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

- Product details
  - Trade name: maleic anhydride
  - Manufacturer/Supplier:
    Petrochem Middle East FZE
    PO Box 17028,
    Jebel Ali Free Zone
    Dubai, UAE
    Ph +971 4 8839222; Fax +971 4 8834133
  - Further information obtainable from: Product safety department.

2 Composition/information on ingredients

- Chemical characterization:
- CAS No. Description
  108-31-6 maleic anhydride
- Identification number(s)
  - EINECS Number: 203-571-6
  - Index number: 607-096-00-9

3 Hazards identification

- Hazard description:
  - C Corrosive

- Information concerning particular hazards for human and environment:
  R 22 Harmful if swallowed.
  R 34 Causes burns.
  R 42/43 May cause sensitisation by inhalation and skin contact.

4 First aid measures

- General information:
  Immediately remove any clothing soiled by the product.
  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 and to be sure call for a doctor.
  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.
- After swallowing:
  Call for a doctor immediately.
  Drink plenty of water and provide fresh air. Call for a doctor immediately.

5 Fire-fighting measures

- Suitable extinguishing agents: Use fire extinguishing methods suitable to surrounding conditions.
Safety Data Sheet
According to 91/155 EEC

Printing date 24.06.2009
Revision: 24.06.2009

Trade name: maleic anhydride

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:**
  - Use neutralizing agent.
  - Dispose contaminated material as waste according to item 13.
  - Ensure adequate ventilation.

7 Handling and storage

- **Handling:**
  - **Information for safe handling:** Thorough dedusting.
  - Ensure good ventilation/exhaustion at the workplace.
  - Prevent formation of dust.
  - **Information about fire - and explosion protection:** No special measures required.

- **Storage:**
  - **Requirements to be met by storerooms and receptacles:** No special requirements.
  - **Information about storage in one common storage facility:** Not required.
  - **Further information about storage conditions:** Keep container tightly sealed.

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>108-31-6 maleic anhydride</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEL (USA)</td>
</tr>
<tr>
<td>REL (USA)</td>
</tr>
<tr>
<td>TLV (USA)</td>
</tr>
<tr>
<td>WEL (Great Britain)</td>
</tr>
<tr>
<td></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.
  - 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.
Safety Data Sheet
According to 91/155 EEC

Printing date 24.06.2009
Revision: 24.06.2009

Trade name: maleic anhydride

- 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.
  - Penetration time of glove material
    
    The exact break through 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
  
<table>
<thead>
<tr>
<th>Form</th>
<th>Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>White</td>
</tr>
<tr>
<td>Odour</td>
<td>Characteristic</td>
</tr>
</tbody>
</table>

- Change in condition
  
  Melting point/Melting range: 52.6°C
  Boiling point/Boiling range: 202°C

- Flash point:
  
  103°C

- Flammability (solid, gaseous):
  
  Product is not flammable.

- Ignition temperature:
  
  380°C

- Danger of explosion:
  
  Product does not present an explosion hazard.

- Explosion limits:
  
  Lower: 1.4 Vol %
  Upper: 7.1 Vol %

- Vapour pressure at 20°C:
  
  0.2 hPa

- Density at 20°C:
  
  1.48 g/cm³

- Solubility in / Miscibility with water at 20°C:
  
  788 g/l

10 Stability and reactivity

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

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

## 11 Toxicological information

### Acute toxicity:

<table>
<thead>
<tr>
<th></th>
<th>LD50/LC50 values relevant for classification:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>LD50 400 mg/kg (rat)</td>
</tr>
<tr>
<td>Dermal</td>
<td>LD50 2620 mg/kg (rabbit)</td>
</tr>
</tbody>
</table>

- **Primary irritant effect:**
  - **on the skin**: Caustic effect on skin and mucous membranes.
  - **on the eye**: Strong caustic effect.
- **Sensitization**:
  - Sensitization possible through inhalation.
  - Sensitization possible through skin contact.
- **Additional toxicological information**:
  - Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

## 12 Ecological information

- **General notes**:
  - Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water
  - Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
  - Must not reach sewage water or drainage ditch undiluted or unneutralized.

## 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**: 8 Corrosive substances.
  - **Danger code (Kemler)**: 80
  - **UN-Number**: 2215
  - **Packaging group**: III
  - **Hazard label**: 8
Trade name: maleic anhydride

Description of goods: 2215 MALEIC ANHYDRIDE

Maritime transport IMDG:

- IMDG Class: 8
- UN Number: 2215
- Label: 8
- Packaging group: III
- EMS Number: F-A,S-B
- Marine pollutant: No
- Proper shipping name: MALEIC ANHYDRIDE

Air transport ICAO-TI and IATA-DGR:

- ICAO/IATA Class: 8
- UN/ID Number: 2215
- Label: 8
- Packaging group: III
- Proper shipping name: MALEIC ANHYDRIDE

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:

C Corrosive

Risk phrases:
22 Harmful if swallowed.
34 Causes burns.
42/43 May cause sensitisation by inhalation and skin contact.

Safety phrases:
2 Keep out of the reach of children.
22 Do not breathe dust.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
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.

- Department issuing MSDS: Product safety department
- Contact: Mr. Menon

Department issuing MSDS: Product safety department

Contact: Mr. Menon