This safety data sheet complies with the requirements of:

Issue Date: 2009-01-16  Revision Date: 2020-01-30  Revision Number: 15

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name  DEE FO® PI-35
Material No.  9707
Historic Material No.  U1PI35

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses  Anti-foaming agent (defoamer)
Uses advised against  Consumer use

1.3. Details of the supplier of the safety data sheet

Manufacturer  Munzing - Ultra Additives LLC.
1455 Broad Street
Bloomfield NJ  07003
United States
Email: info@munzing.us
Phone: 1-973-279-1306

Supplier  Münzing Chemie GmbH
Münzingstrasse 2
74232 Abstatt
Germany
Email: info@munzing.com
Phone: +49 (0) 7131/987-0

Emergency Telephone
Emergency telephone  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 [CLP]

<table>
<thead>
<tr>
<th>Serious eye damage/eye irritation</th>
<th>Category 1 - (H318)</th>
</tr>
</thead>
</table>

2.2. Label Elements
Signal Word
Danger

Hazard Statements
H318 - Causes serious eye damage
EUH208 - Contains (5-Decyne-4,7-diol, 2,4,7,9-tetramethyl-). May produce an allergic reaction

2.3. Other hazards
No information available.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Chemical nature of the product  Polymer dispersion

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>EC No</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
<th>REACH registration number</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-Decyne-4,7-diol, 2,4,7,9-tetramethyl-</td>
<td>204-809-1</td>
<td>126-86-3</td>
<td>&lt;=1</td>
<td>Eye Dam. 1 (H318)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Skin Sens. 1 (H317)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Aquatic Chronic 3 (H412)</td>
<td></td>
</tr>
<tr>
<td>Polyalkylene glycol</td>
<td>Listed</td>
<td>Listed</td>
<td>5 - &lt;10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decamethylcyclopentasiloxane</td>
<td>208-764-9</td>
<td>541-02-6</td>
<td>&lt;0.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polyoxymethylene 5-Decyne-4,7-diol</td>
<td>500-022-5</td>
<td>9014-85-1</td>
<td>1 - &lt;3</td>
<td>Eye Dam. 1 (H318)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Aquatic Chronic 3 (H412)</td>
<td></td>
</tr>
</tbody>
</table>

Full text of H- and EUH-phrases: see section 16

This product contains one or more candidate substance(s) of very high concern (Regulation (EC) No. 1907/2006 (REACH), Article 59)

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

Eye Contact  Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists: Get medical advice/attention.

Skin Contact  IF ON SKIN: Wash with plenty of soap and water. If skin irritation persists, call a physician. Remove and wash contaminated clothing before re-use.

Inhalation  Move victim to fresh air.

Ingestion  Clean mouth with water.
Self-Protection of the First Aider

Use personal protection equipment.

4.2. Most important symptoms and effects, both acute and delayed

Most important symptoms and effects

No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician

No information available.

Section 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media

Water spray. Carbon dioxide (CO2). Dry chemical. Alcohol resistant foam. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water mist may be used to cool closed containers.

Unsuitable Extinguishing Media

No information available.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions

Use personal protection equipment. Avoid contact with skin, eyes or clothing.

Protective precautions

Use personal protection equipment.

6.2. Environmental precautions

Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for Containment

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

Methods for Clean-Up

Take up mechanically, placing in appropriate containers for disposal.

6.4. Reference to other sections

See Sections 5 & 7 for additional information.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling
Handling

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing.

General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice. Take off contaminated clothing and wash before reuse. Slippery, can cause falls if walked on.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place.

7.3. Specific end use(s)

Specific Uses

No information available.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Italy</th>
<th>Portugal</th>
<th>Netherlands</th>
<th>Finland</th>
<th>Denmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyalkylene glycol</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>TWA: 1000 mg/m³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Austria</th>
<th>Switzerland</th>
<th>Poland</th>
<th>Norway</th>
<th>Ireland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyalkylene glycol</td>
<td>STEL: 4000 mg/m³</td>
<td>TWA: 1000 mg/m³</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>European Union</th>
<th>United Kingdom</th>
<th>France</th>
<th>Spain</th>
<th>Germany</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyalkylene glycol</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>AGW = 1000 E (mg/m³)</td>
</tr>
</tbody>
</table>

Derived No Effect Level (DNEL)

No information available.

Predicted No Effect Concentration (PNEC)

No information available.

8.2. Exposure controls

Engineering Controls

Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye/Face Protection

Ensure that eyewash stations and safety showers are close to the workstation location. Tight sealing safety goggles. Safety glasses with side-shields.

Skin protection

Wear suitable protective clothing and gloves. Wear protective nitrile rubber gloves. Wear protective butyl rubber gloves.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. Use NIOSH-approved air-purifying respirator with organic vapor cartridge or canister, as appropriate.

Environmental exposure controls

No information available.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State

Liquid

Appearance

Translucent, Off-white

Odor

Slight

Odor threshold

No information available
Section 10: STABILITY AND REACTIVITY

10.1. Reactivity
Reactivity Stable under normal conditions.

10.2. Chemical stability
Chemical Stability Stable under normal conditions.

10.3. Possibility of hazardous reactions
Possibility of Hazardous Reactions None under normal processing.

10.4. Conditions to avoid
Conditions to Avoid Heat, flames and sparks.

10.5. Incompatible materials
Incompatible Materials Strong oxidizing agents.

Hazardous decomposition products
Hazardous decomposition products Thermal decomposition can lead to release of irritating and toxic gases and vapors. Carbon oxides. Formaldehyde. Silicon dioxide.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects
Acute Toxicity

Product Information
Eyes Risk of serious damage to eyes. Avoid contact with eyes.
Skin
May cause sensitization by skin contact. Avoid contact with skin.

