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

1.1 Product identifier
- Trade name: LUBA-print® 161/T
- UFI: CC80-80QK-V00W-0YCE

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. 2 H225 Highly flammable liquid and vapour.
  Eye Irrit. 2 H319 Causes serious eye irritation.

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 statements
  H225 Highly flammable liquid and vapour.
  H319 Causes serious eye irritation.

- Precautionary statements
  P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
  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].
  P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  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)
Wear protective equipment. Keep unprotected persons away.

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.

(Contd. on page 3)
7.3 Specific end use(s)
No further relevant information available.

· Store in a cool location.
· Prevent formation of aerosols.
· According to 1907/2006/EC, Article 31 consumer, long-term exposure, systemic effects 206 mg/kg bw/day (human)
· Trade name: LUBA-print® 161/T
· Safety data sheet
(Contd. of page 2)

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: 64-17-5 Ethanol
    WEL: Long-term value: 1920 mg/m³, 1000 ppm
  · DNELs
    CAS: 64-17-5 Ethanol
    Oral consumer, long-term exposure, systemic effects 87 mg/kg bw/day (human)
    Dermal worker, long-term exposure, systemic effects 343 mg/kg bw/day (human)
    Inhalative worker, long-term exposure, systemic effects 950 mg/m³ (human)
    Inhalative worker, short-term exposure, local effects 1,900 mg/m³ (human)
    Inhalative consumer, long-term exposure, systemic effects 114 mg/m³ (human)
    Inhalative consumer, short-term exposure, local effects 950 mg/m³ (human)
Trade name: LUBA-print® 161/T

<table>
<thead>
<tr>
<th>CAS: 64-17-5 Ethanol</th>
</tr>
</thead>
<tbody>
<tr>
<td>fresh water</td>
</tr>
<tr>
<td>marine water</td>
</tr>
<tr>
<td>aqua - intermittent release</td>
</tr>
<tr>
<td>soil</td>
</tr>
<tr>
<td>sediment (fresh water)</td>
</tr>
<tr>
<td>sewage treatment plant</td>
</tr>
<tr>
<td>secondary poisoning</td>
</tr>
</tbody>
</table>

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

8.2 Exposure controls

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 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: 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
Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 21.01.2020  Version number 1  Revision: 03.07.2015

Trade name: LUBA-print® 161/T

(Contd. of page 4)

- Odour threshold: Not determined.
- pH-value: Not determined.
- Change in condition
  Melting point/freezing point: Undetermined.
  Initial boiling point and boiling range: ≈ 78 °C (ETHYL ALCOHOL)
- Flash point: ≈ 12 °C (DIN EN ISO 2719)
- Flammability (solid, gas): Not applicable.
- Ignition temperature: ≈ 425 °C (ETHYL ALCOHOL)
- 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: ≈ 3.5 Vol % (ETHYL ALCOHOL)
    Upper: ≈ 15 Vol % (ETHYL ALCOHOL)
  - Oxidising properties: None
- Vapour pressure at 20 °C: ≈ 57 hPa (ETHYL ALCOHOL)
- Density at 20 °C: ≈ 0.850 g/cm³ (DIN EN ISO 2811-1)
- Relative density: Not determined.
- Vapour density: Not determined.
- Evaporation rate: Not determined.
- Solubility in / Miscibility with water: Fully miscible.
- Partition coefficient: n-octanol/water: Not determined.
- Viscosity:
  Dynamic at 23 °C: ≈ 54 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
  Flammable vapour-air mixtures may develop if stored in large receptacles and above room temperature.
- 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.

(Contd. on page 6)
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: 64-17-5 Ethanol</th>
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<tbody>
<tr>
<td>Oral</td>
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<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Dermal</td>
</tr>
<tr>
<td>Inhalative</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: Based on available data, the classification criteria are not met.
- 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.

SECTION 12: Ecological information

12.1 Toxicity
- Aquatic toxicity:

<table>
<thead>
<tr>
<th>CAS: 64-17-5 Ethanol</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50</td>
</tr>
<tr>
<td>&gt;9,268 mg/l (daphnia) (Daphnia magna / 48 h)</td>
</tr>
<tr>
<td>LC50</td>
</tr>
<tr>
<td>8,140 mg/l (fish) (Leuciscus idus / 48 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 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
UN1170

14.2 UN proper shipping name
ADR/RID/ADN
1170 ETHANOL (ETHYL ALCOHOL) mixture
IMDG
ETHANOL (ETHYL ALCOHOL) mixture
IATA
ETHANOL 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
EMS Number:
F-E-S-D
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)
1L
Transport category
2
Tunnel restriction code
D/E
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.
  - Water hazard 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.

- 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