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

1.1. Product identifier
Product name

MB SERIES INK

1.2. Relevant identified uses of the substance or mixture and uses advised against
Intended use
Pad printing ink.

1.3. Details of the supplier of the safety data sheet
Name
INKCUPS CORPORATION
Full address
310 ANDOVER ST.
DANVERS, MA 01945
USA
Tel. 978-646-8980

e-mail address of the competent person responsible for the Safety Data Sheet
compliance@inkcups.com
Product distribution by:
INKCUPS CORP.

1.4. Emergency telephone number
For urgent inquiries refer to
1.800.424.9300

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of EC Regulation 1907/2006 and subsequent amendments. Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:
Flammable liquid, category 3
Acute toxicity, category 4
Serious eye damage, category 1
Hazardous to the aquatic environment, chronic toxicity, category 3
H226
H302
H318
H412
Flammable liquid and vapour.
Harmful if swallowed.
Causes serious eye damage.
Harmful to aquatic life with long lasting effects.

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:
Signal words: Danger

Hazard statements:

H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H318 Causes serious eye damage.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P273 Avoid release to the environment.
P280 Wear protective gloves / eye protection / face 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.
P310 Immediately call a POISON CENTER or a doctor.
P370+P378 In case of fire: use chemical powder, CO2 or dry send to extinguish.

Contains:

CYCLOHEXANONE
BUTYLGLYCOL ACETATE

2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0.1%.

SECTION 3. Composition/information on ingredients

3.1. Substances

Information not relevant

3.2. Mixtures

Contains:

The full wording of hazard (H) phrases is given in section 16 of the sheet.

<table>
<thead>
<tr>
<th>Identification</th>
<th>x = Conc. %</th>
<th>Classification 1272/2008 (CLP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-METHOXY-1-METHYLETHYL ACETATE</td>
<td>21 ≤ x &lt; 22.5</td>
<td>Flam. Liq. 3 H226</td>
</tr>
</tbody>
</table>
BUTYLGLYCOL ACETATE
CAS 112-07-2 19,5 ≤ x < 21 Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332
EC 203-933-3
INDEX 607-038-00-2
Reg. no. 01-2119475112-47xxxx

CYCLOHEXANONE
CAS 108-94-1 4,5 ≤ x < 5 Flam. Liq. 3 H226, Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332, Eye Dam. 1 H318, Skin Irrit. 2 H315
EC 203-631-1
INDEX 606-010-00-7
Reg. no. 01-2119453616-35-xxxx

Hydrocarbons, C10, aromatics, <1% naphtalene
CAS - 2,5 ≤ x < 3 Asp. Tox. 1 H304, STOT SE 3 H336, Aquatic Chronic 2 H411, EUH066
EC 918-811-1
INDEX -
Reg. no. 01-2119463583-34-xxxx

4,4'-ISOPROPYLIDENEDIPHENOL
CAS 80-05-7 0 ≤ x < 0,1 Repr. 2 H361f, Eye Dam. 1 H318, STOT SE 3 H335, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC 201-245-8
INDEX 604-030-00-0
Reg. no. 2119457856-23-xxxx

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.
SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.
INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.
INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.
4.3. Indication of any immediate medical attention and special treatment needed

Information not available

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT
Extinguishing substances are: carbon dioxide, foam, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.
UNSUITABLE EXTINGUISHING EQUIPMENT
Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE
Excess pressure may form in containers exposed to fire at a risk of explosion. Do not breathe combustion products.

5.3. Advice for firefighters

GENERAL INFORMATION
Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS
Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.
Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.
Send away individuals who are not suitably equipped. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.
6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. If the product is flammable, use explosion-proof equipment. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material. Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store in a well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:
### 2-METHOXY-1-METHYLETHYL ACETATE

