

# Safety Data Sheet

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Version: 4.01

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

### 1.1. Product identifier

**Product Name**

Osmocote Exact Standard High K 12-14M; 11-11-18+TE

**Product Code:**

88290225EB

**Synonyms:**

Osmocote Exact Standard High K 11-4.8-14.9+TE

**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 [SU 21].

### 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.

**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 (CLP)

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

### 2.2. Label elements



**Signal Word:** Danger

#### Hazard Statements:

H318 - Causes serious eye damage

H412 - Harmful to aquatic life with long lasting effects

Contains Ammonium nitrate;  $NH_4NO_3$ , Potassium sulphate;  $K_2SO_4$

#### Precautionary Statements:

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)

Toxic to aquatic life

## Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Chemical Name	EC-No.	CAS No	Weight %	Classification according Regulation (EC) 1272/2008 [CLP]	REACH registration number
Ammonium nitrate; NH <sub>4</sub> NO <sub>3</sub>	229-347-8	6484-52-2	25 - 40%	Eye Irrit. 2 (H319) Ox. Sol. 3 (H272)	01-2119490981-27
Potassium sulphate; K <sub>2</sub> SO <sub>4</sub>	231-915-5	7778-80-5	10 - 25%	Eye Dam. 1 (H318)	01-2119489441-34
Calcium sulphate dihydrate; CaSO <sub>4</sub> +2H <sub>2</sub> O	231-900-3	10101-41-4	0.1 - 1%	Not classified	01-2119444918-26
Iron sulphate; FeSO <sub>4</sub> +1H <sub>2</sub> O	231-753-5	7720-78-7	0.1 - 1%	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Acute Tox. 4 (H302)	01-2119513203-57
Iron-EDTA-13; Fe-EDTA	239-802-2	15708-41-5	0.1 - 1%	Not classified	01-2119496228-27
Copper sulphate anhydrous; CuSO <sub>4</sub>	231-847-6	7758-98-7	0.1 - 1%	Eye Dam. 1 (H318) Acute Tox. 4 (H302) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	01-2119520566-40
Wax	601-216-3	112945-52-5	0.1 - 1%	Not classified	01-2119488076-30
Manganese sulphate; MnSO <sub>4</sub> +1H <sub>2</sub> 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
Urea	200-315-5	57-13-6	0.1 - 1%	Not classified	01-2119463277-33
Sodium borate; Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub>	215-540-4	1330-43-4	< 0.1%	Eye Irrit. 2 (H319) Repr. 1B (H360FD)	01-2119490790-32
Calcium fluoride; CaF <sub>2</sub>	232-188-7	7789-75-5	< 0.1%	Not classified	Exempt
Zinc sulphate mono hydrate; ZnSO <sub>4</sub> +1H <sub>2</sub> O	231-793-3	7446-19-7	< 0.1%	Acute Tox. 4 (H302) Eye Dam. 1 (H318) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	01-2119474684-27
Sodium molybdate; Na <sub>2</sub> MoO <sub>4</sub>	231-551-7	7631-95-0	< 0.1%	Not classified	01-2119489495-21
Magnesium oxide; MgO	215-171-9	1309-48-4	< 0.1%	Not classified	Exempt

Component	SVHC candidates
Sodium borate; Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub> 1330-43-4 (< 0.1%)	Present

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**

Dusty conditions are unlikely if product is used as intended. However, if prolonged inhalation of dust occurs, remove casualty 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. Rinse with plenty of water.

**Eye Contact:**

Rinse eyes with water as a precaution. If eye irritation persists, consult a specialist.

**Ingestion:**

If conscious, drink plenty of water. Do NOT induce vomiting. Rinse mouth. Consult a physician if 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.

**Section 5: FIRE FIGHTING MEASURES**

**5.1. Extinguishing media**

*Suitable Extinguishing Media:*

Coordinate fire extinguishing measures to fire in surrounding area. Use dry chemical, CO<sub>2</sub>, 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**

Use extinguishing agent suitable for type of surrounding fire. In the event of fire and/or explosion do not breathe fumes. 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:**

Avoid dust formation. Sweep-up to prevent slipping hazard.

**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.

**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 packaging should be closed well. Keep at temperatures between 0 °C and 40 °C.

Packaging Materials:

LGK (Germany)

Store in original container. Store in a closed container.

Exempt

**7.3. Specific end use(s)**

Specific use(s)

Exposure scenario

Fertilizer; [www.everris.com](http://www.everris.com); Read and follow label instructions  
Mixture. Not required.

**Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**8.1. Control parameters**

<i>Ammonium nitrate; NH<sub>4</sub>NO<sub>3</sub></i>	
Australia	N.A.
Czech Republic OEL	10.0 mg/m <sup>3</sup> TWA
<i>Potassium sulphate; K<sub>2</sub>SO<sub>4</sub></i>	
Bulgaria - OEL- TWAs	10.0 mg/m <sup>3</sup> TWA
Latvia - OEL - TWAs	10 mg/m <sup>3</sup> TWA
<i>Calcium sulphate dihydrate; CaSO<sub>4</sub>+2H<sub>2</sub>O</i>	
Belgium - 8 Hr TWA	10 mg/m <sup>3</sup> TWA
Portugal	TWA: 10 mg/m <sup>3</sup>
Spain - Valores Limite Ambientales - VLE	TWA: 10 mg/m <sup>3</sup>
Switzerland	TWA: 3 mg/m <sup>3</sup>
UK EH40 WEL (8h)	10 mg/m <sup>3</sup> TWA (Inhalable) 4 mg/m <sup>3</sup> TWA (Respirable)
<i>Iron sulphate; FeSO<sub>4</sub>+1H<sub>2</sub>O</i>	
Belgium - 8 Hr TWA	1 mg/m <sup>3</sup>
Denmark	TWA: 1 mg/m <sup>3</sup>
Finland	TWA: 1 mg/m <sup>3</sup>
Ireland	TWA: 1 mg/m <sup>3</sup> STEL: 2 mg/m <sup>3</sup>
Norway	TWA: 1 mg/m <sup>3</sup> STEL: 2 mg/m <sup>3</sup>
Portugal	TWA: 1 mg/m <sup>3</sup>
Spain - Valores Limite Ambientales - VLE	TWA: 1 mg/m <sup>3</sup>
Switzerland	TWA: 1 mg/m <sup>3</sup>
UK EH40 WEL (8h)	LTEL (8 hr TWA) 1 mg/m <sup>3</sup> STEL (15 min) 2mg/m <sup>3</sup>
<i>Iron-EDTA-13; Fe-EDTA</i>	
Denmark	TWA: 1 mg/m <sup>3</sup>
Finland	TWA: 1 mg/m <sup>3</sup>
Portugal	TWA: 1 mg/m <sup>3</sup>
Spain - Valores Limite Ambientales - VLE	TWA: 1 mg/m <sup>3</sup>
Switzerland	TWA: 1 mg/m <sup>3</sup>
UK EH40 WEL (8h)	1 mg/m <sup>3</sup> TWA
<i>Copper sulphate anhydrous; CuSO<sub>4</sub></i>	
Austria	STEL 4 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup>
Australia	N.A.
Finland	TWA: 0.02 mg/m <sup>3</sup>
Poland	TWA: 0.2 mg/m <sup>3</sup>
Russia TWA	0.5 mg/m <sup>3</sup> TWA 1258
Switzerland	STEL: 0.2 mg/m <sup>3</sup> TWA: 0.1 mg/m <sup>3</sup>
<i>Wax</i>	
Austria	TWA: 4 mg/m <sup>3</sup>
<i>Manganese sulphate; MnSO<sub>4</sub>+1H<sub>2</sub>O</i>	
Austria	STEL 2 mg/m <sup>3</sup> TWA: 0.5 mg/m <sup>3</sup>
Australia	0.2 mg/m <sup>3</sup>
Belgium - 8 Hr TWA	0.2 mg/m <sup>3</sup>
Denmark	TWA: 0.2 mg/m <sup>3</sup>
Finland	TWA: 0.02 mg/m <sup>3</sup> TWA: 0.2 mg/m <sup>3</sup>
Ireland	TWA: 0.2 mg/m <sup>3</sup> STEL: 0.6 mg/m <sup>3</sup>
Japan	0.2 mg/m <sup>3</sup> OEL Mn
NL MAC - TWA:	STEL: 0.05 mg/m <sup>3</sup> TWA: 0.2 mg/m <sup>3</sup>
Norway	TWA: 0.1 mg/m <sup>3</sup> STEL: 0.1 ppm
Poland	TWA: 0.05 mg/m <sup>3</sup>
Portugal	TWA: 0.2 mg/m <sup>3</sup>
Spain - Valores Limite Ambientales - VLE	TWA: 0.2 mg/m <sup>3</sup> TWA: 0.05 mg/m <sup>3</sup>
Switzerland	TWA: 0.5 mg/m <sup>3</sup>
UK EH40 WEL (8h)	5 mg/m <sup>3</sup>
<i>Urea</i>	
Bulgaria - OEL- TWAs	10.0 mg/m <sup>3</sup> TWA

