1 Identification

1.1. Product identifier

· Trade name / Article No: KLEIBERIT 308.0
· Application of the substance / the mixture: Adhesives
· 1.3. Details of the supplier of the safety data sheet
· Manufacturer/Supplier:
  KLEIBERIT Adhesives Canada Inc.
  M.G. Becker GmbH & Co. KG
  Max Becker Str. 4
  D - 76356 Weingarten / Baden
  Allemagne / Germany
  Information department:
  Phone 1-416-256-5842
  FAX 1-416-781-4901
  Toll free 1888-443-666
· 1.4. Emergency telephone number:
  email: hse@kleiberit.com

2 Hazard(s) identification

2.1. Classification of the substance or mixture

· Classification according to Regulation (EC) No 1272/2008 - GHS/CLP
  Flam. Liq. 3 H226 Flammable liquid and vapour.
  Skin Irrit. 2 H315 Causes skin irritation.
  Eye Dam. 1 H318 Causes serious eye damage.
  Repr. 1 H360 May damage fertility or the unborn child.

2.2. Label elements

· Hazard pictograms
  GHS02 GHS05 GHS08

· Signal word: Danger

· Hazard-determining components of labeling:
  1-ethylpyrrolidin-2-one
  2-dimethylaminoethanol

· Hazard statements
  H226 Flammable liquid and vapour.
  H315 Causes skin irritation.
  H318 Causes serious eye damage.
  H360 May damage fertility or the unborn child.

· Precautionary statements
  P273 Avoid release to the environment.
  P280 Wear protective gloves / eye protection.
  P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  P337+P313 If eye irritation persists: Get medical advice/attention.
Material Safety Data Sheet
selon ISO/DIS 11014

Trade name / Article No: KLEIBERIT 308.0

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

- NFPA-ratings (scale 0 - 4) - USA:
  - Health = 1
  - Fire = 2
  - Reactivity = 0

- HMIS-ratings (scale 0 - 4) - USA:
  - Health = 1
  - Fire = 3
  - Reactivity = 0

- WHMIS Classes, Divisions and Subdivisions - Canada
  - Class B - Flammable and Combustible Materials
  - Division 2 - Flammable Liquid
  - Class D - Poisonous and Infectious Materials
  - Division 2 - Materials Causing Other Toxic Effects
  - Subdivision B - Toxic Materials

- CARCINOGENICITY
  - NTP: No
  - IARC: No
  - OSHA: No

3. Composition/information on ingredients

3.2 Mixtures

- Description: waterbased polymer dispersion

- Dangerous components:
  - Registry-No’s Identification / Classification GHS-CLP %
    - CAS: 108-87-2 methylcyclohexane 5-10% w/w
      RTECS: GV 6125000 Flam. Liq. 2, H225; Asp. Tox. 1, H304; Skin Irrit. 2, H315; STOT SE 3, H336
    - CAS: 2687-91-4 1-ethylpyrrolidin-2-one ≤ 3.0% w/w
      RTECS: GV 6125000 Repr. 1B, H360; Flam. Liq. 4, H227
    - CAS: 9038-95-3 Poly(ethylene glycol-ran-propylene glycol) monobutyl ether < 2.0% w/w
      RTECS: KK 6125000 Eye Irrit. 2A, H319
    - CAS: 108-01-0 2-dimethylaminoethanol < 2.0% w/w
      RTECS: KK 6125000 Flam. Liq. 3, H226; Acute Tox. 3, H331; Skin Corr. 1B, H314; Acute Tox. 4, H302; Acute Tox. 4, H312

- Additional information: For the wording of the listed hazard phrases refer to section 16.

4. First-aid measures

4.1. Description of first aid measures

- After inhalation: Supply fresh air; consult doctor in case of complaints.
- After skin contact:
  - Rinse with warm water.
  - If skin irritation continues, consult a doctor.
- After eye contact: Rinse opened eye for several minutes under running water.
- After swallowing: Seek immediate medical advice.
### 5 Fire-fighting measures

- **Flammability**: Flammable  
  - Yes: X  
  - No: -
- **If yes, under which conditions?** Development of solvent vapors at higher temperatures near flash point.
- **5.1. Extinguishing media**
  - CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:**
- **Flash point**: See Pos. 9
- **Flammable Limits (% by volume) lower**: 1.1  
  - upper: 8.4
- **Autoignition Temperature**: See Pos. 9
- **Explosion Data - Sensitive to Impact**: Product does not present an explosion hazard.
- **5.3. Advice for firefighters**
  - **Protective equipment**: Do not inhale explosion gases or combustion gases. Wear self-contained respiratory protective device.

