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.
Eye Dam. 1 H318 Causes serious eye damage.
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  GHS05  GHS07

Signal word Danger

Hazard-determining components of labelling:
2-methylpropan-1-ol
n-butyl acetate

Hazard statements
H226 Flammable liquid and vapour.
H318 Causes serious eye damage.
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+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.
P310 Immediately call a POISON CENTER/doctor.
**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: 123-86-4</th>
<th>n-butyl acetate</th>
<th>Flam. Liq. 3; H226; STOT SE 3, H336</th>
</tr>
</thead>
<tbody>
<tr>
<td>EINECS: 204-658-1</td>
<td></td>
<td>75-100%</td>
</tr>
<tr>
<td>Reg.nr.: 01-2119485493-29</td>
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<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS: 78-83-1</th>
<th>2-methylpropan-1-ol</th>
<th>Flam. Liq. 3; H226; Eye Dam. 1, H318; Skin Irrit. 3, H315; STOT SE 3, H335-H336</th>
</tr>
</thead>
<tbody>
<tr>
<td>EINECS: 201-148-0</td>
<td></td>
<td>5-&lt;10%</td>
</tr>
<tr>
<td>Reg.nr.: 01-2119484609-23</td>
<td></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

- **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.

(Contd. on 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.
  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.
    - 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: 123-86-4 n-butyl acetate | CAS: 78-83-1 2-methylpropan-1-ol |
| WEL | Short-term value: 966 mg/m³, 200 ppm | Short-term value: 231 mg/m³, 75 ppm |
| WEL | Long-term value: 724 mg/m³, 150 ppm | Long-term value: 154 mg/m³, 50 ppm |

(Contd. on page 4)
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)
**SECTION 9: Physical and chemical properties**

- **9.1 Information on basic physical and chemical properties**
  - **General Information**
  - **Appearance:**
    - **Form:** Fluid
    - **Colour:** White
    - **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:** ≈ 107 °C (2-methylpropan-1-ol)

- **Flash point:** ≈ 26 °C (DIN EN ISO 2719)

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

- **Ignition temperature:** ≈ 390 °C (n-butyl acetate)

- **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:** ≈ 1.2 Vol % (n-butyl acetate)
  - **Upper:** ≈ 7.5 Vol % (n-butyl acetate)

- **Oxidising properties:** None

- **Vapour pressure:** Not determined.

- **Density at 20 °C:** ≈ 0.82 g/cm³ (DIN EN ISO 2811-1)

- **Relative density:** Not determined.

- **Relative 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:** ≈ 47 mPas (DIN EN ISO 3219)
  - **Kinematic:** Not determined.

- **Solvent separation test:** Not determined.
Trade name: LUBA-print® 246/D 3

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: 123-86-4 n-butyl acetate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
</tr>
<tr>
<td>Dermal</td>
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<td>Inhalative</td>
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</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 damage.

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.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:

<table>
<thead>
<tr>
<th>CAS: 123-86-4 n-butyl acetate</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>LC50</td>
</tr>
</tbody>
</table>
Trade name: LUBA-print® 246/D 3

IC50 356 mg/l (bacteria) (Tetrahymena / 40 h)
NOEC 200 mg/l (algae) (green alga)

CAS: 78-83-1 2-methylpropan-1-ol

EC50 1,250 mg/l (algae) (green alga / 48 h)
1,030 mg/l (daphnia) (Daphnia magna / 48 h)
EC10 750 mg/l (bacteria) (Pseudomonas putida / 16 h)
LC50 1,430 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 UN1993

- 14.2 UN proper shipping name
- ADR/RID/ADN 1993 FLAMMABLE LIQUID, N.O.S. (BUTYL ACETATES, ISOBUTANOL (ISOBUTYL ALCOHOL))
- IMDG, IATA FLAMMABLE LIQUID, N.O.S. (BUTYL ACETATES, ISOBUTANOL (ISOBUTYL ALCOHOL))
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® 246/D 3

14.3 Transport hazard class(es)
- ADR/RID/ADN, IMDG, IATA

- Class
- Label 3 Flammable liquids.

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

14.5 Environmental hazards:
- Not applicable.

14.6 Special precautions for user
- Hazard identification number (Kemler code): 30 F-E,S-E
- Stowage Category A
- Warning: Flammable liquids.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
- Not applicable.

Transport/Additional information:
- Limited quantities (LQ): 5L
- Transport category 3
- Tunnel restriction code D/E

UN "Model Regulation":
- UN 1993 FLAMMABLE LIQUID, N.O.S. (BUTYL ACETATES, ISOBUTANOL (ISOBUTYL ALCOHOL)), 3, III

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 AwaSV, 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
  H226 Flammable liquid and vapour.
  H315 Causes skin irritation.
  H318 Causes serious eye damage.
  H335 May cause respiratory 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. 3: Flammable liquids – Category 3
  Skin Irrit. 2: Skin corrosion/irritation – Category 2
  Eye Dam. 1: Serious eye damage/eye irritation – Category 1
  STOT SE 3: Specific target organ toxicity (single exposure) – Category 3