# 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:** **UNIPLUS** **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<br>Marktoften 3c<br>8464 Galten<br>Denmark |
| Contactperson: | lja@eurofins.dk |
| **Phone no. for emergencies:** | +45 86 26 11 77 (Unipak, during working hours)<br>+45 82 12 12 12 (Bispebjerg hospital, Giftlinje (“Toxins Line”)) |
| Date: | 03.01.2013 |

## 2. Hazards identification

**Classification of the substance or mixture:**

The product is classified as dangerous with Xi, N;R36/37/38-50/53 according to Danish Environment Ministry Order no. 1075/2011..
The product is highly irritating to eyes, respiratory system and skin.
Molten product can cause severe burns on contact with skin and eyes. Molten product may generate metal vapors
Metal vapors / fumes from heated product can cause metal fume fever.
The product is hazardous to the environment.

The full text of R-phrases see section 16

**Labelling elements:**

**Labeling according to 1075/2011**

Irritating to eyes, respiratory system and skin (R36/37/38)
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment (R50/53)

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)
This material and its container must be disposed of as hazardous waste (S60)
Avoid release to the environment. Refer to special instructions/safety data sheet (S61)



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:**

| Substance name | CAS-no. | EF-no. | Indeks-no. | Veight-% | REACH reg.-no. | Classification |
|---|---|---|---|---|---|---|
| Zinc chloride | 7646-85-7 | 231-592-0 | 030-003-00-2 | 5-<10 | - | C;R34 Xn;R22 N;R50/53 M=10<br>**CLP***:<br>Acute Tox.;H302<br>Skin Corr. 1B;H314<br>Aquatic Acute 1;H400<br>Aquatic Chronic 1;H410 |
| Ammonium chloride | 12125-02-9 | 235-186-4 | 017-014-00-8 | 1-2,5 | - | Xn;R22 Xi;R36<br>**CLP**:<br>Acute Tox.4;H302<br>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 mediacal 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.

**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. Hot product can cause severe burns on contact with skin and eyes. Heating the product may generate metal fumes. Metal vapors / fumes from heated product can cause metal fume fever.

**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. HCL, ammonia, etc.

**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 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. 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:

| | |
|---|---|
| Ammonium smoke | 10 mg/m$^3$ |
| Zinc chloride and zinc chloride smoke calc. as Zn | 0,5 mg/m$^3$ |

Compliance with limit values can be checked by occupational hygiene measurements.

**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 life (to be replaced). Read the instruction.
Skin: Use protective gloves such as nitrile or NBR *). 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:**

| | |
|---|---|
| Apperance: White paste | Vapour pressure: - |
| Odour: Characteristic | Vapor Density: - |
| Odour threshold: - | Density: 0,9g/cm$^3$ |
| pH: 7 | Solubility in water: Soluble |
| Melting point/freezingpoint: 50°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

**Chemical stability:**

Stable under recommended storage conditions.

**Possibility of hazardous reactions:**

No known

**Conditions to avoid:**

Avoid temperatures >300°C

**Materials to avoid:**

None known.

**Farlige nedbrydningsprodukter:**

Decomposition products at fire can be: HCL, ammonia.

## 11. Toxicological information

**Information on toxicological effects:**

| Hazard class | Data | Test | Data Source |
|---|---|---|---|
| | **Zinc chloride:** | | |
| Akut toksicitet: | | | |
| Inhalation | $LC_{50}$ (rat) = 0,3-2,5 mg/kg bw | - | C&L; IUCLID |
| Dermal | $LD_{50}$ (rabbit) >2000 mg/kg bw | OECD 402 | C&L; IUCLID |
| Oral | $LD_{50}$ (rat) = 1,260 mg/kg bw | OECD 403 | C&L; IUCLID |
| Etching/irritation: | Eyeirritation: No data available | - | C&L; IUCLID |
| | Skin irritation: strong irritant (rabbit) | - | C&L; IUCLID |
| Sensitization | not sensitizing | - | C&L; IUCLID |
| CMR: | Carcinogenic effects: No known effect | - | C&L; IUCLID |
| | Mutagenicity: Negative in tests | - | C&L; IUCLID |
| | Fertility toxicity: 7.5 mg / kg / day, rat (NOAEL) | OECD 416 | C&L; IUCLID |
| | Embryo damaging effects: NOEL: No effect | - | - |
| | **Ammonium chloride:** | | |
| Akut toksicitet: | | | |
| Inhalation | LC50 (rat): No data avaiable | - | C&L; IUCLID |
| Dermal | LD50 (rabbit) >2000 mg/kg bw | EU methode B.3 | C&L; IUCLID |
| Oral | LD50 (rat) = 1000- 1410 mg/kg bw | - | C&L; IUCLID |
| Etching/irritation: | Skin (rabbit): Moderately irritating | - | C&L; IUCLID |
| | Eye (rabbit): Irritating | Draize | C&L; IUCLID |
| Sensitization | not sensitizing | EPA 540/9-82-025 | C&L; IUCLID |
| CMR: | Carcinogenic effects: Negative (mice) | - | C&L; IUCLID |
| | Mutagenicity: Not mutagenic | Ames | C&L; IUCLID |
| | Fertility toxicity: 1500 mg/kg/day (NOAEL) | OECD 422 | C&L; IUCLID |
| | Embryo damaging effects: No data available | OECD 422 | C&L; IUCLID |
| | | | - |

