SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006

POTASSIUM HYDROXIDE TR FLAK.MIN90% B25KG

Version 2.0
Revision Date 07.04.2009

Print Date 08.04.2009

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product information
Trade name : POTASSIUM HYDROXIDE TR FLAK.MIN90% B25KG
Use : Chemical intermediate
Supplier : Brenntag GmbH
           Stinnes-Platz 1
           DE 45472 Muelheim an der Ruhr
Responsible Department : Einkauf Technik Sicherheit (ETS)

2. HAZARDS IDENTIFICATION

Risk advice to man and the environment
Xn R22 Harmful if swallowed.
C R35 Causes severe burns.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature
Chemical intermediate

Hazardous components
potassium hydroxide
CAS-No.: 1310-58-3
Classification: Xn; R22 C; R35

Concentration: <= 100,00 %
EC-No.: 215-181-3
Index-No.: 019-002-00-8

For the full text of the R-phrases mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

General advice
Take off all contaminated clothing immediately.

Inhalation
In case of accident by inhalation: remove casualty to fresh air and keep at rest. If breathing is irregular or stopped, administer artificial respiration. Call a physician immediately.

Skin contact
Wash off immediately with plenty of water for at least 15 minutes. Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.

Eye contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Consult an eye specialist immediately. Go to an ophthalmic hospital if possible.
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Ingestion : Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. If a person vomits when lying on his back, place him in the recovery position. Call a physician immediately.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. The product itself does not burn.

Specific hazards during fire fighting : Gives off hydrogen by reaction with metals.

Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus. Wear appropriate body protection (full protective suit)

Additional advice : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Use personal protective equipment. Keep away unprotected persons. Avoid dust formation. Avoid contact with skin, eyes and clothing. Do not breathe dust. Contaminated surfaces will be extremely slippery. For personal protection see section 8.

Environmental precautions : Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. If the product contaminates rivers and lakes or drains inform respective authorities.

Methods for cleaning up : Use mechanical handling equipment. Keep in suitable, closed containers for disposal. Flush with plenty of water.

Additional advice : Treat recovered material as described in the section "Disposal considerations".

7. HANDLING AND STORAGE

Handling

Advice on safe handling : Keep container tightly closed. Avoid dust formation. Use personal protective equipment. Avoid contact with the skin and the eyes. Provide appropriate exhaust ventilation at places where dust is formed. Emergency eye wash fountains and emergency showers should be available in the immediate vicinity.

Advice on protection against fire and explosion : The product is not flammable. Gives off hydrogen by reaction with metals. Risk of explosion.

Storage

Requirements for storage areas and containers : Keep in an area equipped with alkali resistant flooring. Suitable materials for containers: polyethylene containers, Unsuitable
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Advice on common storage: Keep away from food, drink and animal feedingstuffs.
Further information on storage conditions: Keep container tightly closed and dry. Product is hygroscopic.
German storage class: 8B: Non-combustible substances, corrosive

8. EXPOSURE CONTROLS/PERSOAL PROTECTION

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Potassium hydroxide</th>
<th>CAS-No.: 1310-58-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAK:</td>
<td>2 mg/m³,</td>
</tr>
<tr>
<td>Form of exposure:</td>
<td>MAK (AT)</td>
</tr>
<tr>
<td>Inhalable fraction</td>
<td></td>
</tr>
</tbody>
</table>

Personal protective equipment

Respiratory protection: Respirator must be worn if exposed to dust. Recommended
Filter type: Particle filter: P2, Particle filter: P3
Hand protection: The glove material has to be impermeable and resistant to the product / the substance / the preparation.
Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).
The following materials are suitable:
natural rubber
polychloroprene
Nitrile rubber
Polyvinylchloride
fluorocarbon rubber
Protective gloves should be replaced at first signs of wear.

Eye protection: Tightly fitting safety goggles
Body Protection: alkali resistant protective clothing
Hygiene measures: Keep away from food, drink and animal feedingstuffs. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and at the end of workday. Take off all contaminated clothing immediately. Avoid contact with the skin and the eyes. Do not breathe dust.

