

# Material Safety Data Sheet

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

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

<b>Produktidentificator:</b>	<b>UNI "ST"</b>	<b>PR-nr.:</b> -
<b>Relevant identified uses of the substance or mixture and uses advised against:</b> The product is used as a flux.		
<b>Details of the supplier of the safety data sheet:</b>		<b>Producer:</b>
Company:	Unipak A/S Marktoften 3c 8464 Galten Denmark	
Contactperson:	lja@eurofins.dk	
<b>Phone no. for emergencies:</b>	+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 C, N;R34-37-50/53 according to Danish Environment Ministry Order no. 1075/2011.. The product is etching. The product contains an organic solvent which when inhaled in large amounts over time can damage the central nervous system.

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.

The product is hazardous to the environment.

The full text of R-phrases see. 16

### Labelling elements:

#### Labeling according to 1075/2011

Contains: Zinc chloride

Causes burns (R34)

Irritating to respiratory system (R37)

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment (R50/53)

Keep container tightly closed (S7)

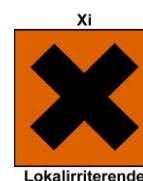
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice (S26)

Wear suitable protective clothing, gloves and eye/face protection (S36/37/39)

In case of accident or if you feel unwell seek medical advice immediately (show the label where possible) (S45)

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:

<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>
Zinc chloride	7646-85-7	231-592-0	030-003-00-2	20-25	-	C;R34 Xn;R22 N;R50/53 M=10 <b>CLP*:</b> Acute Tox.;H302 Skin Corr. 1B;H314 Aquatic Acute 1;H400 Aquatic Chronic 1;H410
2-Propanol	67-63-0	200-661-7	603-117-00-0	5-10	-	F;R11 Xi;R36 R67 <b>CLP:</b> Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3;H336
Ammonium chloride	12125-02-9	235-186-4	017-014-00-8	1-3	-	Xn;R22 Xi;R36 <b>CLP:</b> Acute Tox.4;H302 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:

And wash skin thoroughly with plenty of soap and water. Contact a doctor immediately. Flushing continues until medical attention is obtained.

#### Eye contact:

Open the eye, rinse immediately with water or saline for at least 15 minutes. Remove contact lenses. 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 inhalation.

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

The product causes burns. The product contains an organic solvent which when inhaled in large amounts over time can damage the central nervous system. 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) CO<sub>2</sub>, foam or powder.

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

The product is not flammable. Burning produces toxic gases. for example. carbon monoxide..

### 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 <sup>3</sup>
2-Propanol	490 mg/m <sup>3</sup>
Zinc chloride and zinc chloride smoke calc. as Zn	0,5 mg/m <sup>3</sup>

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 AP2 R. The filters have a limited lifetime (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.

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: Clear liquid	Vapour pressure: 23 hPa
Odour: Characteristic	Vapor Density: -
Odour threshold: -	Density: 1,2 g/cm <sup>3</sup>
pH: 4,4	Solubility in water: Insoluble
Melting point/freezingpoint: -	Partition coefficient n-octanol/water: -
Initial boiling point and boiling range: 82°C	Auto-ignition temperature: 425°C
Flash point: >85°C	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:

In contact with strong oxidizing agents the product can create heat and form flammable vapors. When heated fumes are created which can form explosive mixtures with air.

### Chemical stability:

Stable under recommended storage conditions.

### Possibility of hazardous reactions:

No known

### Conditions to avoid:

No known

### Materials to avoid:

None known.

