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

1.1 Product identifier
- Trade name: LUBA-print® 887/H
- UFI: RW70-R08M-C00F-P8F3

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

- 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. 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.

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

(Contd. on page 2)
Trade name: LUBA-print® 887/H

· vPoB: None.

(Contd. of page 1)

SECTION 3: Composition/information on ingredients

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

   Dangerous components:

<table>
<thead>
<tr>
<th>CAS</th>
<th>EINECS: 200-578-6</th>
<th>Flam. Liq. 2, H225; Eye Irrit. 2, H319</th>
<th>Additional information</th>
</tr>
</thead>
<tbody>
<tr>
<td>64-17-5</td>
<td>Reg.nr.: 01-2119457610-43</td>
<td>50-75%</td>
<td>For the wording of the listed hazard phrases refer to section 16.</td>
</tr>
</tbody>
</table>

   Ethanol

   Additional information:

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.
  · 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 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.

(Contd. on page 3)
Trade name: LUBA-print® 887/H

Dilute with plenty of water.
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.

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: 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)
consumer, long-term exposure, systemic effects 206 mg/kg bw/day (human)
Inhalative worker, long-term exposure, systemic effects 950 mg/m³ (human)
consumer, short-term exposure, local effects 1,900 mg/m³ (human)
consumer, long-term exposure, systemic effects 114 mg/m³ (human)
consumer, short-term exposure, local effects 950 mg/m³ (human)

PNECs
CAS: 64-17-5 Ethanol

fresh water 0.96 mg/l (not specified)
marine water 0.79 mg/l (not specified)
Safety data sheet
according to 1907/2006/EC, Article 31

Trade name: LUBA-print® 887/H

(Contd. of page 3)

- 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 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: Yellowish
      Odour: Alcohol-like
      Odour threshold: Not determined.
    - pH-value: Not determined.
    - Change in condition
      Melting point/freezing point: Undetermined.

(Contd. on page 5)
SECTION 10: Stability and reactivity

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 self-igniting.

- Explosive properties: Product is not explosive. However, formation of explosive air/vapour mixtures is 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: ≈ 0.82 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: ≈ 53 mPas (DIN EN ISO 3219)
  - Kinematic: Not determined.

- Solvent separation test: Not determined
- 9.2 Other information: No further relevant information available.

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:
  - CAS: 64-17-5 Ethanol
  - Oral LD50: 3,450 mg/kg (mouse)
    7,060 mg/kg (rat)

(Contd. of page 4)

(Contd. of page 6)
12.6 Other adverse effects

Based on available data, the classification criteria are not met.

13.1 Waste treatment methods

Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

(Contd. on page 7)
SECTION 14: Transport information

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

- 14.2 UN proper shipping name
  - ADR/RID/ADN
    1993 FLAMMABLE LIQUID, N.O.S. (ETHANOL (ETHYL ALCOHOL)), special provision 640D
  - IMDG
    FLAMMABLE LIQUID, N.O.S. (ETHANOL (ETHYL ALCOHOL))
  - IATA
    FLAMMABLE LIQUID, N.O.S. (ETHANOL)

- 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-E
  - Stowage Category
    B

- 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 1993 FLAMMABLE LIQUID, N.O.S., SPECIAL PROVISION 640D (ETHANOL (ETHYL ALCOHOL)), 3, II

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

(Contd. on page 8)
Quality 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.
Water hazard 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
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