

Material Safety Data Sheet

In accordance with REACH Regulation (EC) no. 1907/2006

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

| | | |
|--|--|------------------|
| Produktidentificator: | UNISIL | PR-nr.: - |
| Relevant identified uses of the substance or mixture and uses advised against: The product is used as a flux - paste | | |
| Details of the supplier of the safety data sheet: | | Producer: |
| Company: | Unipak A/S Marktoften 3c 8464 Galten Denmark | |
| Contactperson: | lja@eurofins.dk | |
| Phone no. for emergencies: | +45 86 26 11 77 (Unipak, during working hours) +45 82 12 12 12 (Bispebjerg hospital, Giftlinje ("Toxins Line")) | |
| Date: | 03.01.2013 | |

The logo for Unipak, featuring the word "Unipak" in a bold, yellow, sans-serif font with a blue outline.

2. Hazards identification

Classification of the substance or mixture:

The product is classified as dangerous with Xi, N;R36/38 according to Danish Environment Ministry Order no. 1075/2011.
The product is highly irritating to eyes and skin.
Molten product can cause severe burns on contact with skin and eyes.

The full text of R-phrases see section 16

Labelling elements:

Labeling according to 1075/2011

Irritating to eyes and skin (R36/38)

Do not breathe gas/fumes/vapors (S23)

Avoid contact with eyes (S25)

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice (S26)

If swallowed, seek medical advice immediately and show this container or label (S46)

Dispose of this material and its container at hazardous or special waste collection point (S56)



Other hazards: None known.

PBT/vPvB: Components are not PBT/vPvB according to the criteria in REACH Annex XIII.

3. Composition/information on ingredients

Substances: -

Mixtures:

| <u>Substance name</u> | <u>CAS-no.</u> | <u>EF-no.</u> | <u>Indeks-no.</u> | <u>Veight- %</u> | <u>REACH reg.-no.</u> | <u>Classification</u> |
|-----------------------------|----------------|---------------|-------------------|----------------------|-----------------------|---|
| Potassium tetrafluoroborate | 14075-53-7 | 237-928-2 | - | 25-50 | - | Xi;R36/38 CLP*: Skin Irrit. 2;H315 Eye Irrit. 2;H319 |

CLaP*: European Parliament and Council Regulation (EC) no. 1272/2008.

The full text of R- and H-phrases: see section 16

4. First-aid measures

Description of first aid measures:

Inhalation:

Seek fresh air. **Mild cases:** Keep still under observation. At discomfort: Seek medical attention. **Severe cases:** Place unconscious in recovery position with the head in a low position and keep warm. If breathing has stopped, administer artificial respiration; Seek medical attention or ambulance immediately.

Skincontact:

Wash the skin with plenty of soap and water. After washing, rub skin with a thick cream. At contact with molten product, flush with plenty of water for 15-20 minutes. If medical treatment is necessary, continue flushing until medical attention is obtained.

Eye contact:

Open the eye, rinse immediately with water or saline for at least 15 minutes. Remove contact lenses. If symptoms persist: Seek medical attention. Continue rinsing the eye during the transportation to doctor/hospital.

Swallowing:

Immediately rinse mouth thoroughly and drink plenty of water. If immediate medical attention is not possible, do not induce vomiting. Keep the head low to prevent aspiration. Call an ambulance immediately. Do not administer liquid to unconscious. At unconsciousness see medical inhalation.

4. First-aid measures

Most important symptoms and effects, both acute and delayed:

The product is highly irritating to eyes, respiratory system and skin. Molten product can cause severe burns on contact with skin and eyes.

Indication of any immediate medical attention and special treatment needed:

Unconscious: Immediately get medical attention. Show this safety data sheet to the doctor or emergency room.

5. Fire-fighting measures

Extinguishing media:

Water spray (never water jet - spreads the fire) CO₂, foam or powder.

Special hazards arising from the substance or mixture:

The product is not flammable. Burning produces toxic gases. for example potassium fluoride and boron trifluoride.

Advice for firefighters:

As far as possible remove the product from areas threatened by fire, or cool with water. Wear self-contained breathing apparatus for firefighting.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Use personal protective equipment - see section. 8. Ensure good ventilation. Avoid inhalation of vapors from molten product.

