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

- Product details
- Trade name: KOSSAN 1.59 Single Pack Zn Rich Epoxy Primer
- Article number: 1.59
- Registration number Co. No. 281816-H
- Application of the substance / the preparation Coating material
- Manufacturer/Supplier:
  KOSSAN PAINT (M) SDN. BHD.
  1, Jalan Koporat 1/KU 9, Taman Perindustrian Meru
  42200 Kapar, Selangor D.E. Malaysia.
- Further information obtainable from:
  Product safety department.
  lskheong@kop.com.my
- Information in case of emergency: Manufacturer/supplier

2 Hazards identification

- Hazard description:
  - Toxic
  - 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 60 May impair fertility.
  R 61 May cause harm to the unborn child.
  R 11 Highly flammable.
  R 15 Contact with water liberates extremely flammable gases.
  R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

- 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.
    2.12/2 - In contact with water releases flammable gas.
  - Warning
    3.7/1B - May damage fertility or the unborn child.

- Prevention:
  Obtain special instructions before use.
  Do not handle until all safety precautions have been read and understood.
  Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
  Handle under inert gas. Protect from moisture.
  Keep container tightly closed.

(Contd. on page 2)
Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing dust/fume/gas/mist/vapours/spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Use personal protective equipment as required.

**Response:**
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. IF ON SKIN: Wash with plenty of soap and water. 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 exposed or concerned: Get medical advice/attention. Call a POISON CENTER or doctor/physician if you feel unwell. Specific measures (see label).

Rinse mouth.
Brush off loose particles from skin. Immerse in cool water-wrap in wet bandages.
Wash contaminated clothing before reuse.
In case of fire: Use for extinction: CO2, powder or water spray.

**Storage:**
Store in a dry place. Store in a closed container. 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:**

- **zinc powder - zinc dust (stabilized)**
  - **R 10-15**
  - **Danger:** 2.12/1, 2.7/1
  - **25-50%**

- **butanone**
  - **Xi; F:** R 11-36-66-67
  - **Danger:** 2.6/2
  - **Warning:** 3.3/2A, 3.8/3
  - **10-25%**

- **2-ethoxyethyl acetate**
  - **T:** R 60-61-20/21/22
  - **Danger:** 3.1.O/3, 3.1.D/3, 3.1.I/4; 3.7/1B
  - **Warning:** 2.6/3
  - **2.5-10%**

- **4-methylpent-3-en-2-one**
  - **Xn; R 10-20/21/22**
  - **Danger:** 3.1.O/3, 3.1.D/3, 3.1.I/4
  - **Warning:** 2.6/3
  - **2.5-10%**

- **cyclohexanone**
  - **Xn; R 10-20**
  - **Danger:** 2.6/3; 3.1.I/4
  - **Warning:**
  - **2.5-10%**

**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.
No special measures required.

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

**After skin contact:**
Immediately rinse with water.

**After eye contact:**
Rinse opened eye for several minutes under running water.

**After swallowing:**
Call for a doctor immediately.

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 product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
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.
Open and handle receptacle with care.
Prevent formation of aerosols.

**Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respirator protective device available.

**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:**

<table>
<thead>
<tr>
<th>Chemical</th>
<th>WEL Short-term value</th>
<th>Long-term value</th>
</tr>
</thead>
<tbody>
<tr>
<td>78-93-3 butanone (10-25%)</td>
<td>899 mg/m³, 300 ppm</td>
<td>600 mg/m³, 200 ppm</td>
</tr>
<tr>
<td>111-15-9 2-ethoxyethyl acetate (2.5-10%)</td>
<td>55 mg/m³, 10 ppm</td>
<td></td>
</tr>
<tr>
<td>108-94-1 cyclohexanone (2.5-10%)</td>
<td>20 ppm</td>
<td>10 ppm</td>
</tr>
</tbody>
</table>

- **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.
  - Store protective clothing separately.
  - 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**

(Contd. on page 5)
9 Physical and chemical properties

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

- **Change in condition**
  - Melting point/Melting range: Undetermined.
  - Boiling point/Boiling range: 79°C

- **Flash point:** -4°C

- **Ignition temperature:** 344°C

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

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

  - **Explosion limits:**
    - Lower: 1.8 Vol %
    - Upper: 11.5 Vol %

- **Vapour pressure at 20°C:** 105 hPa

- **Density at 20°C:** 1.96 g/cm³

- **Solubility in / Miscibility with water:** Not miscible or difficult to mix.

