

Safety Data Sheet

This safety data sheet was created pursuant to the requirements of:
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

Last Revision Date 20-Jun-2023

Version: 1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Name	Osmocote Topdress 22-5-6+2MgO+TE
Product Code	4157-225HC
Unique Formula Identifier (UFI)	Q8HC-M0EU-400X-40CE
REACH registration number	Not applicable
Pure substance/mixture	Mixture

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

Recommended Use	Fertilizer (PC12). Restricted to professional users.
Uses Advised Against	Consumer use (SU21)

Reason why uses advised against Use advised against in Chemical Safety Assessment per REACH Annex I point 7 2.3

1.3. Details of the supplier of the safety data sheet

Everris International B.V.Nijverheidsweg 1-5; 6422 PD Heerlen (NL); Tel: +31 (0)45-5609100; Fax: +31 (0)45-5609190

For further information, please contact: INFO-MSDS@EVERRIS.COM

Non-Emergency Telephone Number +31 (0) 418655700

1.4. Emergency telephone number

IN CASE OF AN EMERGENCY CALL: +44 1235 239 670 (24/7)

Europe	112
Austria	+43 1 406 43 43
Belgium	070 245 245
Denmark	+45 8212 1212
Finland	0800 147 111
France	+ 33 (0)1 45 42 59
Ireland	01 809 2566
Netherlands	088 755 8000 (24/7)
Norway	+45 735 80500
Poland	+48 42 2538 400
Portugal	+351 800 250 250
Spain	+34 91 562 04 20
Sweden	112
Switzerland	Tox Info SW 145 (24h)
United Kingdom	111

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Serious eye damage/eye irritation	Category 2 - (H319)
Chronic aquatic toxicity	Category 3 - (H412)

2.2. Label elements



Signal word
Warning

Hazard statements

H319 - Causes serious eye irritation
H412 - Harmful to aquatic life with long lasting effects

Precautionary Statements - EU (§28, 1272/2008)

P264 - Wash face, hands and any exposed skin thoroughly after handling
P280 - Wear eye protection/ face protection
P337 + P313 - If eye irritation persists: Get medical advice/attention

2.3. Other hazards

Causes mild skin irritation. Harmful to aquatic life.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	EC No (EU Index No)	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	REACH registration number	M-Factor	M-Factor (long-term)
Ammonium nitrate; NH_4NO_3 (6484-52-2)	229-347-8	10 - 25%	Eye irrit. 2 (H319)	Eye Irrit. 2 :: 10%≤C<100%	01-2119490981-27	-	-
Potassium nitrate; KNO_3 (7757-79-1)	231-818-8	5 - 10%	-	-	01-2119488224-35	-	-
Sulphur; S (7704-34-9)	231-722-6	1 - 5%	Skin Irrit. 2 (H315)	-	01-2119487295-27	-	-
Iron sulphate; $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$ (7782-63-0)	616-510-7	0.1 - 1%	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)	Skin Irrit. 2 :: C≥25%	01-2119513203-57	-	-
Manganese sulfate monohydrate; $\text{MnSO}_4 \cdot \text{H}_2\text{O}$ (10034-96-5)	600-072-9	0.1 - 1%	STOT RE 2 (H373) Aquatic Chronic 2 (H411) Eye dam. 1 (H318)	-	01-2119456624-35	-	1
Zinc oxide; ZnO (1314-13-2)	215-222-5	0.1 - 1%	Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	-	01-2119463881-32	-	-
Zinc sulphate hepta hydrate; $\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$	616-097-3	0.1 - 1%	Acute Tox. 4 (H302)	-	Not available	-	1

(7446-20-0)			Eye Dam. 1 (H318) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)				
Di copper oxide; Cu ₂ O (1317-39-1)	215-270-7	0.1 - 1%	Acute Tox. 4 (H302) Acute Tox. 4 (H332) Eye Dam. 1 (H318) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	-	01-2119513794-36	100	10

