



Material Safety Data Sheet

According to EC Regulation 1907/2006

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Revision Number: 3***

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

Identification of the substance or preparation

MSDS Ref. No.: 4192.01.01
Product name: Sierrablen Plus 19+5+18+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

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature of the preparation

Components	CAS-No	Weight %	EC-No.	Classification
Copper(I) oxide	1317-39-1	< 1%	029-002-00-X	Xn;R22
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
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
Biuret	108-19-0	1 - 5%	203-559-0	Xi;R36/37/38
Magnesium oxide, MgO	1309-48-4	1 - 5%	215-171-9	NE
Calcium sulphate dihydrate, CaSO ₄ +2H ₂ O	10101-41-4	1 - 5%	231-900-3	NE
Manganese sulphate, MnSO ₄	7785-87-7	< 1%	232-08-99	N;R51/53 Xn;R48/20/22
Sulphur, S	7704-34-9	5 - 10%	NE	Xi;R36/37/38

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:

Not applicable

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

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Personal precautions:

Ensure adequate ventilation. Avoid dust formation. Use personal protective equipment. Wear 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. Prevent product from entering drains.

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*Copper(I) oxide*

Finland - Occupational Exposure Limits - 8 hour
Germany (DFG) - MAK

1 mg/m³ TWA
0.1 mg/m³ MAK

Sweden - OEL - 8 Hour	0.2 mg/m ³ LLV
	1 mg/m ³ LLV
UK EH40 WEL:	0.2 ppm TWA
	1 mg/m ³ TWA

Iron Oxide

Belgium - 8 Hr VLE	5 mg/m ³ TWA
Czech Republic OEL	= 10.0 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
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

Manganese Oxide

Belgium - 8 Hr VLE	0.2 mg/m ³ TWA
Czech Republic OEL	= 1 mg/m ³ TWA
Finland - Occupational Exposure Limits - 8 hour	0.5 mg/m ³ TWA
Germany TRGS900:	0.5 mg/m ³ TWA
Germany (DFG) - MAK	0.5 mg/m ³ MAK
Norway - 8 h:	0.1 mg/m ³ TWA
	1 mg/m ³ TWA
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

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

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

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

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
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

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/m ³ LLV
	0.2 mg/m ³ LLV
UK EH40 WEL:	5 mg/m ³

Sulphur, S

France INRS (VME)	VME (poussières) = 10 mg/m ³
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9. PHYSICAL AND CHEMICAL PROPERTIES

General Information

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

Important Health Safety and Environmental Information

Decomposition temperature:	> 150°C
Solubility:	Coating not soluble, release nutrients through coating
Flammability (solid, gas):	Non-flammable

Other information

Bulk density:	800 - 1100 kg/m ³
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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

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

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

Biuret
LD50/oral/rat = > 5 g/kg

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

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

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

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:**

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.

16. OTHER INFORMATION

16. OTHER INFORMATION**Text of R Phrases mentioned in Section 3**

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.

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End of Safety Data Sheet