handling** : Avoid inhalation or contact with skin, eyes or clothing. Avoid container breakage. Do not contaminate water sources when disposing of equipment washwater or rinsate. Keep out of lakes, stream or ponds. Keep out of reach of children.
- Storage** : Keep from freezing. Store in original container in a cool, dry, well-ventilated area inaccessible to children and pets. Do not contaminate food or feedstuffs.

**8. Exposure controls/personal protection****Occupational exposure limits**

<b>Ingredient</b>	<b>Exposure limits</b>
Potassium hydroxide (K(OH))	<b>OSHA PEL 1989 (1989-03-01)</b> Threshold Limit Value - Ceiling (TLV-C) 2 mg/m <sup>3</sup> <b>NIOSH REL (1994-06-01)</b> Time Weighted Average (TWA) 2 mg/m <sup>3</sup> <b>ACGIH TLV (1994-09-01)</b> Threshold Limit Value - Ceiling (TLV-C) 2 mg/m <sup>3</sup>
Urea	<b>AIHA WEEL (1999-01-01)</b> Time Weighted Average (TWA) 10 mg/m <sup>3</sup>
Phosphoric acid	<b>OSHA PEL 1989 (1989-03-01)</b> PEL: Permissible Exposure Level 1 mg/m <sup>3</sup> <b>OSHA PEL 1989 (1989-03-01)</b> Short Term Exposure Limit (STEL) 3 mg/m <sup>3</sup> <b>OSHA PEL (1993-06-30)</b> PEL: Permissible Exposure Level 1 mg/m <sup>3</sup> <b>NIOSH REL (1994-06-01)</b> Time Weighted Average (TWA) 1 mg/m <sup>3</sup> <b>NIOSH REL (1994-06-01)</b> Short Term Exposure Limit (STEL) 3 mg/m <sup>3</sup> <b>ACGIH TLV (1994-09-01)</b> TLV-TWA: Threshold Limit Value - Time weighted average PEL: Permissible Exposure Level 1 mg/m <sup>3</sup> <b>ACGIH TLV (1994-09-01)</b> TLV-STEL: Threshold Limit Value - Short Time Exposure Level 3 mg/m <sup>3</sup>

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**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** : Use adequate ventilation to keep the airborne concentrations below the recommended exposure standard.
- Hygiene measures** : Wash thoroughly with soap and water after handling. Remove and launder contaminated clothing before reuse.

**Personal protection**

- Respiratory** : No special respiratory protection required. If ventilation is inadequate to keep the airborne concentrations below the recommended exposure standard wear appropriate respiration protection.
- Hands** : Protective gloves are not required, but may be used in situations where significant contact is expected.
- Eyes** : Protective eyewear is not required, but may be used in situations where contact is expected.
- Skin** : No special protective clothing is required.
- 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** : liquid [liquid]
- Flash point** : Not Applicable
- Burning time** : Not Applicable
- Auto-ignition temperature** : Not Applicable
- Flammable limits** : Not Applicable
- Density** : 1.15 g/cm<sup>3</sup>
- Color** : Clear Green
- Odor** : mild Ammonia.
- pH** : 7.5
- 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**

- Chemical stability** : The product is stable.
- Conditions to avoid** : No specific data.

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<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
potassium hydroxide	LD50 Oral	Rat	273 mg/kg	-
Urea	LD50 Oral	Rat	8,471 mg/kg	-

Conclusion/Summary No known significant effects or critical hazards.

### Irritation/Corrosion

Skin	Non-irritating
Eyes	May cause eye irritation.
Respiratory	Not available.

### Sensitizer

Conclusion/Summary	Skin	Not sensitizing - based on the individual components.
	Respiratory	Not sensitizing - based on the individual components.

### Chronic toxicity

Conclusion/Summary No known significant effects or critical hazards.

### Carcinogenicity

Conclusion/Summary No known significant effects or critical hazards.

### Mutagenicity

Conclusion/Summary No known significant effects or critical hazards.

### Teratogenicity

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

### Reproductive toxicity

Conclusion/Summary No known significant effects or critical hazards.

## 12. Ecological information

**Ecotoxicity** : No known significant effects or critical hazards.

### Aquatic ecotoxicity

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

### Persistence/degradability

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

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**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** :

- 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:** No products were found.
- SARA 311/312 MSDS distribution - chemical inventory - hazard identification:** Potassium hydroxide (K(OH)): Acu, Del Urea: Acu, Del Phosphoric acid: Acu
- Clean Water Act (CWA) 307:** No products were found.
- Clean Water Act (CWA) 311:** The following components are listed: Potassium hydroxide (K(OH)) Phosphoric acid Ammonium hydroxide ((NH4)(OH))
- Clean Air Act (CAA) 112 accidental release prevention:** No products were found.
- Clean Air Act (CAA) 112 regulated flammable substances:** No products were found.
- Clean Air Act (CAA) 112 regulated toxic substances:** No products were found.

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

#### State regulations

**Massachusetts** : The following components are listed: Potassium hydroxide (K(OH)) Phosphoric acid

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- New York** : None of the components are listed.
- New Jersey** : The following components are listed: Potassium hydroxide (K(OH))  
Phosphoric acid
- Pennsylvania** : The following components are listed: Potassium hydroxide (K(OH))  
Phosphoric acid
- California Prop. 65** : Not listed.

**International regulations**

- Canada inventory** : All components are listed or exempted.
- International lists** :
  - Australia inventory (AICS):** All components are listed or exempted.
  - Japan inventory:** All components are listed or exempted.
  - China inventory (IECSC):** All components are listed or exempted.
  - Korea inventory:** All components are listed or exempted.
  - New Zealand Inventory of Chemicals (NZIoC):** All components are listed or exempted.
  - Philippines inventory (PICCS):** All components are listed or exempted.

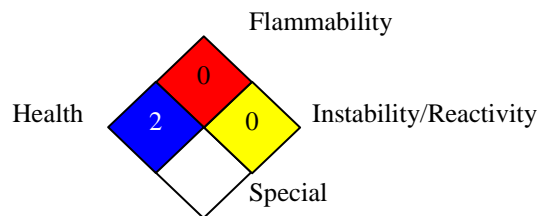
**16.Other information**

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

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

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**National Fire Protection Association (U.S.A.):**



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to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

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