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

1.1 Product identifier

- **Trade name:** LUBA-print® 973/D
- **UFI:** CEM0-J0RT-D00S-A0HR

1.2 Relevant identified uses of the substance or mixture and uses advised against

No further relevant information available.

1.3 Details of the supplier of the safety data sheet

**Manufacturer/Supplier:**
MÜNZING CHEMIE GmbH
Münzingerstraße 2
74232 Abstatt, Germany
E-Mail: info@munzing.com
Tel.: +49 7131 987-100

1.4 Emergency telephone number: For Chemical Emergencies: CHEMTREC: +1 703 741 5970

**SECTION 2: Hazards identification**

2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008**

- Flam. Liq. 3 H226 Flammable liquid and vapour.
- STOT SE 3 H336 May cause drowsiness or dizziness.
- Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.

2.2 Label elements

**Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

**Hazard pictograms**

- GHS02
- GHS07
- GHS08

**Signal word** Danger

**Hazard-determining components of labelling:**

- n-butyl acetate
- xylene
- ethylbenzene

**Hazard statements**

- H226 Flammable liquid and vapour.
- H336 May cause drowsiness or dizziness.
- H304 May be fatal if swallowed and enters airways.

**Precautionary statements**

- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
- P331 Do NOT induce vomiting.
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
SECTION 3: Composition/information on ingredients

- 3.2 Chemical characterisation: Mixtures
- Description: Mixture of substances listed below with nonhazardous additions.

- Dangerous components:

| CAS: 123-86-4 | n-butyl acetate | Flam. Liq. 3; H226; STOT SE 3, H336 | 20-50% |
| EINECS: 204-658-1 | | Reg.nr.: 01-2119485493-29 |

| CAS: 8002-74-2 | Paraffin waxes and Hydrocarbon waxes | Flam. Liq. 3; H226; STOT RE 2, H373; Asp. Tox. 1, H304; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335 | 20-50% |
| EINECS: 232-315-6 | Substance with a workplace exposure limit | Reg.nr.: 01-2119488076-30 |

| CAS: 1330-20-7 | xylene | Flam. Liq. 3; H226; STOT RE 2, H373; Asp. Tox. 1, H304; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335 | 5-<10% |
| EINECS: 215-535-7 | Reg.nr.: 01-2119488216-32 |

| CAS: 100-41-4 | ethylbenzene | Flam. Liq. 2; H225; STOT RE 2, H373; Asp. Tox. 1, H304; Acute Tox. 4, H312; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335 | 1-<3% |
| EINECS: 202-849-4 | Reg.nr.: 01-2119489370-35 |

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

SECTION 4: First aid measures

- 4.1 Description of first aid measures
- General information: Immediately remove any clothing soiled by the product.
- After inhalation:
  Take affected persons into fresh air and keep quiet.
  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:
  Immediately wash with water and soap and rinse thoroughly.
- After eye contact:
  Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- After swallowing:
  Do not induce vomiting; call for medical help immediately.

- 4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.

- 4.3 Indication of any immediate medical attention and special treatment needed
  No further relevant information available.

SECTION 5: Firefighting measures

- 5.1 Extinguishing media
  Suitable extinguishing agents:
  CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

(Contd. on page 3)
For safety reasons unsuitable extinguishing agents: Water with full jet
5.2 Special hazards arising from the substance or mixture Can form explosive gas-air mixtures.
5.3 Advice for firefighters
Protective equipment: Do not inhale explosion gases or combustion gases.
Additional information
Cool endangered receptacles with water spray.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Ensure adequate ventilation
Keep away from ignition sources.
Wear protective clothing.
Wear protective equipment. Keep unprotected persons away.

6.2 Environmental precautions:
Do not allow to penetrate the ground/soil.
Do not allow to enter sewers/surface or ground water.

6.3 Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Do not flush with water or aqueous cleansing agents.

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.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Store in cool, dry place in tightly closed receptacles.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.

Information about fire - and explosion protection:
Keep ignition sources away - Do not smoke.
Protect from heat.
Protect against electrostatic charges.

7.2 Conditions for safe storage, including any incompatibilities
Storage:
Requirements to be met by storerooms and receptacles: Store in a cool location.
Information about storage in one common storage facility: Store away from oxidising agents.
Further information about storage conditions: Store in cool, dry conditions in well sealed receptacles.

