



# Material Safety Data Sheet

According to EC Directive 1907/2006

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

### Identification of the substance or preparation

MSDS Ref. No.: 8862.02.01  
Product name: Osmocote Exact Hi End 5-6M

### Use of the Substance/Preparation

Recommended use: Granulated fertilizer.

### Company/Undertaking Identification

- Scotts International BV  
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## 2. HAZARDS IDENTIFICATION

### Classification

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

### Most important hazards

None

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Chemical nature of the preparation

Components	CAS-No	Weight %	EC-No.	Classification
Boric acid, H <sub>3</sub> BO <sub>3</sub>	10043-35-3	< 1%	233-139-2	NE
Sodium molybdate, Na <sub>2</sub> MoO <sub>4</sub> +2H <sub>2</sub> O	7631-95-0	< 1%	231-298-2	NE
Zinc sulphate mono hydrate, ZnSO <sub>4</sub> +1H <sub>2</sub> O	7446-19-7	< 1%	231-793-3	N;R50/53 Xi;R36/38

Components	CAS-No	Weight %	EC-No.	Classification
Copper sulphate, CuSO <sub>4</sub>	7758-98-7	< 1%	231-847-6	N;R50/53 Xi;R36/38 Xn;R22
Ammonium nitrate, NH <sub>4</sub> NO <sub>3</sub>	6484-52-2	> 25%	229-347-8	O;R08
Magnesium oxide, MgO	1309-48-4	1 - 5%	215-171-9	NE
Iron sulphate, FeSO <sub>4</sub> +1H <sub>2</sub> O	7720-78-7	< 1%	231-753-5	Xn;R22
Potassium nitrate, KNO <sub>3</sub>	7757-79-1	10 - 25%	231-818-8	O;R08
Manganese sulphate, MnSO <sub>4</sub>	7785-87-7	< 1%	232-08-99	N;R51/53 Xn;R48/20/22

NE = Non-Established

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

#### 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.

#### 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media:**

Water.

**Unsuitable extinguishing media:**

Dry powder, Sand, Foam, CO<sub>2</sub>

**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. In case of fire, the product will smoulder even without the presence of external oxygen. In these conditions the product will show self sustaining decomposition. The best method to extinguish the fire is to cool the decomposition front with water.

**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.

**Specific methods:**

In case of fire separate from centre of fire.

## 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.

**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**

*Boric acid, H3BO3*

Belgium - 8 Hr VLE  
Germany TRGS900:

2 mg/m<sup>3</sup> TWA  
0.5 mg/m<sup>3</sup> TWA

Portugal - TWAs	2 mg/m <sup>3</sup> TWA
<i>Sodium molybdate, Na<sub>2</sub>MoO<sub>4</sub>+2H<sub>2</sub>O</i>	
Belgium - 8 Hr VLE	5 mg/m <sup>3</sup> TWA
Czech Republic OEL	= 5 mg/m <sup>3</sup> TWA
Finland - Occupational Exposure Limits - 8 hour	6 mg/m <sup>3</sup>
France - Valeurs Limites d'exposition (VLE)	5 mg/m <sup>3</sup>
France INRS (VME)	5 mg/m <sup>3</sup> VME
Netherlands - OEL - MACs:	5 mg/m <sup>3</sup> MAC
Norway - 8 h:	5 mg/m <sup>3</sup> TWA
Portugal - TWAs	0.5 mg/m <sup>3</sup> TWA
Spain - Valores Limite Ambientales - VLE	5 mg/m <sup>3</sup> VLA-ED
Sweden - OEL - 8 Hour	10 mg/m <sup>3</sup> LLV 5 mg/m <sup>3</sup> LLV
<i>Copper sulphate, CuSO<sub>4</sub></i>	
Finland - Occupational Exposure Limits - 8 hour	1 mg/m <sup>3</sup> TWA
Germany (DFG) - MAK	0.1 mg/m <sup>3</sup> MAK
Sweden - OEL - 8 Hour	0.2 mg/m <sup>3</sup> LLV 1 mg/m <sup>3</sup> LLV
<i>Ammonium nitrate, NH<sub>4</sub>NO<sub>3</sub></i>	
Czech Republic OEL	= 10.0 mg/m <sup>3</sup> TWA
<i>Magnesium oxide, MgO</i>	
Austria - MAKs	6 mg/m <sup>3</sup>
Belgium - 8 Hr VLE	10 mg/m <sup>3</sup>
Czech Republic OEL	= 5 mg/m <sup>3</sup> TWA
France - Valeurs Limites d'exposition (VLE)	10 mg/m <sup>3</sup>
France INRS (VME)	10 mg/m <sup>3</sup> VME
Germany (DFG) - MAK	6 mg/m <sup>3</sup>
Netherlands - OEL - MACs:	10 mg/m <sup>3</sup>
Norway - 8 h:	10 mg/m <sup>3</sup>
Portugal - TWAs	10 mg/m <sup>3</sup> TWA
Spain - Valores Limite Ambientales - VLE	10 mg/m <sup>3</sup> VLA-ED
UK EH40 WEL:	10 mg/m <sup>3</sup>
<i>Iron sulphate, FeSO<sub>4</sub>+1H<sub>2</sub>O</i>	
Belgium - 8 Hr VLE	1 mg/m <sup>3</sup>
Finland - Occupational Exposure Limits - 8 hour	1 mg/m <sup>3</sup>
Netherlands - OEL - MACs:	1 mg/m <sup>3</sup>
Norway - 8 h:	0.01 mg/m <sup>3</sup>
Portugal - TWAs	1 mg/m <sup>3</sup> TWA
Spain - Valores Limite Ambientales - VLE	1 mg/m <sup>3</sup> VLA-ED
UK EH40 WEL:	LTEL (8 hr TWA) 1 mg/m <sup>3</sup> STEL (15 min) 2mg/m <sup>3</sup>
<i>Manganese sulphate, MnSO<sub>4</sub></i>	
Belgium - 8 Hr VLE	0.2 mg/m <sup>3</sup>
Czech Republic OEL	= 1 mg/m <sup>3</sup> TWA
Finland - Occupational Exposure Limits - 8 hour	0.5 mg/m <sup>3</sup>
Germany TRGS900:	0.5 mg/m <sup>3</sup> TWA
Germany (DFG) - MAK	0.5 mg/m <sup>3</sup> MAK
Netherlands - OEL - MACs:	1 mg/m <sup>3</sup>
Norway - 8 h:	2.5 mg/m <sup>3</sup>
Portugal - TWAs	0.2 mg/m <sup>3</sup> TWA
Spain - Valores Limite Ambientales - VLE	0.2 mg/m <sup>3</sup> VLA-ED
Sweden - OEL - 8 Hour	0.1 mg/m <sup>3</sup> LLV 0.2 mg/m <sup>3</sup> LLV

