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

1.1 Product identifier

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

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. 3 H226 Flammable liquid and vapour.
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.

2.3 Other hazards

Results of PBT and vPvB assessment
PBT: None.

Hazard pictograms

GHS02
GHS07

Signal word Warning

Hazard-determining components of labelling:
n-buty1 acetate

Hazard statements
H226 Flammable liquid and vapour.
H336 May cause drowsiness or dizziness.

Precautionary statements
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 2)
Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 18.12.2018
Version number 1
Revision: 03.04.2018

Trade name: LUBA-print® 301/K2

· yPoB: 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:
  | CAS: 123-86-4 | n-butyl acetate | Flam. Liq. 3, H226; STOT SE 3, H336 | 50-75%
  | EINECS: 204-658-1 | | |
  | Reg.nr.: 01-2119485493-29 |

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

(Contd. of page 1)

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.

(Contd. of page 1)

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

(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.

(Contd. on page 3)
7.3 Specific end use(s)

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

<table>
<thead>
<tr>
<th>Ingredients with limit values that require monitoring at the workplace:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CAS: 123-86-4 n-butyl acetate</strong></td>
</tr>
<tr>
<td><strong>WEL</strong></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

- **DINELs**

<table>
<thead>
<tr>
<th><strong>CAS: 123-86-4 n-butyl acetate</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inhalative</strong></td>
<td>worker, long-term exposure, systemic effects</td>
</tr>
<tr>
<td></td>
<td>480 mg/m³ (human)</td>
</tr>
<tr>
<td></td>
<td>worker, short-term exposure, local effects</td>
</tr>
<tr>
<td></td>
<td>960 mg/m³ (human)</td>
</tr>
<tr>
<td></td>
<td>consumer, long-term exposure, systemic effects</td>
</tr>
<tr>
<td></td>
<td>102.3 mg/m³ (human)</td>
</tr>
<tr>
<td></td>
<td>consumer, short-term exposure, local effects</td>
</tr>
<tr>
<td></td>
<td>859.7 mg/m³ (human)</td>
</tr>
</tbody>
</table>

- **PNECs**

<table>
<thead>
<tr>
<th><strong>CAS: 123-86-4 n-butyl acetate</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>fresh water</strong></td>
<td>0.18 mg/l (not specified)</td>
</tr>
<tr>
<td><strong>marine water</strong></td>
<td>0.018 mg/l (not specified)</td>
</tr>
<tr>
<td><strong>soil</strong></td>
<td>0.0903 mg/kg (not specified)</td>
</tr>
</tbody>
</table>

(Contd. of page 2)
Recommended thickness of the material: 0.5 mm

Flash point:

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 374 Part 3: Level 6).
The determined penetration times according to EN 374 part III 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: Specific type
Odour threshold: Not determined.

pH-value: Not determined.

Change in condition
Melting point/freezing point: Undetermined.
Initial boiling point and boiling range: ≈ 126 °C (n-butyl acetate)

Flash point: ≈ 25 °C (DIN EN ISO 2719)
Flammability (solid, gas): Not applicable.
\section*{SECTION 10: Stability and reactivity}

\subsection*{10.1 Reactivity} No further relevant information available.
\subsection*{10.2 Chemical stability} Not defined.
\subsection*{10.3 Thermal decomposition / conditions to be avoided} No decomposition if used according to specifications.
\subsection*{10.4 Conditions to avoid} No further relevant information available.
\subsection*{10.5 Incompatible materials} No further relevant information available.
\subsection*{10.6 Hazardous decomposition products} No dangerous decomposition products known.

\section*{SECTION 11: Toxicological information}

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

\begin{center}
\begin{tabular}{|l|l|l|}
\hline
CAS: & 123-86-4 n-butyl acetate \\
\hline
Oral & LD50 & 13,100 mg/kg (rat) \\
Dermal & LD50 & 14,100 mg/kg (rabbit) \\
Inhalative & LC50/4h & $>21$ mg/l (rat) \\
\hline
\end{tabular}
\end{center}

\subsection*{Primary irritant effect:}
\subsection*{Skin corrosion/irritation} Based on available data, the classification criteria are not met.
\subsection*{Serious eye damage/irritation} 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 647.7 mg/l (alga) (green alga / 72 h)</td>
</tr>
<tr>
<td>44 mg/l (daphnia) (Daphnia magna / 48 h)</td>
</tr>
<tr>
<td>LC50 18 mg/l (fish) (Pimephales promelas / 96 h)</td>
</tr>
<tr>
<td>IC50 356 mg/l (bacteria) (Tetrahymena / 40 h)</td>
</tr>
<tr>
<td>NOEC 200 mg/l (alga) (green alga)</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.

Europeana waste catalogue

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

- Uncleaned packaging:
  - Recommendation: Disposal must be made according to official regulations.
SECTION 14: Transport information

- **14.1 UN-Number**
  - ADR/RID/ADN, IMDG, IATA: UN1123

- **14.2 UN proper shipping name**
  - ADR/RID/ADN: 1123 BUTYL ACETATES solution
  - IMDG, IATA: BUTYL ACETATES solution

- **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: III

- **14.5 Environmental hazards:**
  - Not applicable.

- **14.6 Special precautions for user**
  - Danger code (Kemler): Warning: Flammable liquids.
  - 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): 5L
    - Transport category: 3
    - Tunnel restriction code: D/E
  - UN "Model Regulation": UN 1123 BUTYL ACETATES SOLUTION, 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.

- **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.

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**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.
  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
  STOT SE 3: Specific target organ toxicity (single exposure) – Category 3