Environmental precautions:

At release to the external environment, contact the environmental authorities

Methods and materials for containment and cleaning up:

Large amounts to be covered / absorb with sand or other absorbent material. To be collected and handled as hazardous waste. Rinse thoroughly with water. Further handling of spillage - see section. 13

Reference to other sections:

See above.

7. Handling and storage

Precautions for safe handling:

Do not breathe vapors from molten product. Ensure good ventilation. Avoid contact with skin, eyes and clothing. Wash promptly if skin becomes contaminated. Change contaminated clothing. Access to water supply and eye wash facilities.

Conditions for safe storage, including any incompatibilities:

Store in tightly closed original container in a cool, well ventilated dry place.
Keep separate from food, feedstuffs, etc.

Fire hazard class: -

Specific use:

See application - section. 1

8. Exposure controls/personal protection

Control parameters:

The following notifiable ingredients have a threshold according to the notice of the limit values for substances and materials No 1134/2011:

None

DNEL: No CSR.

PNEC: No CSR.

Exposure control:

Appropriate measures for exposure control:
Ensure good ventilation.

Personal protective equipment:

Inhalation: In case of inadequate ventilation: Use half mask EN140 with replaceable dust filter P2 R according to EN 143. The filters have a limited lifetime (to be replaced). Read the instruction.

Skin: Use protective gloves such as nitrile or leather *). It is recommended to change the glove if spilled on it.

*) It is important to note that there are many different types of gloves, why it is necessary to document the effectiveness with regard to the actual product.

Eyes: Wear Safety goggles at risk of product entering the eyes.

Measures to reduce environmental exposure:

Any residues and waste from production, must be collected and disposed of as mentioned in para. 13

Treatment and discharge of waste water shall be in accordance with local regulations.

9. Physical and chemical properties

Information on basic physical and chemical properties:

Appearance: White paste

Vapour pressure: 23 hPa

Odour: Characteristic

Vapor Density: -

Odour threshold: -

Density: 1,35 g/cm³

pH: 7

Solubility in water: Soluble

Melting point/freezingpoint: 500°C

Partition coefficient n-octanol/water: -

Initial boiling point and boiling range: 100°C

Auto-ignition temperature: -

Flash point: -

Decomposition temperature: -

Evaporation rate: -

Viscosity: -

Flammability: -

Explosive properties: -

Upper / lower flammability or explosive limits vol.%: -

Oxidizing properties: -

Other information: -

-: Means no data or not applicable

10. Stability and reactivity

Reactivity:

Stable under normal conditions till meltingpoint.

Chemical stability:

Stable under recommended storage conditions.

Possibility of hazardous reactions:

Reacts with strong acids.

Conditions to avoid:

Avoid temperatures >300°C

Materials to avoid:

None known.

Farlige nedbrydningsprodukter:

Decomposition products at fire can be: Potassium fluoride, boron trifluoride

11. Toxicological information

Information on toxicological effects:

| Hazard class | Data | Test | Data Source |
|---------------------|---|----------|-------------|
| | Potassium tetrafluoroborate | | |
| Akut toksicitet: | | | |
| Inhalation | LC ₅₀ (rat) : No data available | - | IUCLID |
| Dermal | LD ₅₀ (rabbit) : No data available | - | IUCLID |
| Oral | LD ₅₀ (rat) = 5854 mg/kg bw | OECD 401 | IUCLID |
| Etching/irritation: | Eyeirritation: No data available | - | IUCLID |
| | Skin irritation: No data available | - | IUCLID |
| Sensitization | No data available | - | C&L; IUCLID |
| CMR: | Carcinogenic effects: No data available | - | IUCLID |
| | Mutagenicity: No data available | - | IUCLID |
| | Fertility toxicity: No data available | - | IUCLID |
| | Embryo damaging effects: No data available | - | - |

Likely routes of exposure: Skin, lungs and gastrointestinal tract.

Symptoms:**Inhalation:**

Vapors from themolten product is a strong irritant to the respiratory tract and may cause dizziness, headache and general malaise.

