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

1.1 Product identifier
- Trade name: LUBA-print® 447/A (ND)
- UFI: 1CN0-40C5-S006-MRXF

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

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.
- STOT SE 3 H336 May cause drowsiness or dizziness.
- Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

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
  - GHS09

Signal word Warning

Hazard-determining components of labelling:
- Hydrocarbons, C10, aromatics, <1% naphthalene
- n-butyl acetate

Hazard statements
- H226 Flammable liquid and vapour.
- H336 May cause drowsiness or dizziness.
- 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.
- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
- 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].
- P405 Store locked up.
**SECTION 3: Composition/information on ingredients**

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

<table>
<thead>
<tr>
<th>EC number: 918-811-1</th>
<th>Hydrocarbons, C10, aromatics, &lt;1% naphthalene</th>
<th>50-75%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS: 123-86-4</td>
<td>n-butyl acetate</td>
<td>20-50%</td>
</tr>
</tbody>
</table>

| CAS: 81-20-3         | naphthalene                                    | ≤1%    |
| EINECS: 202-049-5    | P1007, R151, R280, R360                      |        |

**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 fire with alcohol resistant foam.
  - 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.
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 unproctected 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).
  - Ensure adequate ventilation.
  - 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.

- **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**

<table>
<thead>
<tr>
<th>CAS: 123-86-4 n-butyl acetate</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEL</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Recommended thickness of the material: ≥ 0.5 mm

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.
**SECTION 9: Physical and chemical properties**

- **9.1 Information on basic physical and chemical properties**
  - **General Information**
    - **Appearance:**
      - Form: Fluid
      - Colour: Yellow
    - **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: \( \approx 126 ^\circ C \) (n-butylacetate)
  - **Flash point:** \( \approx 25 ^\circ C \) (ASTM D 6450)
  - **Flammability (solid, gas):** Not applicable.
  - **Ignition temperature:** \( \approx 390 ^\circ C \) (n-butylacetate)
  - **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: \( \approx 0.6 \) Vol % (solvent naphtha (heavy))
    - Upper: \( \approx 7.5 \) Vol % (n-butylacetate)
  - **Oxidising properties:** None.
  - **Vapour pressure:** Not determined.
  - **Density at 20 °C:** \( \approx 0.89 \) g/cm\(^3\) (DIN 53217)
  - **Relative density:** Not determined.
  - **Vapour density:** Not determined.
  - **Evaporation rate:** Not determined.
  - **Solubility in / Miscibility with water:** Insoluble.
  - **Partition coefficient: n-octanol/water:** Not determined.
  - **Viscosity:**
    - Dynamic at 23 °C: \( \approx 30 \) mPas (DIN 53214)
    - Kinematic at 40 °C: \( > 20.5 \) mm\(^2\)/s (DIN EN ISO 51562)
  - **Solvent separation test:** Not determined
  - **9.2 Other information** No further relevant information available.

**SECTION 10: Stability and reactivity**

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

(Contd. of page 6)
SECTION 11: Toxicological information

11.1 Information on toxicological effects

- Acute toxicity: Based on available data, the classification criteria are not met.

11.2 Chemical stability

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

11.3 Possibility of hazardous reactions

- Flammable vapour-air mixtures may develop if stored in large receptacles and above room temperature.

11.4 Conditions to avoid: No further relevant information available.

11.5 Incompatible materials: No further relevant information available.

11.6 Hazardous decomposition products: No dangerous decomposition products known.

SECTION 12: Ecological information

12.1 Toxicity

- Aquatic toxicity:

<table>
<thead>
<tr>
<th>Hydrocarbons, C10, aromatics, &lt;1% naphthalene</th>
<th>Oral</th>
<th>LD50</th>
<th>6,318 mg/kg (rat) (OECD 401)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dermal</td>
<td>LD50</td>
<td>&gt;2,000 mg/kg (rabbit) (OECD 402)</td>
<td></td>
</tr>
</tbody>
</table>

| CAS: 123-86-4 n-butyl acetate |
| Oral | LD50 | 13,100 mg/kg (rat) |
| Dermal | LD50 | 14,100 mg/kg (rabbit) |
| Inhalative | LC50/4h | >21 mg/l (rat) |

| CAS: 91-20-3 naphthalene |
| Oral | LD50 | 490 mg/kg (rat) |
| Dermal | LD50 | 5,000 mg/kg (rat) |

- 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 (carcinogenity, 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: Based on available data, the classification criteria are not met.
Hydrocarbons, C10, aromatics, <1% naphthalene

Water, if necessary together with cleansing agents.

ENVIRONMENTALLY HAZARDOUS
FLAMMABLE LIQUID, N.O.S. (BUTYL ACETATES, 07 07 04* other organic solvents, washing liquids and mother liquors

· 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 fullfilling 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
UN1993

· 14.2 UN proper shipping name
1993 FLAMMABLE LIQUID, N.O.S. (BUTYL ACETATES, Hydrocarbons, C10, aromatics, <1% naphthalene), ENVIRONMENTALLY HAZARDOUS FLAMMABLE LIQUID, N.O.S. (BUTYL ACETATES, Hydrocarbons, C10, aromatics, <1% naphthalene), MARINE POLLUTANT FLAMMABLE LIQUID, N.O.S. (BUTYL ACETATES, Hydrocarbons, C10, aromatics, <1% naphthalene)
### 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
**Trade name:** LUBA-print® 447/A (ND)

- **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.
  - **Water hazard class:** Water hazard class 2 (Self-assessment): hazardous for water.
  - **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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**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.
  - H302 Harmful if swallowed.
  - H304 May be fatal if swallowed and enters airways.
  - H336 May cause drowsiness or dizziness.
  - H351 Suspected of causing cancer.
  - H400 Very toxic to aquatic life.
  - H410 Very toxic to aquatic life with long lasting effects.
  - H411 Toxic to aquatic life with long lasting effects.

- **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
  - PB: Persistent, Bioaccumulative and Toxic
  - vPB: very Persistent and very Bioaccumulative
  - Flam. Liq.: Flammable liquid – Category 3
  - Acute Tox. 4: Acute toxicity - oral – Category 4
  - Carc. 2: Carcinogenicity – Category 2
  - STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
  - Asp. Tox. 1: Aspiration hazard – Category 1
  - Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
  - Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
  - Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2