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# SAFETY DATA SHEET

*according to Regulation (EC) No. 1907/2006*

*Print Date: 06.03.2012* *Version 1*

## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

**Product code:** 1680291
**Product name:** **UNIZINC NCZ 422 6X (BG)**

**Identified uses**
Chemical plating of metals

**Details of the supplier of the safety data sheet**

## 2. HAZARDS IDENTIFICATION

**Classification**

**Indication of danger:** Classification according to European directive on classification of hazardous preparations 1999/45/EC

**Most important hazards:**
R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Description** Aqueous solution

| Components | CAS-No | EC-No. | REACH No. | Weight % | Classification |
|---|---|---|---|---|---|
| Polyethyleneimine | 9002-98-6 | Polymer | - | 10-30 | N;R51/53 |

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

## 4. FIRST AID MEASURES

**General advice:** If symptoms persist, call a physician.

**Skin contact:** Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing before re-use.

**Inhalation:** Move to fresh air
If symptoms persist, call a physician

**Eye contact:** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists, consult a specialist.

**Ingestion:** Call a physician or Poison Control Center immediately. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

**Protection of first-aiders:** Use personal protective equipment.

## 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media:** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Extinguishing media which must not be used for safety reasons:** No information available

**Special protective equipment for fire-fighters** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**Special hazards arising from the substance or mixture:** In case of fire hazardous decomposition products may be produced such as, Carbon oxides, Nitrogen oxides (NOx).

**Specific methods** Water mist may be used to cool closed containers. Dike and collect water used to fight fire. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

**Autoignition temperature:**

**Flammability Limits in Air:**

**Lower:** None known

**Upper:** None known

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Avoid contact with skin and eyes. Prevent unauthorized access. For personal protection see section 8.

**Environmental precautions:** Should not be released into the environment.

**Methods for cleaning up:** Avoid formation of aerosol. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Clean contaminated surface thoroughly. Dispose of in accordance with local regulations.

**Methods for containment:** Prevent further leakage or spillage if safe to do so

## 7. HANDLING AND STORAGE

**Handling**

**Technical measures/Precautions:** Use only in area provided with appropriate exhaust ventilation.

**Safe handling advice:** Do not breathe vapours/dust. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice. Do not ingest. For personal protection see section 8.

**Storage**

**Technical measures/Storage conditions:** Keep containers tightly closed in a dry, cool and well-ventilated place.

**Incompatible products:** Oxidizing agents

**Storage Temperature**

**Keep above** 5 °C

**Keep below** 40 °C

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering measures to reduce exposure:**
Ensure adequate ventilation, especially in confined areas

**Individual protection measures**

| | |
|---|---|
| **Respiratory protection:** | In case of insufficient ventilation wear suitable respiratory equipment. |
| **Hand protection:** | Wear protective gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. |
| **Gloves:** | nitrile rubber |
| **Skin and body protection:** | long sleeved clothing. boots. |
| **Eye protection:** | Tightly fitting safety goggles. Ensure that eyewash stations and safety showers are close to the workstation location. |
| **Hygiene measures:** | Avoid contact with skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---|---|---|---|
| **Form** | liquid | **Colour:** | colourless |
| **Odour:** | No information available | **Specific gravity:** | 1.080 - 1.150 |
| **pH:** | 7.00 - 9.00 | **Boiling point:** | > 100°C |
| **Melting point:** | No information available | **Vapour pressure:** | ca. 23 hPa |
| **Water solubility** | completely soluble | **Flash point:** | Not applicable |
| **Decomposition temperature (°C):** | No information available | | |
| **VOC Content(%)**:** | 0 | **Explosive properties:** | Not applicable |

**Explosion limits:**

** Volatile organic compounds (VOC) content 814.018

## 10. STABILITY AND REACTIVITY

| | |
|---|---|
| **Stability:** | Stable under recommended storage conditions. |
| **Materials to avoid:** | Oxidizing agents |
| **Conditions to avoid:** | To avoid thermal decomposition, do not overheat. Do not freeze. |
| **Hazardous decomposition products:** | See chapter: 5 |
| **Hazardous reactions:** | None under normal processing |

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

**Component Information**

| Components | LD50/oral/rat | LC50/inhalation/rat | LD50/dermal/rabbit |
|---|---|---|---|
| Polyethyleneimine - 9002-98-6 | 2200 mg/kg | No information available | No information available |

**Local effects**

| | |
|---|---|
| **Skin contact** | Prolonged skin contact may cause skin irritation |
| **Eye contact** | Contact with eyes may cause irritation |
| **Inhalation** | May cause irritation of respiratory tract |
| **Ingestion** | May be harmful if swallowed |

## Chronic toxicity:

**Sensitization**

No information available

**Carcinogenic substances**

No information available

## 12. ECOLOGICAL INFORMATION

**Environmental hazard**

| | |
|---|---|
| **Toxicity:** | No data is available on the product itself |
| **Aquatic toxicity:** | May cause long lasting harmful effects to aquatic life<br>Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment |
| **Mobility:** | No information available |
| **Bioaccumulative potential:** | Not determined |
| **Water contaminating class (Germany)** | 1 |

## 13. DISPOSAL CONSIDERATIONS

| | |
|---|---|
| **Waste from residues / unused products:** | Dispose of in accordance with local regulations. |
| **Contaminated packageing:** | Empty containers should be taken for local recycling, recovery or waste disposal |
| **EWC waste disposal No:** | According to the European Waste Catalogue, Waste Codes are not product specific, but application specific |

## 14. TRANSPORT INFORMATION

Not classified as dangerous in the meaning of transport regulations.

**IMDG**

**ADR/RID**

**ICAO/IATA**

## 15. REGULATORY INFORMATION

**Symbol(s)**

The preparation is classified as dangerous in accordance with Directive 1999/45/EC

R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

**S-phrase(s)**

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

**Labelling:**

**Substances currently restricted by WEEE/RoHS (European Directive 2002/96/EC , 2002/95/EC) or ELV (European Directive 2000/53/EC):**

| PBDE | PBB | CrVI | Hg | Pb | Cd |
|---|---|---|---|---|---|
| - | - | - | - | - | - |

Please note: Current legislation restricting the use of certain substances applies to „homogeneous material" in finished articles being supplied to the market. Substances deposited during surface finishing may have a composition (weight percent) higher than the weight percent of the substance in the operating solution from which the deposit is made. Atotech encourages its customers to implement systems to ensure their finished products comply with the regulations in force.

**International Inventories**

**All of the components in this product are on or exempt from the following inventories:**
US TSCA, CANADA DSL / NDSL, Europe (EINECS/ELINCS/NLP), Korea, China, Philippines.

**International Inventory Legend**
TSCA: US - Toxic Substance Control Act
DSL: Canada - Domestic Substance List
NDSL: Canada - Non-Domestic Substance List
IECSC: China - Inventory of Existing Chemical Substances China
EINECS: EU Inventory of Existing Commercial Chemical Substances
ELINCS: EU List of Notified Chemical Substances
ECL: Korea - Existing Chemicals List
AICS: Australia - Inventory of Chemical Substances
ENCS: Japan - Existing and New Chemical Substances
PICCS: Phillipines - Inventory of Chemicals and Chemical Substances

## 16. OTHER INFORMATION

**Text of R phrases mentioned in Section 3:**

**Revision Date:** 06.03.2012

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