



Material Safety Data Sheet

According to EC Directive 2001/58/EC

Print date: 15-Feb-2007***

Revision Number: 0

Revision date:

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Identification of the substance or preparation

MSDS Ref. No.: 8836.02.01
Product name: Osmocote Exact Hi K 8-9 M
Synonyms: 11+11+18+2MgO+TE / 11+4.8+14.9+1.2Mg+TE

Use of the Substance/Preparation

Recommended use: Granulated fertilizer.

Company/Undertaking Identification

- Scotts International BV
Nijverheidsweg 1-5
6422 PD Heerlen (NL)
Tel: ++31 (0) 45-5609100
Fax: ++31 (0) 45-5609190

Emergency telephone number:

- +44 (0)208 762 8322

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature of the preparation

| Components | CAS-No | Weight % | EC-No. | Classification |
|--|------------|----------|-----------|---------------------------------|
| Ammoniumnitrate, NH ₄ NO ₃ *** | 6484-52-2 | 10 - 25% | 229-347-8 | O;R08 |
| Calcium sulphate dihydrate, CaSO ₄ +2H ₂ O*** | 10101-41-4 | 1 - 5% | 231-900-3 | NE |
| Copper sulphate, CuSO ₄ *** | 7758-98-7 | < 1% | 231-847-6 | N;R50/53 Xi;R36/38 Xn;R22 |
| Ironsulphate, FeSO ₄ +1H ₂ O*** | 7720-78-7 | < 1% | 231-753-5 | Xn;R22 |
| Magnesiumoxide, MgO*** | 1309-48-4 | < 1% | 215-171-9 | NE |
| Manganese sulphate, MnSO ₄ *** | 7785-87-7 | < 1% | 232-08-99 | N;R51/53 Xn;R48/20/22 |
| Potassium nitrate, KNO ₃ *** | 7757-79-1 | 5 - 10% | 231-818-8 | O;R08 |
| Sodium molybdate, Na ₂ MoO ₄ +2H ₂ O*** | 7631-95-0 | < 1% | 231-298-2 | NE |

For the full text of the R phrases mentioned in this Section, see Section 16

Revision date:

Page 1 of 8

3. HAZARDS IDENTIFICATION

Classification

The product is non-dangerous in accordance with Directive 1999/45/EC

Most important hazards

None

4. FIRST AID MEASURES

| | |
|------------------------------------|---|
| General advice: | Possible symptoms are coughing and/or dyspnoea. If symptoms persist, call a physician. |
| Ingestion: | If conscious, drink plenty of water. Do not induce vomiting. Rinse mouth. Consult a physician if necessary. |
| Inhalation: | Dusty conditions are unlikely if product is used as intended. However, if prolonged inhalation of dust occurs, remove victim to fresh air. If symptoms persist, call a physician. |
| Skin contact: | If a person feels unwell or symptoms of skin irritation appear, consult a physician. Rinse with plenty of water. |
| Eye contact: | Flush eyes with water as a precaution. If eye irritation persists, consult a specialist. |
| Protection of first-aiders: | Low hazard for usual industrial or commercial handling. |

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media:

Water.

Unsuitable extinguishing media:

Dry powder, Sand, Foam, CO2

Special exposure hazards arising from the substance or preparation itself, its combustion products, or released gases:

Burning produces obnoxious and toxic fumes. In case of fire, cool with water or waterspray.

Special protective equipment for firefighters:

In the event of fire and/or explosion do not breathe fumes. Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Avoid dust formation. Sweep-up to prevent slipping hazard.

Environmental precautions:

Prevent product from entering drains. Do not contaminate surface water.

Methods for cleaning up:

Shovel or sweep up.

7. HANDLING AND STORAGE

Handling:**Technical measures/precautions:**

Avoid dust formation.

Safe handling advice:

Keep away from flammable material. When using do not eat or drink.

Storage:**Technical measures/storage conditions:**

Keep away from heat and sources of ignition. Keep away from food, drink and animal feeding stuffs. For quality reasons: Keep out of reach of direct sunlight, store under dry conditions, partly used bags should be closed well. Keep at temperatures between 0 °C and 40 °C .

Incompatible products:

Oxidising and spontaneously flammable products

Specific use(s):

Granulated fertilizer.

Packaging material:

Bags or Bulk

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures to reduce exposure:

Ensure adequate ventilation.

Occupational exposure controls**Personal protective equipment****Respiratory protection:**

Not applicable.

Hand protection:

PVC or other plastic material gloves.

Eye/face protection:

Safety glasses.

Skin and body protection:

Not applicable.

Hygiene measures

Follow good housekeeping practices. When using, do not eat, drink or smoke. Keep away from food, drink and animal feeding stuffs.

