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

- 1.1 Product identifier
  - Trade name: EDAPLAN® 482

- 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
  - Wetting & dispersing agents

- 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): mlds@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
    - The product is not classified, according to the CLP regulation.

- 2.2 Label elements
  - Labelling according to Regulation (EC) No 1272/2008 Void
    - Hazard pictograms Void
    - Signal word Void
    - Hazard statements Void

- Additional information:
  - Safety data sheet available on request.

- 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: Aqueous acrylic polymer - mixture

- Dangerous components:
  - CAS: 124-68-5
  - EINECS: 204-709-8
  - Reg.nr.: 01-2119475788-16
  - 2-amino-2-methylpropanol
    - Skin Irrit. 2, H315; Eye Irrit. 2, H319; Aquatic Chronic 3, H412
    - 5-%<10%

- 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:
    - Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

(Contd. on page 2)
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: If symptoms persist consult doctor.

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.

5.2 Special hazards arising from the substance or mixture
For safety reasons unsuitable extinguishing agents: Water with full jet
In case of fire, the following can be released:
Nitrogen oxides (NOx)
Carbon monoxide (CO)

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
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).

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
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
Information about fire - and explosion protection: Protect from heat.

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: Not required.
Further information about storage conditions:
Protect from frost.
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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:
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

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.
Do not inhale gases / fumes / aerosols.

Respiratory protection: Use suitable respiratory protective device only when aerosol or mist is formed.

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
Neoprene gloves

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: Brown
Odour: Weak, characteristic
Odour threshold: Not determined.
## pH-value (20 g/l) at 20 °C

- Approximately 9 (DIN ISO 976)

## Change in condition

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Melting point/freezing point</strong></td>
<td>Undetermined.</td>
</tr>
<tr>
<td><strong>Initial boiling point and boiling range</strong></td>
<td>&gt; 100 °C</td>
</tr>
</tbody>
</table>

## Flash point

- > 100 °C (DIN EN ISO 2719)

## Flammability (solid, gas)

- Not applicable.

## Decomposition temperature

- Not determined.

## Auto-ignition temperature

- Product is not selfigniting.

## Explosive properties

- Product does not present an explosion hazard.

## Explosion limits

<table>
<thead>
<tr>
<th>Limit</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lower</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Upper</strong></td>
<td>Not determined.</td>
</tr>
</tbody>
</table>

## Oxidising properties

- None.

## Vapour pressure

- Not determined.

## Density at 20 °C

- 1.12 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dynamic at 20 °C</strong></td>
<td>≈ 20000 mPas (DIN EN ISO 3219)</td>
</tr>
</tbody>
</table>

## 9.2 Other information

- No further relevant information available.
12.6 Other adverse effects

Low concentrations. Do not release untreated into natural waters.

- Aquatic toxicity:
  - EC50 (static) 342.9 mg/l (bacteria) (activated sludge / 3 h)
  - LC50 (static) 193 mg/l (daphnia) (Daphnia magna / 48 h)
  - 190 mg/l (fish) (Lepomis macrochirus / 96 h)

- Reproductive toxicity
- STOT-single exposure
- STOT-repeated exposure
- Aspiration hazard

190 mg/l (fish) (Lepomis macrochirus / 96 h)

12.5 Results of PBT and vPvB assessment

Self classification.

12.6 Other adverse effects
No further relevant information available.

12.1 Toxicity

- Aquatic toxicity:

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.

Ecological 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 02 99 wastes not otherwise specified

- Uncleaned packaging:
  - Recommendation: Disposal must be made according to official regulations.
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

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 17.12.2018 Version number 1 Revision: 12.10.2017

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· 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
· 14.3 Transport hazard class(es)
  · ADR/RID/ADN, ADN, IMDG, IATA Void
  · Class Void
· 14.4 Packing group
  · ADR/RID/ADN, IMDG, IATA Void
· 14.5 Environmental hazards:
  · Marine pollutant: No
· 14.6 Special precautions for user
  · Not applicable.
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
  · Not applicable.
· Transport/Additional information:
  · Not a dangerous good to the above specifications.
· UN "Model Regulation": 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.
  · National regulations:
    · 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
  H315 Causes skin irritation.
  H319 Causes serious eye irritation.
  H412 Harmful 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

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(Contd. of page 6)

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)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3