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

1.1 Product identifier
- Trade name: LUBA-print® 654/S
- UFI: N0C0-Y03W-D008-GJEE

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
  Münzingstrasse 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
  Flamm., Liq. 2  H225  Highly flammable liquid and vapour.
  Eye Irrit. 2   H319  Causes serious eye irritation.
  STOT SE 3  H336  May cause drowsiness or dizziness.

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

Signal word Danger

Hazard-determining components of labelling:
- Propan-2-ol

Hazard statements
- H225 Highly flammable liquid and vapour.
- H319 Causes serious eye irritation.
- H336 May cause drowsiness or dizziness.

Precautionary statements
- P261  Avoid breathing dust/fume/gas/mist/vapours/spray.
- P280  Wear protective gloves/protective clothing/eye protection/face protection.
- P303+/P361+/P335 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
- P305+/P351+/P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P405  Store locked up.

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

SECTION 3: Composition/information on ingredients

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

<table>
<thead>
<tr>
<th>CAS</th>
<th>EINECS</th>
<th>Reg.nr.</th>
<th>Dangerous components</th>
</tr>
</thead>
</table>
| 67-63-0 | 200-661-7 | 01-219457558-25 | Propan-2-ol
| Flammable liquid 2, H223; Eye Irritant 2, H319; STOT SE 3, H336 | 50-75% |

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

SECTION 4: First aid measures

· 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.
  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.

5.1 Extinguishing media
· 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

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
  Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 5: Firefighting measures

· Personal precautions, protective equipment and emergency procedures
  Ensure adequate ventilation
 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.
<table>
<thead>
<tr>
<th>CAS: 67-63-0 Propan-2-ol</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fresh water</strong></td>
</tr>
<tr>
<td><strong>Marine water</strong></td>
</tr>
<tr>
<td><strong>Soil</strong></td>
</tr>
<tr>
<td><strong>Sediment (fresh water)</strong></td>
</tr>
<tr>
<td><strong>Sediment (marine water)</strong></td>
</tr>
</tbody>
</table>

- **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/ 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 16522-1:2015: 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:** Tightly 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: Alcohol-like
        - Odour threshold: Not determined.
    - **PH-value:** Not determined.
Safety data sheet
according to 1907/2006/EC, Article 31

Trade name: LUBA-print® 654/S

(Contd. of page 4)

- **Change in condition**
  - Melting point/freezing point: Undetermined.
  - Initial boiling point and boiling range: ≈82 °C (propan-2-ol)

- **Flash point:** ≈12 °C (DIN EN ISO 2719)

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

- **Ignition temperature:** ≈425 °C (propan-2-ol)

- **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: ≈ 2 Vol % (propan-2-ol)
  - Upper: ≈ 12 Vol % (propan-2-ol)

- **Vapour pressure at 20 °C:** ≈48 hPa (propan-2-ol)

- **Density at 20 °C:** ≈0.81 g/cm³ (DIN EN ISO 2811-1)

- **Relative density**
- **Vapour density**
- **Evaporation rate**
  - Not determined.

- **Solubility in / Miscibility with water:** Partly miscible.

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

- **Viscosity:**
  - Dynamic at 23 °C: ≈60 mPas (DIN EN ISO 3219)
  - Kinematic: Not determined.

- **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.
- **10.2 Chemical stability**
- **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.

SECTION 11: Toxicological information

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

<table>
<thead>
<tr>
<th>CAS: 67-63-0 Propan-2-ol</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>LD50</td>
</tr>
<tr>
<td>Dermal</td>
<td>LD50</td>
</tr>
<tr>
<td>Inhalative</td>
<td>LC50/4h</td>
</tr>
</tbody>
</table>

- **Primary irritant effect:**
  - **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
  - **Serious eye damage/irritation**
    Causes serious eye irritation.
  - **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** Based on available data, the classification criteria are not met.

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**SECTION 12: Ecological information**

- **12.1 Toxicity**

  - **Aquatic toxicity:**

    | CAS: 67-63-0 Propan-2-ol |  |
    |---------------------------|---|
    | EC50 | >1,000 mg/l (alga) (Scenedesmus subspicatus / 72 h) |
    | | 13,299 mg/l (daphnia) (Daphnia Magna / 48 h) |
    | EC10 | 5,175 mg/l (bacteria) (Pseudomonas putida / 18 h) |
    | LC50 | 9,640 mg/l (fish) (Pimephales promelas / 96 h) |

- **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 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.

  - **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 UN1219

- 14.2 UN proper shipping name
  - ADR/RID/ADN 1219 ISOPROPANOL (ISOPROPYL ALCOHOL) mixture
  - IMDG, IATA ISOPROPANOL (ISOPROPYL ALCOHOL) mixture

- 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 II

- 14.5 Environmental hazards:
  - Not applicable.

- 14.6 Special precautions for user
  - Warning: Flammable liquids.
  - Hazard identification number (Kemler code): 33 F-E,S-D
  - EMS Number: B
  - Stowage Category

- 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) 1L
    - Transport category 2
    - Tunnel restriction code D/E

  - UN "Model Regulation": UN 1219 ISOPROPANOL (ISOPROPYL ALCOHOL) MIXTURE, 3, II

(Contd. on page 8)
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 1 (German AwSV, Self-assessment): slightly hazardous for water.
  · Other regulations, limitations and prohibitive regulations
    The restrictions in marketing and using of nonylphenol ethoxylates mentioned in REACH, Annex XVII and the regulation 689/2008/EC concerning the export and import of dangerous chemicals have to be observed.

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
  H225 Highly flammable liquid and vapour.
  H319 Causes serious eye irritation.
  H336 May cause drowsiness or dizziness.

· 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
  Flam. Liq. 2: Flammable liquids – Category 2
  Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
  STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

· Data compared to the previous version altered.