Inhalation
Health injuries are not known or expected under normal use.

Ingestion
Health injuries are not known or expected under normal use.

Unknown acute toxicity
Not applicable.

ATEmix (oral) 14,145.50 mg/kg
ATEmix (dermal) 36,413.30 mg/kg
ATEmix (inhalation-dust/mist) 101.04 mg/L

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-Decyne-4,7-diol, 2,4,7,9-tetramethyl-</td>
<td>&gt; 500 mg/kg (Rat)</td>
<td>&gt; 1000 mg/kg (Rabbit)</td>
<td>&gt;20 mg/L (Rat)</td>
</tr>
<tr>
<td>Polyalkylene glycol</td>
<td>28 g/kg (Rat)</td>
<td>&gt; 20 g/kg (Rabbit)</td>
<td>&gt;13 ppm (Rat)</td>
</tr>
<tr>
<td>Organosiloxane polymer</td>
<td>&gt; 24 g/kg (Rat)</td>
<td>&gt; 7 g/kg (Rat)</td>
<td></td>
</tr>
<tr>
<td>Polyglycol</td>
<td>&gt; 5700 mg/kg (Rat)</td>
<td>= 16 g/kg (Rat)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>= 320 mg/m³ (Rat) 4 h</td>
</tr>
</tbody>
</table>

Skin Corrosion/Irritation
No information available.

Eye damage/irritation
No information available.

Sensitization
May cause an allergic skin reaction.

Mutagenic effects
No information available.

Reproductive Effects
No information available.

STOT - single exposure
No information available.

STOT - repeated exposure
No information available.

Aspiration Hazard
No information available.

Carcinogenic effects
No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity
Information given is based on data on the components and the ecotoxicology of similar products.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Algae</th>
<th>Fish</th>
<th>Daphnia magna</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-Decyne-4,7-diol, 2,4,7,9-tetramethyl-</td>
<td>EC50(72h): 82 mg/l (Selenastrum capricornutum)</td>
<td>LC50 (24 h): 42 mg/l Carp, (Cyprinus carpio)</td>
<td>EC50 (48 h): 91 mg/l (Daphnia magna)</td>
</tr>
<tr>
<td></td>
<td>EC50(72h): 112 mg/l (Selenastrum costatum)</td>
<td>LC50 (96 h): 36 mg/l Fathead minnow (Pimephales promelas)</td>
<td>LC50 (48 h): 166 mg/l (Daphnia tonsa)</td>
</tr>
<tr>
<td>Polyalkylene glycol</td>
<td>-</td>
<td>LC50 (96 h): &gt; 73,000 mg/l (Fathead minnow (Pimephales promelas))</td>
<td>LC50: : &gt; 10,000 mg/l (Daphnia magna)</td>
</tr>
</tbody>
</table>
**Polyglycol** | EC50, 48 hr: >100 mg/L | LC50: >100 mg/l (Golden orfe), 96 hr | EC50 (48 h): > 100 mg/l
---|---|---|---
Unknown Aquatic Toxicity | 0.00842 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

**Persistence and degradability**

Persistence and degradability | Not readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulation/Accumulation | No information available.

12.4. Mobility in soil

Mobility in Environmental Media | No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment | Not determined. Not applicable.

Other adverse effects

Other adverse effects | No information available.

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**Section 13: DISPOSAL CONSIDERATIONS**

13.1. Waste treatment methods

Waste from residues/unused products | Contain and dispose of waste according to local regulations.

Contaminated packaging | Empty remaining contents.

Waste codes / waste designations according to EWC / AVV | Not applicable.

Other information | Waste codes should be assigned by the user based on the application for which the product was used.

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**Section 14: TRANSPORT INFORMATION**

RID | Not regulated

IMDG/IMO | Not regulated

IATA | Not regulated

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**Section 15: REGULATORY INFORMATION**

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

**International Inventories**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>US TSCA</td>
<td>Complies</td>
</tr>
<tr>
<td>Australia (AICS)</td>
<td>Complies</td>
</tr>
<tr>
<td>Canada (DSL)</td>
<td>Complies</td>
</tr>
</tbody>
</table>
China (IECSC)  Complies
Europe (EINECS/ELINCS/NLP)  Complies
Japan (ENCS)  Complies
South Korea (KECL)  Complies
Philippines (PICCS)  Complies
New Zealand  Complies
Taiwan (TCSI)  Complies

Legend
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

Germany
WGK Classification (AwSV)  Water endangering class = 1 (self estimation)

European Union
Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Authorizations and/or restrictions on use:
This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV). This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII).

Persistent Organic Pollutants
Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009
Not applicable

15.2. Chemical safety assessment
No information available

Section 16: OTHER INFORMATION

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of H-Statements referred to under section 3
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H412 - Harmful to aquatic life with long lasting effects
EUH208 - May produce an allergic reaction

Legend
SVHC: Substances of Very High Concern for Authorization:

TWA - TWA (time-weighted average)
STEL - STEL (Short Term Exposure Limit)
Ceiling - Maximum limit value
* - Skin designation

Classification procedure  Minimum classification

Issue Date:  2009-01-16
This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet