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

1.1 Product identifier
- Trade name: LUBA-print® 459
- UFI: ADP0-60MX-F004-JUX7

1.2 Relevant identified uses of the substance or mixture and uses advised against
No further relevant information available.

Application of the substance / the mixture Wax additive for paints and printing inks

1.3 Details of the supplier of the safety data sheet
- Manufacturer/Supplier:
  MÜNZING CHEMIE GmbH
  Münzingstrasse 2
  74232 Abstatt, Germany
  E-Mail: info@munzing.com
  Tel.: +49 7131 987-100

- Further information obtainable from:
  Product Safety Department
  E-mail (MSDS): msds@munzing.com

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.
  Aquatic Chronic 2  H411 Toxic to aquatic life with long lasting effects.

- Labelling according to Regulation (EC) No 1272/2008
  The product is classified and labelled according to the CLP regulation.
  Hazard pictograms
  GHS02  GHS09

- Signal word Warning
- Hazard statements
  H226 Flammable liquid and vapour.
  H411 Toxic 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.
  P240 Ground and bond container and receiving equipment.
  P280 Wear protective gloves/protective clothing/eye protection/face protection.
  P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
  P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards
- Results of PBT and vPvB assessment
  PBT: None.

(Contd. on page 2)
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

5.2 Special hazards arising from the substance or mixture

Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Chronic 2, H411

Dangerous components:

- Suitable extinguishing agents:
  - CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
  - For safety reasons unsuitable extinguishing agents: Water with full jet
- Special hazards arising from the substance or mixture: Can form explosive gas-air mixtures.
- 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

- Personal precautions, protective equipment and emergency procedures
  - Ensure adequate ventilation
  - Keep away from ignition sources.
  - Wear protective clothing.
Trade name: LUBA-print® 459

Wear protective equipment. Keep unprotected persons away.

- **6.2 Environmental precautions:**
  - Do not allow to penetrate the ground/soil.
  - Inform respective authorities in case of seepage into water course or sewage system.
  - 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**

  **CAS:** 8002-74-2 Paraffin waxes and Hydrocarbon waxes

  **WEL**
  - Short-term value: 6 mg/m³
  - Long-term value: 2 mg/m³

- **Additional information:** The lists valid during the making were used as basis.

- **8.2 Exposure controls**
  - **Personal protective equipment:**
    - **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.
    - **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.
Protection of hands:
Protective gloves
The glove material has to be impermeable and resistant to the product, the substance, or the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

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.

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.

Eye protection: Tight sealed goggles
Body protection: Protective work clothing

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information
Appearance:
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: ≈ 153 °C (alkanes, C10-12-iso-)

Flash point: ≈ 38 °C (ASTM D 6450)

Flammability (solid, gas): Not applicable.

Ignition temperature: > 200 °C (alkanes, C10-12-iso-)

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: ≈ 0.6 Vol % (alkanes, C10-12-iso-)
Upper: ≈ 7.0 Vol % (alkanes, C10-12-iso-)

Oxidising properties: None.

Vapour pressure: Not determined.

Density at 20 °C: ≈ 0.77 g/cm³ (DIN 53217)


**Trade name:** LUBA-print® 459

(Contd. of page 4)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>· Relative density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Vapour density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Evaporation rate</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Solubility in / Miscibility with water</td>
<td>Insoluble.</td>
</tr>
<tr>
<td>· Partition coefficient: n-octanol/water</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Viscosity:</td>
<td></td>
</tr>
<tr>
<td>· Dynamic at 23 °C:</td>
<td>( \approx 30 \text{ mPa.s} ) (DIN 53214)</td>
</tr>
<tr>
<td>· Kinematic at 40 °C:</td>
<td>( &gt; 20.5 \text{ mm}^2/\text{s} ) (DIN EN ISO 51562)</td>
</tr>
<tr>
<td>· Solvent separation test</td>
<td>Not determined</td>
</tr>
<tr>
<td>· 9.2 Other information</td>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>

**SECTION 10: Stability and reactivity**

<table>
<thead>
<tr>
<th>Section</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>· 10.1 Reactivity</td>
<td>No further relevant information available.</td>
</tr>
<tr>
<td>· 10.2 Chemical stability</td>
<td></td>
</tr>
<tr>
<td>· Thermal decomposition / conditions to be avoided</td>
<td>No decomposition if used according to specifications.</td>
</tr>
<tr>
<td>· 10.3 Possibility of hazardous reactions</td>
<td>No dangerous reactions known.</td>
</tr>
<tr>
<td>· 10.4 Conditions to avoid</td>
<td>No further relevant information available.</td>
</tr>
<tr>
<td>· 10.5 Incompatible materials</td>
<td>No further relevant information available.</td>
</tr>
<tr>
<td>· 10.6 Hazardous decomposition products</td>
<td>No dangerous decomposition products known.</td>
</tr>
</tbody>
</table>