*The exact percentage (concentration) of composition has been withheld as a trade secret

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

Acute Toxicity Estimate

If LD50/LC50 data is not available or does not correspond to the classification category, then the appropriate conversion value from CLP Annex I, Table 3.1.2, is used to calculate the acute toxicity estimate (ATE_{mix}) for classifying a mixture based on its components

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L
Ammonium nitrate; NH ₄ NO ₃	2217	5000	88.8
Potassium nitrate; KNO ₃	3015	5000	0.527
Sulphur; S	3000	2000	No data available
Zinc oxide; ZnO	5000	2000	5.7
Zinc sulphate hepta hydrate; ZnSO ₄ ·7H ₂ O	1260	No data available	No data available
Di copper oxide; Cu ₂ O	500 + 470	2000	3.34 +

+ This value is the harmonised acute toxicity estimate (ATE) listed in CLP Annex VI, Part 3. This harmonised ATE value must be used when calculating the acute toxicity estimate (ATE_{mix}) for classifying a mixture containing the listed substance

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). First aid measures should be executed by trained personnel only.

Inhalation

Remove to fresh air. In the case of inhalation of aerosol/mist consult a physician if necessary. If not breathing, give artificial respiration. If symptoms persist, call a physician. Dusty conditions are unlikely if product is used as intended. However, if prolonged inhalation of dust occurs, remove casualty to fresh air.

Eye contact

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact

Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.

Ingestion

Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice.

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

Symptoms None known.

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

Note to physicians Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Hazardous Combustion Products Thermal decomposition can lead to release of toxic/corrosive gases and vapors.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation. Wear protective gloves/clothing and eye/face protection.

Other information Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8. Prevent entry into waterways, sewers, basements or confined areas.

6.2. Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information. Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal. Use up product completely. Packaging material is industrial waste.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling	Ensure adequate ventilation. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with eyes. Avoid generation of dust. In case of insufficient ventilation, wear suitable respiratory equipment.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. When using do not eat, drink or smoke.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions	KEEP OUT OF REACH OF CHILDREN AND PETS. Keep container tightly closed in a dry and well-ventilated place. For quality reasons: Keep out of reach of direct sunlight, store under dry conditions, partly used packaging should be closed well. Keep away from frost.
Packaging materials	Keep in original container, tightly closed in a safe place.

7.3. Specific end use(s)

Specific use(s)	Fertilizer.
Exposure scenario	Mixture. Not required.
Risk Management Methods (RMM)	The information required is contained in this Safety Data Sheet.
Other Information	
LGK (Germany) TRGS 510	5.1C

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Chemical name	European Union	Austria	Belgium	Bulgaria	Croatia
Potassium nitrate; KNO ₃	-	-	-	TWA: 5.0 mg/m ³	-
Iron sulphate; FeSO ₄ ·7H ₂ O	-	-	TWA: 1 mg/m ³	TWA: 1.0 mg/m ³	TWA: 1 mg/m ³ STEL: 2 mg/m ³
Manganese sulfate monohydrate; MnSO ₄ ·1H ₂ O	-	TWA: 0.2 mg/m ³ STEL 1.6 mg/m ³	TWA: 0.05 mg/m ³	TWA: 0.05 mg/m ³	TWA: 0.2 mg/m ³ TWA: 0.05 mg/m ³
Zinc oxide; ZnO	-	TWA: 5 mg/m ³	TWA: 2 mg/m ³ STEL: 10 mg/m ³	STEL: 10.0 mg/m ³ TWA: 5.0 mg/m ³	TWA: 2 mg/m ³ STEL: 10 mg/m ³
Di copper oxide; Cu ₂ O	-	TWA: 1 mg/m ³ TWA: 0.1 mg/m ³ STEL 4 mg/m ³ STEL 0.4 mg/m ³	-	TWA: 1.0 mg/m ³	-
Chemical name	Cyprus	Czech Republic	Denmark	Estonia	Finland
Ammonium nitrate; NH ₄ NO ₃	-	TWA: 10.0 mg/m ³	-	-	-
Iron sulphate; FeSO ₄ ·7H ₂ O	-	-	TWA: 1 mg/m ³ STEL: 2 mg/m ³	-	TWA: 1 mg/m ³
Manganese sulfate monohydrate; MnSO ₄ ·1H ₂ O	TWA: 0.2 mg/m ³ TWA: 0.05 mg/m ³	TWA: 1 mg/m ³ Ceiling: 2 mg/m ³	TWA: 0.2 mg/m ³ TWA: 0.05 mg/m ³ STEL: 0.4 mg/m ³ STEL: 0.1 mg/m ³	TWA: 0.2 mg/m ³ TWA: 0.05 mg/m ³	TWA: 0.02 mg/m ³ TWA: 0.2 mg/m ³
Zinc oxide; ZnO	-	TWA: 2 mg/m ³ Ceiling: 5 mg/m ³	TWA: 4 mg/m ³ STEL: 8 mg/m ³	TWA: 5 mg/m ³	TWA: 2 mg/m ³ STEL: 10 mg/m ³