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

SECTION 8: Exposure controls/personal protection

Additional information about design of technical facilities: No further data; see item 7.
8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

**CAS: 123-86-4 n-butyl acetate**

- **CAS: 8002-74-2 Paraffin waxes and Hydrocarbon waxes**
  - WEL: Short-term value: 6 mg/m³
  - Long-term value: 2 mg/m³

**CAS: 1330-20-7 xylene**

- WEL: Short-term value: 441 mg/m³, 100 ppm
- Long-term value: 220 mg/m³, 50 ppm
- Sk: BMGV

**CAS: 100-41-4 ethylbenzene**

- WEL: Short-term value: 552 mg/m³, 125 ppm
- Long-term value: 441 mg/m³, 100 ppm
- Sk

**DNELs**

**CAS: 123-86-4 n-butyl acetate**

- **Inhalative**
  - Worker, long-term exposure, systemic effects: 480 mg/m³ (human)
  - Worker, short-term exposure, local effects: 960 mg/m³ (human)
  - Consumer, long-term exposure, systemic effects: 102.34 mg/m³ (human)
  - Consumer, short-term exposure, local effects: 859.7 mg/m³ (human)

**CAS: 1330-20-7 xylene**

- Oral: Consumer, long-term exposure, systemic effects: 1.6 mg/kg bw/day (human)
- Dermal: Consumer, long-term exposure, systemic effects: 180 mg/kg bw/day (human)
- Inhalative: Consumer, long-term exposure, systemic effects: 77 mg/m³ (human)

**CAS: 100-41-4 ethylbenzene**

- Oral: Consumer, long-term exposure, systemic effects: 1.6 mg/kg bw/day (human)
- Dermal: Consumer, long-term exposure, systemic effects: 180 mg/kg bw/day (human)
- Inhalative: Consumer, short-term exposure, local effects: 14.8 mg/m³ (human)

**PNECs**

**CAS: 123-86-4 n-butyl acetate**

- Fresh water: 0.18 mg/l (not specified)
- Marine water: 0.018 mg/l (not specified)
- Soil: 0.0903 mg/kg (not specified)
- Sediment (fresh water): 0.981 mg/kg (not specified)
Trade name: LUBA-print® 973/D

<table>
<thead>
<tr>
<th></th>
<th>0.0981 mg/kg (not specified)</th>
<th>35.6 mg/l (not specified)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS: 1330-20-7 xylene</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 8.2 Exposure controls

#### Personal protective equipment:

1. **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.

2. **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.

3. **Protection of hands:**
   - Protective gloves
   - The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
   - Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

4. **Material of gloves**
   - Butyl rubber, BR
   - Recommended thickness of the material: ≥ 0.5 mm
   - 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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

5. **Penetration time of glove material**
   - For the mixture of chemicals mentioned below the penetration time has to be at least 480 minutes (Permeation according to EN 16523-1:2015: Level 6).
   - The determined penetration times according to EN 16523-1:2015 are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended.

6. **Eye protection:**
   - Tightly sealed goggles

7. **Body protection:**
   - Protective work clothing
### SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**

  - **General Information**
    - **Form:** Fluid
    - **Colour:** White
    - **Odour:** Specific type
    - **Odour threshold:** Not determined.

  - **pH-value:** Not determined.

  - **Change in condition**
    - **Melting point/freezing point:** Undetermined.
    - **Initial boiling point and boiling range:** ≈ 126 °C (n-butyl acetate)

  - **Flash point:** ≈ 29 °C (DIN EN ISO 2719)

  - **Flammability (solid, gas):** Not applicable.

  - **Ignition temperature:** ≈ 390 °C (n-butyl acetate)

  - **Decomposition temperature:** Not determined.

  - **Auto-ignition temperature:** Product is not selfigniting.

  - **Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

  - **Explosion limits:**
    - **Lower:** ≈ 1 Vol % (xylene)
    - **Upper:** ≈ 7.5 Vol % (n-butyl acetate)

  - **Oxidising properties:** None

  - **Vapour pressure:** Not determined.

  - **Density at 20 °C:** ≈ 0.90 g/cm³ (DIN EN ISO 2811-1)

  - **Relative density**

  - **Vapour density**

  - **Evaporation rate**

  - **Solubility in / Miscibility with water:** Insoluble.

  - **Partition coefficient: n-octanol/water:** Not determined.

  - **Viscosity:**
    - **Dynamic at 23 °C:** ≈ 60 mPas (DIN EN ISO 3219)
    - **Kinematic at 40 °C:** < 20.5 mm²/s (DIN EN ISO 51562)

  - **Solvent separation test:** Not determined.

