SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier
   Trade name : KEMACRYL HARDENER  2k Acrylic paint hardener

1.2 Relevant identified uses of the substance or mixture and uses advised against
   Use of the Substance/Mixture : Curing chemical
   Recommended restrictions on use : For use in industrial installations or professional treatment only.

1.3 Details of the supplier of the safety data sheet
   Company : CHEMIACL FOR MODERN BUILDING CMB
   319 Elharam, Giza Egypt
   cmb@cmbegypt.com

   Telephone : +(202) 35854118
   Telefax : +(202) 35859858
   E-mail address of person responsible for the SDS : hosny.ahmed@cmbegypt.com

1.4 Emergency telephone number
   +201285804555 (8:00 AM -5:00 PM )

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

   Classification (REGULATION (EC) No 1272/2008)
   Flammable liquids, Category 3     H226: Flammable liquid and vapour.
   Acute toxicity, Category 4        H332: Harmful if inhaled.
   Specific target organ toxicity - single exposure, Category 3, Respiratory system     H335: May cause respiratory irritation.
   Skin irritation, Category 2      H315: Causes skin irritation.
   Specific target organ toxicity - single exposure, Category 3, Central nervous system     H336: May cause drowsiness or dizziness.
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Skin sensitisation, Category 1  H317: May cause an allergic skin reaction.

Chronic aquatic toxicity, Category 3  H412: Harmful to aquatic life with long lasting effects.

**Classification (67/548/EEC, 1999/45/EC)**

Flammable  R10: Flammable.

Harmful  R20: Harmful by inhalation.

Irritant  R37: Irritating to respiratory system.

R38: Irritating to skin.

R43: May cause sensitisation by skin contact.

R67: Vapours may cause drowsiness and dizziness.

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

**2.2 Label elements**

**Labelling (REGULATION (EC) No 1272/2008)**

Hazard pictograms:

- Flammable liquid and vapour.
- Warning

Hazard statements:

- H226 Flammable liquid and vapour.
- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.
- H315 Causes skin irritation.
- H336 May cause drowsiness or dizziness.
- H317 May cause an allergic skin reaction.
- H412 Harmful to aquatic life with long lasting effects.

Supplemental Hazard Statements: EUH066 Repeated exposure may cause skin dryness or cracking.

Precautionary statements: **Prevention**:

- P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- P260 Do not breathe vapours.
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P260  Do not breathe spray.

Response:
P301 + P310  IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331  Do NOT induce vomiting.
P362 + P364  Take off contaminated clothing and wash it before reuse.
P370 + P378  In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:
P403

Disposal:
P501  Dispose of contents/container to an approved waste disposal plant.

Hazardous components which must be listed on the label:
HDI oligomers, isocyanurate

Additional Labelling:
EUH204  Contains isocyanates. May produce an allergic reaction.

2.3 Other hazards
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures
Chemical nature  :  Paint

Hazardous components

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Registration number</th>
<th>Classification (67/548/EEC)</th>
<th>Classification (REGULATION (EC) No 1272/2008)</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDI oligomers, isocyanurate</td>
<td>28182-81-2, 500-060-2, 01-2119485796-17</td>
<td>Xn-Xi; R20-R37-R43</td>
<td>Acute Tox.4; H332 Skin Sens.1; H317 STOT SE3; H335</td>
<td>&gt;= 30 - &lt; 50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>n-butyl acetate</td>
<td>123-86-4, 204-658-1, 01-2119485493-29</td>
<td>R10 R66 R67</td>
<td>Flam. Liq.3; H226 STOT SE3; H336</td>
<td>&gt;= 20 - &lt; 30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solvent naphtha (petro-)</td>
<td>64742-95-6</td>
<td>Xn; R65</td>
<td>Flam. Liq.3; H226</td>
<td>&gt;= 2.5 - &lt; 10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Move out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled : Move to fresh air. Consult a physician after significant exposure.

In case of skin contact : Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. If symptoms persist, call a physician.

In case of eye contact : Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.

If swallowed : Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. Obtain medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Inhalation may provoke the following symptoms: Headache Vertigo Fatigue Skin contact may provoke the following symptoms: Redness Ingestion may provoke the following symptoms: Abdominal pain Vomiting
4.3 **Indication of any immediate medical attention and special treatment needed**

**Treatment**: In case of ingestion, the stomach should be emptied by gastric lavage under qualified medical supervision.