**SECTION 11: Toxicological information**

<table>
<thead>
<tr>
<th>Section</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>· 11.1 Information on toxicological effects</td>
<td></td>
</tr>
<tr>
<td>· Acute toxicity:</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>· LD/LC50 values relevant for classification:</td>
<td></td>
</tr>
<tr>
<td>Hydrocarbons, C10-C12, isoalkanes, &lt;2% aromatics</td>
<td></td>
</tr>
<tr>
<td>Oral LD50</td>
<td>&gt; 5,000 mg/kg (rat) (OECD 401)</td>
</tr>
<tr>
<td>Dermal LD50</td>
<td>&gt; 5,000 mg/kg (rabbit) (OECD 402)</td>
</tr>
<tr>
<td>CAS: 8002-74-2 Paraffin waxes and Hydrocarbon waxes</td>
<td></td>
</tr>
<tr>
<td>Oral LD50</td>
<td>&gt; 5,000 mg/kg (rat)</td>
</tr>
<tr>
<td>Primary irritant effect:</td>
<td></td>
</tr>
<tr>
<td>· Skin corrosion/irritation</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>· Serious eye damage/irritiation</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>· Respiratory or skin sensitisation</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>· CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)</td>
<td></td>
</tr>
<tr>
<td>· Germ cell mutagenicity</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>· Carcinogenicity</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>· Reproductive toxicity</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>· STOT-single exposure</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>· STOT-repeated exposure</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>· Aspiration hazard</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
</tbody>
</table>

(Contd. on page 6)
SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:

Hydrocarbons, C10-C12, isoalkanes, <2% aromatics

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Concentration</th>
<th>Studies/Species/Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>LL0</td>
<td>1,000 mg/l (fish) (Onchorynchus mykiss / 96 h)</td>
<td></td>
</tr>
<tr>
<td>EL0</td>
<td>1,000 mg/l (algae) (green alga / 72 h)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1,000 mg/l (daphnia) (Daphnia magna / 48 h)</td>
<td></td>
</tr>
<tr>
<td>NOELR</td>
<td>1,000 mg/l (algae) (green alga / 72 h)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;1 mg/l (daphnia) (Daphnia magna / 21 d)</td>
<td></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.

Ecotoxic effects:

- **Remark:** Toxic for fish

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 1 (German Regulation) (Self-assessment): slightly hazardous for water
  Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

  Toxic for aquatic organisms

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. of page 5)
### 14.2 UN proper shipping name

- **ADR/RID/ADN**: 1993 FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C10-C12, isoalkanes, <2% aromatics), ENVIRONMENTALLY HAZARDOUS
- **IMDG**: FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C10-C12, isoalkanes, <2% aromatics), MARINE POLLUTANT
- **IATA**: FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C10-C12, isoalkanes, <2% aromatics)

### 14.3 Transport hazard class(es)

- **ADR/RID/ADN, IMDG**
  - **Class**: 3 Flammable liquids.
  - **Label**: 3

- **IATA**
  - **Class**: 3 Flammable liquids.
  - **Label**: 3

### 14.4 Packing group

- **ADR/RID/ADN, IMDG, IATA**: III

### 14.5 Environmental hazards:

- **Marine pollutant**: Symbol (fish and tree)
- **Special marking (ADR/RID/ADN)**: Symbol (fish and tree)

### 14.6 Special precautions for user

- **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. (HYDROCARBONS, C10-C12, ISOALKANES, <2% AROMATICS), 3, III, ENVIRONMENTALLY HAZARDOUS
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
    - E2 Hazardous to the Aquatic Environment
    - P5c FLAMMABLE LIQUIDS
  - Qualifying quantity (tonnes) for the application of lower-tier requirements: 200 t
  - Qualifying quantity (tonnes) for the application of upper-tier requirements: 500 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 1 (German AwSV, Self-assessment): slightly hazardous for water.
  - 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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
  - H226 Flammable liquid and vapour.
  - H304 May be fatal if swallowed and enters airways.
  - H411 Toxic to aquatic life with long lasting effects.

- Department issuing SDS:
  - Product Safety Department
  - E-Mail: m SDS@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)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
  - Flam. Liq. 3: Flammable liquids – Category 3
  - Asp. Tox. 1: Aspiration hazard – Category 1
  - Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2