<table>
<thead>
<tr>
<th>Type</th>
<th>Country</th>
<th>TWA/8h</th>
<th>STEL/15min</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>mg/m³</td>
<td>ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>mg/m³</td>
</tr>
<tr>
<td>TLV</td>
<td>BGR</td>
<td>275</td>
<td>550</td>
</tr>
<tr>
<td>TLV</td>
<td>CZE</td>
<td>270</td>
<td>550</td>
</tr>
<tr>
<td>AGW</td>
<td>DEU</td>
<td>270</td>
<td>50</td>
</tr>
<tr>
<td>MAK</td>
<td>DEU</td>
<td>270</td>
<td>50</td>
</tr>
<tr>
<td>TLV</td>
<td>DKK</td>
<td>275</td>
<td>50</td>
</tr>
<tr>
<td>VLA</td>
<td>ESP</td>
<td>275</td>
<td>50</td>
</tr>
<tr>
<td>VLEP</td>
<td>FRA</td>
<td>275</td>
<td>50</td>
</tr>
<tr>
<td>WEL</td>
<td>GBR</td>
<td>274</td>
<td>50</td>
</tr>
<tr>
<td>VLEP</td>
<td>ITA</td>
<td>275</td>
<td>50</td>
</tr>
<tr>
<td>NDS</td>
<td>POL</td>
<td>260</td>
<td></td>
</tr>
<tr>
<td>VLE</td>
<td>PRT</td>
<td>275</td>
<td>50</td>
</tr>
<tr>
<td>MAK</td>
<td>SWE</td>
<td>250</td>
<td>50</td>
</tr>
<tr>
<td>ESD</td>
<td>TUR</td>
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<td>50</td>
</tr>
<tr>
<td>OEL</td>
<td>EU</td>
<td>275</td>
<td>50</td>
</tr>
</tbody>
</table>

### Predicted no-effect concentration - PNEC

| Normal value in fresh water | 0.635 | mg/l |
| Normal value in marine water | 0.0635 | mg/l |
| Normal value for fresh water sediment | 3.29 | mg/kg |
| Normal value for marine water sediment | 0.329 | mg/l |
| Normal value for water, intermittent release | 6.35 | mg/l |
| Normal value of STP microorganisms | 100 | mg/l |
### BUTYLGLYCOL ACETATE

**Threshold Limit Value**

<table>
<thead>
<tr>
<th>Type</th>
<th>Country</th>
<th>TWA/8h</th>
<th>STEL/15min</th>
</tr>
</thead>
<tbody>
<tr>
<td>TLV</td>
<td>BGR</td>
<td>133</td>
<td>333</td>
</tr>
<tr>
<td>TLV</td>
<td>CZE</td>
<td>130</td>
<td>300</td>
</tr>
<tr>
<td>AGW</td>
<td>DEU</td>
<td>130</td>
<td>520</td>
</tr>
<tr>
<td>MAK</td>
<td>DEU</td>
<td>66</td>
<td>132</td>
</tr>
<tr>
<td>TLV</td>
<td>DNK</td>
<td>130</td>
<td>332</td>
</tr>
<tr>
<td>VLA</td>
<td>ESP</td>
<td>133</td>
<td>333</td>
</tr>
<tr>
<td>VLEP</td>
<td>FRA</td>
<td>66,5</td>
<td>333</td>
</tr>
<tr>
<td>WEL</td>
<td>GBR</td>
<td>133</td>
<td>333</td>
</tr>
<tr>
<td>VLEP</td>
<td>ITA</td>
<td>133</td>
<td>333</td>
</tr>
<tr>
<td>NDS</td>
<td>POL</td>
<td>100</td>
<td>300</td>
</tr>
<tr>
<td>VLE</td>
<td>PRT</td>
<td>133</td>
<td>333</td>
</tr>
<tr>
<td>MAK</td>
<td>SWE</td>
<td>70</td>
<td>140</td>
</tr>
<tr>
<td>ESD</td>
<td>TUR</td>
<td>133</td>
<td>333</td>
</tr>
<tr>
<td>OEL</td>
<td>EU</td>
<td>133</td>
<td>333</td>
</tr>
<tr>
<td>TLV-ACGIH</td>
<td></td>
<td>131</td>
<td>333</td>
</tr>
</tbody>
</table>

