



United States  
**Material Safety Data Sheet**

The Scotts Company  
14111 Scottslawn Road  
Marysville, Ohio 43041  
United States

**GRUBEX I**

**Section 1. Identification**

**GHS product identifier** : GRUBEX I  
**Product type** : Pesticide  
**SDS #** : 320000000503  
**EPA Registration Number:** : 538-306

**Relevant identified uses of the substance or mixture and uses advised against**  
Use only in accordance with label directions.

**Section 2. Hazards identification**

This product is regulated by the Environmental Protection Agency (EPA) for label precautionary text see Section 15.

**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.

**Classification of the substance or mixture** : Not classified.

**GHS label elements**

**Signal word** : None

**Hazard statements** : No known significant effects or critical hazards.

**Precautionary statements**

**General** : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

**Prevention** : Not applicable.

**Response** : Not applicable.

**Storage** : Not applicable.

*Report version*  
*Report*  
**Version:** *version*      **Date of issue/Date of revision:** *Validity date\*\*\**      **Date of previous issue:** 11/24/2013

**Disposal** : Not applicable.  
**Supplemental label elements** : None known.  
**Hazards not otherwise classified** : None known.

### Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture  
**Chemical name** : Not available.  
**Other means of identification** : Not available.

Ingredient name	%	CAS number
Titanium oxide	0.3 - 1	13463-67-7
2-Pyrrolidinone, 1-methyl-	0.3 - 1	872-50-4

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**Occupational exposure limits, if available, are listed in Section 8.**

### Section 4. First aid measures

#### Description of necessary first aid measures

**Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.  
**Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.  
**Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.  
**Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

#### Most important symptoms/effects, acute and delayed

##### Potential acute health effects

**Eye contact** : No known significant effects or critical hazards.  
**Inhalation** : No known significant effects or critical hazards.  
**Skin contact** : No known significant effects or critical hazards.  
**Ingestion** : No known significant effects or critical hazards.

##### Over-exposure signs/symptoms

**Eye contact** : No specific data.  
**Inhalation** : No specific data.  
**Skin contact** : No specific data.  
**Ingestion** : No specific data.

Report  
 version.Re  
 port

**Version:** version

**Date of issue/Date of revision:** Validity date\*\*\*.

**Date of previous issue:** 11/24/2013

**Indication of immediate medical attention and special treatment needed, if necessary**

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

**Section 5. Fire-fighting measures****Extinguishing media**

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.
- Specific hazards arising from the chemical** : No specific fire or explosion hazard.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide
- Special protective actions for fire-fighters** : 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.
- 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.

**Section 6. Accidental release measures****Personal precautions, protective equipment and emergency procedures**

- For non-emergency personnel** : 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.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- 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).

Report  
version.Re  
port  
Version: version

Date of issue/Date of revision: Validity date\*\*\*.

Date of previous issue: 11/24/2013

**Methods and materials for containment and 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 of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

**Section 7. Handling and storage****Precautions for safe handling**

- Protective measures** : Put on appropriate personal protective equipment (see Section 8).
- Advice on general occupational hygiene** : 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. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** : 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.

**Section 8. Exposure controls/personal protection****Control parameters****Occupational exposure limits**

<b>Ingredient name</b>	<b>Exposure limits</b>
Titanium oxide	<p><b>OSHA PEL 1989 (1989-03-01)</b>            PEL: Permissible Exposure Level 10 mg/m<sup>3</sup> Form: Total dust</p> <p><b>OSHA PEL (1993-06-30)</b>            PEL: Permissible Exposure Level 15 mg/m<sup>3</sup> Form: Total dust</p> <p><b>NIOSH REL (1994-06-01)</b></p> <p><b>ACGIH TLV (1996-05-18)</b>            TLV-TWA: Threshold Limit Value - Time weighted average PEL:            Permissible Exposure Level 10 mg/m<sup>3</sup></p>
2-Pyrrolidinone, 1-methyl-	<p><b>AIHA WEEL (1999-01-01)</b>            Time Weighted Average (TWA) 10 ppm</p>

Report  
 version.Re  
 port

**Version:** version

**Date of issue/Date of revision:** Validity date\*\*\*.

**Date of previous issue:** 11/24/2013

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- 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.

### Individual protection measures

- 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.
- Eye/face protection** : Protective eyewear is not required, but may be used in situations where contact is expected.

### Skin protection

- Hand protection** : Protective gloves are not required, but may be used in situations where significant contact is expected.
- Body protection** : No special protective clothing is required.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : 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.