Di copper oxide; Cu ₂ O	-	-	-	TWA: 1 mg/m ³ TWA: 0.2 mg/m ³	TWA: 0.02 mg/m ³
Chemical name	France	Germany TRGS	Germany DFG	Greece	Hungary
Iron sulphate; FeSO ₄ +7H ₂ O	-	-	-	TWA: 1 mg/m ³ STEL: 2 mg/m ³	-
Manganese sulfate monohydrate; MnSO ₄ +1H ₂ O	-	TWA: 0.2 mg/m ³ TWA: 0.02 mg/m ³	TWA: 0.2 mg/m ³ TWA: 0.02 mg/m ³ Peak: 1.6 mg/m ³ Peak: 0.16 mg/m ³	TWA: 0.2 mg/m ³ TWA: 0.05 mg/m ³	TWA: 0.2 mg/m ³ TWA: 0.05 mg/m ³
Zinc oxide; ZnO	TWA: 5 mg/m ³ TWA: 10 mg/m ³	-	TWA: 0.1 mg/m ³ TWA: 2 mg/m ³ Peak: 0.4 mg/m ³ Peak: 4 mg/m ³	TWA: 5 mg/m ³ STEL: 10 mg/m ³	TWA: 5 mg/m ³
Zinc sulphate hepta hydrate; ZnSO ₄ +7H ₂ O	-	-	TWA: 0.1 mg/m ³ TWA: 2 mg/m ³ Peak: 0.4 mg/m ³ Peak: 4 mg/m ³	-	-
Di copper oxide; Cu ₂ O	-	-	TWA: 0.01 mg/m ³ Peak: 0.02 mg/m ³	-	TWA: 0.1 mg/m ³ STEL: 0.2 mg/m ³
Chemical name	Italy MDLPS	Latvia	Lithuania	Luxembourg	Netherlands
Potassium nitrate; KNO ₃	-	TWA: 5 mg/m ³	TWA: 5 mg/m ³	-	-
Sulphur; S	-	TWA: 6 mg/m ³	TWA: 6 mg/m ³	-	-
Manganese sulfate monohydrate; MnSO ₄ +1H ₂ O	TWA: 0.05 mg/m ³	TWA: 0.2 mg/m ³ TWA: 0.05 mg/m ³	TWA: 0.2 mg/m ³ TWA: 0.05 mg/m ³	TWA: 0.2 mg/m ³ TWA: 0.05 mg/m ³	TWA: 0.2 mg/m ³ TWA: 0.05 mg/m ³
Zinc oxide; ZnO	-	TWA: 0.5 mg/m ³	TWA: 5 mg/m ³	-	-
Di copper oxide; Cu ₂ O	-	TWA: 0.5 mg/m ³	TWA: 1 mg/m ³ TWA: 0.2 mg/m ³	-	TWA: 0.1 mg/m ³