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

**Symptoms:**

**Inhalation:**

Vapors from the product is a strong irritant to the respiratory tract and may cause dizziness, headache and general malaise.
Metal vapors / fumes from heated product can cause metal fume fever.

**Skin:**

The product is highly irritating to etching at contact to the skin.

**Eyes:**

The product is highly irritating to etching to the eyes.

**Ingestion:**

Ingestion can cause nausea and vomiting. May cause burns of the mucous membranes of the mouth, esophagus and gastrointestinal tract.

**Long-term effects:**

No known

## 12. Ecological information

**Toxicity:**

| Aquatic | Data | Test (media) | Data souce |
|---|---|---|---|
| | **Zinc chloride:** | | |
| 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 |
| | **Ammonium chloride:** | | |
| Fish | $LC_{50}$, 96h = 209 mg/l (Cyprinus carpio) | E-03-05 | C&L, IUCLID |
| Crustaceans | $EC_{50}$, 48 h = 101 mg/l (Daphna Magna) | ASTM E729-80 | C&L, IUCLID |
| Algae | $EC_{50}$, 5 dage = 1300-5080 mg/l (chlorella Vulgaris) | - | 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.

## 12. Ecological information

**Persistence and degradability:**
No data available.

**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:** | **Waste fraction:** | **EAK code**: |
|---|---|---|
| X | 05.00 | 06 03 13 |

## 14. Transport information

This product is considered hazardous for transport.

**UN-number:** 3082

**UN proper shipping name:**
Environmentally hazardous substance, N.O.S.

**Transport hazard class (es):** 9

**Emballagegruppe**: III

**Environmental hazards:** Yes

**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:**

| | |
|---|---|
| R22: | Harmful if swallowed |
| R34: | Causes burns |
| R36/37/38: | Irritating to eyes, respiratory system and skin |
| R50/53: | Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment |
| | |
| H302: | Harmful if swallowed |
| H314: | Causes severe skin burns and eye damage |
| H315: | Causes skin irritation |
| H319: | Causes serious eye irritation |
| H335: | May cause respiratory irritation |
| H400: | Very toxic to aquatic life |
| H410: | Very toxic to aquatic life with long lasting effects |

## 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 Assesment
CSR = Chemical Safety Report
DNEL = Derived No-Effect level
$EC_{50}$ = Effect Concentration 50%
C&L = C&L inventory database – ECHA
$LC_{50}$ = Lethal Concentration 50%
$LD_{50}$ = 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

**Litterature:**
ECHA = European Chemical Agency
IUCLID = International Uniform Chemical Information Database
RTECS = Registry of Toxic Effects of Chemical Substances
1272/2008 = European Parliament and Council Regulation (EF) no. 1272/2008

**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 Corr. 1B, H314, STOT SE 3, H335 Aquatic Acute 1; H410 Aquatic Chronic 1; H410.
The product is etching. Molten product can cause severe burns on contact with skin and eyes. Molten product may generate metal fumes. Metal vapors / fumes from heated product can cause metal fume fever.

The product is hazardous.

**Mærkning ifølge CLP (1272/2008)**

Contains: Zinc chloride

Causes severe skin burns and eye damage (H314)
May cause respiratory irritation (H335)
Very toxic to aquatic life with long lasting effects (H410)

Avoid release to the environment (P273)
Wear protective gloves/protective clothing/eye protection/face protection (P280)
Immediately call a POISON CENTER or doctor/physician (P310)
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower (P303+P361+P353)
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing (P305+P351+P338)



Danger

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