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

1.1 Product identifier
- Trade name: LUBA-print® 502
- UFI: NHQ0-S0M5-E00K-49H2

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

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
Acute Tox. 4 H302 Harmful if swallowed.
Acute Tox. 4 H332 Harmful if inhaled.
Skin Irrit. 2 H315 Causes skin irritation.
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

! GS07

Signal word Warning

Hazard-determining components of labelling:
Ethylene glycol monohexyl ether

Hazard statements
H302 + H332 Harmful if swallowed or if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.

Precautionary statements
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves / eye protection / face protection.
P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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.

(Contd. on page 2)
SECTION 3: Composition/information on ingredients

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

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>EINECS: 203-905-0</td>
<td></td>
<td>75-100%</td>
</tr>
<tr>
<td>Reg.nr.: 01-2119475108-36</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.
    Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
  - 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.
  - In case of fire, the following can be released:
    Hydrogen fluoride (HF)
    Fluorophosgene (COF₂)

- 5.3 Advice for firefighters
  - Protective equipment: Do not inhale explosion gases or combustion gases.
Trade name: LUBA-print® 502

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.

6.2 Environmental precautions:
- Do not allow to penetrate the ground/soil.
- 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).
- Dispose contaminated material as waste according to item 13.
- 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.

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: 111-76-2 Ethylene glycol monobutyl ether</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEL: Short-term value: 246 mg/m³, 30 ppm</td>
</tr>
<tr>
<td>Long-term value: 123 mg/m³, 25 ppm</td>
</tr>
<tr>
<td>Sk, BMGV</td>
</tr>
</tbody>
</table>

(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.
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: ≈ 171 °C (2-butoxyethanol)

- Flash point: ≈ 67 °C (DIN EN ISO 2719)

- Flammability (solid, gas): Not applicable.

- Ignition temperature: ≈ 240 °C (2-butoxyethanol)

- 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: ≈ 1.1 Vol % (2-butoxyethanol)
  - Upper: ≈ 10.6 Vol % (2-butoxyethanol)

- Oxidising properties: None.

- Vapour pressure at 20 °C: ≈ 1.2 hPa (2-butoxyethanol)

- Density at 20 °C: ≈ 0.91 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: ≈ 31 mPas (DIN EN ISO 3219)
  - Kinematic: Not determined.

- Solvent separation test: Not determined
inhalation of vapours in high concentrations may lead to headache, giddiness and nausea.

· 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 and stored 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:
Hydrogen fluoride
Fluorphosgene
Carbonyl fluoride
Tetrafluorethylene
Hexafluorpropylene
Perfluorobutylene

Additional information:
When heated, gaseous decomposition products may be generated from PTFE, which can cause "fluoropolymer fever" on inhalation. Inhalation/eye contact: in high concentrations irritating to the mucous membranes, narcotic effect and influence on power of reaction and loss of coordination possible. Prolonged inhalation of vapours in high concentrations may lead to headache, giddiness and nausea.

SECTION 11: Toxicological information

· 11.1 Information on toxicological effects

Acute toxicity
Harmful if swallowed or if inhaled.

· LD/LC50 values relevant for classification:

<table>
<thead>
<tr>
<th>CAS: 111-76-2 Ethylene glycol monobutyl ether</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
</tr>
<tr>
<td>Dermal</td>
</tr>
<tr>
<td>Inhalative</td>
</tr>
</tbody>
</table>

· Primary irritant effect:

· Skin corrosion/irritation
Causes skin irritation.

· 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: 111-76-2 Ethylene glycol monobutyl ether</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50 (static) 1.840 mg/l (algae) (Pseudokirchneriella subcapitata / 72 h (OECD 201))</td>
</tr>
<tr>
<td>LC50 (static) 1.550 mg/l (daphnia) (Daphnia magna / 48 h (OECD 202))</td>
</tr>
<tr>
<td>NOEC 1.474 mg/l (fish) (Oncorhynchus mykiss / 96 h (OECD 203))</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, ADN, IMDG, IATA Void

14.2 UN proper shipping name

ADR/RID/ADN, ADN, IMDG, IATA Void
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.
- 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
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.

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)
Trade name: LUBA-print® 502

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
Acute Tox. 4: Acute toxicity - oral – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2