**Predicted no-effect concentration - PNEC**

| Normal value in fresh water | 0.304 | mg/l |
| Normal value in marine water | 0.0304 | mg/l |
| Normal value for fresh water sediment | 2.03 | mg/l |
| Normal value for marine water sediment | 0.203 | mg/l |
| Normal value for water, intermittent release | 0.56 | mg/l |
| Normal value of STP microorganisms | 90 | mg/l |
| Normal value for the food chain (secondary poisoning) | 0.06 | g/kg |
| Normal value for the terrestrial compartment | 0.06 | g/kg |

### CYCLOHEXANONE

**Threshold Limit Value**

<table>
<thead>
<tr>
<th>Type</th>
<th>Country</th>
<th>TWA/8h</th>
<th>STEL/15min</th>
</tr>
</thead>
<tbody>
<tr>
<td>TLV</td>
<td>BGR</td>
<td>40,8</td>
<td>81,6</td>
</tr>
</tbody>
</table>
### TLV

<table>
<thead>
<tr>
<th>Country</th>
<th>TLV</th>
<th>AGW</th>
<th>Normal value in fresh water</th>
</tr>
</thead>
<tbody>
<tr>
<td>CZE</td>
<td>40</td>
<td>80</td>
<td>0,1 mg/l</td>
</tr>
<tr>
<td>DEU</td>
<td>80</td>
<td>20</td>
<td>0,01 mg/l</td>
</tr>
<tr>
<td>DNK</td>
<td>40</td>
<td>10</td>
<td>0,512 mg/kg</td>
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<tr>
<td>ESP</td>
<td>41</td>
<td>10</td>
<td>0,0512 mg/kg</td>
</tr>
<tr>
<td>FRA</td>
<td>40,8</td>
<td>10</td>
<td>1 mg/l</td>
</tr>
<tr>
<td>GBR</td>
<td>41</td>
<td>10</td>
<td>10 mg/l</td>
</tr>
<tr>
<td>ITA</td>
<td>40,8</td>
<td>10</td>
<td>0,0435 mg/kg</td>
</tr>
<tr>
<td>POL</td>
<td>40</td>
<td></td>
<td>10 mg/l</td>
</tr>
<tr>
<td>PRT</td>
<td>40,8</td>
<td>10</td>
<td>7,5 mg/kg/d</td>
</tr>
<tr>
<td>SWE</td>
<td>41</td>
<td></td>
<td>7,5 mg/kg/d</td>
</tr>
<tr>
<td>TUR</td>
<td>40,8</td>
<td>10</td>
<td>7,5 mg/kg/d</td>
</tr>
<tr>
<td>EU</td>
<td>40,8</td>
<td>10</td>
<td>7,5 mg/kg/d</td>
</tr>
</tbody>
</table>

### Predicted no-effect concentration - PNEC

| Normal value for the terrestrial compartment | 0,0435 mg/kg |

### Health - Derived no-effect level - DNEL / DMEL

#### Route of exposure

<table>
<thead>
<tr>
<th>Route of exposure</th>
<th>Effects on consumers Acute local</th>
<th>Effects on workers Acute local</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>VND</td>
<td>10 mg/m3</td>
</tr>
<tr>
<td>Skin</td>
<td>VND</td>
<td>1 mg/kg</td>
</tr>
</tbody>
</table>

#### Hydrocarbons, C10, aromatics, <1% naphtalene

<table>
<thead>
<tr>
<th>Route of exposure</th>
<th>Effects on consumers Acute local</th>
<th>Effects on workers Acute local</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>VND</td>
<td>7,5 mg/kg/d</td>
</tr>
<tr>
<td>Inhalation</td>
<td>VND</td>
<td>32 mg/m3</td>
</tr>
<tr>
<td>Skin</td>
<td>VND</td>
<td>7,5 mg/kg/d</td>
</tr>
</tbody>
</table>

### SOLVENT NAPHTHA (PETROLEUM), LIGHT AROM

<table>
<thead>
<tr>
<th>Route of exposure</th>
<th>Effects on consumers Acute local</th>
<th>Effects on workers Acute local</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>VND</td>
<td>11 mg/kg</td>
</tr>
<tr>
<td>Inhalation</td>
<td>VND</td>
<td>32 mg/m3</td>
</tr>
<tr>
<td>Skin</td>
<td>VND</td>
<td>11 mg/kg</td>
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</table>

### 4,4'-ISOPROPYLIDENEDIPHENOL

<table>
<thead>
<tr>
<th>Type</th>
<th>Country</th>
<th>TWA/8h</th>
<th>STEL/15min</th>
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</thead>
<tbody>
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<td></td>
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<td>ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Predicted no-effect concentration - PNEC

<table>
<thead>
<tr>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal value in fresh water</td>
<td>mg/l</td>
</tr>
<tr>
<td>Normal value in marine water</td>
<td>mg/l</td>
</tr>
<tr>
<td>Normal value of STP microorganisms</td>
<td>mg/l</td>
</tr>
<tr>
<td>Normal value for the terrestrial compartment</td>
<td>mg/kg</td>
</tr>
</tbody>
</table>

### Health - Derived no-effect level - DNEL / DMEL

<table>
<thead>
<tr>
<th>Route of exposure</th>
<th>Effects on consumers</th>
<th>Effects on workers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Acute local</td>
<td>Chronic local</td>
</tr>
<tr>
<td>Oral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inhalation</td>
<td>5 mg/m³</td>
<td>5 mg/m³</td>
</tr>
<tr>
<td>Skin</td>
<td>0.7 mg/kg bw/d</td>
<td>0.7 mg/kg bw/d</td>
</tr>
</tbody>
</table>

**Legend:**

- (C) = CEILING
- INHAL = Inhalable Fraction
- RESP = Respirable Fraction
- THORA = Thoracic Fraction

- VND = hazard identified but no DNEL/PNEC available
- NEA = no exposure expected
- NPI = no hazard identified

### 8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When selecting personal protective equipment, seek consultation from your chemical substance supplier for advice.

Personal protective equipment must be CE marked, ensuring it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

**HAND PROTECTION**

Protect hands with category III work gloves (see standard EN 374).

The following should be considered when selecting work glove material: compatibility, degradation, failure time and permeability. The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

**SKIN PROTECTION**

Wear category I professional long-sleeved overalls and safety footwear (see Directive 89/686/EEC and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.

**EYE PROTECTION**

Wear a hood visor or protective visor combined with airtight goggles (see standard EN 166).

In the presence of risks of exposure to splashes or squirts during work, adequate mouth, nose and eye protection should be used to prevent accidental absorption.
RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required. Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker’s exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>liquid</td>
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<tr>
<td>Colour</td>
<td>various</td>
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<tr>
<td>Odour</td>
<td>typical of solvent</td>
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<tr>
<td>Odour threshold</td>
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<tr>
<td>pH</td>
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<tr>
<td>Melting point / freezing point</td>
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<tr>
<td>Evaporation Rate</td>
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<tr>
<td>Flammability of solids and gases</td>
<td>Not available</td>
</tr>
<tr>
<td>Lower inflammability limit</td>
<td>Not available</td>
</tr>
<tr>
<td>Upper inflammability limit</td>
<td>Not available</td>
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<tr>
<td>Lower explosive limit</td>
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<tr>
<td>Upper explosive limit</td>
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<tr>
<td>Vapour pressure</td>
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<tr>
<td>Vapour density</td>
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<td>Relative density</td>
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<tr>
<td>Solubility</td>
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<td>Partition coefficient: n-octanol/water</td>
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<td>Decomposition temperature</td>
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<td>Viscosity</td>
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<td>Explosive properties</td>
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<tr>
<td>Oxidising properties</td>
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</tbody>
</table>

9.2. Other information

Information not available

SECTION 10. Stability and reactivity

10.1. Reactivity
There are no particular risks of reaction with other substances in normal conditions of use.

2-METHOXY-1-METHYLETHYL ACETATE
Stable in normal conditions of use and storage.

With the air it may slowly develop peroxides that explode with an increase in temperature.

CYCLOHEXANONE
Attacks various types of plastic materials.

May condense under the effect of heat to form resinous compounds.

10.2. Chemical stability

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions

The vapours may also form explosive mixtures with the air.

2-METHOXY-1-METHYLETHYL ACETATE
May react violently with: oxidising substances, strong acids, alkaline metals.

