1 Identification of the substance/preparation and of the company/undertaking

- **Product details**
- **Trade name:** Transpoxy Zinc Rich Primer 1.79 pack B
- **Article number:** 1.79b-2
- **Application of the substance/preparation:** Epoxy curing agent
- **Manufacturer/supplier:**
  KOSAN PAINT (M) SDN. BHD.
  1, Jalan Koporat 1/KU 9, Taman Perindustrian Meru
  42200 Kapar, Selangor D.E. Malaysia.
  (Member of Transocean Coating)
- **Information in case of emergency:**
  Manufacturer/supplier.
  lskheong@kop.com.my

2 Hazards identification

- **Hazard description:**
  Xn Harmful
  F Highly flammable

- **Information concerning particular hazards for human and environment:**
  The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
  R 11 Highly flammable.
  R 20 Harmful by inhalation.
  R 37/38 Irritating to respiratory system and skin.
  R 41 Risk of serious damage to eyes.
- **Classification system:**
  The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

- **GHS label elements**
  - Danger
    2.6/2 - Highly flammable liquid and vapour.
  - Danger
    3.2/1C - Causes severe skin burns and eye damage.
  - Warning
    3.1/4 - Harmful if inhaled.
    3.8/3 - May cause respiratory irritation.
- **Prevention:**
  Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
  Keep container tightly closed.
  Ground/bond container and receiving equipment.
  Use explosion-proof electrical/ventilating/lighting/ equipment.
  Use only non-sparking tools.
  Take precautionary measures against static discharge.
  Do not breathe dust/fume/gas/mist/vapours/spray.
  Avoid breathing dust/fume/gas/mist/vapours/spray.
  Wash thoroughly after handling.

(Contd. on page 2)
Trade name: Transpoxy Zinc Rich Primer 1.79 pack B

Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.

· Response:
  IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
  IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
  IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
  IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor/physician.
Call a POISON CENTER or doctor/physician if you feel unwell.
Specific treatment (see label).
Wash contaminated clothing before reuse.
In case of fire: Use for extinction: CO2, powder or water spray.

· Storage:
Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Store locked up.

· Disposal:
Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

· Chemical characterization
· Description: Mixture of substances listed below with nonhazardous additions.

· Dangerous components:

<table>
<thead>
<tr>
<th>CAS</th>
<th>Chemical Name</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>108-88-3</td>
<td>toluene</td>
<td>25-50%</td>
</tr>
<tr>
<td>EINECS: 203-625-9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Section 16.</td>
<td></td>
</tr>
<tr>
<td>CAS: 68410-23-1</td>
<td>reaction product based on fatty acids and polyethyleneamine</td>
<td>25-50%</td>
</tr>
<tr>
<td>CAS: 78-83-1</td>
<td>iso-butanol</td>
<td>10-25%</td>
</tr>
<tr>
<td>EINECS: 201-148-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS: 90-72-2</td>
<td>2,4,6-tris(dimethylaminomethyl)phenol</td>
<td>≤ 2.5%</td>
</tr>
</tbody>
</table>

· Additional information: For the wording of the listed risk phrases refer to section 16.

4 First aid measures

· General information:
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· After inhalation:
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in side position for transportation.

· After skin contact: Immediately wash with water and soap and rinse thoroughly.

· After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
5 Fire-fighting measures

- Suitable extinguishing agents: CO₂, sand, extinguishing powder. Do not use water.
- For safety reasons unsuitable extinguishing agents: Water with full jet
- Protective equipment: Mouth respiratory protective device.

6 Accidental release measures

- Person-related safety precautions: Wear protective equipment. Keep unprotected persons away.
- Measures for environmental protection: Do not allow to enter sewers/surface or ground water.
- Measures for cleaning/collecting:
  Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  Dispose contaminated material as waste according to item 13.
  Ensure adequate ventilation.
  Do not flush with water or aqueous cleansing agents.

7 Handling and storage

- Handling:
  - Information for safe handling: Ensure good ventilation/exhaustion at the workplace.
  - Information about fire - and explosion protection: Keep ignition sources away - Do not smoke.
  - Protect against electrostatic charges.
- Storage:
  - Requirements to be met by storerooms and receptacles: Store in a cool location.
  - Information about storage in one common storage facility: Not required.
  - Further information about storage conditions:
    - Keep container tightly sealed.
    - Store in cool, dry conditions in well sealed receptacles.

8 Exposure controls/personal protection

- Additional information about design of technical facilities: No further data; see item 7.
- Ingredients with limit values that require monitoring at the workplace:
  108-88-3 toluene (25-50%)
    - WEL Short-term value: 384 mg/m³, 100 ppm
    - Long-term value: 191 mg/m³, 50 ppm
  78-83-1 iso-butanol (10-25%)
    - WEL Short-term value: 231 mg/m³, 75 ppm
    - Long-term value: 154 mg/m³, 50 ppm
- Additional information: The lists valid during the making were used as basis.
- Personal protective equipment:
  - General protective and hygienic measures:
    - Keep away from foodstuffs, beverages and feed.
    - Immediately remove all soiled and contaminated clothing
    - Wash hands before breaks and at the end of work.
Avoid contact with the skin.
Avoid contact with the eyes and skin.

