# Safety Data Sheet

**Issue Date:** 18-Dec-2013 **Revision Date:** 02-Feb-2015 **Version:** 1

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

**1.1. Product identifier**

**Product Name:** **Sierraform GT 16-0-16+Fe+Mn**
**Product Code** **40140120DC**
**Synonyms:** **Sierraform GT 16-0-13.3+Fe+Mn**

**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) |

**2.2. Label elements**
Contains Iron sulphate; $FeSO_4+1H_2O$, Potassium sulphate; $K_2SO_4$

**Signal Word:**
Danger

**Hazard Statements:**
H318 - Causes serious eye damage

**Precautionary Statements - EU (§28, 1272/2008)**
P501 - Dispose of container in accordance with local regulation

**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; $K_2SO_4$ | 231-915-5 | 7778-80-5 | 25 - 40% | Eye Dam. 1 (H318) | 01-2119489441-34 |
| Iron sulphate; $FeSO_4+1H_2O$ | 231-753-5 | 7720-78-7 | 5 - 10% | Skin Irrit. 2 (H315)<br>Eye Irrit. 2 (H319)<br>Acute Tox. 4 (H302) | 01-2119513203-57 |
| Urea | 200-315-5 | 57-13-6 | 1 - 5% | Not classified | 01-2119463277-33 |
| Manganese sulphate; $MnSO_4+1H_2O$ | 232-08-99 | 7785-87-7 | 0.1 - 1% | STOT RE 2 (H373)<br>Eye Dam. 1 (H318)<br>Aquatic Chronic 2 (H411) | 01-2119456624-35 |

**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 vommiting.

**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:** Ensure adequate ventilation. Avoid dust formation. Use personal protective equipment. Wear personal protective equipment.

**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. Do not create a powder cloud by using a brush or compressed air. Prevent product from entering drains.

**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) 13

Packaging Materials: 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**

| | |
|---|---|
| *Potassium sulphate; $K_2SO_4$* | |
| **Bulgaria - Occupational Exposure Limits - TWAs** | 10.0 mg/m³ TWA |
| **Latvia - Occupational Exposure Limits - TWAs** | 10 mg/m³ TWA |
| *Iron sulphate; $FeSO_4+1H_2O$* | |
| **Belgium - 8 Hr TWA** | 1 mg/m³ |
| **Denmark** | TWA: 1 mg/m³ |
| **Finland** | TWA: 1 mg/m³ |
| **Ireland** | TWA: 1 mg/m³<br>STEL: 2 mg/m³ |
| **Norway** | TWA: 1 mg/m³<br>STEL: 1 mg/m³ |
| **Portugal** | TWA: 1 mg/m³ |
| **Spain OEL - Time Weighted Average (TWA):** | TWA: 1 mg/m³ |
| **Switzerland** | TWA: 1 mg/m³ |
| **UK oes/mel:** | TWA: 1 mg/m³ |
| *Urea* | |
| **Bulgaria - Occupational Exposure Limits - TWAs** | 10.0 mg/m³ TWA |
| **Latvia - Occupational Exposure Limits - TWAs** | 10 mg/m³ TWA |
| **Norway** | TWA: 30 µg Hg/g Creatinine<br>STEL: 30 µg Hg/g Creatinine |
| *Manganese sulphate; $MnSO_4+1H_2O$* | |
| **Austria** | STEL 2 mg/m³ |

| | |
|---|---|
| | TWA: 0.5 mg/m³ |
| **Australia TWA** | 0.2 mg/m³ |
| **Belgium - 8 Hr TWA** | 0.2 mg/m³ |
| **Denmark** | TWA: 0.2 mg/m³ |
| **Finland** | TWA: 0.02 mg/m³ TWA: 0.2 mg/m³ |
| **Ireland** | TWA: 0.2 mg/m³<br>STEL: 0.6 mg/m³ |
| **Norway** | TWA: 1 mg/m³<br>TWA: 0.1 mg/m³<br>STEL: 1 ppm<br>STEL: 0.1 mg/m³ |
| **Poland** | TWA: 0.2 mg/m³<br>TWA: 0.05 mg/m³ |
| **Portugal** | TWA: 0.2 mg/m³ |
| **Spain OEL - Time Weighted Average (TWA):** | TWA: 0.2 mg/m³ |
| **Switzerland** | TWA: 0.5 mg/m³ |
| **UK oes/mel:** | TWA: 0.5 mg/m³ |

**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:** | brown, grey. |
| **Odor:** | Not significant |
| **Bulk density:** | 820 - 920 kg/m³ |
| **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**

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**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):** 6,273.00 mg/kg mg/l

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

| Ingredients | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Potassium sulphate; $K_2SO_4$ | = 6600 mg/kg ( Rat ) | > 2000 mg/kg ( Rat ) | |
| Iron sulphate; $FeSO_4+1H_2O$ | = 500 mg/kg ( Rat ) | | |
| Urea | = 8471 mg/kg ( Rat ) | | |
| Manganese sulphate; $MnSO_4+1H_2O$ | = 782 mg/kg ( Rat ) | | |

**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; $K_2SO_4$ | 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; $FeSO_4+1H_2O$ | - | 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 |
| Urea | > 10000: 192 h Scenedesmus quadricauda mg/L EC50 | 16200 - 18300: 96 h Poecilia reticulata mg/L LC50 | - | 3910: 48 h Daphnia magna mg/L EC50 Static 10000: 24 h Daphnia magna Straus mg/L EC50 |

**12.2. Persistence and degradability**

**Persistence and Degradability:** No information available.

**12.3. Bioaccumulative potential**

**Bioaccumulation:** No information available.

| Ingredients | LOGPOW |
|---|---|
| Urea | -1.59 |

**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**
**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** Not regulated

**14.6**
**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**
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Water Endangering Class (WGK): 1 (Everris classification)
Gefahrstoffverordnung (Germany) TRGS 511 Not regulated

| Component | German WGK Section |
|---|---|
| Potassium sulphate; $K_2SO_4$<br>7778-80-5 ( 25 - 40% ) | class 1 |
| Iron sulphate; $FeSO_4+1H_2O$<br>7720-78-7 ( 5 - 10% ) | class 1 |
| Urea<br>57-13-6 ( 1 - 5% ) | class 1 |
| Manganese sulphate; $MnSO_4+1H_2O$<br>7785-87-7 ( 0.1 - 1% ) | class 1 |

**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**
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H302 - Harmful if swallowed

H318 - Causes serious eye damage
H373 - May cause damage to the kidneys/ liver/ eyes/ brain/ digestive system/ central nervous system through prolonged or repeated exposure if swallowed
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<br>- 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<br>Regulation (EC) No 1272/2008 |
| **Prepared by:** | Regulatory Affairs Department (INFO-MSDS@EVERRIS.COM) |
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**This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006**

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