- **Solvent content:**
  - Organic solvents: 25.0 %
  - VOC (EC) 25.00 %

- **Solids content:** 67.5 %

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

- **Dangerous reactions** Contact with water releases flammable gases.

- **Dangerous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Acute toxicity:**

  - **LD/LC50 values relevant for classification:**
    - **111-15-9 2-ethoxyethyl acetate**
      - Oral LD50: 3900 mg/kg (rat)
      - Dermal LD50: 10300 mg/kg (rabbit)
    - **141-79-7 4-methylpent-3-en-2-one**
      - Oral LD50: 1120 mg/kg (rat)
      - Dermal LD50: 5150 mg/kg (rabbit)

- **Primary irritant effect:**
  - **on the skin:** No irritant effect.
  - **on the eye:** No irritating effect.

- **Sensitization:** No sensitizing effects known.
**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.

**14 Transport information**

- Land transport ADR/RID (cross-border)

  - ADR/RID class: 4.3 Substances which, in contact with water, emit flammable gases.
  - Danger code (Kemler): 329
  - UN-Number: 3148
  - Packaging group: II
  - Hazard label: 4.3
  - Description of goods: 3148 WATER-REACTIVE LIQUID, N.O.S. (zinc powder - zinc dust (stabilized))

- Maritime transport IMDG:

  - IMDG Class: 4.3
  - UN Number: 3148
  - Label: 4.3
  - Packaging group: II
  - EMS Number: F-G,S-N
  - Marine pollutant: No
  - Proper shipping name: WATER-REACTIVE LIQUID, N.O.S. (zinc powder - zinc dust (stabilized))

- Air transport ICAO-TI and IATA-DGR:

  - ICAO/IATA Class: 4.3
  - UN/ID Number: 3148
**Trade name:** KOSSAN 1.59 Single Pack Zn Rich Epoxy Primer

<table>
<thead>
<tr>
<th>· Label</th>
<th>4.3</th>
</tr>
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<tbody>
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<td>· Packaging group:</td>
<td>II</td>
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</tr>
<tr>
<td>· UN &quot;Model Regulation&quot;:</td>
<td>UN3148; WATER-REACTIVE LIQUID, N.O.S.; 4.3; II</td>
</tr>
</tbody>
</table>

### 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:**
  T Toxic
  F Highly flammable

- **Hazard-determining components of labelling:**
  2-ethoxyethyl acetate
  4-methylpent-3-en-2-one

- **Risk phrases:**
  60 May impair fertility.
  61 May cause harm to the unborn child.
  11 Highly flammable.
  15 Contact with water liberates extremely flammable gases.
  20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

- **Safety phrases:**
  53 Avoid exposure - obtain special instructions before use.
  1/2 Keep locked up and out of the reach of children.

### 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.
  15 Contact with water liberates extremely flammable gases.
  20 Harmful by inhalation.
  20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
  36 Irritating to eyes.
  60 May impair fertility.
  61 May cause harm to the unborn child.
  66 Repeated exposure may cause skin dryness or cracking.
  67 Vapours may cause drowsiness and dizziness.

- **Department issuing MSDS:** Product safety department.
- **Contact:** Mr. S.K. Lim

**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: Règlement international concernant le transport des marchandises 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)
**Trade name:** KOSSAN 1.59 Single Pack Zn Rich Epoxy Primer

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<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>LC50:</td>
<td>Lethal concentration, 50 percent</td>
</tr>
<tr>
<td>LD50:</td>
<td>Lethal dose, 50 percent</td>
</tr>
</tbody>
</table>

* Data compared to the previous version altered.