Latvia - OEL - TWAs	10 mg/m <sup>3</sup> TWA
<i>Sodium borate; Na<sub>2</sub>B<sub>4</sub>O<sub>7</sub></i>	
Australia	1 mg/m <sup>3</sup> TWA
Belgium - 8 Hr TWA	2 mg/m <sup>3</sup> TWA borate
Denmark	TWA: 1 mg/m <sup>3</sup>
FR - OEL - 8h VMEs	TWA: 1 mg/m <sup>3</sup>
Iceland - OEL - 8 Hour	1 mg/m <sup>3</sup> TWA
Ireland	TWA: 1 mg/m <sup>3</sup> STEL: 3 mg/m <sup>3</sup>
Korea - ISHA - OEL - TWAs	1 mg/m <sup>3</sup> TWA (anhydrous, Serial No. 244)
Malaysia	1 mg/m <sup>3</sup> TWA
Norway	TWA: 1 mg/m <sup>3</sup> STEL: 2 mg/m <sup>3</sup>
Portugal	STEL: 6 mg/m <sup>3</sup> TWA: 2 mg/m <sup>3</sup>
Spain - Valores Limite Ambientales - VLE	STEL: 6 mg/m <sup>3</sup> TWA: 2 mg/m <sup>3</sup>
Singapore - OEL:PELs	1 mg/m <sup>3</sup> PEL
Switzerland	STEL: 0.8 mg/m <sup>3</sup>
UK EH40 WEL (8h)	1 mg/m <sup>3</sup> TWA
<i>Calcium fluoride; CaF<sub>2</sub></i>	
Denmark	TWA: 2.5 mg/m <sup>3</sup>
Ireland	TWA: 2.5 mg/m <sup>3</sup> STEL: 7.5 mg/m <sup>3</sup>
Latvia - OEL - TWAs	0.5 mg/m <sup>3</sup> TWA (as F, listed under Hydrofluoric acid salts)
Poland	TWA: 2 mg/m <sup>3</sup>
Portugal	TWA: 2.5 mg/m <sup>3</sup>
Romania - OEL - TWAs	1 mg/m <sup>3</sup> TWA
Russia TWA	0.5 mg/m <sup>3</sup> TWA 1104
<i>Sodium molybdate; Na<sub>2</sub>MoO<sub>4</sub></i>	
Austria	STEL 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>
Czech Republic OEL	5 mg/m <sup>3</sup> TWA
Denmark	TWA: 5 mg/m <sup>3</sup>
Finland	TWA: 0.5 mg/m <sup>3</sup>
FR - OEL - 8h VMEs	TWA: 5 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup>
Ireland	TWA: 10 mg/m <sup>3</sup> STEL: 30 mg/m <sup>3</sup>
Norway	TWA: 5 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup>
Poland	STEL: 10 mg/m <sup>3</sup> TWA: 4 mg/m <sup>3</sup>
Portugal	TWA: 0.5 mg/m <sup>3</sup>
Spain - Valores Limite Ambientales - VLE	TWA: 0.5 mg/m <sup>3</sup>
Switzerland	TWA: 5 mg/m <sup>3</sup>
<i>Magnesium oxide; MgO</i>	
Austria	STEL 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>
Australia	10 mg/m <sup>3</sup> TWA fume
Belgium - 8 Hr TWA	10 mg/m <sup>3</sup>
Bulgaria - OEL- TWAs	10.0 mg/m <sup>3</sup> TWA
Czech Republic OEL	5 mg/m <sup>3</sup> TWA
Denmark	TWA: 6 mg/m <sup>3</sup>
FR - OEL - 8h VMEs	TWA: 10 mg/m <sup>3</sup>
Hungary - OEL - TWAs	6 mg/m <sup>3</sup> TWA
Iceland - OEL - 8 Hour	6 mg/m <sup>3</sup> TWA Mg
Ireland	TWA: 4 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup>
Korea - ISHA - OEL - TWAs	10 mg/m <sup>3</sup> TWA (Serial No. 277)
Malaysia	10 mg/m <sup>3</sup> TWA (fume)
Norway	TWA: 10 mg/m <sup>3</sup> STEL: 20 mg/m <sup>3</sup>
Poland	TWA: 10 mg/m <sup>3</sup>
Portugal	TWA: 10 mg/m <sup>3</sup>
Romania - OEL - TWAs	5 mg/m <sup>3</sup> TWA (fume)

