

Safety Data Sheet

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Version: 1

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product Name: Sierraform GT K-Step 6-0-27+2MgO+TE
Product Code: 41020120DB
Synonyms: Sierraform GT 6-0-22.4+1.2Mg+TE

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

Recommended Use: Fertilizer. Restricted to professional users.
Uses Advised Against: Consumer use [SU 21].

1.3. Details of the supplier of the safety data sheet

Manufacturer

Everris International BV
 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

1.4. Emergency telephone number

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

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Mixture

Regulation (EC) No 1272/2008

Serious Eye Damage or Eye Irritation	Category 1 - (H318)
Chronic aquatic toxicity	Category 3 - (H412)

2.2. Label elements

Contains Iron sulphate; $\text{FeSO}_4 \cdot \text{H}_2\text{O}$, Potassium sulphate; K_2SO_4



Signal Word:

Danger

Hazard Statements:

H318 - Causes serious eye damage
 H412 - Harmful to aquatic life with long lasting effects

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

P280 - Wear eye protection/ face protection
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P310 - Immediately call a POISON CENTER or doctor/physician

Other hazards (UN-GHS)

H316 - Causes mild skin irritation

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Ingredients	EC-No.	CAS-No	Weight %	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH registration number
Potassium sulphate; K ₂ SO ₄	231-915-5	7778-80-5	40 - 65%	Eye Dam. 1 (H318)	01-2119489441-34
Iron sulphate; FeSO ₄ +1H ₂ O	231-753-5	7720-78-7	1 - 5%	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Acute Tox. 4 (H302)	01-2119513203-57
Manganese sulphate; MnSO ₄ +1H ₂ O	232-08-99	7785-87-7	0.1 - 1%	STOT RE 2 (H373) Eye Dam. 1 (H318) Aquatic Chronic 2 (H411)	01-2119456624-35
Copper sulphate anh; CuSO ₄	231-847-6	7758-98-7	0.1 - 1%	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Acute Tox. 4 (H302) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	01-2119520566-40

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

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General Advice:	First aid measures should be executed by trained personnel only.
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.
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.
Protection of First-Aiders:	Low hazard for usual industrial or commercial handling.

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

Symptoms: None under normal processing

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

Notes to Physician: None under normal processing.

Section 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media**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.

5.2. Special hazards arising from the substance or mixture

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

5.3. Advice for firefighters

Coordinate fire extinguishing measures to fire in surrounding area.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal Precautions: Avoid dust formation. Ensure adequate ventilation.

For Emergency Responders: Use personal protection recommended in Section 8.

6.2. Environmental precautions

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

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

6.4. Reference to other sections

§ 8, 12, 13.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

General hygiene considerations:

Handle in accordance with good industrial hygiene and safety practice. Use personal protection recommended in Section 8. When using, do not eat, drink or smoke.

7.2. Conditions for safe storage, including any incompatibilities

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.

LGK (Germany)

Packaging Materials:

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Bags or Bulk.

7.3. Specific end use(s)

Specific use(s)

Fertilizer; Read and follow label instructions; www.everris.com

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

<i>Potassium sulphate; K₂SO₄</i>	
Bulgaria - Occupational Exposure Limits - TWAs	10.0 mg/m ³ TWA
Latvia - Occupational Exposure Limits - TWAs	10 mg/m ³ TWA
<i>Iron sulphate; FeSO₄·1H₂O</i>	
Belgium - 8 Hr TWA	1 mg/m ³
Denmark	TWA: 1 mg/m ³
Finland	TWA: 1 mg/m ³
Ireland	TWA: 1 mg/m ³ STEL: 2 mg/m ³
Norway	TWA: 1 mg/m ³ STEL: 1 mg/m ³
Portugal	TWA: 1 mg/m ³