  - **9.2 Other information**

### SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.

- **10.2 Chemical stability**

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

- **10.3 Possibility of hazardous reactions**

- **10.4 Conditions to avoid** No further relevant information available.
Trade name: LUBA-print® 973/D

(Contd. of page 6)

SECTION 11: Toxicological information

· 10.5 Incompatible materials: No further relevant information available.
· 10.6 Hazardous decomposition products: No dangerous decomposition products known.

<table>
<thead>
<tr>
<th></th>
<th>Oral</th>
<th>Dermal</th>
<th>Inhalative</th>
</tr>
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<tbody>
<tr>
<td>CAS:</td>
<td>LD50</td>
<td>LD50</td>
<td>LC50/4h</td>
</tr>
<tr>
<td>123-86-4 n-butyl acetate</td>
<td>13,100 mg/kg (rat)</td>
<td>14,100 mg/kg (rabbit)</td>
<td>21 mg/l (rat)</td>
</tr>
<tr>
<td>CAS:</td>
<td>LD50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8002-74-2 Paraffin waxes and Hydrocarbon waxes</td>
<td>5,000 mg/kg (rat)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS:</td>
<td>LD50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1330-20-7 xylene</td>
<td>4,300 mg/kg (rat)</td>
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<td></td>
</tr>
<tr>
<td>CAS:</td>
<td>LD50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100-41-4 ethylbenzene</td>
<td>3,500 mg/kg (rat)</td>
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</tbody>
</table>

· Primary irritant effect:
· Skin corrosion/irritation Based on available data, the classification criteria are not met.
· Serious eye damage/irritation Based on available data, the classification criteria are not met.
· Respiratory or skin sensitisation Based on available data, the classification criteria are not met.
· CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)
· Germ cell mutagenicity Based on available data, the classification criteria are not met.
· Carcinogenicity Based on available data, the classification criteria are not met.
· Reproductive toxicity Based on available data, the classification criteria are not met.
· STOT-single exposure
  May cause drowsiness or dizziness.
· STOT-repeated exposure Based on available data, the classification criteria are not met.
· Aspiration hazard
  May be fatal if swallowed and enters airways.

SECTION 12: Ecological information

· 12.1 Toxicity

<table>
<thead>
<tr>
<th></th>
<th>EC50</th>
<th>LC50</th>
<th>IC50</th>
<th>NOEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS:</td>
<td>647.7 mg/l (alga) (green alga / 72 h)</td>
<td>44 mg/l (daphnia) (Daphnia magna / 48 h)</td>
<td>18 mg/l (fish) (Pimephales promelas / 96 h)</td>
<td>336 mg/l (bacteria) (Tetrahymena / 40 h)</td>
</tr>
</tbody>
</table>

(Contd. on page 8)
Trade name: LUBA-print® 973/D

(Contd. of page 7)

**CAS: 1330-20-7 xylene**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50</td>
<td>2.2 mg/l (algae) (Pseudokirchneriella subcapitata / 72 h)</td>
</tr>
<tr>
<td>LC50</td>
<td>2.6 mg/l (fish) (Oncorhynchus mykiss / 96 h)</td>
</tr>
<tr>
<td>IC50</td>
<td>1 mg/l (daphnia) (Daphnia magna / 24 h)</td>
</tr>
<tr>
<td>NOEC</td>
<td>0.44 mg/l (algae) (Pseudokirchneriella subcapitata / 72 h)</td>
</tr>
<tr>
<td></td>
<td>157 mg/l (bacteria) (activated sludge)</td>
</tr>
<tr>
<td></td>
<td>&gt;1.3 mg/l (fish) (Oncorhynchus mykiss / 56 d)</td>
</tr>
</tbody>
</table>

**CAS: 100-41-4 ethylbenzene**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50 (static)</td>
<td>5.4 mg/l (algae) (Pseudokirchneriella subcapitata / 72 h)</td>
</tr>
<tr>
<td></td>
<td>&gt;12 mg/l (bacteria) (bacteria / 16 h)</td>
</tr>
<tr>
<td></td>
<td>2.4 mg/l (daphnia) (Daphnia magna / 48 h)</td>
</tr>
<tr>
<td>LC50</td>
<td>12.1 mg/l (fish) (Pimephales promelas / 96 h)</td>
</tr>
<tr>
<td>NOEC</td>
<td>3.4 mg/l (algae) (Pseudokirchneriella subcapitata / 72 h)</td>
</tr>
</tbody>
</table>

- **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:**
  - Behaviour in sewage processing plants:
    - Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations. Do not release untreated into natural waters.
  - **Additional ecological information:**
    - General notes:
      - Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
      - Do not allow product to reach ground water, water course or sewage system.
    - **12.5 Results of PBT and vPvB assessment**
      - According to Annex XIV of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria. Self classification.
    - **12.6 Other adverse effects** No further relevant information available.

### SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
  - **Recommendation**
    - Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **European waste catalogue**
  - 07 07 04* other organic solvents, washing liquids and mother liquors
- **Uncleaned packaging:**
  - **Recommendation:** Disposal must be made according to official regulations.
  - **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

### SECTION 14: Transport information

- **14.1 UN-Number**
  - ADR/RID/ADN, IMDG, IATA: UN1993

(Contd. on page 9)
Safety data sheet  
according to 1907/2006/EC, Article 31  

Trade name: LUBA-print® 973/D  

(Contd. of page 8)  

14.2 UN proper shipping name  
- ADR/RID/ADN  1993 FLAMMABLE LIQUID, N.O.S. (BUTYL ACETATES, XYLENES)  
- IMDG, IATA  FLAMMABLE LIQUID, N.O.S. (BUTYL ACETATES, XYLENES)  

14.3 Transport hazard class(es)  
- ADR/RID/ADN, IMDG, IATA  

- Class  3 Flammable liquids.  
- Label  3  

14.4 Packing group  
- ADR/RID/ADN, IMDG, IATA  III  

14.5 Environmental hazards: Not applicable.  

14.6 Special precautions for user  
- Warning: Flammable liquids.  
- Hazard identification number (Kemler code): 30  
- EMS Number: F-E,S-E  
- Stowage Category: A  

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code Not applicable.  

Transport/Additional information:  

- ADR/RID/ADN  
- Limited quantities (LQ)  5L  
- Transport category  3  
- Tunnel restriction code  D/E  
- UN "Model Regulation": UN 1993 FLAMMABLE LIQUID, N.O.S. (BUTYL ACETATES, XYLENES), 3, III  

SECTION 15: Regulatory information  

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture  
- Directive 2012/18/EU  
- Named dangerous substances - ANNEX I None of the ingredients is listed.  
- Seveso category P5c FLAMMABLE LIQUIDS  
- Qualifying quantity (tonnes) for the application of lower-tier requirements 5,000 t  
- Qualifying quantity (tonnes) for the application of upper-tier requirements 50,000 t  
- REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3  
- National regulations:  
- Information about limitation of use: Employment restrictions concerning juveniles must be observed. Employment restrictions concerning pregnant and lactating women must be observed.  
- Waterhazard class: Water hazard class 2 (Self-assessment): hazardous for water.  

(Contd. on page 10)
Abbreviations and acronyms:
- IMDG: International Maritime Code for Dangerous Goods
- Carriage of Dangerous Goods by Road
- H335: May cause respiratory irritation.
- PNEC: Predicted No-Effect Concentration (REACH)
- vPvB: very Persistent and very Bioaccumulative
- Flam. Liq. 2: Flammable liquids – Category 2
- Flam. Liq. 3: Flammable liquids – Category 3
- Acute Tox. 4: Acute toxicity - dermal – Category 4
- Skin Irrit. 2: Skin corrosion/irritation – Category 2
- Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
- STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
- STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
- Asp. Tox. 1: Aspiration hazard – Category 1

SECTION 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.

- Relevant phrases
  - H225: Highly flammable liquid and vapour.
  - H226: Flammable liquid and vapour.
  - H304: May be fatal if swallowed and enters airways.
  - H312: Harmful in contact with skin.
  - H315: Causes skin irritation.
  - H319: Causes serious eye irritation.
  - H332: Harmful if inhaled.
  - H335: May cause respiratory irritation.
  - H336: May cause drowsiness or dizziness.
  - H373: May cause damage to organs through prolonged or repeated exposure.

- Department issuing SDS:
  - Product Safety Department
  - E-Mail: msds@munzing.com

- Abbreviations and acronyms:
  - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  - IMDG: International Maritime Code for Dangerous Goods
  - 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)
  - DNEL: Derived No-Effect Level (REACH)
  - PNEC: Predicted No-Effect Concentration (REACH)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative

(Contd. of page 9)