## Section 9. Physical and chemical properties

### Appearance

- Physical state** : solid [granules]
- Color** : Gray to Tan
- Odor** : Earthy odor
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point** : Not available.
- Boiling point** : Not available.
- Flash point** : Not available.
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.

Report  
version.Re  
port

Version: version

Date of issue/Date of revision: Validity date\*\*\*.

Date of previous issue: 11/24/2013

<b>Lower and upper explosive (flammable) limits</b>	:	<b>Lower:</b> Not available. <b>Upper:</b> Not available.
<b>Vapor pressure</b>	:	Not available.
<b>Vapor density</b>	:	Not available.
<b>Relative density</b>	:	Not available.
<b>Solubility</b>	:	Not available.
<b>Partition coefficient: n-octanol/water</b>	:	Not available.
<b>Auto-ignition temperature</b>	:	Not available.
<b>Decomposition temperature</b>	:	Not available.
<b>Viscosity</b>	:	<b>Dynamic:</b> Not available. <b>Kinematic:</b> Not available.

## Section 10. Stability and reactivity

<b>Reactivity</b>	:	No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	:	The product is stable.
<b>Possibility of hazardous reactions</b>	:	Under normal conditions of storage and use, hazardous reactions will not occur.
<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.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

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

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

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
	Eyes - Redness of the conjunctivae	Rabbit	< 1.0		-
	Skin - Erythema/Es	Rabbit	< 1.5		-

Report  
version.Re  
port

Version: version

Date of issue/Date of revision: Validity date\*\*\*.

Date of previous issue: 11/24/2013

	char				
--	------	--	--	--	--

**Conclusion/Summary**

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

**Sensitization**

Product/ingredient name	Route of exposure	Species	Result
	Skin	Guinea pig	Not sensitizing

**Conclusion/Summary**

**Skin** : Not sensitizing  
**Respiratory** : Not sensitizing - based on the individual components.

**Mutagenicity**

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

**Carcinogenicity**

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

**Classification**

Product/ingredient name	OSHA	IARC	NTP
Titanium oxide		2B	

**Reproductive toxicity**

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

**Teratogenicity**

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

**Specific target organ toxicity (single exposure)**

**Specific target organ toxicity (repeated exposure)**

Not available.

**Aspiration hazard**

Velcro Closure

**Information on the likely routes of exposure** : Not available.

**Potential chronic health effects**

Report  
 version.Re  
 port

Version: version

Date of issue/Date of revision: Validity date\*\*\*.

Date of previous issue: 11/24/2013

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

**General** : 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.

**Section 12. Ecological information**

Toxicity

**Conclusion/Summary** : Not available.

Persistence and degradability

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

Mobility in soil

**Soil/water partition coefficient (KOC)** : Not available.

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

**Section 13. Disposal considerations**

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. 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. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. 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.

**Section 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			
<p><i>Report version.Re port</i></p> <p><b>Version:</b> <i>version</i>      <b>Date of issue/Date of revision:</b> <i>Validity date***.</i>      <b>Date of previous issue:</b> <i>11/24/2013</i></p>					



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

**Special precautions for user** : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

## Section 15. Regulatory information

### Precautionary statements

**Signal word** : No signal word.  
**Emergency Overview** : Keep out of reach of children.  
Wash thoroughly after handling.

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

### State regulations

**California Prop. 65**  
Not available.

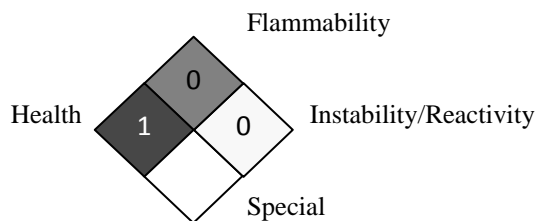
### International lists

#### National inventory

**Australia** : At least one component is not listed.  
**Canada** : At least one component is not listed.  
**China** : At least one component is not listed.  
**Europe** : At least one component is not listed.  
**Japan** : At least one component is not listed.  
**Malaysia** : Not determined.  
**New Zealand** : At least one component is not listed.  
**Philippines** : At least one component is not listed.  
**Republic of Korea** : At least one component is not listed.  
**Taiwan** : Not determined.

## Section 16. Other information

*Report version.Re port*  
**Version:** *version*      **Date of issue/Date of revision:** *Validity date\*\*\*.*      **Date of previous issue:** 11/24/2013

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

Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended 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.

**History**

**Date of issue/Date of revision** : Validity date\*\*\*.  
**Version** : Report version.Report version

**Notice to reader**

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. 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.

*Report version.Re port*  
**Version:** *version*      **Date of issue/Date of revision:** *Validity date\*\*\*.*      **Date of previous issue:** *11/24/2013*