### Farlige nedbrydningsprodukter:

Decomposition products at fire can be: Carbon monoxide and carbon dioxide

## 11. Toxicological information

### Information on toxicological effects:

Hazard class	Data	Test	Data Source
	<b>Zinc chloride:</b>		
Akut toksicitet: Inhalation Dermal Oral	LC <sub>50</sub> (rat) = 0,3-2,5 mg/kg bw LD <sub>50</sub> (rabbit) >2000 mg/kg bw LD <sub>50</sub> (rat) = 1,260 mg/kg bw	- OECD 402 OECD 403	C&L; IUCLID C&L; IUCLID C&L; IUCLID
Etching/irritation:	Eyeirritation: No data available Skin irritation: strong irritant (rabbit)	- -	C&L; IUCLID C&L; IUCLID
Sensitization	not sensitizing	-	C&L; IUCLID
CMR:	Carcinogenic effects: No known effect Mutagenicity: Negative in tests Fertility toxicity: 7.5 mg / kg / day, rat (NOAEL) Embryo damaging effects: NOEL: No effect	- - OECD 416 -	C&L; IUCLID C&L; IUCLID C&L; IUCLID -
	<b>Ammonium chloride:</b>		
Akut toksicitet: Inhalation Dermal Oral	LC50 (rat): No data available LD50 (rabbit) >2000 mg/kg bw LD50 (rat) = 1000- 1410 mg/kg bw	- EU metode B.3 -	C&L; IUCLID C&L; IUCLID C&L; IUCLID
Etching/irritation:	Skin (rabbit): Moderately irritating Eye (rabbit): Irritating	- Draize	C&L; IUCLID C&L; IUCLID
Sensitization	not sensitizing	EPA 540/9-82-025	C&L; IUCLID
CMR:	Carcinogenic effects: Negative (mice) Mutagenicity: Not mutagenic Fertility toxicity: 1500 mg/kg/day (NOAEL) Embryo damaging effects: No data available	- Ames OECD 422 OECD 422	C&L; IUCLID C&L; IUCLID C&L; IUCLID C&L; IUCLID -
	<b>2-Propanol:</b>		
Akut toksicitet: Inhalation Dermal Oral	LC50 (rat) = 72,6 mg/l/4h LD50 (rabbit) = 12870 mg/kg LD50 (rat) = 4396 mg/kg	- - -	IUCLID IUCLID IUCLID
Etching/irritation:	Skin (rabbit): Not irritating Eye (rabbit): 100 mg/ 72h, Irritating	Draize Draize	IUCLID -
Sensitization	not sensitizing	-	-
CMR:	Carcinogenic effects: No data available Mutagenicity: Negative in test Fertility toxicity: Weak / No effect Embryo damaging effects: No effect	- - Ames -	IUCLID IUCLID IUCLID 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 etching to corrosive to the skin.

#### Eyes:

The product is highly irritating to etching to the eyes. Risk of permanent eye damage.

#### Ingestion:

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

#### Long-term effects:

Repeated or prolonged exposure to the product can possibly damage the central nervous system.

## 12. Ecological information

### Toxicity:

Aquatic	Data	Test (media)	Data source
	<b>Zinc chloride:</b>		
Fish	LC <sub>50</sub> , 96h = 330-780 µg/L (Pimephales promelas)	-	C&L, IUCLID
Crustaceans	EC <sub>50</sub> , 48h = 800 µg/L (Daphnia Magna)	-	C&L, IUCLID
Algae	EC <sub>50</sub> , 72h = 60 µg/L (Cladophora glomerata)	-	C&L, IUCLID
	<b>Ammonium chloride:</b>		
Fish	LC <sub>50</sub> , 96h = 209 mg/l (Cyprinus carpio)	E-03-05	C&L, IUCLID
Crustaceans	EC <sub>50</sub> , 48 h = 101 mg/l (Daphna Magna)	ASTM E729-80	C&L, IUCLID
Algae	EC <sub>50</sub> , 5 dage = 1300-5080 mg/l (chlorella Vulgaris)	-	C&L, IUCLID
	<b>2-Propanol:</b>		
Fish	LC <sub>50</sub> , 48h > 1000 mg/l (Leuciscus idus)	FW	IUCLID
Crustaceans	EC <sub>50</sub> , 24 h > 9700 mg/l (Daphna Magna)	-	IUCLID
Algae	EC <sub>50</sub> , 72h > 1000 mg/l (Scenedesmus subspicatus)	-	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.

### 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:
H	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:

Not for use by persons under 18 years (except apprentices).

At a workplace instructions must ensure that employees are not exposed to conditions that may pose a risk during pregnancy or breastfeeding. (see The Danish Working Environment Authority Statutory Order: About work)

### Chemical Safety assessment:

No CSA.

## 16. Other information

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

R11: Highly flammable  
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  
R67: Vapours may cause drowsiness and dizziness

H225: Highly flammable liquid and vapour  
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  
H336: May cause drowsiness or dizziness  
H400: Very toxic to aquatic life  
H410: Very toxic to aquatic life with long lasting effects

### 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

EC<sub>50</sub> = Effect Concentration 50%

C&L = C&L inventory database – ECHA

LC<sub>50</sub> = Lethal Concentration 50%

LD<sub>50</sub> = 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

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:

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.



## 16. Other information

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. The product contains an organic solvent which when inhaled in large amounts over time can damage the central nervous system. 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.

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

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