### 6 Accidental release measures

- **6.1. Personal precautions, protective equipment and emergency procedures**
  - Wear protective equipment. Keep unprotected persons away. Particular danger of slipping on leaked/spilled product.
- **6.2. Environmental precautions:**
  - Inform respective authorities in case of seepage into water course or sewage system. Dilute with plenty of water.
- **6.3. Methods and material for containment and cleaning up:**
  - Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose contaminated material as waste according to item 13. Ensure adequate ventilation.
- **6.4. Reference to other sections**
  - See Section 7 for information on safe handling.
  - See Section 8 for information on personal protection equipment.
  - See Section 13 for disposal information.

### 7 Handling and storage

- **Handling:**
- **7.1. Precautions for safe handling**
  - Appropriate regular employee training.
  - Enclosure or extractor facilities are required. Ensure good ventilation. This can be achieved by using a local exhaustion or general exhaust system. If these measures are insufficient to keep the solvent vapour concentration below the workplace limit, wear an adequate respiratory protective device. Not less than 5 -15 air exchanges per hour
  - Spraying: in vented cabin with laminar air flow
  - Prevent formation of aerosols.
  - Clean the pipe before decoupling
  - Wear protective gloves/protective clothing/eye protection/face protection.
  - Wear suitable respiratory protective device when decanting larger quantities without extractor facilities.
  - Keep good industrial hygiene.
  - Open and handle receptacle with care.
44.3.10 Waste air is to be released into the atmosphere only via suitable separators. Avoid splashes or spray in enclosed areas. Regular check up, maintenance and cleaning of equipment and machines. Close the container immediately after usage. Avoid contact with the skin. Absorb spilled amount immediately. Avoid taking samples by immersion.

- **Information about protection against explosions and fires:**
  - Traces of flammable substances may collect in the steam chamber of enclosed systems. Keep ignition sources clear.
  - Keep respiratory protective device available.

- **7.2. Conditions for safe storage, including any incompatibilities**
  - **Storage:**
    - Requirements to be met by storerooms and receptacles: Keep away from heat and direct sunlight.
    - Information about storage in one common storage facility: Observe the national regulations.
    - Further information about storage conditions: None.

- **7.3. Specific end use(s)**
  - No further relevant information available.

### 8 Exposure controls/personal protection

- Additional information about design of technical systems: No further data; see item 7.

#### 8.1. Control parameters

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Designation of material</th>
<th>%</th>
<th>Type</th>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>108-87-2 methylcyclohexane&lt;br&gt;EL (USA)</td>
<td>Long-term value: 400 ppm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EV (USA)</td>
<td>Long-term value: 1.600 mg/m³, 400 ppm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PEL (USA)</td>
<td>Long-term value: 2000 mg/m³, 500 ppm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>REL (USA)</td>
<td>Long-term value: 1600 mg/m³, 400 ppm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TLV (USA)</td>
<td>Long-term value: 1610 mg/m³, 400 ppm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| 108-01-0 2-dimethylaminoethanol<br>EV (USA) | Short-term value: 22 mg/m³, 6 ppm<br>Long-term value: 11 mg/m³, 3 ppm |

- **8.2. Exposure controls**
  - Limit the exposure to: 8 hours
  - **Personal protective equipment:**
    - General protective and hygienic measures:
      - The usual precautionary measures for handling chemicals should be followed.
    - Breathing equipment:
      - Not necessary if room is well-ventilated.
      - Wear NIOSH-approved, air-purifying respirator in case of insufficient ventilation.
    - Protection of hands: Protective gloves
    - Material of gloves
      - A: Nitrile rubber - NBR: AlphaTec® (Lamination strength not applicable)
      - B: Polyethylennylon: Barrier™ (0.062 mm)
    - Penetration time of glove material
      - A: 240 - 480 min
      - C: ≥ 480 min
    - Eye protection: Goggles recommended during refilling.
### 9 Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