Skin:

The product is highly irritating at contact to the skin.

Eyes:

The product is highly irritating at contact to the eyes.

Ingestion:

Ingestion can cause nausea and vomiting.

Long-term effects:

No known

12. Ecological information

Toxicity:

| Aquatic | Data | Test (media) | Data source |
|-------------|---|--------------|-------------|
| | Potassium tetrafluoroborate | | |
| Fish | LC ₅₀ , 96h = 330-780 µg/L (Pimephales promelas) | - | C&L, IUCLID |
| Crustaceans | EC ₅₀ , 48h = 800 µg/L (Daphnia Magna) | - | C&L, IUCLID |
| Algae | EC ₅₀ , 72h = 60 µg/L (Cladophora glomerata) | - | C&L, IUCLID |

Zinc chloride: is highly toxic to organisms living in water and can cause long-term adverse effects in the aquatic environment.

This product is highly toxic to organisms living in water and can cause long-term adverse effects in the aquatic environment according to Danish Environment Ministry criteria.

Persistence and degradability:

No data available.

12. Ecological information

Bioaccumulative potential:

No data available.

Mobility in soil:

No data available.

Results of PBT and vPvB assessment:

Components are not PBT / vPvB according to the criteria in Reach Annex XIII.

Other adverse effects:

None known.

13. Disposal

Waste treatment methods:

The product must be considered as hazardous waste. Use the municipal collection and removal system.

Chemical Group:

H

Waste fraction:

05.00

EAK code:

06 03 14

14. Transport information

This product is considered hazardous for transport.

UN-number: -

UN proper shipping name: -

Transport hazard class (es): -

Emballagegruppe: -

Environmental hazards: -

Special precautions for user: -

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

15. Regulatory information

Regulations / legislation specific for the substance or mixture with respect to safety, health and environment:

None.

Chemical Safety assessment:

No CSA.

16. Other information

Hazard Phrases referred to under sections 2, 3 and 16:

R36/38: Irritating to eyes and skin

H315: Causes skin irritation

H319: Causes serious eye irritation

16. Other information

Abbreviations:

At = The Danish Working Environment Authority (Arbejdstilsynets) threshold list.

BOD: Biochemical oxygen demand

CMR = Carcinogenicity, mutagenicity and reproductive toxicity

COD: Chemical oxygen demand

CSA = Chemical Safety Assessment

CSR = Chemical Safety Report

DNEL = Derived No-Effect level

EC₅₀ = Effect Concentration 50%

C&L = C&L inventory database – ECHA

LC₅₀ = Lethal Concentration 50%

LD₅₀ = Lethal Dose 50%

OECD: Organisation for Economic Co-operation and Development

PBT= Persistent, Bioaccumulative, Toxic

PNEC = Predicted No-Effect Concentration

vPvB = very Persistent, very Bioaccumulative

NOAEL: No Observed Adverse Effect Level

bw: Body Weight

Literature:

ECHA = European Chemical Agency

IUCLID = International Uniform Chemical Information Database

RTECS = Registry of Toxic Effects of Chemical Substances

Advice on training/instruction:

The product should only be used by persons well instructed in the proper work procedure and familiar with the contents of this safety data sheet

Further information:

The safety data sheet is prepared according to REACH Regulation (EC) No 1907/2006.

The safety data sheet is updated. Latest version: 28.05.2010. Original version 28.05.2010.

Changes since the previous version: Item 1-16.

The product has been classified according to the CLP with Skin Irrit. 2;H315, Eye Irrit. 2;H319.

The product is highly irritating to the eyes and skin. Molten product can cause severe burns on contact with skin and eyes.

Mærkning ifølge CLP (1272/2008)

Causes skin irritation (H315)

Causes serious eye irritation (H319)

Wear protective gloves/protective clothing/eye protection/face protection (P280)

Take off contaminated clothing and wash before reuse (P362)

IF ON SKIN: Wash with soap and water (P302+P352)

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing (P305+P351+P338)



Warning

Prepared by: Eurofins Product Testing A/S, Smedeskovvej 38, 8464 Galten, tlf. 70 22 42 76, fax 70 22 42 75