Chemical name	Norway	Poland	Portugal	Romania	Slovakia
Sulphur; S	-	-	-	STEL: 15 mg/m ³	-
Iron sulphate; FeSO ₄ +7H ₂ O	TWA: 1 mg/m ³ STEL: 3 mg/m ³	-	TWA: 1 mg/m ³	-	-
Manganese sulfate monohydrate; MnSO ₄ +1H ₂ O	TWA: 0.2 mg/m ³ TWA: 0.05 mg/m ³ STEL: 0.6 ppm STEL: 0.15 mg/m ³	TWA: 0.2 mg/m ³ TWA: 0.05 mg/m ³	TWA: 0.2 mg/m ³ TWA: 0.05 mg/m ³	TWA: 0.2 mg/m ³ TWA: 0.05 mg/m ³	TWA: 0.2 mg/m ³
Zinc oxide; ZnO	TWA: 5 mg/m ³ STEL: 10 mg/m ³	STEL: 10 mg/m ³ TWA: 5 mg/m ³	TWA: 2 mg/m ³ STEL: 10 mg/m ³	TWA: 5 mg/m ³ STEL: 10 mg/m ³	TWA: 1 mg/m ³ Ceiling: 1 mg/m ³
Zinc sulphate hepta hydrate; ZnSO ₄ +7H ₂ O	-	-	-	-	TWA: 0.1 mg/m ³ TWA: 2 mg/m ³
Di copper oxide; Cu ₂ O	-	TWA: 0.2 mg/m ³	-	-	TWA: 1 mg/m ³ TWA: 0.2 ppm
Chemical name	Slovenia	Spain	Sweden	Switzerland	United Kingdom
Iron sulphate; FeSO ₄ +7H ₂ O	-	TWA: 1 mg/m ³	-	TWA: 1 mg/m ³	TWA: 1 mg/m ³ STEL: 2 mg/m ³
Manganese sulfate monohydrate; MnSO ₄ +1H ₂ O	TWA: 0.05 mg/m ³ STEL: 0.4 mg/m ³	TWA: 0.2 mg/m ³ TWA: 0.05 mg/m ³	NGV: 0.2 mg/m ³ NGV: 0.05 mg/m ³	TWA: 0.2 mg/m ³ TWA: 0.1 mg/m ³	TWA: 0.2 mg/m ³ TWA: 0.05 mg/m ³ STEL: 0.6 mg/m ³ STEL: 0.15 mg/m ³
Zinc oxide; ZnO	-	TWA: 2 mg/m ³ STEL: 10 mg/m ³	NGV: 5 mg/m ³	TWA: 3 mg/m ³ STEL: 3 mg/m ³	-
Di copper oxide; Cu ₂ O	-	TWA: 0.01 mg/m ³	NGV: 0.01 mg/m ³	TWA: 0.1 mg/m ³ STEL: 0.2 mg/m ³	TWA: 1 mg/m ³ STEL: 2 mg/m ³

