



Material Safety Data Sheet

According to EC Directive 1907/2006

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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.: 4163.02.01
 Product name: Osmocote Topdress 24+5+6+2MgO

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

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature of the preparation

Components	CAS-No	Weight %	EC-No.	Classification
Copper Oxide	1317-38-0	< 1%	215-269-1	Xn;R20/22
Iron Oxide	1309-37-1	< 1%	215-168-2	NE
Manganese Oxide	1344-43-0	< 1%	215-202-6	NE

Components	CAS-No	Weight %	EC-No.	Classification
Boric acid, H ₃ BO ₃	10043-35-3	< 1%	233-139-2	NE
Sulphur, S	7704-34-9	1 - 5%	NE	F;R11 Xi;R36/37/38
Copper sulphate, CuSO ₄	7758-98-7	< 1%	231-847-6	N;R50/53 Xi;R36/38 Xn;R22
Iron sulphate, FeSO ₄ ·1H ₂ O	7720-78-7	< 1%	231-753-5	Xn;R22
Magnesium oxide, 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
Sodium molybdate, Na ₂ MoO ₄ ·2H ₂ O	7631-95-0	< 1%	231-298-2	NE
Calcium sulphate dihydrate, CaSO ₄ ·2H ₂ O	10101-41-4	< 1%	231-900-3	NE
Ammonium nitrate, NH ₄ NO ₃	6484-52-2	10 - 25%	229-347-8	O;R08

NE = Non-Established

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

4. FIRST AID MEASURES

General advice:	If you feel unwell, seek medical advice (show the label where possible).
Ingestion:	Do not induce vomiting without medical advice. If a person vomits when lying on his back, place him in the recovery position. Never give anything by mouth to an unconscious person. In case of respiratory difficulties practice oxygenotherapy. Possible symptoms are nausea and/or vomiting.
Inhalation:	In case of shortness of breath, give oxygen. Possible symptoms are coughing and/or dyspnoea. Move 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.
Eye contact:	Rinse thoroughly with plenty of water, also under the eyelids. If eye irritation persists, consult a specialist.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media:

Coordinate fire extinguishing measures to fire in surrounding area.

Unsuitable extinguishing media:

No information available

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

Thermal decomposition can lead to release of irritating gases and vapours.

Special protective equipment for firefighters:

Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Ensure adequate ventilation. Avoid dust formation. Use personal protective equipment.

Environmental precautions:

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

Methods for cleaning up:

Shovel or sweep up. Do not create a powder cloud by using a brush or compressed air.

7. HANDLING AND STORAGE

Handling:**Technical measures/precautions:**

No special technical protective measures required.

Safe handling advice:

Keep away from open flames, hot surfaces and sources of ignition.

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:

Not applicable

Specific use(s):

Granulated fertilizer.

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:

Usual safety precautions while handling the product will provide adequate protection against this potential effect.

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**Environmental exposure controls**

Do not flush into surface water or sanitary sewer system.

