

Printing date 24.06.2009

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

- **Product details**
- **Trade name:** cyclohexanone
- **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.
- **Information in case of Emergency** Product safety department.

## 2 Composition/information on ingredients

- **Chemical characterization:**
- **CAS No. Description**  
108-94-1 cyclohexanone
- **Identification number(s)**
- **EINECS Number:** 203-631-1
- **Index number:** 606-010-00-7

## 3 Hazards identification

- **Hazard description:**



Xn Harmful

- **Information concerning particular hazards for human and environment:**  
R 10 Flammable.  
R 20 Harmful by inhalation.

## 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:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.

## 5 Fire-fighting measures

- **Suitable extinguishing agents:**  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet

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- **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:**
  - Dilute with plenty of water.
  - Dispose contaminated material as waste according to item 13.
  - Ensure adequate ventilation.

### 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:** 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:**

#### 108-94-1 cyclohexanone

PEL (USA)	200 mg/m <sup>3</sup> , 50 ppm
REL (USA)	100 mg/m <sup>3</sup> , 25 ppm
	Skin
TLV (USA)	50 mg/m <sup>3</sup> , 20 ppm
	Skin
IOELV (EU)	Short-term value: 81.6 mg/m <sup>3</sup> , 20 ppm
	Long-term value: 40.8 mg/m <sup>3</sup> , 10 ppm
	Skin
WEL (Great Britain)	Short-term value: 20 ppm
	Long-term value: 10 ppm
	Sk

- **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.
  - Wash hands before breaks and at the end of work.
- **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.

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· **Protection of hands:**

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**

<b>Form:</b>	Fluid
<b>Colour:</b>	Colourless
<b>Odour:</b>	Characteristic

· **Change in condition**

<b>Melting point/Melting range:</b>	ca. - 26°C
<b>Boiling point/Boiling range:</b>	153 - 156°C

· **Flash point:** 43°C

· **Ignition temperature:** 420°C

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

· **Explosion limits:**

<b>Lower:</b>	1.3 Vol %
<b>Upper:</b>	9.4 Vol %

· **Vapour pressure at 20°C:** 5 hPa

· **Density at 20°C:** 0.95 g/cm<sup>3</sup>

· **Solubility in / Miscibility with water at 20°C:** 80 g/l

### 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.

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### 11 Toxicological information

· **Acute toxicity:**

· **LD/LC50 values relevant for classification:**

Oral	LD50	1535 mg/kg (rat)
Dermal	LD50	948 mg/kg (rabbit)
Inhalative	LC50/4 h	8000 mg/l (rat)

· **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 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.*

### 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:** 3 Flammable liquids.

· **Danger code (Kemler):** 30

· **UN-Number:** 1915

· **Packaging group:** III

· **Hazard label:** 3

· **Description of goods:** 1915 CYCLOHEXANONE

· **Maritime transport IMDG:**



· **IMDG Class:** 3

· **UN Number:** 1915

· **Label:** 3

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- **Packaging group:** III
- **EMS Number:** F-E,S-D
- **Marine pollutant:** No
- **Proper shipping name:** CYCLOHEXANONE

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



- **ICAO/IATA Class:** 3
- **UN/ID Number:** 1915
- **Label:** 3
- **Packaging group:** III
- **Proper shipping name:** CYCLOHEXANONE

### 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

- **Risk phrases:**

10 Flammable.  
20 Harmful by inhalation.

- **Safety phrases:**

2 Keep out of the reach of children.  
25 Avoid contact with eyes.

### 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