Spain - Valores Limite Ambientales - VLE	TWA: 10 mg/m <sup>3</sup>
Singapore - OEL:PELs	10 mg/m <sup>3</sup> PEL
Switzerland	TWA: 3 mg/m <sup>3</sup>
UK EH40 WEL (8h)	10 mg/m <sup>3</sup>

**Derived No Effect Level (DNEL)**

Component	Oral	Dermal	Inhalation
Ammonium nitrate; NH <sub>4</sub> NO <sub>3</sub> 6484-52-2 ( 25 - 40% )	36 mg/m <sup>3</sup>	5.12 mg/kg bw/day	8.9 mg/m <sup>3</sup>
Potassium sulphate; K <sub>2</sub> SO <sub>4</sub> 7778-80-5 ( 10 - 25% )		21.3 mg/kg bw/day	37.6 mg/m <sup>3</sup>
Manganese sulphate; MnSO <sub>4</sub> +1H <sub>2</sub> O 7785-87-7 ( 0.1 - 1% )	37.6 mg/m <sup>3</sup>	0.004 mg/kg bw/day	0.2 mg/m <sup>3</sup>
Urea 57-13-6 ( 0.1 - 1% )		580 mg/kg bw/day	292 mg/m <sup>3</sup>
Zinc sulphate mono hydrate; ZnSO <sub>4</sub> +1H <sub>2</sub> O 7446-19-7 ( < 0.1% )		8.3 mg/kg bw/day	1 mg/m <sup>3</sup>

**Predicted No Effect Concentration (PNEC)**

No data available

Component	Fresh Water	Freshwater sediment	Sea Water	Sea sediment	Soil	Impact on Sewage Treatment
Ammonium nitrate; NH <sub>4</sub> NO <sub>3</sub> 6484-52-2 ( 25 - 40% )						18 mg/l
Potassium sulphate; K <sub>2</sub> SO <sub>4</sub> 7778-80-5 ( 10 - 25% )	0.68 mg/l		0.068 mg/l			10 mg/l
Copper sulphate anhydrous; CuSO <sub>4</sub> 7758-98-7 ( 0.1 - 1% )	7.8 µg/l	87 mg/kg	5.2 µg/l	676 mg/kg	65 mg/kg	230 µg/l
Manganese sulphate; MnSO <sub>4</sub> +1H <sub>2</sub> O 7785-87-7 ( 0.1 - 1% )	0.013 mg/l	0.011 mg/kg	0 mg/l	0.001 mg/kg	25.1 mg/kg	25.1 mg/kg
Urea 57-13-6 ( 0.1 - 1% )	0.47 mg/l		0.047 mg/l			
Zinc sulphate mono hydrate; ZnSO <sub>4</sub> +1H <sub>2</sub> O 7446-19-7 ( < 0.1% )	20.6 µg/l		6.1 µg/l	56.5 mg/kg	35.6 mg/kg	100 µg/l

**8.2. Exposure controls**

**Personal protective equipment**

**Eye/Face Protection**

Wear eye/face protection

**Hand protection**

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

**Respiratory Protection**

Not required; except in case of aerosol formation. In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit

**Skin and body protection:**

Lightweight protective clothing

**Hygiene Measures:**

Follow good housekeeping practices. When using, do not eat, drink or smoke. Keep away from food, drink and animal feeding stuffs.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