CYCLOHEXANONE

10.4. Conditions to avoid

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

CYCLOHEXANONE
Avoid exposure to: sources of heat, naked flames.

10.5. Incompatible materials

2-METHOXY-1-METHYLETHYL ACETATE
Incompatible with: oxidising substances, strong acids, alkaline metals.

10.6. Hazardous decomposition products
In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification. It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

11.1. Information on toxicological effects

Hydrocarbons, C10, aromatics, <1% naphtalene
Specific target organ toxicity (STOT) - single exposure:
NOAEC = 600 mg / kg Inhalation. Rat

Metabolism, toxicokinetics, mechanism of action and other information
2-METHOXY-1-METHYLETHYL ACETATE
The main route of entry is the skin, whereas the respiratory route is less important due to the low vapour pressure of the product.

Information on likely routes of exposure
2-METHOXY-1-METHYLETHYL ACETATE
WORKERS: inhalation; contact with the skin.

Delayed and immediate effects as well as chronic effects from short and long-term exposure
2-METHOXY-1-METHYLETHYL ACETATE
Above 100 ppm causes irritation of the eye, nose and oropharynx mucous membranes. At 1000 ppm, disturbance of equilibrium and severe eye irritation can be noticed. Clinical and biological examinations carried out on exposed volunteers revealed no anomalies. Acetate produces greater skin and eye irritation with direct contact. No chronic effects on humans have been reported (INCR, 2010).

Interactive effects
Information not available
ACUTE TOXICITY
LC50 (Inhalation) of the mixture: > 20 mg/l
LD50 (Oral) of the mixture: 1923 mg/kg
LD50 (Dermal) of the mixture: > 2000 mg/kg

Hydrocarbons, C10, aromatics, <1% naphtalene
6518 mg/kg Ratto / Rat
LD50 (Oral) > 2000 mg/kg Coniglio / Rabbit
LD50 (Dermal) > 4688 mg/kg/4h Ratto / Rat
LC50 (Inhalation)

4,4'-Isopropylidenediphenol-Epichlorohydrin Copolymer
LD50 (Oral) > 2000 mg/kg Ratto / Rat
LD50 (Dermal) > 2000 mg/kg Ratto / Rat

2-METHOXY-1-METHYLETHYL ACETATE
8530 mg/kg Rat
LD50 (Oral) > 5000 mg/kg Rat
LD50 (Dermal) > 4345 ppm/6h Ratto / Rat
LC50 (Inhalation)

CYCLOHEXANONE
1535 mg/kg Ratto / Rat
LD50 (Oral)
1100 mg/kg Coniglio / Rabbit
LD50 (Dermal)
11 mg/l/4h Ratto / Rat (4h)
LC50 (Inhalation)

BUTYLGLYCOL ACETATE
2000 mg/kg Ratto / Rat
LD50 (Oral)
2000 mg/kg Coniglio / Rabbit
LD50 (Dermal)

4,4'-ISOPROPYLIDENEDIPHENOL
> 2000 mg/kg Rat
LD50 (Oral)
3000 mg/kg Rabbit
LD50 (Dermal)

SKIN CORROSION / IRRITATION
Does not meet the classification criteria for this hazard class
SERIOUS EYE DAMAGE / IRRITATION
Causes serious eye damage
RESPIRATORY OR SKIN SENSITISATION
Does not meet the classification criteria for this hazard class
GERM CELL MUTAGENICITY
Does not meet the classification criteria for this hazard class
CARCINOGENICITY
Does not meet the classification criteria for this hazard class
REPRODUCTIVE TOXICITY
Does not meet the classification criteria for this hazard class
STOT - SINGLE EXPOSURE
Does not meet the classification criteria for this hazard class
STOT - REPEATED EXPOSURE
Does not meet the classification criteria for this hazard class
ASPIRATION HAZARD
Does not meet the classification criteria for this hazard class

SECTION 12. Ecological information

This product is dangerous for the environment and the aquatic organisms. In the long term, it have negative effects on aquatic environment.

