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

1.1 Product identifier

- Trade name: LUBA-print® 254/A-PM (ND)
- UFI: Q8C0-G063-900R-GK3M

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

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.
STOT SE 3  H336  May cause drowsiness or dizziness.
Asp. Tox. 1  H304  May be fatal if swallowed and enters airways.

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](image) ![GHS07](image) ![GHS08](image) ![GHS09](image)

Signal word Danger

Hazard-determining components of labelling:
Hydrocarbons, C10, aromatics, <1% naphthalene
Propan-2-ol

Hazard statements

H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H304 May be fatal if swallowed and enters airways.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P261  Avoid breathing dust/fume/gas/mist/vapours/spray.
P280  Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310  IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
Trade name: LUBA-print® 254/A-PM (ND)

P331  Do NOT induce vomiting.
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.
P405  Store locked up.
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.
  · vPvB: None.

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>Reg.nr.: 01-2119463583-34</td>
<td>Asp. Tox. 1, H304; Aquatic Chronic 2; H411; STOT SE 3, H336</td>
<td></td>
</tr>
<tr>
<td>CAS: 67-63-0</td>
<td>Propan-2-ol</td>
<td>20-50%</td>
</tr>
<tr>
<td>EINECS: 200-661-7</td>
<td>Flam. Liq. 2, H223; Eye Irrit. 2, H319; STOT SE 3, H336</td>
<td></td>
</tr>
<tr>
<td>Reg.nr.: 01-2119457558-25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS: 91-20-3</td>
<td>naphthalene</td>
<td>≤1%</td>
</tr>
<tr>
<td>EINECS: 202-049-5</td>
<td>Carc. 2, H351; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302</td>
<td></td>
</tr>
</tbody>
</table>

· 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 fires with water spray or alcohol resistant foam.
  · For safety reasons unsuitable extinguishing agents: Water with full jet

(Contd. page 3)
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.
  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).
  Dispose contaminated material as waste according to item 13.
  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.
  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:

<table>
<thead>
<tr>
<th>CAS: 67-63-0 Propan-2-ol</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEL</td>
</tr>
<tr>
<td></td>
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</tbody>
</table>

DNELs

Hydrocarbons, C10, aromatics, <1% naphthalene

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>consumer, long-term exposure, systemic effects</td>
<td>7.5 mg/kg bw/day (human)</td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>worker, long-term exposure, systemic effects</td>
<td>12.5 mg/kg bw/day (human)</td>
<td></td>
</tr>
<tr>
<td>Inhalative</td>
<td>worker, long-term exposure, systemic effects</td>
<td>151 mg/m³ (human)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>consumer, long-term exposure, systemic effects</td>
<td>32 mg/m³ (human)</td>
<td></td>
</tr>
</tbody>
</table>

CAS: 67-63-0 Propan-2-ol

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>consumer, long-term exposure, systemic effects</td>
<td>26 mg/kg bw/day (human)</td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>worker, long-term exposure, systemic effects</td>
<td>888 mg/kg bw/day (human)</td>
<td></td>
</tr>
<tr>
<td>Inhalative</td>
<td>worker, long-term exposure, systemic effects</td>
<td>319 mg/kg bw/day (human)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>consumer, long-term exposure, systemic effects</td>
<td>500 mg/m³ (human)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>consumer, long-term exposure, systemic effects</td>
<td>89 mg/m³ (human)</td>
<td></td>
</tr>
</tbody>
</table>

PNECs

CAS: 67-63-0 Propan-2-ol

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>fresh water</td>
<td>140.9 mg/l (not specified)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>marine water</td>
<td>140.9 mg/l (not specified)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>soil</td>
<td>28 mg/kg (not specified)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>sediment (fresh water)</td>
<td>552 mg/kg (not specified)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>sediment (marine water)</td>
<td>552 mg/kg (not specified)</td>
<td></td>
<td></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.

(Contd. on page 5)
Trade name: LUBA-print® 254/A-PM (ND)

(Contd. of page 4)

· 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: Yellow
    · Odour: Specific type
    · Odour threshold: Not determined.
  · pH-value: Not determined.
· Change in condition
  · Melting point/freeze point: Undetermined.
  · Initial boiling point and boiling range: ≈ 82 °C (propan-2-ol)
· Flash point: ≈ 20 °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 self-igniting.
· Explosive properties: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:
  · Lower: ≈ 0.6 Vol % (solvent naphtha (heavy))
  · Upper: ≈ 12 Vol % (propan-2-ol)
· Oxidising properties: None
· Vapour pressure: Not determined.
· Density at 20 °C: ≈ 0.86 g/cm³ (DIN EN ISO 2811-1)
· 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: ≈ 15 mPas (DIN EN ISO 3219)
  · Kinematic at 40 °C: <7 mm²/s (DIN EN ISO 51562)
· Solvent separation test: Not determined

(Contd. on page 6)
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.