**9.1. Information on basic physical and chemical properties**

**Physical State:**

Solid

**Appearance:**

Granules

<b>Color:</b>	brown.
<b>Odor:</b>	None
<b>Bulk density:</b>	900 - 1100 kg/m <sup>3</sup>
<b>Melting Point/Freezing Point:</b>	No data available
<b>Boiling Point/Range:</b>	Solid. Not applicable.
<b>Flash Point:</b>	Solid. Not applicable.
<b>Evaporation Rate:</b>	Solid. Not applicable.
<b>Flammability (solid, gas):</b>	Not flammable
<b>Vapor Pressure:</b>	Solid. Not applicable.
<b>Vapour density</b>	Solid. Not applicable.
<b>Relative density</b>	No data available
<b>Water Solubility:</b>	No data available
<b>Solubility(ies)</b>	No data available
<b>Partition Coefficient:</b>	Solid. Not applicable.
<b>Autoignition Temperature:</b>	No data available
<b>Decomposition temperature:</b>	No data available
<b>Explosive Properties:</b>	Doesn't present explosion hazard.
<b>9.2. Other information</b>	
<b>VOC Content (%):</b>	Solid. 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

None under normal processing. Thermal decomposition can lead to release of irritating and toxic gases and vapors.

### 10.4. Conditions to avoid

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

### 10.5. 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

None under normal processing. Thermal decomposition can lead to release of irritating and toxic gases and vapors.

## Section 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

#### Product Information

If this product is a mixture, the classification is not based on toxicology studies for this product, but is based solely on toxicology studies for ingredients found within this product. More detailed substance and/or ingredient information may be provided in the other sections of this SDS

#### Information on the Likely Routes of Exposure (inhalation, ingestion, skin and eye contact):

**Inhalation** Inhalation of dust in high concentration may cause irritation of respiratory system.

**Eye contact** May cause slight irritation.

**Skin Contact** May cause irritation.

**Ingestion** May cause gastrointestinal discomfort if consumed in large amounts.

#### Information on Toxicological Effects

None known

**Acute Toxicity**

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

ATEmix (oral): 34,682.00 mg/kg

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

Potassium sulphate; K<sub>2</sub>SO<sub>4</sub> (7778-80-5)

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ammonium nitrate; NH <sub>4</sub> NO <sub>3</sub>	= 2217 mg/kg ( Rat )	> 5000 mg/kg	> 88.8 mg/L ( Rat ) 4 h
Potassium sulphate; K <sub>2</sub> SO <sub>4</sub>	= 6600 mg/kg ( Rat )	> 2000 mg/kg ( Rat )	N.E.
Iron sulphate; FeSO <sub>4</sub> +1H <sub>2</sub> O	= 500 mg/kg ( Rat )	= 155 mg/kg ( Rat )	
Iron-EDTA-13; Fe-EDTA	= 5 g/kg ( Rat ) > 5000 mg/kg ( Rat )	> 5000 mg/kg ( Rat )	> 2.05 g/m <sup>3</sup> ( Rat ) 4 h
Copper sulphate anhydrous; CuSO <sub>4</sub>	= 300 mg/kg ( Rat )	= 1000 mg/kg ( Rabbit )	
Wax	= 3160 mg/kg ( Rat )		
Manganese sulphate; MnSO <sub>4</sub> +1H <sub>2</sub> O	= 2125 mg/kg ( Rat )		> 4.98 mg/L (Rat) 4h
Urea	= 8471 mg/kg ( Rat )		
Sodium borate; Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub>	= 2660 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	> 2 mg/m <sup>3</sup> ( Rat ) 4 h
Calcium fluoride; CaF <sub>2</sub>	= 4250 mg/kg ( Rat )		
Sodium molybdate; Na <sub>2</sub> MoO <sub>4</sub>	= 4233 mg/kg ( Rat )	> 2000 mg/kg (Rat)	> 2080 mg/m <sup>3</sup> ( Rat ) 4 h
Magnesium oxide; MgO	= 3870 mg/kg ( Rat ) = 3990 mg/kg ( Rat )		

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

If this product is a mixture, the classification is not based on toxicology studies for this product, but is based solely on toxicology studies for ingredients found within this product. More detailed substance and/or ingredient information may be provided in the other sections of this SDS

