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

1.1 Product identifier

Trade name: DEE FO® 97-3

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: Defoamers, Anti-foaming agent

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

The product is not classified as hazardous, 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: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

| CAS: 64742-55-8 | Distillates (petroleum), hydrotreated light paraffinic Asp. Tox. I, H504 | 75-100% |
| MAC/ELV: 265-158-7 | Reg.nr.: 01-2119487077-29 | |
| EC number: 919-029-3 | Hydrocarbons, C16-C20, n-alkanes, isoalkanes, cyclics, <2% aromatics Asp. Tox. I, H304 | 3-<5% |
| Reg.nr.: 01-2119457735-29 | |

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.

After skin contact: Generally the product does not irritate the skin.

After eye contact: Rinse opened eye for several minutes under running water.

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: Use fire extinguishing methods suitable to surrounding conditions.

5.2 Special hazards arising from the substance or mixture

No further relevant information available.

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.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use respiratory protective device against the effects of fumes/dust/aerosol.
Keep away from ignition sources.
Wear protective clothing.

6.2 Environmental precautions: 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

Store in cool, dry place in tightly closed receptacles.
No special measures required.

Information about fire - and explosion protection:
Fumes can combine with air to form an explosive mixture.

7.2 Conditions for safe storage, including any incompatibilities

Storage:
Requirements to be met by storerooms and receptacles: No special requirements.
Information about storage in one common storage facility: Store away from oxidising agents.
Further information about storage conditions: None.
Trade name: DEE FO® 97-3

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

<table>
<thead>
<tr>
<th>CAS</th>
<th>Description</th>
<th>Limit value</th>
</tr>
</thead>
<tbody>
<tr>
<td>64742-55-8</td>
<td>Distillates (petroleum), hydrotreated light paraffinic</td>
<td>Long-term value: 5 mg/m³</td>
</tr>
<tr>
<td>ACGIH - TWA</td>
<td>Mineral oil mist</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:
The usual precautionary measures are to be adhered to when handling chemicals.

Respiratory protection:
Not required.

Protection of hands:
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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 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.

The exact breakthrough time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection: Goggles recommended during refilling

Body protection: Protective work clothing

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Appearance:
- Fluid
- Yellowish
- Mild

(Contd. on page 4)
<table>
<thead>
<tr>
<th>Odour threshold:</th>
<th>Not determined.</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH-value (20 g/l) at 20 °C:</td>
<td>≈ 6.5 (DIN ISO 976)</td>
</tr>
<tr>
<td>Change in condition</td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point:</td>
<td>Undetermined.</td>
</tr>
<tr>
<td>Initial boiling point and boiling range:</td>
<td>&gt; 100 °C</td>
</tr>
<tr>
<td>Flash point:</td>
<td>&gt; 100 °C (DIN EN ISO 2719)</td>
</tr>
<tr>
<td>Flammability (solid, gas):</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Ignition temperature:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Decomposition temperature:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Auto-ignition temperature:</td>
<td>Product is not selfigniting.</td>
</tr>
<tr>
<td>Explosive properties:</td>
<td>Product does not present an explosion hazard.</td>
</tr>
<tr>
<td>Explosion limits:</td>
<td></td>
</tr>
<tr>
<td>Lower:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Upper:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>None.</td>
</tr>
<tr>
<td>Vapour pressure:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Density at 20 °C:</td>
<td>≈ 0.87 g/cm³ (DIN EN ISO 2811-1)</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Solubility in / Miscibility with water:</td>
<td>Not miscible or difficult to mix.</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Viscosity:</td>
<td></td>
</tr>
<tr>
<td>Dynamic at 20 °C:</td>
<td>≈ 900 mPas (DIN EN ISO 3219)</td>
</tr>
<tr>
<td>Kinematic at 40 °C:</td>
<td>&gt; 20.5 mm²/s (DIN EN ISO 51562)</td>
</tr>
<tr>
<td>Solvent separation test:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>9.2 Other information:</td>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>

**SECTION 10: Stability and reactivity**

- **10.1 Reactivity**: No further relevant information available.
- **10.2 Chemical stability**: No decomposition if used and stored according to specifications.
- **10.3 Possibility of hazardous reactions**: Flammable vapour-air mixtures may develop if stored in large receptacles and above room temperature. Can react violently with oxygen rich (oxidising) material. Danger of Explosion.
- **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.

<table>
<thead>
<tr>
<th>CAS: 64742-55-8 Distillates (petroleum), hydrotreated light paraffinic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral LD₅₀</td>
</tr>
<tr>
<td>Dermal LD₅₀</td>
</tr>
</tbody>
</table>

Hydrocarbons, C₁₆-C₂₀, n-alkanes, isoalkanes, cyclics, <2% aromatics

| Oral LD₅₀ | >5,000 mg/kg (rat) (OECD 401) |
| Dermal LD₅₀ | >3,160 mg/kg (rabbit) (OECD 402) |

· Primary irritant effect:
  · Skin corrosion/irritation: Based on available data, the classification criteria are not met.
  · Serious eye damage/irritation: Based on available data, the classification criteria are not met.
  · Respiratory or skin sensitisation: Based on available data, the classification criteria are not met.
  · CMR effects (carcinogenity, 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>Hydrocarbons, C₁₆-C₂₀, n-alkanes, isoalkanes, cyclics, &lt;2% aromatics</th>
</tr>
</thead>
<tbody>
<tr>
<td>LL₅₀</td>
</tr>
<tr>
<td>LL₀</td>
</tr>
<tr>
<td>EL₀</td>
</tr>
<tr>
<td>NOELR</td>
</tr>
</tbody>
</table>

12.2 Persistence and degradability: Moderately /partly biodegradable

12.3 Bioaccumulative potential: No further relevant information available.

12.4 Mobility in soil: No further relevant information available.

Ecotoxic 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:

Due to available data on eliminability/decomposition and bioaccumulation potential a prolonged damage of the environment is unlikely.

According to the criteria of the EU-classification and labelling "dangerous for environment"(93/21/EWG) the substance/ the product has to be classified as non-hazardous for the environment.

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.
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
16 03 05* organic wastes containing dangerous substances

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

14.3 Transport hazard class(es)
ADR/RID/ADN, ADN, IMDG, IATA 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 I (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
H304 May be fatal if swallowed and enters airways.

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)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Asp. Tox. 1: Aspiration hazard – Category 1