Exposure limit values*Ammoniumnitrate, NH₄NO₃*

Czech Republic OEL

Listed

Calcium sulphate dihydrate, CaSO₄+2H₂O

Austria - MAKs

6 mg/m³ MAK

Belgium - 8 Hr VLE

10 mg/m³ VLE

France INRS (VME)

10 mg/m³ VME

Germany TRGS900:

6 mg/m³ TWA

Germany (DFG) - MAK

1.5 mg/m³ MAK4 mg/m³ MAK

Netherlands - OEL - MACs:

0.5 mg/m³ MAC

Portugal - TWAs

10 mg/m³ TWA

Spain - Valores Limite Ambientales - VLE

10 mg/m³ VLA-ED

UK EH40 WEL:

10 mg/m³ TWA4 mg/m³ TWA

Copper sulphate, CuSO₄

| | |
|---|--|
| Austria - MAKs | 0.1 mg/m ³ MAK 1 mg/m ³ MAK |
| Belgium - 8 Hr VLE | 0.2 mg/m ³ VLE 1 mg/m ³ VLE |
| Czech Republic OEL | Listed |
| Finland - Occupational Exposure Limits - 8 hour | 0.1 mg/m ³ TWA 1 mg/m ³ TWA |
| France - Valeurs Limites d'exposition (VLE) | 2 mg/m ³ VLCT |
| France INRS (VME) | 0.2 mg/m ³ VME 1 mg/m ³ VME |
| Germany (DFG) - MAK | 0.1 mg/m ³ MAK |
| Netherlands - OEL - MACs: | 0.2 mg/m ³ MAC 1 mg/m ³ MAC |
| Norway - 8 h: | 0.1 mg/m ³ TWA 1 mg/m ³ TWA |
| Portugal - TWAs | 0.2 mg/m ³ TWA 1 mg/m ³ TWA |
| Spain - Valores Limite Ambientales - VLE | 0.2 mg/m ³ VLA-ED 1 mg/m ³ VLA-ED |
| Sweden - OEL - 8 Hour | 0.2 mg/m ³ LLV 1 mg/m ³ LLV |

Ironsulphate, FeSO₄·1H₂O

| | |
|---|---|
| Belgium - 8 Hr VLE | 1 mg/m ³ |
| Czech Republic OEL | Listed |
| Finland - Occupational Exposure Limits - 8 hour | 1 mg/m ³ |
| Netherlands - OEL - MACs: | 1 mg/m ³ |
| Norway - 8 h: | 0.01 mg/m ³ |
| Portugal - TWAs | 1 mg/m ³ TWA |
| Spain - Valores Limite Ambientales - VLE | 1 mg/m ³ VLA-ED |
| UK EH40 WEL: | LTEL (8 hr TWA) 1 mg/m ³ STEL (15 min) 2mg/m ³ |

Magnesiumoxide, MgO

| | |
|---|-----------------------------|
| Austria - MAKs | 6 mg/m ³ |
| Belgium - 8 Hr VLE | 10 mg/m ³ |
| Czech Republic OEL | Listed |
| France - Valeurs Limites d'exposition (VLE) | 10 mg/m ³ |
| France INRS (VME) | 10 mg/m ³ VME |
| Germany (DFG) - MAK | 6 mg/m ³ |
| Netherlands - OEL - MACs: | 10 mg/m ³ |
| Norway - 8 h: | 10 mg/m ³ |
| Portugal - TWAs | 10 mg/m ³ TWA |
| Spain - Valores Limite Ambientales - VLE | 10 mg/m ³ VLA-ED |
| UK EH40 WEL: | 10 mg/m ³ |

Manganese sulphate, MnSO₄

| | |
|---|--|
| Austria - MAKs | 0.5 mg/m ³ MAK 5 mg/m ³ MAK |
| Belgium - 8 Hr VLE | 0.2 mg/m ³ |
| Czech Republic OEL | Listed |
| Finland - Occupational Exposure Limits - 8 hour | 0.5 mg/m ³ |
| France INRS (VME) | 1 mg/m ³ VME |
| Germany TRGS900: | 0.5 mg/m ³ TWA |
| Germany (DFG) - MAK | 0.5 mg/m ³ MAK |
| Netherlands - OEL - MACs: | 1 mg/m ³ |
| Norway - 8 h: | 2.5 mg/m ³ |
| Portugal - TWAs | 0.2 mg/m ³ TWA |
| Spain - Valores Limite Ambientales - VLE | 0.2 mg/m ³ VLA-ED |

| | |
|-----------------------|---------------------------|
| Sweden - OEL - 8 Hour | 0.1 mg/m ³ LLV |
| | 0.2 mg/m ³ LLV |
| UK EH40 WEL: | 5 mg/m ³ |

Sodium molybdate, Na₂MoO₄+2H₂O

| | |
|---|----------------------------|
| Austria - MAKs | 15 mg/m ³ MAK |
| | 5 mg/m ³ MAK |
| Belgium - 8 Hr VLE | 5 mg/m ³ VLE |
| Czech Republic OEL | Listed |
| Finland - Occupational Exposure Limits - 8 hour | 6 mg/m ³ |
| France - Valeurs Limites d'exposition (VLE) | 5 mg/m ³ |
| France INRS (VME) | 5 mg/m ³ VME |
| Netherlands - OEL - MACs: | 5 mg/m ³ MAC |
| Norway - 8 h: | 5 mg/m ³ TWA |
| Portugal - TWAs | 0.5 mg/m ³ TWA |
| | 10 mg/m ³ TWA |
| | 3 mg/m ³ TWA |
| Spain - Valores Limite Ambientales - VLE | 5 mg/m ³ VLA-ED |
| Sweden - OEL - 8 Hour | 10 mg/m ³ LLV |
| | 5 mg/m ³ LLV |