Biological occupational exposure limits

Chemical name	European Union	Austria	Bulgaria	Croatia	Czech Republic
Manganese sulfate monohydrate; MnSO ₄ +1H ₂ O	-	20 µg/L (blood - whole blood not provided)	-	-	-

		(-)			
Chemical name	Denmark	Finland	France	Germany DFG	Germany TRGS
Manganese sulfate monohydrate; MnSO ₄ ·H ₂ O	-	-	-	15 µg/L - BAR (end of exposure or end of shift) blood 15 µg/L - BAR (for long-term exposures: at the end of the shift after several shifts) blood	-

Derived No Effect Level (DNEL)

No information available.

Predicted No Effect Concentration (PNEC)

No information available.

8.2. Exposure controls

Personal protective equipment Wear normal, light working clothing

Eye/face protection Wear safety glasses with side shields (or goggles).

Hand protection Nitrile rubber (0.26 mm). Break through time. > 8 h.

Skin and body protection Lightweight protective clothing.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls Local authorities should be advised if significant spillages cannot be contained. Prevent product from entering drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state Solid
Appearance: Granules
Color: orange, Brown, white, grey
Odor: Fertilizer.

Property	Values	Remarks • Method
Melting Point/Freezing Point:	No data available	None known
Boiling Point/Range:	No data available	None known
Flammability (solid, gas):	No data available	None known
Flammability Limits in Air:		None known
Upper Flammability Limit:	Not applicable	
Lower Flammability Limit:	Not applicable	
Flash Point:	No data available	None known
Autoignition Temperature:	No data available	None known
Decomposition Temperature:		None known
pH	No data available	None known
pH (as aqueous solution)	No data available	None known
Kinematic Viscosity:	No data available	None known
Dynamic Viscosity:	No data available	None known
Water solubility	No data available	None known
Solubility(ies)	No data available	None known
Partition Coefficient:	No data available	None known
Vapor Pressure:	No data available	None known
Relative density	No data available	None known
Bulk density	940 kg/m ³	
Density:	No data available	

Vapour density	No data available	None known
Particle characteristics		
Particle Size	No data available	
Particle Size Distribution	No data available	

9.2. Other information

9.2.1. Information with regard to physical hazard classes
Not applicable

9.2.2. Other safety characteristics
No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Not reactive.

10.2. Chemical stability

Stability Stable under normal conditions.

Specific methods:

Sensitivity to mechanical impact Not sensitive.
Sensitivity to static discharge Not sensitive.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

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

10.5. Incompatible materials

Incompatible materials Keep away from catalysts like derivatives of hexavalent chromium and metal halides. Keep away from flammable products (fuels) like charcoal, wood, flour, soot etc.

10.6. Hazardous decomposition products

Hazardous Decomposition Products None under normal processing. None under normal use conditions. Thermal decomposition can lead to release of irritating and toxic gases and vapors.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available. Inhalation of dust in high concentration may cause irritation of respiratory system.
Eye contact	Specific test data for the substance or mixture is not available. May cause irritation.
Skin contact	Causes mild skin irritation.
Ingestion	May cause gastrointestinal discomfort if consumed in large amounts.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Numerical measures of toxicity

Based on available data, the classification criteria are not met

Acute toxicity

4 % of the mixture consists of ingredient(s) of unknown toxicity

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Ammonium nitrate; NH_4NO_3	= 2217 mg/kg (Rat)	> 5000 mg/kg (Rat)	> 88.8 mg/L (Rat) 4 h
Potassium nitrate; KNO_3	= 3015 mg/kg (Rat)	> 5000 mg/kg (Rat)	> 0.527 mg/L (Rat) 4 h
Sulphur; S	> 3000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 9.23 mg/L (Rat) 4 h
Iron sulphate; $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$	= 1520 mg/kg	-	-
Manganese sulfate monohydrate; $\text{MnSO}_4 \cdot \text{H}_2\text{O}$	= 2150 mg/kg (Rat)	-	> 4.45 mg/L (Rat)
Zinc oxide; ZnO	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rat)	> 5700 mg/m ³ (Rat) 4 h
Zinc sulphate hepta hydrate; $\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$	= 1260 mg/kg (Rat)	-	-
Di copper oxide; Cu_2O	= 470 mg/kg (Rat)	> 2000 mg/kg (Rat)	= 2.92 mg/L (Rat) 4 h = 3.69 mg/L (Rat) 4 h

Delayed and Immediate Effects as well as Chronic Effects from Short and Long-Term Exposure:

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization Based on available data, the classification criteria are not met.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.
Reproductive toxicity Based on available data, the classification criteria are not met.
STOT - single exposure Based on available data, the classification criteria are not met.
STOT - repeated exposure Based on available data, the classification criteria are not met.
Aspiration hazard Based on available data, the classification criteria are not met.
Endocrine disrupting properties

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity Based on available data, the classification criteria are not met.