UK EH40 WEL:

5 mg/m<sup>3</sup>

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### General Information

**Physical State:** Solid  
**Appearance:** Granular  
**Color:** Brown, Greenish  
**Odor:** No information available

### Important Health Safety and Environmental Information

**Bulk density:** 990 - 1036 kg/m<sup>3</sup>  
**Solubility:** Coating not soluble, release nutrients through coating  
**Explosive properties:** Doesn't present explosion hazard  
**Flammability (solid, gas):** Non-flammable

### Other information

**Oxidising properties:** Incompatible with oxidising agents.

## 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:** Oxidizing agent.  
**Hazardous decomposition products:** No decomposition if stored normally. Hazardous decomposition products: . Poisonous gasses/vapours .

## 11. TOXICOLOGICAL INFORMATION

### Component information

*Sodium molybdate, Na<sub>2</sub>MoO<sub>4</sub>+2H<sub>2</sub>O*

**LD50/oral/rat =** 4000 mg/kg

*Zinc sulphate mono hydrate, ZnSO<sub>4</sub>+1H<sub>2</sub>O*

**LD50/oral/rat =** 2949 mg/kg

*Copper sulphate, CuSO<sub>4</sub>*

**LD50/oral/rat =** 960 mg/kg

*Ammonium nitrate, NH<sub>4</sub>NO<sub>3</sub>*

**LD50/oral/rat =** 410 mg/kg

*Iron sulphate, FeSO4+1H2O***LD50/oral/rat =** 1389 mg/kg*Potassium nitrate, KNO3***LD50/oral/rat =** 3750mg/kg*Manganese sulphate, MnSO4***LD50/oral/rat =** 9 g/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***Sodium molybdate, Na2MoO4+2H2O***Ecotoxicity effects** LC50/96h/rainbow trout => 2800 g/l*Zinc sulphate mono hydrate, ZnSO4+1H2O***Ecotoxicity effects** EC50/48h/daphnia =1.7 mg/l*Copper sulphate, CuSO4***Ecotoxicity effects** EC50/48h/daphnia =0.8 mg/l*Ammonium nitrate, NH4NO3***Ecotoxicity effects**  
EC50/48h/daphnia =100 µg/l  
LC50/96h/rainbow trout =10 µg/l  
EC50/72h/algae = 74000 µg/l*Iron sulphate, 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

### 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:**

N.A.

**IMO / IMDG****UN-No:**

2071

**Proper shipping name:**

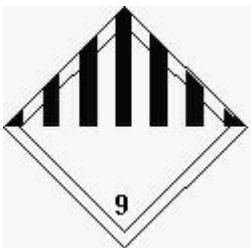
AMMONIUM NITRATE BASED FERTILIZER

**Hazard Class:**

9

**Packing group:**

III



### 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 1230, 1331

## 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.

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.

### **Reason for revision:**

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

### **Prepared by:**

Regulatory Affairs Department.

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**End of Safety Data Sheet**