



# Material Safety Data Sheet

According to EC Directive 2001/58/EC

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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. COMPOSITION/INFORMATION ON INGREDIENTS

### Chemical nature of the preparation

Components	CAS-No	Weight %	EC-No.	Classification
Biuret	108-19-0	1 - 5%	203-559-0	Xi;R36/37/38
Calcium sulphate dihydrate, CaSO <sub>4</sub> +2H <sub>2</sub> O	10101-41-4	1 - 5%	231-900-3	NE
Copper sulphate, CuSO <sub>4</sub>	7758-98-7	< 1%	231-847-6	N;R50/53 Xi;R36/38 Xn;R22
Copper(+1) oxide	1317-39-1	< 1%	029-002-00-X	Xn;R22
Ironsulphate, FeSO <sub>4</sub> +1H <sub>2</sub> O	7720-78-7	< 1%	231-753-5	Xn;R22
Magnesiumoxide, MgO	1309-48-4	1 - 5%	215-171-9	NE
Manganese sulphate, MnSO <sub>4</sub>	7785-87-7	< 1%	232-08-99	N;R51/53 Xn;R48/20/22
Sulphur, S	7704-34-9	5 - 10%	231-722-6	F; R11 Xi;R36/37/38

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

### 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:** 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.
- Protection of first-aiders:** Low hazard for usual industrial or commercial handling.

### 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

**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***Calcium sulphate dihydrate, CaSO<sub>4</sub>+2H<sub>2</sub>O*

Austria - MAKs

6 mg/m<sup>3</sup> MAK

Belgium - 8 Hr VLE

10 mg/m<sup>3</sup> TWA

France INRS (VME)

10 mg/m<sup>3</sup> VME

Germany TRGS900:

6 mg/m<sup>3</sup> TWA

Germany (DFG) - MAK

1.5 mg/m<sup>3</sup> MAK4 mg/m<sup>3</sup> MAK

Netherlands - OEL - MACs:

0.5 mg/m<sup>3</sup> MAC

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> TWA4 mg/m<sup>3</sup> TWA*Copper sulphate, CuSO<sub>4</sub>*

Austria - MAKs

0.1 mg/m<sup>3</sup> MAK

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>Copper(+1) oxide</i>	
Austria - MAKs	0.1 mg/m <sup>3</sup> MAK
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
UK EH40 WEL:	0.2 ppm TWA 1 mg/m <sup>3</sup> TWA
<i>Ironsulphate, FeSO4+1H2O</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>Magnesiumoxide, MgO</i>	
Austria - MAKs	6 mg/m <sup>3</sup>
Belgium - 8 Hr VLE	10 mg/m <sup>3</sup>
Czech Republic OEL	Listed
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>Manganese sulphate, MnSO4</i>	
Austria - MAKs	0.5 mg/m <sup>3</sup> MAK
Belgium - 8 Hr VLE	0.2 mg/m <sup>3</sup>
Czech Republic OEL	Listed
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, Pink, Greenish  
**Odor:** No information available

### Important Health Safety and Environmental Information

**Flammability (solid, gas):** Non-flammable  
**Solubility:** Coating not soluble, release nutrients through coating

### Other information

**Bulk density:** 800 - 1100 kg/m<sup>3</sup>  
**Decomposition temperature:** > 150°C

## 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

#### *Biuret*

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

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

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

#### *Ironsulphate, FeSO<sub>4</sub>+1H<sub>2</sub>O*

**LD50/oral/rat =** 1389 mg/kg

#### *Manganese sulphate, MnSO<sub>4</sub>*

**LD50/oral/rat =** 9 g/kg

#### *Sulphur, S*

**LD50/oral/rat =** > 2200 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, CuSO<sub>4</sub>*

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

*Ironsulphate, FeSO<sub>4</sub>+1H<sub>2</sub>O*

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

*Manganese sulphate, MnSO<sub>4</sub>*

**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

**Text of R Phrases mentioned in Section 2**

R 8 - Contact with combustible material may cause fire.

R11 - Highly flammable.

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**