Spain OEL - Time Weighted Average (TWA):	TWA: 1 mg/m ³
Switzerland	TWA: 1 mg/m ³
UK oes/mel:	TWA: 1 mg/m ³
<i>Manganese sulphate; MnSO₄·1H₂O</i>	
Austria	STEL 2 mg/m ³ TWA: 0.5 mg/m ³
Australia TWA	0.2 mg/m ³
Belgium - 8 Hr TWA	0.2 mg/m ³
Denmark	TWA: 0.2 mg/m ³
Finland	TWA: 0.02 mg/m ³ TWA: 0.2 mg/m ³
Ireland	TWA: 0.2 mg/m ³ STEL: 0.6 mg/m ³
Norway	TWA: 1 mg/m ³ TWA: 0.1 mg/m ³ STEL: 1 ppm STEL: 0.1 mg/m ³
Poland	TWA: 0.2 mg/m ³ TWA: 0.05 mg/m ³
Portugal	TWA: 0.2 mg/m ³
Spain OEL - Time Weighted Average (TWA):	TWA: 0.2 mg/m ³
Switzerland	TWA: 0.5 mg/m ³
UK oes/mel:	TWA: 0.5 mg/m ³
<i>Copper sulphate anh; CuSO₄</i>	
Austria	STEL 4 mg/m ³ STEL 0.4 mg/m ³ TWA: 1 mg/m ³ TWA: 0.1 mg/m ³
Australia TWA	N.A.
Finland	TWA: 1 mg/m ³
Poland	TWA: 0.2 mg/m ³
Russia TWA	0.5 mg/m ³ TWA 1200
Switzerland	STEL: 0.2 mg/m ³ TWA: 0.1 mg/m ³

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Personal protective equipment

Eye/face Protection No special protective equipment required.

Skin and body protection No special protective equipment required.

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. Do not allow into any sewer, on the ground or into any body of water.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State:	Solid
Appearance:	granulate
Color:	grey, brown.
Odor:	Not significant
Bulk density:	800 - 1100 kg/m ³
pH:	no data available
Melting Point/Freezing Point:	no data available
Boiling Point/Range:	Solid, Not Applicable

Flash Point:	Solid, Not Applicable
Evaporation Rate:	Solid, Not Applicable
Flammability (solid, gas):	Non-flammable
Vapor Pressure:	Solid, Not Applicable
Vapor Density:	Solid, Not Applicable
Specific Gravity:	no data available
Water Solubility:	Soluble in water
Solubility(ies)	no data available
Partition Coefficient:	Solid, Not Applicable
Autoignition Temperature:	Not Applicable
Decomposition Temperature:	no data available
Explosive Properties:	Doesn't present explosion hazard. Based on data of ingredients.

9.2. Other information

Not applicable

Section 10: STABILITY AND REACTIVITY**10.1. Reactivity**

Not reactive.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions**Possibility of hazardous reactions**

None under normal processing.

Hazardous Decomposition Products:

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

10.4. Conditions to avoid

For quality reasons: Keep out of reach of direct sunlight, store under dry conditions, partly used bags should be closed well.

10.5. Incompatible materials

None known based on information supplied.

10.6. Hazardous decomposition products

None under normal processing.

Section 11: TOXICOLOGICAL INFORMATION**11.1. Information on toxicological effects****Information on the Likely Routes of Exposure (inhalation, ingestion, skin and eye contact):****Product Information**

Inhalation	May cause irritation of respiratory tract.
Eye contact	May cause irritation.
Skin Contact	May cause irritation.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Information on Toxicological**Effects:****Symptoms** No information available.**Acute Toxicity**

The following values are calculated based on chapter 3.1 of the GHS document:

ATEmix (oral): 8,065.00 mg/kg

Unknown Acute Toxicity: 0% of the mixture consists of ingredient(s) of unknown toxicity.

Ingredients	LD50 Oral	LD50 Dermal	LC50 Inhalation
Potassium sulphate; K ₂ SO ₄	= 6600 mg/kg (Rat)	> 2000 mg/kg (Rat)	
Iron sulphate; FeSO ₄ +1H ₂ O	= 500 mg/kg (Rat)		
Manganese sulphate; MnSO ₄ +1H ₂ O	= 782 mg/kg (Rat)		
Copper sulphate anh; CuSO ₄	= 300 mg/kg (Rat)	= 1000 mg/kg (Rabbit)	

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	No information available.
Germ Cell Mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive Toxicity	No information available.
STOT - Single Exposure	No information available.
STOT - Repeated Exposure	No information available.
Aspiration Hazard	No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity Do not allow product to enter the environment uncontrolled.