12.1. Toxicity

Hydrocarbons, C10, aromatics, <1% naphtalene
LC50 - for Fish > 2 mg/l/96h
EC50 - for Crustacea > 3 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants > 1 mg/l/72h

2-METHOXY-1-METHYLETHYL ACETATE
<table>
<thead>
<tr>
<th>Substance</th>
<th>LC50/EC50/NOEC</th>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 - for Fish</td>
<td>134 mg/l/96h</td>
<td>Pesce, Oncorhynchus mykiss OECD 203</td>
<td></td>
</tr>
<tr>
<td>EC50 - for Crustacea</td>
<td>&gt; 500 mg/l/48h</td>
<td>Daphnia magna</td>
<td></td>
</tr>
<tr>
<td>EC50 - for Algae / Aquatic Plants</td>
<td>&gt; 1000 mg/l/72h</td>
<td>Selenastrum capricornum OECD 201</td>
<td></td>
</tr>
<tr>
<td>Chronic NOEC for Fish</td>
<td>47,5 mg/l</td>
<td>Oryzias latipes 14 gg OECD 204</td>
<td></td>
</tr>
<tr>
<td>Chronic NOEC for Crustacea</td>
<td>100 mg/l</td>
<td>Dapnia magna 21 gg OECD 202</td>
<td></td>
</tr>
<tr>
<td>CYCLOHEXANONE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EC50 - for Crustacea</td>
<td>527 mg/l/96h</td>
<td>Fish, Pimephales promelas (96h)</td>
<td></td>
</tr>
<tr>
<td>EC50 - for Algae / Aquatic Plants</td>
<td>&gt; 100 mg/l/72h</td>
<td>Scenedesmus subspicatus</td>
<td></td>
</tr>
<tr>
<td>BUTYLGLYCOL ACETATE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC50 - for Fish</td>
<td>&gt; 10 mg/l/96h</td>
<td>Fish 10-100 mg/kg (48h)</td>
<td></td>
</tr>
<tr>
<td>EC50 - for Crustacea</td>
<td>&gt; 100 mg/l/48h</td>
<td>Daphnia Magna (24h)</td>
<td></td>
</tr>
<tr>
<td>EC50 - for Algae / Aquatic Plants</td>
<td>&gt; 100 mg/l/72h</td>
<td>Scenedesmus subspicatus</td>
<td></td>
</tr>
<tr>
<td>4,4’-ISOPROPYLIDENEDIPHENOL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC50 - for Fish</td>
<td>9,4 mg/l/96h</td>
<td>Menidia menidia</td>
<td></td>
</tr>
<tr>
<td>EC50 - for Crustacea</td>
<td>10,2 mg/l/48h</td>
<td>Daphnia magna</td>
<td></td>
</tr>
</tbody>
</table>

### 12.2. Persistence and degradability

- Hydrocarbons, C10, aromatics, <1% naphtalene
  - Solubility in water: immiscible in H2O mg/l
  - Rapidly degradable

- 2-METHOXY-1-METHYLETHYL ACETATE
  - Solubility in water: > 10000 mg/l
  - Rapidly degradable

- CYCLOHEXANONE
  - Solubility in water: 0,1 - 100 mg/l
  - Rapidly degradable

- BUTYLGLYCOL ACETATE
  - Rapidly degradable
ISOPROPYLIDENEDIPHENOL
Solubility in water: 301 mg/l
Rapidly degradable

12.3. Bioaccumulative potential

2-METHOXY-1-METHYLETHYL ACETATE
Partition coefficient: n-octanol/water: 1,2

CYCLOHEXANONE
Partition coefficient: n-octanol/water: 0,86

BUTYLGLYCOL ACETATE
Partition coefficient: n-octanol/water: 1,51

4,4'-ISOPROPYLIDENEDIPHENOL
Partition coefficient: n-octanol/water: 3,4

12.4. Mobility in soil

CYCLOHEXANONE
Partition coefficient: soil/water: 1,18

4,4'-ISOPROPYLIDENEDIPHENOL
Partition coefficient: soil/water: 2,95

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

12.6. Other adverse effects

Information not available

SECTION 13. Disposal considerations
13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations. Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations. Waste transportation may be subject to ADR restrictions.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information