Unknown aquatic toxicity

Contains 7 % of components with unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Sulphur; S	-	LC50: =866mg/L (96h, Brachydanio rerio) LC50: <14mg/L (96h, Lepomis macrochirus) LC50: >180mg/L (96h, Oncorhynchus mykiss)	-	-
Zinc oxide; ZnO	-	LC50: =1.55mg/L (96h, Danio rerio)	-	-
Di copper oxide; Cu ₂ O	EC50: =65mg/L (96h, Desmodesmus subspicatus) EC50: 0.021 - 0.037mg/L (96h, Pseudokirchneriella subcapitata) EC50: 0.055 - 0.076mg/L (96h, Pseudokirchneriella subcapitata)	-	-	EC50: =0.51mg/L (48h, Daphnia magna)

12.2. Persistence and degradability

Persistence and Degradability: No information available.

12.3. Bioaccumulative potential

Bioaccumulation There is no data for this product.

Component Information

Chemical name	Partition coefficient
Ammonium nitrate; NH ₄ NO ₃	-3.1

12.4. Mobility in soil

Mobility in soil no data available.

Mobility no data available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment

Chemical name	PBT and vPvB assessment
Ammonium nitrate; NH ₄ NO ₃	The substance is not PBT / vPvB PBT assessment does not apply Further information relevant for the PBT assessment is necessary
Potassium nitrate; KNO ₃	The substance is not PBT / vPvB PBT assessment does not apply
Sulphur; S	The substance is not PBT / vPvB PBT assessment does not apply
Manganese sulfate monohydrate; MnSO ₄ ·1H ₂ O	The substance is not PBT / vPvB
Zinc oxide; ZnO	The substance is not PBT / vPvB PBT assessment does not apply
Zinc sulphate hepta hydrate; ZnSO ₄ ·7H ₂ O	The substance is not PBT / vPvB
Di copper oxide; Cu ₂ O	The substance is not PBT / vPvB PBT assessment does not apply

12.6. Endocrine disrupting properties This product does not contain any known or suspected endocrine disruptors

12.7. Other adverse effects

. No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Do not reuse empty containers.
Other Information	Use up product completely. Packaging material is industrial waste. If material is uncontaminated, collect and reuse as recommended for product.

SECTION 14: Transport information

IMDG

14.1	
UN-No:	Not regulated
14.2	
Proper shipping name:	Not regulated
14.3	
Transport hazard class(es)	Not regulated
14.4	
Packing group:	Not regulated
14.5	
Marine Pollutant:	Not regulated
14.6	
Special Provisions	None
14.7	
Bulk transport according Annex II of MARPOL and IBC Code	No data available

ADR

14.1	
UN-No:	Not regulated
14.2	
Proper shipping name:	Not regulated
14.3	
Transport hazard class(es)	Not regulated
14.4	
Packing group:	Not regulated
14.5	
Environmental hazards	Not regulated
14.6	
Special Provisions	None

IATA

14.1	
UN number or ID number	Not regulated
14.2	
Proper shipping name:	Not regulated
14.3	
Transport hazard class(es)	Not regulated
14.4	
Packing group	Not regulated
14.5	
Environmental hazards	Not regulated
14.6	
Special Provisions	None

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

Denmark

Sikkerhedsgruppe DK

C

France

ICPE

Classified installation: article 4511

Germany

LGK (Germany) TRGS 510

5.1C

Gefahrstoffverordnung (Germany) TRGS 511

C III

Water hazard class (WGK)

non-hazardous to water (nwg)