Unknown Aquatic Toxicity: 17% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Ingredients	Algae/aquatic plants	Fish	Toxicity to Microorganisms	Crustacea
Potassium sulphate; K ₂ SO ₄	2900: 72 h Desmodesmus subspicatus mg/L EC50	653: 96 h Lepomis macrochirus mg/L LC50 3550: 96 h Lepomis macrochirus mg/L LC50 static 510 - 880: 96 h Pimephales promelas mg/L LC50 static	-	890: 48 h Daphnia magna mg/L EC50
Iron sulphate; FeSO ₄ +1H ₂ O	-	925: 96 h Poecilia reticulata mg/L LC50 static 0.56: 96 h Cyprinus carpio mg/L LC50 semi-static	-	152: 48 h Daphnia magna mg/L EC50 6.15 - 9.26: 48 h Daphnia magna mg/L EC50 Static
Copper sulphate anh; CuSO ₄	-	0.1: 96 h Oncorhynchus mykiss mg/L LC50	-	0.024: 48 h Daphnia magna mg/L EC50

12.2. Persistence and degradability

Persistence and Degradability: No information available.

12.3. Bioaccumulative potential

Bioaccumulation: No information available.

12.4. Mobility in soil

Mobility in soil: No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment: No information available.

12.6. Other adverse effects

Mobility: No information available.

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Disposal of Wastes:

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging:

Do not re-use empty containers. Dispose of as unused product.

Other Information:

Use up product completely. Packaging material is industrial waste.

Section 14: TRANSPORT INFORMATION

IMO / IMDG**14.1**

UN-No:

Not regulated

14.2

Proper shipping name:

Not regulated

14.3

Hazard Class:

Not regulated

14.4

Packing group:

Not regulated

14.5

Component

IMDG - Marine Pollutants

Copper sulphate anh; CuSO₄
7758-98-7 (0.1 - 1%)

IMDG regulated marine pollutant (Listed in the index, listed under Copper sulphate, anhydrous, hydrates and solution)

Marine Pollutant:

No information available

14.6

Special Provisions

None

14.7

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not regulated

ADR/RID**14.1**

UN-No:

Not regulated

14.2

Proper shipping name:

Not regulated

14.3

Hazard Class:

Not regulated

14.4

Packing group:

Not regulated

14.5

Environmental Hazard 14.6	Not regulated
Special Provisions	None

IATA

14.1	
UN-No:	Not regulated
14.2	
Proper shipping name:	Not regulated
14.3	
Hazard Class:	Not regulated
14.4	
Packing group:	Not regulated
14.5	
Environmental Hazard	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****Belgium****Denmark**

Danish Sikkerhedsgruppe No data available

France

ICPE Not regulated

Germany

LGK (Germany) 13
 Water Endangering Class (WGK): 1 (Everris classification)
 Gefahrstoffverordnung (Germany) TRGS 511 Not regulated

Component	German WGK Section
Potassium sulphate; K ₂ SO ₄ 7778-80-5 (40 - 65%)	class 1
Iron sulphate; FeSO ₄ +1H ₂ O 7720-78-7 (1 - 5%)	class 1
Manganese sulphate; MnSO ₄ +1H ₂ O 7785-87-7 (0.1 - 1%)	class 1
Copper sulphate anh; CuSO ₄ 7758-98-7 (0.1 - 1%)	class 2

European Union**REACH:**

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

Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants

Not Applicable

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

15.2 Chemical safety assessment

Chemical Safety Report

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

Section 16: OTHER INFORMATION

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

H302 - Harmful if swallowed
 H318 - Causes serious eye damage
 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
 H373 - May cause damage to organs through prolonged or repeated exposure in contact with skin
 H411 - Toxic to aquatic life with long lasting effects
 H316 - Causes mild skin irritation

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

RID: Regulations Concerning the International Transport of Dangerous Goods by Rail
 ICAO: International Civil Aviation Organization
 ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 GHS: Globally Harmonized System of Classification and Labeling of Chemicals
 EINECS: European Inventory of Existing Commercial Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 PNEC: Predicted No Effect Concentration
 DNEL: Derived No-Effect Level
 Reach: Registration, Evaluation, authorization of Chemicals
 CLP: EU-GHS; Classification, Labelling and Packaging
 OEL: Occupational Exposure Limit
 TWA: Time Weighted Average
 ATE: Acute Toxicity Estimate
 EUH statement: CLP (EU) specific hazard statement

Classification procedure:

- Calculation method
 - Expert judgment and weight of evidence determination

Key literature references and sources for data

According to EC Regulation 1907/2006 (Reach), Regulation EU No. 2015/830
 Regulation (EC) No 1272/2008

Prepared by:

Regulatory Affairs Department (INFO-MSDS@EVERRIS.COM)

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

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

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