



## EPSO Top®

Version: 3.1

Revision Date: 12.01.2012

### 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

Trade name : EPSO Top®

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

Use of the Substance/Mixture : Fertilizers

#### 1.3 Details of the supplier of the safety data sheet

**Company** : K+S KALI GmbH  
Bertha-von-Suttner-Str. 7  
34131 Kassel  
Germany  
**Telephone** : +49-(0)561-9301-0  
**Telefax** : +49-(0)561-9301-1753  
**E-mail address** : info@kali-gmbh.com

#### 1.4 Emergency telephone number

Giftinformationszentrale Nord, Göttingen, Germany  
Telephone: +49 (0)551 19240

### 2. Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification(67/548/EEC,1999/45/EC)

Not a hazardous substance or mixture according to EC-directives 67/548/EEC or 1999/45/EC.

#### 2.2 Label elements

##### Labelling(REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

##### Labelling according to EC Directives (67/548/EEC)

Further information : The product does not need to be labelled in accordance with EC directives or respective national laws.

#### 2.3 Other hazards

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).  
This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

### 3. Composition/information on ingredients

#### 3.1 Substances

Chemical Name	CAS-No. EINECS-No. / ELINCS No.	Concentration [%]
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Magnesium Sulphate Heptahydrate (MgSO <sub>4</sub> ·7H <sub>2</sub> O)	10034-99-8 231-298-2	> 99
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### 4. First aid measures

#### 4.1 Description of first aid measures

- General advice : Get medical attention if symptoms occur.  
Show this safety data sheet to the doctor in attendance.
- If inhaled : If breathed in, move person into fresh air.
- In case of skin contact : Rinse with water.
- In case of eye contact : Immediately flush eye(s) with plenty of water.  
If eye irritation persists, consult a specialist.
- If swallowed : Clean mouth with water and drink afterwards plenty of water.

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

- Symptoms : Ingestion may provoke the following symptoms:  
Diarrhoea

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

- Treatment : For specialist advice physicians should contact the Poisons  
Information Service.

### 5. Firefighting measures

#### 5.1 Extinguishing media

- Suitable extinguishing media : The product is not flammable.  
Use extinguishing measures that are appropriate to local  
circumstances and the surrounding environment.
- Unsuitable extinguishing media : none

#### 5.2 Special hazards arising from the substance or mixture

- Specific hazards during  
firefighting : Heating or fire can release toxic gas.  
Sulphur oxides

#### 5.3 Advice for firefighters

- Special protective equipment  
for firefighters : Respiratory protection
- Further information : Collect contaminated fire extinguishing water separately. This  
must not be discharged into drains.

### 6. Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

- Personal precautions : Avoid breathing dust.



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### 6.2 Environmental precautions

Environmental precautions : Do not let product enter drains.

### 6.3 Methods and materials for containment and cleaning up

Methods for cleaning up : Sweep up and shovel into suitable containers for disposal.  
After cleaning, flush away traces with water.

### 6.4 Reference to other sections

For personal protection see section 8.

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## 7. Handling and storage

### 7.1 Precautions for safe handling

Advice on safe handling : Avoid dust formation.  
Avoid inhalation, ingestion and contact with skin and eyes.

Advice on protection against fire and explosion : The product is not flammable.  
No special protective measures against fire required.

### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep in a dry place.

Advice on common storage : No special restrictions on storage with other products.

German storage class : 13 Non Combustible Solids

Other data : Stable under recommended storage conditions.

### 7.3 Specific end uses

: Not relevant

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## 8. Exposure controls/personal protection

### 8.1 Control parameters

Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

#### Engineering measures

Provide adequate ventilation.

#### Personal protective equipment

Respiratory protection : Effective dust mask.

Hand protection : not required under normal use

Eye protection : Safety glasses



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Skin and body protection	: not required Wear suitable protective clothing.
Hygiene measures	: When using do not eat or drink. Wash hands before breaks and at the end of workday.
Protective measures	: Do not breathe dust.
<b>Environmental exposure controls</b>	
General advice	: Do not let product enter drains.

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## 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance	: crystalline
Colour	: white
Odour	: very faint
pH	: ca. 8, at 25 °C, Aqueous solution
Melting point/range	: 770 °C
	: Not applicable
Flash point	: Not applicable
Flammability (solid, gas)	: The product is not flammable.
Lower explosion limit	: Not applicable
Upper explosion limit	: Not applicable
Vapour pressure	: Not applicable
Density	: 1,7 g/cm <sup>3</sup>
Water solubility	: MgSO <sub>4</sub> : 342 g/l, 20 °C
Partition coefficient: n-octanol/water	: no data available
Autoignition temperature	: Not applicable
Ignition temperature	: Not applicable
Explosive properties	: Not applicable
Oxidizing properties	: Not applicable

### 9.2 Other information

Bulk density	: ca. 980 kg/m <sup>3</sup>
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## 10. Stability and reactivity

### 10.1 Reactivity

Stable

### 10.2 Chemical stability

No decomposition if stored and applied as directed.