- **Respiratory protection:**
  In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

- **Protection of hands:**

  Protective gloves

  The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
  Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
  Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

  - **Material of gloves**
    The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

  - **Penetration time of glove material**
    The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**

  Tightly sealed goggles

* 9 Physical and chemical properties

- **General Information**
  - **Form:** Fluid
  - **Colour:** According to product specification
  - **Odour:** Characteristic

- **Change in condition**
  Boiling point/Boiling range: 108°C

- **Flash point:** > 7°C

- **Ignition temperature:** 390°C

- **Self-igniting:** Product is not selfigniting.

- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

- **Explosion limits:**
  - **Lower:** 1.2 Vol %
  - **Upper:** 12.0 Vol %

- **Vapour pressure at 20°C:** 29 hPa

- **Density at 20°C:** 0.929 g/cm³

- **Solubility in / Miscibility with water:** Not miscible or difficult to mix.
Safety Data Sheet
according to 1907/2006/EC, Article 31

Printing date 04.09.2009
Revision: 04.09.2009
Vers.-Nr: 17

Trade name: Transpoxy Zinc Rich Primer 1.79 pack B

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10 Stability and reactivity

- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- Dangerous reactions: No dangerous reactions known.
- Dangerous decomposition products: No dangerous decomposition products known.

11 Toxicological information

- Acute toxicity:

  - LD/LC50 values relevant for classification:

    | Medium      | LD50       | LC50       |
    |-------------|------------|------------|
    | Oral        | 5000 mg/kg (rat) |            |
    | Dermal      | 12124 mg/kg (rabbit) |          |
    | Inhalative  | LC50/4 h 5320 mg/l (mouse) |          |

- Primary irritant effect:
  - on the skin: Irritant to skin and mucous membranes.
  - on the eye: Strong irritant with the danger of severe eye injury.
- Sensitization: No sensitizing effects known.

- Additional toxicological information:
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
   Harmful
   Irritant

12 Ecological information

- General notes:
  Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
  Do not allow product to reach ground water, water course or sewage system.
  Danger to drinking water if even small quantities leak into the ground.

13 Disposal considerations

- Product:
  - Recommendation
    Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- Uncleaned packaging:
  - Recommendation: Disposal must be made according to official regulations.

(Contd. on page 6)
14 Transport information

- **Land transport ADR/RID** (cross-border)

  - ADR/RID class: 3 Flammable liquids.
  - Danger code (Kemler): 38
  - UN-Number: 2733
  - Packaging group: III
  - Hazard label: 3+8
  - Description of goods: 2733 POLYAMINES, FLAMMABLE, CORROSIVE, N.O.S. (XYLENES, reaction product based on fatty acids and polyethyleneamine)

- **Maritime transport IMDG:**

  - IMDG Class: 3
  - UN Number: 2733
  - Label 3+8
  - Packaging group: III
  - EMS Number: F-E-S-C
  - Marine pollutant: No
  - Proper shipping name: POLYAMINES, FLAMMABLE, CORROSIVE, N.O.S. (XYLENES, reaction product based on fatty acids and polyethyleneamine)

- **Air transport ICAO-TI and IATA-DGR:**

  - ICAO/IATA Class: 3
  - UN/ID Number: 2733
  - Label 3+8
  - Packaging group: III
  - Proper shipping name: POLYAMINES, FLAMMABLE, CORROSIVE, N.O.S. (XYLENES, reaction product based on fatty acids and polyethyleneamine)

  - UN "Model Regulation": UN2733; POLYAMINES, FLAMMABLE, CORROSIVE, N.O.S.; 3 (8); III

15 Regulatory information

- **Labelling according to EU guidelines:**
  The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.

- **Code letter and hazard designation of product:**
  Xn Harmful
  F Highly flammable

- **Hazard-determining components of labelling:** toluene
Safety Data Sheet
according to 1907/2006/EC, Article 31


Trade name: Transpoxy Zinc Rich Primer 1.79 pack B

(Rcontd. of page 6)

- Risk phrases:
  11 Highly flammable.
  20 Harmful by inhalation.
  37/38 Irritating to respiratory system and skin.
  41 Risk of serious damage to eyes.

- Safety phrases:
  23 Do not breathe gas/fumes/vapour/spray (appropriate wording to
     be specified by the manufacturer).

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any
specific product features and shall not establish a legally valid contractual relationship.

- Relevant R-phrases
  10 Flammable.
  11 Highly flammable.
  22 Harmful if swallowed.
  36/38 Irritating to eyes and skin.
  37/38 Irritating to respiratory system and skin.
  38 Irritating to skin.
  41 Risk of serious damage to eyes.
  48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
  63 Possible risk of harm to the unborn child.
  65 Harmful: may cause lung damage if swallowed.
  67 Vapours may cause drowsiness and dizziness.

- Abbreviations and acronyms:
  ADR: Accord européen sur le transport des marchandises Dangereuses par Route (European Agreement concerning the International
  Carriage of Dangerous Goods by Road)
  RID: Reglement internationale concernent le transport des merchandises dangereuses par chemin de fer (Regulations Concerning the
  International Transport of Dangerous Goods by Rail)
  IMDG: International Maritime Code for Dangerous Goods
  IATA: International Air Transport Association
  IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
  ICAO: International Civil Aviation Organization
  ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
  GHS: Globally Harmonized System of Classification and Labelling of Chemicals
  GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)
  VOC: Volatile Organic Compounds (USA, EU)
  LC50: Lethal concentration, 50 percent
  LD50: Lethal dose, 50 percent

* Data compared to the previous version altered.