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**SECTION 5: Firefighting measures**

5.1 **Extinguishing media**

- **Suitable extinguishing media**: Alcohol-resistant foam, Dry chemical
- **Unsuitable extinguishing media**: High volume water jet

5.2 **Special hazards arising from the substance or mixture**

- **Specific hazards during firefighting**: Do not use a solid water stream as it may scatter and spread fire.
- **Hazardous combustion products**: No hazardous combustion products are known

5.3 **Advice for firefighters**

- **Special protective equipment for firefighters**: In the event of fire, wear self-contained breathing apparatus.
- **Further information**: Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments.

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**SECTION 6: Accidental release measures**

6.1 **Personal precautions, protective equipment and emergency procedures**

- **Personal precautions**: Use personal protective equipment. Ensure adequate ventilation.

6.2 **Environmental precautions**

- **Environmental precautions**: Try to prevent the material from entering drains or water courses. If the product contaminates rivers and lakes or drains inform respective authorities.
6.3 Methods and material for containment and cleaning up

Methods for cleaning up: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For contact information in case of emergency, see section 1. For information on safe handling, see section 7. For exposure controls and personal protection measures, see section 8. For subsequent waste disposal, follow the recommendations in section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling: Avoid exceeding the given occupational exposure limits (see section 8). Avoid contact with skin and eyes. For personal protection see section 8. Persons with a history of skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used. Smoking, eating and drinking should be prohibited in the application area. Provide sufficient air exchange and/or exhaust in work rooms. Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion: Avoid formation of aerosol. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers: No smoking. Keep in a well-ventilated place.

Other data: No decomposition if stored and applied as directed.

7.3 Specific end use(s)

Specific use(s): For the use of this product do not exist particular recommendations apart from that already indicated.
SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

- **n-butyl acetate**
  - End Use: Workers
  - Exposure routes: Inhalation
  - Potential health effects: Long-term systemic effects
  - Value: 480 mg/m³

- **Low boiling point naphtha - unspecified**
  - End Use: Workers
  - Exposure routes: Inhalation
  - Potential health effects: Long-term systemic effects
  - Value: 608 mg/m³

- **2-methoxy-1-methylethyl acetate**
  - End Use: Workers
  - Exposure routes: Inhalation
  - Potential health effects: Long-term systemic effects
  - Value: 275 mg/m³

8.2 Exposure controls

Personal protective equipment

- **Eye protection**
  - Eye wash bottle with pure water
  - Tightly fitting safety goggles

Hand protection

- **Remarks**
  - Solvent-resistant gloves
  - The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Before removing gloves clean them with soap and water.

Skin and body protection

- **impervious clothing**
  - Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection

- **In the case of vapour formation use a respirator with an approved filter.**

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- **Appearance**
  - liquid

- **Colour**
  - colourless

- **Odour**
  - characteristic

- **Melting point/range**
  - Not applicable

- **Boiling point/boiling range**
  - 126.3 °C
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(7.6 hPa)

Flash point : 32 °C
   Method: ISO 1523, closed cup
   Setaflash

Upper explosion limit : No data available

Lower explosion limit : No data available

Vapour pressure : 6 hPa (20 °C)

42 hPa (50 °C)

Density : 1.03 g/cm³ (20 °C)
   Method: ISO 2811-1

Solubility(ies)
   Water solubility : immiscible

Viscosity
   Viscosity, dynamic : 30 mPa.s (20 °C)
   Method: ISO 2555

Viscosity, kinematic : > 20.5 mm²/s (40 °C)

9.2 Other information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity
   Stable under recommended storage conditions.

10.2 Chemical stability
   No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions
   Hazardous reactions : No decomposition if used as directed.
   Vapours may form explosive mixture with air.

10.4 Conditions to avoid
   Conditions to avoid : Heat, flames and sparks.
10.5 Incompatible materials
Materials to avoid: Strong acids and oxidizing agents

10.6 Hazardous decomposition products
Hazardous decomposition products: Isocyanates

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

**Product:**
Acute inhalation toxicity: Acute toxicity estimate: > 10 - 20 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Calculation method

**Components:**
HDI oligomers, isocyanurate:
Acute oral toxicity: LD50 Oral (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity: LC50 (Rat): > 0.543 mg/l
Exposure time: 4 h
Method: OECD Test Guideline 403

Acute dermal toxicity: LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402

n-butyl acetate:
Acute oral toxicity: LD50 Oral (Rat): 10,768 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity: LC50 (Rat): 23.4 mg/l
Exposure time: 4 h
Method: OECD Test Guideline 403