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### 10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

### 10.4 Conditions to avoid

Conditions to avoid : None known.

### 10.5 Incompatible materials

Materials to avoid : None known.

### 10.6 Hazardous decomposition products

Hazardous decomposition products : No decomposition if stored and applied as directed.  
Heating or fire can release toxic gas.  
Sulphur oxides

## 11. Toxicological information

### 11.1 Information on toxicological effects

#### Product

- Acute oral toxicity : LD50: > 2.000 mg/kg, rat, OECD 425, Information given is based on data obtained from similar substances.
- Acute inhalation toxicity : This information is not available.
- Acute dermal toxicity : > 2.000 mg/kg, rat, OECD Test Guideline 402, Information given is based on data obtained from similar substances.
- Skin corrosion/irritation : Result: No skin irritation, EU Method B.46, Information given is based on data obtained from similar substances.
- Serious eye damage/eye irritation : rabbit, Result: No eye irritation, OECD Test Guideline 405, Information given is based on data obtained from similar substances.
- Respiratory or skin sensitization : mouse, Result: Does not cause skin sensitization., OECD Guideline 429, anhydrous substance
- Germ cell mutagenicity
- Genotoxicity in vitro : Result: negative, OECD 476, anhydrous substance
- Genotoxicity in vivo : no data available
- Carcinogenicity : This information is not available.  
According to experience not expected
- Reproductive toxicity : rat, NOAEL:  $\geq$  1.500 mg/kg, OECD Guideline 422, Information given is based on data obtained from similar substances.  
Assessment: Animal testing did not show any effects on fertility.
- Teratogenicity : rat, NOAEL:  $\geq$  1.500 mg/kg, OECD Guideline 422, Information given is based on data obtained from similar substances.  
Assessment: Did not show mutagenic or teratogenic effects in



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animal experiments.

- STOT - repeated exposure : rat, NOAEL:  $\geq$  256 mg/kg, OECD Test Guideline 453, Information given is based on data obtained from similar substances.
- Further information : Health injuries are not known or expected under normal use.

## 12. Ecological information

### 12.1 Toxicity

#### Product:

- Toxicity to fish : LC50: 680 mg/l, 96 h, Pimephales promelas (fathead minnow), Information given is based on data obtained from similar substances.
- Toxicity to daphnia and other aquatic invertebrates. : LC50: 720 mg/l, 48 h, Information given is based on data obtained from similar substances.
- Toxicity to algae : EC50: 2.700 mg/l, 18 d, Chlorella vulgaris (Fresh water algae), Information given is based on data obtained from similar substances.
- Toxicity to bacteria : EC50: 84 mg/l, 0,5 h, Photobacterium phosphoreum

### 12.2 Persistence and degradability

#### Product:

- Biodegradability :  
Not applicable

### 12.3 Bioaccumulative potential

#### Product:

- Bioaccumulation :  
Not applicable

### 12.4 Mobility in soil

#### Product:

- Physico-chemical removability : Not applicable

### 12.5 Results of PBT and vPvB assessment

#### Product:

- Assessment : This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

### 12.6 Other adverse effects

#### Product:



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Adsorbed organic bound halogens (AOX) : Not applicable

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### 13. Disposal considerations

#### 13.1 Waste treatment methods

Product : Check if agriculture use is possible.

Contaminated packaging : Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

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### 14. Transport information

#### 14.1 Land transport

##### ADR

Remarks : Not a dangerous substance as defined in the above regulations.  
Tunnel restriction code : Not relevant

#### 14.2 Sea transport

##### IMDG

Remarks : Not classified as dangerous in the meaning of transport regulations.

#### 14.3 Air transport

##### IATA-DGR

Remarks : Not classified as dangerous in the meaning of transport regulations.

#### 14.4 Special precautions for user

Not relevant

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

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### 15. Regulatory information

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

Water contaminating class (Germany) : WGK 1 slightly water endangering

##### **Notification status**

REACH : This substance is exempt from registration according to Regulation (EC) No. 1907/2006 (REACH).

#### 15.2 Chemical Safety Assessment

A Chemical Safety Assessment is not required for this substance.



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### 16. Other information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.