9. PHYSICAL AND CHEMICAL PROPERTIES

General Information

| | |
|------------------------|--------------------------|
| Physical State: | Solid |
| Appearance: | Resin Coated Granules |
| Color: | Brown, Greenish |
| Odor: | No information available |

Important Health Safety and Environmental Information

| | |
|-----------------------------------|--|
| Flammability (solid, gas): | Non-flammable |
| Explosive properties: | Doesn't present explosion hazard |
| Oxidising properties: | Incompatible with oxidising agents. |
| Solubility: | Coating not soluble, release nutrients through coating |

Other information

| | |
|----------------------|------------------------------|
| Bulk density: | 990 - 1036 kg/m ³ |
|----------------------|------------------------------|

10. STABILITY AND REACTIVITY

| | |
|--|--|
| Stability: | Stable under recommended storage conditions. |
| Conditions to avoid: | Keep away from open flames, hot surfaces and sources of ignition. |
| Materials to avoid: | Combustible material. Oxidising agents. |
| Hazardous decomposition products: | No decomposition if stored normally Hazardous decomposition products: Poisonous gasses/vapours |

11. TOXICOLOGICAL INFORMATION

Component information

Ammoniumnitrate, NH₄NO₃
LD50/oral/rat = 410 mg/kg

Copper sulphate, CuSO₄
LD50/oral/rat = 960 mg/kg

Ironsulphate, FeSO₄+1H₂O
LD50/oral/rat = 1389 mg/kg

Manganese sulphate, MnSO₄
LD50/oral/rat = 9 g/kg

Potassium nitrate, KNO₃
LD50/oral/rat = 3750mg/kg

Sodium molybdate, Na₂MoO₄+2H₂O
LD50/oral/rat = 4000 mg/kg

Product information

LD50/oral/rat = > 10 gr/kg

Local effects

Skin effects: May cause skin irritation in susceptible persons

Eye effects: May cause eye irritation with susceptible persons

Inhalation: May cause sensitization by inhalation

Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea

12. ECOLOGICAL INFORMATION

Product information

Aquatic toxicity:

No ecological information is known on the product

Water Endangering Class (WGK): 1 (Scotts classification)

Component information

Ammoniumnitrate, NH₄NO₃

Ecotoxicity effects

EC50/48h/daphnia =100 µg/l
 LC50/96h/rainbow trout =10 µg/l
 EC50/72h/algae = 74000 µg/l

*Copper sulphate, CuSO4***Ecotoxicity effects**

EC50/48h/daphnia =0.8 mg/l

*Ironsulphate, FeSO4+1H2O***Ecotoxicity effects**

EC50/48h/daphnia = >100mg/l
 LC50/96h/rainbow trout = >72.5mg/l (6d)
 EC50/72h/algae = 22mg/l

*Manganese sulphate, MnSO4***Ecotoxicity effects**

EC50/48h/daphnia => 100 mg/l

*Sodium molybdate, Na2MoO4+2H2O***Ecotoxicity effects**

LC50/96h/rainbow trout => 2800 g/l

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods: Use up product completely. Packaging material is industrial waste.

Contaminated packaging: Empty containers can be landfilled, when in compliance with the local regulations

14. TRANSPORT INFORMATION

Product information

Physical State: Solid

ADR/RID

UN-No: Not classified for transport

IATA

UN-No: Not classified for transport

IMO / IMDG

UN-No: Not classified for transport

15. REGULATORY INFORMATION

Indication of danger:

This product does not have to be classified according to the EU regulations.

15. REGULATORY INFORMATION

ICPE (FR): Classified installation : article 1331, 1230

16. OTHER INFORMATION

Text of R Phrases mentioned in Section 2

R 8 - Contact with combustible material may cause fire.

R22 - Harmful if swallowed. ***

R36/38 - Irritating to eyes and skin.

R36/37/38 - Irritating to eyes, respiratory system and skin.

R48/20/22 - Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.

R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. ***

Reason for revision:

*** Indicates changes since the last revision. This version replaces all previous versions

Prepared by:

Regulatory Affairs Department.

This information contained herein is, to the best of Scott's knowledge and belief, accurate and reliable as of the date of preparation of this document. However, no warranty or guarantee, express or implied, is made as to the accuracy or reliability, and Scotts shall not be liable for any loss or damage arising out of the use thereof. No authorization is given or implied to use any patented invention without a license. In addition, Scotts shall not be liable for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices or from any hazards inherent in the nature of the product***

End of Safety Data Sheet