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:

    Hydrocarbons, C10, aromatics, <1% naphthalene
    |        | Oral  | Oral  |
    |        | LD50  | LD50  |
    |        | 6,318 mg/kg (rat) (OECD 401) | >2,000 mg/kg (rabbit) (OECD 402) |
    
    CAS: 67-63-0 Propan-2-ol
    |        | Oral  | Oral  | Inhalative |
    |        | LD50  | LD50  | LC50/4h    |
    |        | 5,280 mg/kg (rat) | 12,800 mg/kg (rabbit) | 30 mg/l (rat) |
    
    CAS: 91-20-3 naphthalene
    |        | Oral  | Oral  |
    |        | LD50  | LD50  |
    |        | 890 mg/kg (rat) | 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 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
    May be fatal if swallowed and enters airways.
12.6 Other adverse effects

07 07 04* other organic solvents, washing liquids and mother liquors

SECTION 12: Ecological information

12.1 Toxicity

- Aquatic toxicity:

<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LL50 2-5 mg/l (fish)</td>
<td>LC50 9,640 mg/l (fish)</td>
</tr>
<tr>
<td></td>
<td>EL50 1-3 mg/l (alga)</td>
<td>EC10 5,175 mg/l (bacteria)</td>
</tr>
<tr>
<td></td>
<td>NOELR 0.771 mg/l (daphnia)</td>
<td>EC50 &gt;1,000 mg/l (alga)</td>
</tr>
<tr>
<td></td>
<td>CAS: 67-63-0 Propan-2-ol</td>
<td></td>
</tr>
</tbody>
</table>

- Hydrocarbons, C10, aromatics, <1% naphthalene

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LL50 2-5 mg/l (Oncorhynchus aquabonita / 96 h)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EL50 1-3 mg/l (green alga / 72 h)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NOELR 0.771 mg/l (Daphnia magna / 21 days)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EC50 &gt;1,000 mg/l (Daphnia Magna / 48 h)</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.

- Ecotoxicological 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 2 (German Regulation) (Self-assessment): hazardous for water

Do not allow product 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

- 14.2 UN proper shipping name
  - ADR/RID/ADN
    1993 FLAMMABLE LIQUID, N.O.S. (ISOPROPANOL (ISOPROPYL ALCOHOL)), ENVIRONMENTALLY HAZARDOUS, special provision 640D
  - IMDG
    FLAMMABLE LIQUID, N.O.S. (ISOPROPANOL (ISOPROPYL ALCOHOL)), Hydrocarbons, C10, aromatics, <1% naphthalene, MARINE POLLUTANT
  - IATA
    FLAMMABLE LIQUID, N.O.S. (ISOPROPANOL (ISOPROPYL ALCOHOL))

- 14.3 Transport hazard class(es)
  - ADR/RID/ADN, IMDG
    
    ![Flammable symbol]

    - Class
      - 3 Flammable liquids.
    - Label
      - 3

  - IATA
    
    ![Flammable symbol]

    - Class
      - 3 Flammable liquids.
    - Label
      - 3

- 14.4 Packing group
  - ADR/RID/ADN, IMDG, IATA
    II

- 14.5 Environmental hazards:
  - Product contains environmentally hazardous substances: Hydrocarbons, C10, aromatics, <1% naphthalene
  - 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): 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

(Contd. of page 9)
Trade name: LUBA-print® 254/A-PM (ND)

- UN "Model Regulation":
  - UN 1993 FLAMMABLE LIQUID, N.O.S., SPECIAL PROVISION 640D (ISOPROPANOL (ISOPROPYL ALCOHOL)), 3, II, 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.
    - 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.

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.
  - H302 Harmful if swallowed.
  - H304 May be fatal if swallowed and enters airways.
  - H319 Causes serious eye irritation.
  - 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

(Contd. on page 10)
<table>
<thead>
<tr>
<th>Trade name: LUBA-print® 254/A-PM (ND)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBT: Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>vPvB: very Persistent and very Bioaccumulative</td>
</tr>
<tr>
<td>Flam. Liq. 2: Flammable liquids – Category 2</td>
</tr>
<tr>
<td>Acute Tox. 4: Acute toxicity - oral – Category 4</td>
</tr>
<tr>
<td>Eye Irrit. 2: Serious eye damage/eye irritation – Category 2</td>
</tr>
<tr>
<td>Carc. 2: Carcinogenicity – Category 2</td>
</tr>
<tr>
<td>STOT SE 3: Specific target organ toxicity (single exposure) – Category 3</td>
</tr>
<tr>
<td>Asp. Tox. 1: Aspiration hazard – Category 1</td>
</tr>
<tr>
<td>Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1</td>
</tr>
<tr>
<td>Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1</td>
</tr>
<tr>
<td>Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2</td>
</tr>
</tbody>
</table>

(Contd. of page 9)