Engineering measures
Refer to protective measures listed in sections 7 and 8.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Form: solid
Colour: white
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Odour : odourless

Safety data
Melting point/range : ca. 410 °C
Boiling point/boiling range : 1.320 °C
Flash point : not applicable
Explosive properties : Product is not explosive.
Density : ca. 2.1 g/cm³; 20 °C
Water solubility : ca. 1.150 g/l; 20 °C
pH : 14; 100 g/l; 20 °C

10. STABILITY AND REACTIVITY
Conditions to avoid : Protect from humidity and keep away from water. Product is hygroscopic.
Materials to avoid : Water, Amines, Ammonia, Light metals, Strong acids, ammonium compounds, Halogenated compounds, Organic materials
Hazardous reactions : Exothermic reaction with strong acids. Reacts exothermic with water
General advice : No decomposition if stored and applied as directed.

11. TOXICOLOGICAL INFORMATION
Ingestion : LD50 rat 273 mg/kg
Skin contact : rabbit severely corrosive
Eye contact : rabbit severely corrosive, Risk of serious damage to eyes.
Sensitisation : guinea pig: not sensitizing:
Further information : If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)
Biodegradability : The methods for determining biodegradability are not applicable to inorganic substances.
Ecotoxicity effects
Toxicity to fish : LC50 Gambusia affinis 80 mg/l 96 h
LC50 Poecilia reticulata 165 mg/l 24 h
Toxicity to bacteria : EC50 Photobacterium phosphoreum 22 mg/l 15 min

Further information on ecology
Additional ecological information : Harmful effects to aquatic organisms due to pH-shift.
Neutralization is normally necessary before waste water is
discharged into water treatment plants. Do not flush into surface water or sanitary sewer system.

13. DISPOSAL CONSIDERATIONS

Product : Disposal together with normal waste is not allowed. Special disposal required according to local regulations. Do not let product enter drains. Contact waste disposal services.

Packaging : Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning. Packagings that cannot be cleaned are to be disposed of in the same manner as the product.

European Waste Catalogue Number : No waste code according to the European Waste Catalogue can be assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation with the regional waste disposer.

14. TRANSPORT INFORMATION

**ADR**
- UN-Number: 1813
- Class: 8
- Packaging group: II
- Classification Code: C6
- Labels: 8
- Hazard identification No: 80
- Description of the goods: POTASSIUM HYDROXIDE, SOLID

**RID**
- UN-Number: 1813
- Class: 8
- Packaging group: II
- Classification Code: C6
- Labels: 8
- Hazard identification No: 80
- Description of the goods: POTASSIUM HYDROXIDE, SOLID

**IMDG**
- UN-Number: 1813
- Class: 8
- Packaging group: II
- Labels: 8
- EmS: F-A, S-B
- Marine pollutant: No
- Description of the goods: POTASSIUM HYDROXIDE, SOLID
15. REGULATORY INFORMATION

Labelling according to EC Directives
The product is classified and labelled in accordance with EC directives or respective national laws.

![Corrosive symbol]

R-phrase(s)   R22           Harmful if swallowed.  
              R35           Causes severe burns.  

S-phrase(s)   S26           In case of contact with eyes, rinse immediately with plenty of 
              S36/37/39     water and seek medical advice. 
              S45           Wear suitable protective clothing, gloves and eye/face 
                           protection. 
              In case of accident or if you feel unwell, seek medical advice 
              immediately (show the label where possible).

Hazardous components which must be listed on the label:
potassium hydroxide

National legislation

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

Risk classification according to VbF (Germany) : Not applicable.

Waste Code : 52404

Regulation : Austria rule BGBl I 53/1997 List of Chem. materials is in 
             compliance with EU rule

16. OTHER INFORMATION

Full text of R-phrases referred to under sections 2 and 3
R22 Harmful if swallowed.
R35 Causes severe burns.

Further information

Restricted to professional users. Attention - Avoid exposure - obtain special instructions before use. The information provided in this Safety Data Sheet is correct to our knowledge at the date of its revision. The information given only describes the products with regard to safety arrangements and is not to be considered as a warranty or quality specification and does not constitute a legal relationship. The information contained in this Safety Data Sheet relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

|| Indicates updated section.