- Serious eye damage/eye irritation** Classification based on individual ingredients of the mixture.
- Respiratory or skin sensitization** Classification based on individual ingredients of the mixture.
- Germ Cell Mutagenicity** Classification based on individual ingredients of the mixture.
- Carcinogenicity** Classification based on individual ingredients of the mixture.
- Reproductive Toxicity** Classification based on individual ingredients of the mixture.
- STOT - Single Exposure** Classification based on individual ingredients of the mixture.
- STOT - Repeated Exposure** Classification based on individual ingredients of the mixture.
- Aspiration Hazard** Classification based on individual ingredients of the mixture.

**Section 12: ECOLOGICAL INFORMATION**

**12.1. Toxicity**

**Ecotoxicity**

Should not be released into the environment

**Unknown Aquatic Toxicity**

11% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Chemical Name	Algae/aquatic plants	Fish	Toxicity to Microorganisms	Crustacea
Ammonium nitrate; NH <sub>4</sub> NO <sub>3</sub>	-	65 - 85: 48 h Cyprinus carpio mg/L LC50 semi-static	-	-
Potassium sulphate; K <sub>2</sub> SO <sub>4</sub>	2900: 72 h Desmodesmus subspicatus mg/L EC50	653: 96 h Lepomis macrochirus mg/L LC50 3550: 96 h Lepomis macrochirus mg/L LC50	-	890: 48 h Daphnia magna mg/L EC50



		static 510 - 880: 96 h Pimephales promelas mg/L LC50 static		
Iron sulphate; FeSO <sub>4</sub> +1H <sub>2</sub> 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 anhydrous; CuSO <sub>4</sub>	-	0.1: 96 h Oncorhynchus mykiss mg/L LC50	-	0.024: 48 h Daphnia magna mg/L EC50
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
Sodium borate; Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub>	158: 96 h Desmodemus subspicatus mg/L	340: 96 h Limanda limanda mg/L LC50	-	1085 - 1402: 48 h Daphnia magna mg/L LC50

**12.2. Persistence and degradability**

**Persistence and Degradability:**

No persistent or cumulative effects were observed.

**12.3. Bioaccumulative potential**

**Bioaccumulation:**

Does not bioaccumulate.

Chemical Name	LOGPOW
Ammonium nitrate; NH <sub>4</sub> NO <sub>3</sub>	-3.1
Urea	-1.59

**12.4. Mobility in soil**

No data available.

**12.5. PBT and vPvB assessment**

No data available.

**12.6. Other adverse effects**

No data 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 reuse container.

**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**

Chemical Name	IMDG - Marine Pollutants
Copper sulphate anhydrous; CuSO <sub>4</sub> 7758-98-7 ( 0.1 - 1% )	IMDG regulated marine pollutant (Listed in the index, listed under Copper sulphate, anhydrous, hydrates and solution)

Marine Pollutant: <u>14.6</u>	No information available
Special Provisions <u>14.7</u>	None
Bulk transport according Annex II of MARPOL and IBC Code	No data available

**ADR/RID**

<u>14.1</u>	
UN-No:	Not regulated
<u>14.2</u>	
Proper shipping name:	Not regulated
<u>14.3</u>	
Hazard Class:	Not regulated
<u>14.4</u>	
Packing group:	Not regulated
<u>14.5</u>	
Environmental Hazard	Not regulated
<u>14.6</u>	
Special Provisions	None

**IATA**

<u>14.1</u>	
UN-No:	Not regulated
<u>14.2</u>	
Proper shipping name:	Not regulated
<u>14.3</u>	
Hazard Class:	Not regulated
<u>14.4</u>	
Packing group:	Not regulated
<u>14.5</u>	
Environmental Hazard	Not regulated
<u>14.6</u>	
Special Provisions	None

**Section 15: REGULATORY INFORMATION**

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

**Belgium**

Component	Belgium - Major Accidents - Qualifying Quantities for Safety Reporting	Belgium - Major Accidents - Qualifying Quantities for Accident Prevention
Ammonium nitrate; NH <sub>4</sub> NO <sub>3</sub> 6484-52-2 ( 25 - 40% )	2500 tonne (technical grade; (a) this applies to Ammonium nitrate in which the Nitrogen content as a result of Ammonium nitrate is (i) between 24.5% and 28% by weight and which contain <=0.4% total combustible or (ii) >28% by weight and which contain <=0.2% combustible substances (b) aqueous Ammonium nitrate solutions in which the concentration of Ammonium nitrate is >80% by weight)	350 tonne