**General Information**

- **Appearance:** Fluid
- **Color:** Beige
- **Odor:** Characteristic
- **Odor threshold:** Not determined.
- **pH-value at 20 °C (68 °F):** ca. 8.5

**Change in condition**

- **Melting point/Melting range:** Undetermined.
- **Boiling point/Boiling range:** 100 °C (212 °F)
- **Flash Point:** 29 °C (84 °F)
- **Flammability (solid, gaseous):** Not applicable.
- **Ignition Temperature:** 260 °C (500 °F)
- **Decomposition Temperature:** Not determined.
- **Auto Igniting:** Product is not self-igniting.
- **Danger of Explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

**Explosion Limits:**

- **Lower:** Not determined.
- **Upper:** Not determined.

- **Vapor Pressure at 20 °C (68 °F):** 23 hPa (17 mm Hg) (methylcyclohexane)
- **Density at 20 °C (68 °F):** ca. 1 g/cm³ (ca. 8.345 lbs/gal)
- **Relative Density** Not determined.
- **Vapour Density** Not determined.
- **Evaporation Rate** Not determined.

- **Solubility in / Miscibility with Water:** Fully miscible.
- **Partition coefficient (n-octanol/water):** Not determined.

**Viscosity**

- **Dynamic at 20 °C (68 °F):** ca. 13000 mPas
  - **Method:** Brookfield RVT
- **Kinematic:** Not determined.

#### 9.2. Other information

No further relevant information available.

### 10 Stability and reactivity

#### 10.1. Reactivity

- **see item 10.3**

#### 10.2. Chemical stability

Stable when stored and used properly.

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

#### 10.3. Possibility of hazardous reactions

No dangerous reactions known.

#### 10.4. Conditions to avoid

No further relevant information available.

#### 10.5. Incompatible materials

No further relevant information available.

#### 10.6. Hazardous decomposition products

No dangerous decomposition products known.
11 Toxicological information

11.1. Information on toxicological effects

- **Acute toxicity:** Based on available data, the classification criteria are not met.
- **LD/LC50 values that are relevant for classification:**

108-87-2 methylcyclohexane

<table>
<thead>
<tr>
<th>Route</th>
<th>LD₅₀</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>LD₅₀</td>
<td>&gt;2300 mg/kg (rat)</td>
</tr>
<tr>
<td>Dermal</td>
<td>LD₅₀</td>
<td>&gt;2920 mg/kg (rabbit)</td>
</tr>
<tr>
<td>Inhalative</td>
<td>LC₅₀ /4 h</td>
<td>&gt;23.3 mg/l (rat)</td>
</tr>
</tbody>
</table>

2687-91-4 1-ethylpyrrolidin-2-one

<table>
<thead>
<tr>
<th>Route</th>
<th>LD₅₀</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>LD₅₀</td>
<td>3200 mg/kg (rat)</td>
</tr>
<tr>
<td>Dermal</td>
<td>LD₅₀</td>
<td>&gt;2000 mg/kg (rat)</td>
</tr>
<tr>
<td>Inhalative</td>
<td>LC₅₀ /4 h</td>
<td>5.2 mg/l (rat) (4 h)</td>
</tr>
</tbody>
</table>

9038-95-3 Poly(ethylene glycol-ran-propylene glycol) monobutyl ether

<table>
<thead>
<tr>
<th>Route</th>
<th>LD₅₀</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>LD₅₀</td>
<td>&gt;2000 mg/kg (rat)</td>
</tr>
</tbody>
</table>

108-01-0 2-dimethylaminoethanol

<table>
<thead>
<tr>
<th>Route</th>
<th>LD₅₀</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>LD₅₀</td>
<td>2000 mg/kg (rat)</td>
</tr>
<tr>
<td>Dermal</td>
<td>LD₅₀</td>
<td>&gt;3000 mg/kg (rabbit)</td>
</tr>
<tr>
<td>Inhalative</td>
<td>LC₅₀ /4 h</td>
<td>1182.7 ppm (rat)</td>
</tr>
</tbody>
</table>

- **Primary irritant effect:**
  - **on the skin:** Causes skin irritation.
  - **on the eye:** Causes serious eye damage.
  - **Sensitization:** Based on available data, the classification criteria are not met.

