

MATERIAL SAFETY DATA SHEET

According to EC Regulation 1907/2006 (Reach), Regulation EU No. 453/2010

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1. Identification of the Substance/Preparation and of the Company/Undertaking

Identification of the substance or preparation

MSDS Ref. No.: 4258.01.20
Product Name: Sierraform GT NK

Relevant identified uses of the substance or mixture and uses advised against

Recommended Use

Fertilizer. Restricted to professional users.

Uses advised against

Consumer use.

Company/undertaking identification

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2. Hazards Identification

Classification

Indication of danger:

This product does not have to be classified according to the EU regulations (1999/45/EC)

3. Composition/information on Ingredients

Chemical nature of the preparation

Ingredients	CAS-No	Weight %	EC-No.	Classification	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH registration number
Magnesium sulphate monohydrate (MgSO ₄ +1H ₂ O)	14567-64-7	5 - 10%	213-298-2	NE	no data available	Exempt

Iron sulphate, FeSO ₄ +1H ₂ O	7720-78-7	1 - 5%	231-753-5	Xn; R22 Xi; R36/38	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Acute Tox. 4 (H302)	01-2119513203-57
Manganese sulphate, MnSO ₄ +1H ₂ O	7785-87-7	0.1 - 1%	232-08-99	N;R51/53 Xn;R48/20/22	STOT RE 2 (H373) Aquatic Chronic 2 (H411)	01-2119456624-35
Copper sulphate anh; CuSO ₄	7758-98-7	< 0.1%	231-847-6	N;R50/53 Xi;R36/38 Xn;R22	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Acute Tox. 4 (H302) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	01-2119520566-40

NE = Non-Established.

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

Full text of H- and EUH-phrases: see section 16

4. First aid measures

4.1. Description of 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.

Notes to physician: Artificial respiration and/or oxygen may be necessary.

4.2. Most important symptoms and effects, both acute and delayed

None under normal processing

4.3. Indication of any immediate medical attention and special treatment needed

None under normal processing

5. Fire-fighting measures

Suitable extinguishing media:

Coordinate fire extinguishing measures to fire in surrounding area. Use dry chemical, CO₂, water spray or "alcohol" foam.***

Unsuitable extinguishing media:

High volume water jet.

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. Evacuate area and fight fire from a safe distance.

6. Accidental release measures

Personal Precautions:

Avoid dust formation. Ensure adequate ventilation.

Environmental Precautions:

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

Methods for cleaning up:

Shovel or sweep up. Use up product completely. Packaging material is industrial waste.

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):

Fertilizer.

8. Exposure Controls/Personal Protection

Engineering measures to reduce exposure:

Ensure adequate ventilation.

Occupational exposure controls**Personal Protective Equipment****Respiratory Protection:**

No personal respiratory protective equipment normally required.

Hand protection:

PVC or other plastic material gloves.

Eye/face Protection

Tightly fitting safety goggles.

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

Iron sulphate, FeSO₄·1H₂O

Belgium - 8 Hr TWA

1 mg/m³

Finland - Occupational Exposure Limits - 8 hour

1 mg/m³

Netherlands - OEL - MACs:

1 mg/m³

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
<u>Manganese sulphate, MnSO4+1H2O</u>	
Belgium - 8 Hr TWA	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
Sweden - OEL - 8 Hour	0.2 mg/m ³ LLV (totalt)
UK EH40 WEL:	5 mg/m ³
<u>Copper sulphate anh; CuSO4</u>	
Australia TWA	N.A.
Finland - Occupational Exposure Limits - 8 hour	1 mg/m ³ TWA Cu
Netherlands - OEL - MACs:	0.1 mg/kg TWA

9. PHYSICAL AND CHEMICAL PROPERTIES

General information

Physical state	Solid
Appearance:	granulate
Color:	grey, brown
Odor:	Not significant

Important Health Safety and Environmental Information

Melting point/range:	No information available
Solubility:	Moderately soluble
Vapour pressure	No information available
Vapour density	No information available
Explosive properties:	Doesn't present explosion hazard
Flammability (solid, gas):	Non-flammable

OTHER INFORMATION

pH:	No information available
Bulk density:	900 - 1000 kg/m ³
Viscosity	not applicable

10. Stability and Reactivity

Chemical stability	Stable under recommended storage conditions
Conditions to Avoid	Keep away from open flames, hot surfaces and sources of ignition.
Incompatible Materials	Strong oxidizing agents. Acids and bases. Strong reducing agents. Flammable materials.
Hazardous Decomposition Products	No decomposition if stored normally. Thermal decomposition can lead to release of irritating gases and vapours. Burning produces obnoxious and toxic fumes.***
Hazardous reactions	The product itself does not burn.

11. Toxicological Information

Component Information

<i>Iron sulphate, FeSO4+1H2O</i>	
LD50/oral/rat =	1389 mg/kg
<i>Manganese sulphate, MnSO4+1H2O</i>	

LD50/oral/rat = 9 g/kg
Copper sulphate anh; CuSO4
LD50/oral/rat = 960 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****Aquatic toxicity:** No information available.**Persistence and degradability** No persistent or cumulative effects were observed**Bioaccumulative potential** Does not bioaccumulate**Mobility in soil** No information available**Component Information***Iron sulphate, FeSO4+1H2O*

Ecotoxicity effects EC50/48h/daphnia =>100mg/l1

Manganese sulphate, MnSO4+1H2O

Ecotoxicity effects EC50/48h/daphnia => 100 mg/l

13. Disposal Considerations**Waste Disposal Methods:** Dispose of in accordance with local regulations.*****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 (1999/45/EC)

In accordance with local and national regulations**ICPE (FR):**

Not Applicable

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

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

R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Full text of H-Statements referred to under sections 2 and 3

H302 - Harmful if swallowed

H411 - Toxic to aquatic life with long lasting effects

H373 - May cause damage to organs through prolonged or repeated exposure

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

H315 - Causes skin irritation

H319 - Causes serious eye irritation

Reason for revision:

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

Revision Date:

26-Jun-2013

Prepared by:

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End of Safety Data Sheet