**Denmark**

Denmark No data available

**France**

ICPE Not regulated

**Germany**

LGK (Germany) Exempt  
Water Endangering Class (WGK): 1 (Everris classification)

Gefahrstoffverordnung (Germany) TRGS 511

C III

Component	German WGK Section
Ammonium nitrate; NH <sub>4</sub> NO <sub>3</sub> 6484-52-2 ( 25 - 40% )	1
Potassium sulphate; K <sub>2</sub> SO <sub>4</sub> 7778-80-5 ( 10 - 25% )	1
Calcium sulphate dihydrate; CaSO <sub>4</sub> +2H <sub>2</sub> O 10101-41-4 ( 0.1 - 1% )	1
Iron sulphate; FeSO <sub>4</sub> +1H <sub>2</sub> O 7720-78-7 ( 0.1 - 1% )	1
Iron-EDTA-13; Fe-EDTA 15708-41-5 ( 0.1 - 1% )	2
Copper sulphate anhydrous; CuSO <sub>4</sub> 7758-98-7 ( 0.1 - 1% )	2
Wax 112945-52-5 ( 0.1 - 1% )	3
Manganese sulphate; MnSO <sub>4</sub> +1H <sub>2</sub> O 7785-87-7 ( 0.1 - 1% )	2
Urea 57-13-6 ( 0.1 - 1% )	1
Sodium borate; Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub> 1330-43-4 ( < 0.1% )	1
Calcium fluoride; CaF <sub>2</sub> 7789-75-5 ( < 0.1% )	1
Zinc sulphate mono hydrate; ZnSO <sub>4</sub> +1H <sub>2</sub> O 7446-19-7 ( < 0.1% )	3
Sodium molybdate; Na <sub>2</sub> MoO <sub>4</sub> 7631-95-0 ( < 0.1% )	1
Magnesium oxide; MgO 1309-48-4 ( < 0.1% )	1

Component	EU - Explosives Precursors Marketing and Use (98/2013) - Substances Subject to Suspicious Transactions Reporting	EU - REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances
Ammonium nitrate; NH <sub>4</sub> NO <sub>3</sub> 6484-52-2 ( 25 - 40% )	Present (in concentration of 16% by weight of Nitrogen in relation to Ammonium nitrate or higher)	Use restricted. See item 58. (Conditions of restrictions 27 June 2010)
Sodium borate; Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub> 1330-43-4 ( < 0.1% )		Use restricted. See item 30.

Component	EU - REACH (1907/2006) - Article 59(1) - Candidate List of Substances for Eventual Inclusion in Annex XIV
Sodium borate; Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub> 1330-43-4 ( < 0.1% )	Reason for inclusion Toxic for reproduction, Article 57c (215-540-4)

### 15.2 Chemical safety assessment

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

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

Chemical Name	Restricted substance per REACH Annex XVII	Substance subject to authorization per REACH Annex XIV
Ammonium nitrate; NH <sub>4</sub> NO <sub>3</sub>	Use restricted. See item 58.	
Sodium borate; Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub>	Use restricted. See item 30.	

Chemical Name	Lower-tier requirements (tons)	Upper-tier requirements (tons)
Ammonium nitrate; NH <sub>4</sub> NO <sub>3</sub>	350	2500

## Section 16: OTHER INFORMATION

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

- H319 - Causes serious eye irritation
- H272 - May intensify fire; oxidizer

- 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
- H411 - Toxic to aquatic life with long lasting effects
- H360FD - May damage fertility. May damage the unborn child
- H373 - May cause damage to organs through prolonged or repeated exposure

**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 phrase: CLP (EU) specific hazard statement

LD50: Lethal dose, 50%.

LC50: Lethal concentration, 50%.

SVHC: Substance of Very High Concern.

**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 (CLP).

**Prepared by**

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

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**Restrictions on use**

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**Reason for revision**

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