Copper Oxide

Finland - Occupational Exposure Limits - 8 hour

1 mg/m³ TWA

UK EH40 WEL:	0.2 ppm TWA 1 mg/m ³ TWA
<i>Iron Oxide</i>	
Belgium - 8 Hr VLE	2 ppm TWA 5 mg/m ³ TWA
Finland - Occupational Exposure Limits - 8 hour	5 mg/m ³ TWA
France INRS (VME)	5 mg/m ³ VME
Germany (DFG) - MAK	1.5 mg/m ³ MAK
Netherlands - OEL - MACs:	10 mg/m ³ MAC 5 mg/m ³ MAC
Norway - 8 h:	3 mg/m ³ TWA
Portugal - TWAs	5 mg/m ³ TWA
Spain - Valores Limite Ambientales - VLE	5 mg/m ³ VLA-ED
Sweden - OEL - 8 Hour	3.5 mg/m ³ LLV
UK EH40 WEL:	1 mg/m ³ TWA 5 mg/m ³ TWA
<i>Manganese Oxide</i>	
Finland - Occupational Exposure Limits - 8 hour	0.5 mg/m ³ TWA
Germany (DFG) - MAK	0.5 mg/m ³ MAK
<i>Boric acid, H3BO3</i>	
Belgium - 8 Hr VLE	2 mg/m ³ TWA
Germany TRGS900:	0.5 mg/m ³ TWA
Portugal - TWAs	2 mg/m ³ TWA
<i>Sulphur, S</i>	
France INRS (VME)	VME (poussières) = 10 mg/m ³
<i>Copper sulphate, CuSO4</i>	
Finland - Occupational Exposure Limits - 8 hour	1 mg/m ³ TWA
<i>Iron sulphate, FeSO4+1H2O</i>	
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
UK EH40 WEL:	LTEL (8 hr TWA) 1 mg/m ³ STEL (15 min) 2mg/m ³
<i>Magnesium oxide, MgO</i>	
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
<i>Manganese sulphate, MnSO4</i>	
Belgium - 8 Hr VLE	0.2 mg/m ³
Finland - Occupational Exposure Limits - 8 hour	0.5 mg/m ³
Netherlands - OEL - MACs:	1 mg/m ³

Norway - 8 h:	2.5 mg/m ³
UK EH40 WEL:	5 mg/m ³

Sodium molybdate, Na₂MoO₄+2H₂O

Finland - Occupational Exposure Limits - 8 hour	6 mg/m ³
France - Valeurs Limites d'exposition (VLE)	5 mg/m ³

Calcium sulphate dihydrate, CaSO₄+2H₂O

France INRS (VME)	10 mg/m ³ VME
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
UK EH40 WEL:	10 mg/m ³ TWA
	4 mg/m ³ TWA

Ammonium nitrate, NH₄NO₃

Czech Republic OEL	= 10.0 mg/m ³ TWA
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9. PHYSICAL AND CHEMICAL PROPERTIES

General Information

Physical State:	Solid
Appearance:	Granules
Color:	Dark grey, Brownish
Odor:	No information available

Important Health Safety and Environmental Information

Decomposition temperature:	> 150°C
Bulk density:	800 - 1100 kg/m ³
Solubility:	Moderately soluble
Flammability (solid, gas):	Non-flammable

Other information

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.
Hazardous decomposition products:	No decomposition if stored normally. Thermal decomposition can lead to release of irritating gases and vapours.

11. TOXICOLOGICAL INFORMATION

Component information

Sulphur, S

LD50/oral/rat = > 2000 mg/kg
 LD50/dermal/rat = > 2000 mg/kg
 LC50/inhalation/4h/rat = > 5,4 mg/l

Copper sulphate, CuSO4

LD50/oral/rat = 960 mg/kg

Iron sulphate, FeSO4+1H2O

LD50/oral/rat = 1389 mg/kg

Manganese sulphate, MnSO4

LD50/oral/rat = 9 g/kg

Sodium molybdate, Na2MoO4+2H2O

LD50/oral/rat = 4000 mg/kg

Ammonium nitrate, NH4NO3

LD50/oral/rat = 410 mg/kg

Other information on acute toxicity: No information available

Product information**Local effects**

Skin effects: May cause skin irritation in susceptible persons.

Eye effects: Contact with eyes may cause irritation.

Inhalation: May cause sensitization by inhalation.

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

12. ECOLOGICAL INFORMATION**Product information**

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

Component information*Copper sulphate, CuSO4*

Ecotoxicity effects EC50/48h/daphnia =0.8 mg/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

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

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

No ecological information is known on the product nor on any of its ingredients

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: 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

R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

ICPE (FR): Classified installation : article 1331

16. OTHER INFORMATION

Text of R Phrases mentioned in Section 3

R11 - Highly flammable.

R22 - Harmful if swallowed.

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

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

R36/38 - Irritating to eyes and skin.

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