Acute dermal toxicity: LD50 (Rabbit): 17,600 mg/kg
Method: OECD Test Guideline 402

Solvent naphtha (petroleum), light arom.:
Acute oral toxicity: LD50 Oral (Rat): 3,592 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity: LC50 (Rat): > 20 mg/l
Exposure time: 4 h
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**Acute dermal toxicity:**  
LD50 (Rabbit): 3,160 mg/kg  
Method: OECD Test Guideline 402

**2-methoxy-1-methylethyl acetate:**  
**Acute oral toxicity:**  
LD50 Oral (Rat): 8,532 mg/kg  
Method: OECD Test Guideline 401

**Acute inhalation toxicity:**  
LC50 (Rat): 35.7 mg/l  
Exposure time: 4 h  
Method: OECD Test Guideline 403

**Acute dermal toxicity:**  
LD50 (Rat): 5,000 mg/kg  
Method: OECD Test Guideline 402

**Skin corrosion/irritation**

**Product:**
Result: Skin irritation

**Serious eye damage/eye irritation**

**Product:**
Remarks: Based on available data, the classification criteria are not met.

**Respiratory or skin sensitisation**

**Product:**
Remarks: Causes sensitisation.

**Germ cell mutagenicity**

**Product:**
Germ cell mutagenicity- Assessment: Based on available data, the classification criteria are not met.

**Carcinogenicity**

**Product:**
Carcinogenicity - Assessment: Based on available data, the classification criteria are not met.

**Reproductive toxicity**

**Product:**
Reproductive toxicity - Assessment: Based on available data, the classification criteria are not met.
STOT - single exposure

**Product:**
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation. The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

STOT - repeated exposure

**Product:**
Remarks: Based on available data, the classification criteria are not met.

Aspiration toxicity

**Product:**
Based on available data, the classification criteria are not met.

Further information

**Product:**
Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Concentrations substantially above the TLV value may cause narcotic effects. Solvents may degrease the skin.

SECTION 12: Ecological information

12.1 Toxicity

**Components:**
HDI oligomers, isocyanurate:
Toxicity to algae: EC50 (Algae): 370 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

n-butyl acetate:
Toxicity to fish: LC50 (Fish): 18 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia (water flea)): 32 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae: EC50 (Algae): 675 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Solvent naphtha (petroleum), light arom.: 
Toxicity to fish: LC50 (Fish): 9.2 mg/l
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Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia (water flea)): 3.2 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae: EC50 (Algae): 2.9 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

2-methoxy-1-methylethyl acetate:

Toxicity to fish: LC50 (Fish): 100 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia (water flea)): 408 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae: EC50 (Algae): 1,000 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment

Product:
Assessment: This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Product:
Additional ecological information: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product:
The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging:
Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.

SECTION 14: Transport information

14.1 UN number

ADR: UN 1263
IMDG: UN 1263
IATA: UN 1263

14.2 UN proper shipping name

ADR: PAINT RELATED MATERIAL
IMDG: PAINT RELATED MATERIAL
IATA: Paint related material

14.3 Transport hazard class(es)

ADR: 3
IMDG: 3
IATA: 3

14.4 Packing group

ADR
Packing group: III
Classification Code: F1
Hazard Identification Number: 30
Labels: 3

IMDG
Packing group: III
Labels: 3
EmS Code: F-E, S-E

IATA
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Packing instruction (cargo aircraft) : 366
Packing instruction (LQ) : Y344
Packing group : III
Labels : Flammable Liquids

14.5 Environmental hazards

ADR
Environmentally hazardous : no

IMDG
Marine pollutant : no

14.6 Special precautions for user

Not applicable

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

15.2 Chemical Safety Assessment

Not applicable

SECTION 16: Other information

Full text of R-Phrases

R10  Flammable.
R20  Harmful by inhalation.
R37  Irritating to respiratory system.
R43  May cause sensitisation by skin contact.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65  Harmful: may cause lung damage if swallowed.
R66  Repeated exposure may cause skin dryness or cracking.
R67  Vapours may cause drowsiness and dizziness.

Full text of H-Statements

H226  Flammable liquid and vapour.
H304  May be fatal if swallowed and enters airways.
H317  May cause an allergic skin reaction.
H332  Harmful if inhaled.
H335  May cause respiratory irritation.
H336  May cause drowsiness or dizziness.
H411  Toxic to aquatic life with long lasting effects.

Further information
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.