Chemical name	German WGK Section
Ammonium nitrate; NH_4NO_3	Reg. no. 212, hazard class 1 - slightly hazardous to water
Potassium nitrate; KNO_3	Reg. no. 346, hazard class 1 - slightly hazardous to water
Sulphur; S	Reg. no. 753, hazard class 1 - slightly hazardous to water (colloidal); Reg. no. 842, non-hazardous to water
Iron sulphate; $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$	3
Manganese sulfate monohydrate; $\text{MnSO}_4 \cdot \text{H}_2\text{O}$	2
Zinc oxide; ZnO	Reg. no. 2187, hazard class 2 - obviously hazardous to water
Di copper oxide; Cu_2O	Reg. no. 7116, hazard class 3 - highly hazardous to water

Netherlands

Chemical name	Netherlands - List of Carcinogens	Netherlands - List of Mutagens	Netherlands - List of Reproductive Toxins
Manganese sulfate monohydrate; $\text{MnSO}_4 \cdot \text{H}_2\text{O}$	-	-	Fertility Category 2 Development Category 2

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Take note of Directive 94/33/EC on the protection of young people at work

Not to be used by professional users below 18 years of age, see the National Working Environment Authorities Executive Order on young peoples dangerous work.

Authorizations and/or restrictions on use:

This product contains one or more substance(s) subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorization per REACH Annex XIV
Ammonium nitrate; NH_4NO_3	58.	-
Sulphur; S	75.	-
Iron sulphate; $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$	75.	-
Zinc oxide; ZnO	75.	-
Zinc sulphate hepta hydrate; $\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$	75.	-

Di copper oxide; Cu ₂ O	75.	-
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REGULATION (EU) 2019/1148 on the marketing and use of explosives precursors

Chemical name	REGULATION (EU) 2019/1148 on the marketing and use of explosives precursors
Ammonium nitrate; NH ₄ NO ₃	Present (16% by weight of N in relation to AN or higher)
Potassium nitrate; KNO ₃	Present

Acquisition, introduction, possession or use of this product by the general public is restricted by Regulation (EU) 2019/1148. All suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point.

Persistent Organic Pollutants Not applicable

Named dangerous substances per Seveso Directive (2012/18/EU)

Chemical name	Lower-tier requirements (tons)	Upper-tier requirements (tons)
Ammonium nitrate; NH ₄ NO ₃	350	2500 5000

Ozone-depleting substances (ODS) regulation (EC) 1005/2009 Not applicable

EU - Plant Protection Products (1107/2009/EC)

Chemical name	EU - Plant Protection Products (1107/2009/EC)
Sulphur; S	Plant protection agent
Iron sulphate; FeSO ₄ ·7H ₂ O	Plant protection agent
Di copper oxide; Cu ₂ O	Plant protection agent

Biocidal Products Regulation (EU) No 528/2012 (BPR)

Chemical name	Biocidal Products Regulation (EU) No 528/2012 (BPR)
Di copper oxide; Cu ₂ O	21 - Antifouling products

International Inventories:

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

Chemical Safety Report Substance(s) usage is covered according to Reach regulation 1907/2006

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of H-Statements referred to under section 3

H302 - Harmful if swallowed
H315 - Causes skin irritation

H318 - Causes serious eye damage
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
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
H411 - Toxic to aquatic life with long lasting effects

Legend

SVHC: Substances of Very High Concern for Authorization:
PBT: Persistent, Bioaccumulative, and Toxic (PBT) Chemicals
vPvB: Very Persistent and very Bioaccumulative (vPvB) Chemicals

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

Classification procedure

- Calculation method
- Expert judgment and weight of evidence determination

Classification procedure	
<i>Classification according to Regulation (EC) No. 1272/2008 [CLP]</i>	<i>Method Used</i>
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapor	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitization	Calculation method
Skin sensitization	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program

Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

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Restrictions on use Restricted to professional users.

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

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End of Safety Data Sheet