- **Additional toxicological information:**
  - **Carcinogenic categories**
    - IARC (International Agency for Research on Cancer)
      - Styrene, 1,3-butadiene polymer: 3
    - NTP (National Toxicology Program)
      - None of the ingredients is listed.
  - **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
    - Classification: Reproduction toxic DSD/DPD Cat.3, R 63; CLP Cat.2, H 361d

12 Ecological information

12.1. Toxicity

- **Aquatic toxicity:**

108-87-2 methylcyclohexane

<table>
<thead>
<tr>
<th>LC₅₀</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 mg/l / 48h</td>
<td>(Japanese killifish - Oryzias latipes)</td>
</tr>
</tbody>
</table>

2687-91-4 1-ethylpyrrolidin-2-one

<table>
<thead>
<tr>
<th>LC₅₀</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>464-999 mg/l / 96h</td>
<td>(Zebrafish - Danio rerio)</td>
</tr>
<tr>
<td>&gt;100 mg/l / 48h</td>
<td>(water flea - Daphnia)</td>
</tr>
</tbody>
</table>

(Contd. on page 7)
9038-95-3 Poly(ethylene glycol-ran-propylene glycol) monobutyl ether
LC₅₀ >1000 mg / l / 96h (fish)

12.2. Persistence and degradability No further relevant information available.

12.3. Bioaccumulative potential No further relevant information available.

12.4. Mobility in soil No further relevant information available.

Ecotoxicological effects:
Remark: Harmful to fish

12.5. Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

12.6. Other adverse effects No further relevant information available.

13 Disposal considerations

13.1. Waste treatment methods
Recommendation:
Hand over to hazardous waste disposers.
Can be disposed of with household garbage after solidification following consultation with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

13.2. Uncleaned packagings:
Recommendation:
Non contaminated packagings can be used for recycling.
Empty contaminated packagings thoroughly. Disposal must be made according to official regulations.

Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

14.1. UN-Number
IMDG, IATA UN1133

14.2. UN proper shipping name
IMDG, IATA ADHESIVES

14.3. DOT
Class No dangerous good
Unnecessary

14.4. Packing group
IMDG, IATA Class 3 Flammable liquids
Label 3

14.5. Environmental hazards:
Marine pollutant: No

14.6. Special precautions for user
EMS Number: Warning: Flammable liquids
Stowage Category F-E,S-D A

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
IMDG Remarks: Exempt in receptacles less than 30L (2.3.2.5 IMDG) // viscous liquids, flash point > 23 °C
UN "Model Regulation": Void
15 Regulatory information

- 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
  See position no 2 - Hazards Identification
  - TSCA (Toxic Substances Control Act) - USA: None of the ingredients is listed.
  - National regulations:
    - Employment restrictions concerning pregnant and lactating women must be observed.
    - Employment restrictions concerning women of child-bearing age must be observed.
  - VOC - Volatile Organic Compounds
    - VOC - Content: [g/L] 103.9 g/l
    - VOC - Volatile organic compounds: content [mass-%] 10.39 %
    - US (40CFR part59): VOC content [g / L] 103.9 g/l / 0.87 lb/gl

- 15.2. Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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.

- USA: Relevant labels and warnings HAZCOM LABEL: NOT REQUIRED

  Relevant phrases
  - H225 Highly flammable liquid and vapour.
  - H226 Flammable liquid and vapour.
  - H227 Combustible liquid.
  - H302 Harmful if swallowed.
  - H304 May be fatal if swallowed and enters airways.
  - H312 Harmful in contact with skin.
  - H314 Causes severe skin burns and eye damage.
  - H315 Causes skin irritation.
  - H319 Causes serious eye irritation.
  - H331 Toxic if inhaled.
  - H336 May cause drowsiness or dizziness.
  - H360 May damage fertility or the unborn child.

- Department issuing SDS: Safety & Environment

Abbreviations and acronyms:
- ICAO: International Civil Aviation Organisation
- IMDG: International Maritime Code for Dangerous Goods
- DOT: US Department of Transportation
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- NFPA: National Fire Protection Association (USA)
- HMIS: Hazardous Materials Identification System (USA)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative

* Data compared to the previous version altered. -