



Material Safety Data Sheet

According to EC Directive 1907/2006

Print date: 10-Jan-2008

Revision Number: 1

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

Identification of the substance or preparation

MSDS Ref. No.: 8851.02.01
 Product name: Osmocote Exact Mini 16+8+11+2MgO
 Synonyms: 16+08+11+2MgO+TE / 16+3.5+9.1+1.2Mg+TE

Use of the Substance/Preparation

Recommended use: Granulated fertilizer.

Company/Undertaking Identification

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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
Sodium molybdate, Na ₂ MoO ₄ +2H ₂ O	7631-95-0	< 1%	231-298-2	NE
Copper sulphate, CuSO ₄	7758-98-7	< 1%	231-847-6	N;R50/53 Xi;R36/38 Xn;R22

Components	CAS-No	Weight %	EC-No.	Classification
Ammonium nitrate, NH ₄ NO ₃	6484-52-2	> 25%	229-347-8	O;R08
Calcium sulphate dihydrate, CaSO ₄ +2H ₂ O	10101-41-4	1 - 5%	231-900-3	NE
Magnesium oxide, MgO	1309-48-4	< 1%	215-171-9	NE
Iron sulphate, FeSO ₄ +1H ₂ O	7720-78-7	< 1%	231-753-5	Xn;R22
Potassium nitrate, KNO ₃	7757-79-1	10 - 25%	231-818-8	O;R08
Manganese sulphate, MnSO ₄	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, CO₂

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

Product smoulders! In case of fire, cool with water or waterspray. Danger of toxic gases in smoke in case of fire.

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 .?1 °C and .?2 °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*Sodium molybdate, Na₂MoO₄+2H₂O*

Belgium - 8 Hr VLE

5 mg/m³ TWA

Czech Republic OEL

= 5 mg/m³ TWA

Finland - Occupational Exposure Limits - 8 hour

6 mg/m³

France - Valeurs Limites d'exposition (VLE)

5 mg/m³

France INRS (VME)

5 mg/m³ VME

Netherlands - OEL - MACs:

5 mg/m³ MAC

Norway - 8 h:

5 mg/m³ TWA

Portugal - TWAs

0.5 mg/m³ 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

Copper sulphate, CuSO4

Finland - Occupational Exposure Limits - 8 hour	1 mg/m ³ TWA
Germany (DFG) - MAK	0.1 mg/m ³ MAK
Sweden - OEL - 8 Hour	0.2 mg/m ³ LLV 1 mg/m ³ LLV

Ammonium nitrate, NH4NO3

Czech Republic OEL	= 10.0 mg/m ³ TWA
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Calcium sulphate dihydrate, CaSO4+2H2O

Belgium - 8 Hr VLE	10 mg/m ³ TWA
France INRS (VME)	10 mg/m ³ VME
Germany TRGS900:	6 mg/m ³ TWA
Germany (DFG) - MAK	1.5 mg/m ³ MAK 4 mg/m ³ MAK
Netherlands - OEL - MACs:	0.5 mg/m ³ MAC
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 TWA 4 mg/m ³ TWA

Magnesium oxide, MgO

Austria - MAKs	6 mg/m ³
Belgium - 8 Hr VLE	10 mg/m ³
Czech Republic OEL	= 5 mg/m ³ TWA
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

Iron sulphate, FeSO4+1H2O

Belgium - 8 Hr VLE	1 mg/m ³
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

Manganese sulphate, MnSO4

Belgium - 8 Hr VLE	0.2 mg/m ³
Czech Republic OEL	= 1 mg/m ³ TWA
Finland - Occupational Exposure Limits - 8 hour	0.5 mg/m ³
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/m³ LLV

UK EH40 WEL:

0.2 mg/m³ LLV5 mg/m³

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

Bulk density: 1000 - 1100 kg/m³
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, Na₂MoO₄+2H₂O

LD50/oral/rat = 4000 mg/kg

Copper sulphate, CuSO₄

LD50/oral/rat = 960 mg/kg

Ammonium nitrate, NH₄NO₃

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

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

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.

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.

16. OTHER INFORMATION

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.

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End of Safety Data Sheet