14.1. UN number

ADR / RID, IMDG, IATA: 1210

14.2. UN proper shipping name

ADR / RID: PRINTING INK or PRINTING INK RELATED MATERIAL
IMDG: PRINTING INK or PRINTING INK RELATED MATERIAL
IATA: PRINTING INK or PRINTING INK RELATED MATERIAL

14.3. Transport hazard class(es)

ADR / RID: Class: 3 Label: 3
IMDG: Class: 3 Label: 3
IATA: Class: 3 Label: 3

14.4. Packing group

ADR / RID, IMDG, IATA: III

14.5. Environmental hazards

ADR / RID: NO
IMDG: NO
IATA: NO
14.6. Special precautions for user

ADR / RID: HIN - Kemler: 30

Limited Quantities: 5 L

Tunnel restriction code: (D/E)

Special Provision: -

IMDG: EMS: F-E, S-D

Limited Quantities: 5 L

IATA: Cargo:

Maximum quantity: 220 L

Packaging instructions: 366

Pass.:

Maximum quantity: 60 L

Packaging instructions: 355

Special Instructions: A3, A72, A192

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

SECTION 15. Regulatory information

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

Seveso Category - Directive 2012/18/EC: P5c

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

<table>
<thead>
<tr>
<th>Product Point</th>
<th>3 - 40</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contained substance</td>
<td></td>
</tr>
<tr>
<td>Point</td>
<td>66</td>
</tr>
</tbody>
</table>

4,4'-ISOPROPYLIDENEDIPHENOL

Reg. no.: 2119457856-23-xxxx

Substances in Candidate List (Art. 59 REACH)

4,4'-ISOPROPYLIDENEDIPHENOL

Reg. no.: 2119457856-23-xxxx

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:
None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers’ health and safety are modest and that the 98/24/EC directive is respected.

15.2. Chemical safety assessment

No chemical safety assessment has been processed for the mixture and the substances it contains.

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flam. Liq. 3</td>
<td>Flammable liquid, category 3</td>
</tr>
<tr>
<td>Repr. 2</td>
<td>Reproductive toxicity, category 2</td>
</tr>
<tr>
<td>Acute Tox. 4</td>
<td>Acute toxicity, category 4</td>
</tr>
<tr>
<td>Asp. Tox. 1</td>
<td>Aspiration hazard, category 1</td>
</tr>
<tr>
<td>Eye Dam. 1</td>
<td>Serious eye damage, category 1</td>
</tr>
<tr>
<td>Skin Irrit. 2</td>
<td>Skin irritation, category 2</td>
</tr>
<tr>
<td>STOT SE 3</td>
<td>Specific target organ toxicity - single exposure, category 3</td>
</tr>
<tr>
<td>Skin Sens. 1</td>
<td>Skin sensitization, category 1</td>
</tr>
<tr>
<td>Aquatic Chronic 2</td>
<td>Hazardous to the aquatic environment, chronic toxicity, category 2</td>
</tr>
<tr>
<td>Aquatic Chronic 3</td>
<td>Hazardous to the aquatic environment, chronic toxicity, category 3</td>
</tr>
<tr>
<td>H226</td>
<td>Flammable liquid and vapour.</td>
</tr>
<tr>
<td>H301f</td>
<td>Suspected of damaging fertility.</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td>H312</td>
<td>Harmful in contact with skin.</td>
</tr>
<tr>
<td>H332</td>
<td>Harmful if inhaled.</td>
</tr>
<tr>
<td>H304</td>
<td>May be fatal if swallowed and enters airways.</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation.</td>
</tr>
<tr>
<td>H317</td>
<td>May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>H336</td>
<td>May cause drowsiness or dizziness.</td>
</tr>
</tbody>
</table>
H411  Toxic to aquatic life with long lasting effects.
H412  Harmful to aquatic life with long lasting effects.
EUH066  Repeated exposure may cause skin dryness or cracking.

LEGEND:
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:
The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety
laws and regulations. The producer is relieved from any liability arising from improper uses.
Provide appointed staff with adequate training on how to use chemical products.

Changes to previous review:
The following sections were modified:
08 / 11 / 12 / 14.