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

1.1. Product identifier

Product name
DEE FO® PI-12

Material No.
9716

Historic Material No.
U1PI12

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]
This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

2.2. Label Elements
This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]
EUH210 - Safety data sheet available on request

2.3. Other hazards

No information available.

### Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.2 Mixtures

**Chemical nature of the product**: Petroleum oil-based mixture

<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>Petroleum distillates, solvent dewaxed light paraffinic</td>
<td>265-159-2</td>
<td>64742-56-9</td>
<td>3 - &lt;5</td>
<td>Asp. Tox. 1 (H304) Note L applies</td>
<td>-</td>
</tr>
<tr>
<td>Petroleum distillates, solvent dewaxed heavy paraffinic</td>
<td>265-169-7</td>
<td>64742-65-0</td>
<td>20 - 50</td>
<td>Note L applies</td>
<td>-</td>
</tr>
</tbody>
</table>

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

**Note L**: The classification as a carcinogen need not apply if it can be shown that the substance contains less than 3 % DMSO extract as measured by IP 346. This note applies only to certain complex oil derived substances in Annex I.

### Section 4: FIRST AID MEASURES

#### 4.1 Description of first aid measures

**Eye Contact**  
Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**Skin Contact**  
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

**Inhalation**  
Move victim to fresh air.

**Ingestion**  
Clean mouth with water. If swallowed, DO NOT induce vomiting.

**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**  
Treat symptomatically.

### Section 5: FIRE FIGHTING MEASURES

#### 5.1 Extinguishing media

**Suitable extinguishing media**  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water. Carbon dioxide (CO2). Dry chemical. Alcohol resistant foam.
Unsuitable Extinguishing Media  
Do not use a solid water stream as it may scatter and spread fire.

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

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. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

General Hygiene Considerations  
Handle in accordance with good industrial hygiene and safety practice. Take off contaminated clothing and wash before reuse. Do not get in eyes, on skin, or on clothing. Slippery, can cause falls if walked on.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions  
Keep containers tightly closed in a cool, 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

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

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. In case of insufficient ventilation, wear suitable respiratory equipment.

Personal protective equipment

Eye/Face Protection Safety glasses with side-shields. If splashes are likely to occur, wear: Goggles.

Skin protection Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. For operations where prolonged or repeated skin contact may occur, impervious gloves should be worn. PVC. Neoprene. PVA.

Respiratory protection If exposure limits are likely to be exceeded or if irritation or other symptoms are experienced, NIOSH/MSHA or EN 136 approved respiratory protection should be worn.

Environmental exposure controls No information available.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks/ Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Light yellow</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Slight</td>
<td></td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>No information available</td>
<td>No information available</td>
</tr>
<tr>
<td>Melting point</td>
<td>No information available</td>
<td>No information available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No information available</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>182 °C / 360 °F</td>
<td>No information available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information available</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit</td>
<td>No information available</td>
<td>No information available</td>
</tr>
<tr>
<td>Lower flammability limit</td>
<td>No information available</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No information available</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No information available</td>
<td>No information available</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.95</td>
<td>No information available</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Partially miscible</td>
<td>No information available</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No information available</td>
<td>No information available</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No information available</td>
<td>No information available</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No information available</td>
<td>No information available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available</td>
<td>No information available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>&lt;600 cps@25C</td>
<td>No information available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No information available</td>
<td>No information available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No information available</td>
<td>No information available</td>
</tr>
</tbody>
</table>

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.

Hazardous Polymerization
Hazardous polymerization does not occur.

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. Silicon dioxide.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute Toxicity

Product Information

<table>
<thead>
<tr>
<th>Product Information</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eyes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inhalation</td>
<td>Inhalation of vapors in high concentration may cause irritation of respiratory system.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ingestion</td>
<td>Health injuries are not known or expected under normal use.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unknown acute toxicity</td>
<td>Not applicable.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATEmix (oral)</td>
<td>5,915.70 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATEmix (dermal)</td>
<td>4,975.50 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATEmix (inhalation-dust/mist)</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Component Information

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tall oil fatty acids</td>
<td>&gt; 10000 mg/kg (Rat)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Petroleum distillates, solvent</td>
<td>&gt; 5000 mg/kg (Rat)</td>
<td>&gt; 5000 mg/kg (Rabbit)</td>
<td>&gt; 5399 mg/m³ (Rat) 4 h</td>
</tr>
<tr>
<td>dewaxed light paraffinic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Petroleum distillates, solvent</td>
<td>5000 mg/kg (Rat)</td>
<td>2000 mg/kg (Rabbit)</td>
<td>&gt; 2400 mg/m³ (Rat) 4 h</td>
</tr>
<tr>
<td>dewaxed heavy paraffinic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polyalkylene glycol, alkyl ether</td>
<td>= 9100 mg/kg (Rat)</td>
<td>= 5840 mg/kg (Rat)</td>
<td>= 21200 µL/kg (Rabbit) = 13340 mg/kg (Rabbit)</td>
</tr>
</tbody>
</table>

Skin Corrosion/Irritation
No information available.
Eye damage/irritation  No information available.
Sensitization  No information available.
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  Discharge into the environment must be avoided.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Algae</th>
<th>Fish</th>
<th>Daphnia magna</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tall oil fatty acids</td>
<td>EL50: &gt; 1000 mg/l, 72 hr (Selenastrum capricornutum, OECD 201)</td>
<td>LL50: &gt; 10000 mg/l 96 hr (Danio rerio)</td>
<td>EL50: &gt; 1000 mg/l 48 hr (OECD 202)</td>
</tr>
<tr>
<td>Petroleum distillates, solvent</td>
<td>-</td>
<td>5000: 96 h Oncorhynchus mykiss mg/L LC50</td>
<td>1000: 48 h Daphnia magna mg/L EC50</td>
</tr>
<tr>
<td>dewaxed light paraffinic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Petroleum distillates, solvent</td>
<td>-</td>
<td>5000: 96 h Oncorhynchus mykiss mg/L LC50</td>
<td>1000: 48 h Daphnia magna mg/L EC50</td>
</tr>
<tr>
<td>dewaxed heavy paraffinic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polyalkylene glycol, alkyl ether</td>
<td>-</td>
<td>LC50: 20.6 mg/l (Pimphales promelas)</td>
<td>EC50: 450 mg/l (Daphnia magna)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LC50 (96h): &gt; 500 m/L (golden orfe)</td>
<td>EC50 (48 h): &gt;100 mg/l (Daphnia magna)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LC50 (96h): 104 mg/L (Brachydanio rerio)</td>
<td>LC50: 9.8 mg/l (Daphnia magna)</td>
</tr>
</tbody>
</table>

Unknown Aquatic Toxicity  0 % 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  

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Partition coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tall oil fatty acids</td>
<td>5.98</td>
</tr>
</tbody>
</table>

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.
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 containers should be taken for local recycling, recovery or waste disposal. Do not burn, or use a cutting torch on, the empty drum.

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

Section 14: TRANSPORT INFORMATION

RID
Not regulated

IMDG/IMO
Not regulated

IATA
Not regulated

Section 15: REGULATORY INFORMATION

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

International Inventories

US TSCA
Complies

Australia (AICS)
Complies

Canada (DSL)
Complies

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

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### 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**

H304 - May be fatal if swallowed and enters airways

**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

**Revision Date:** 2019-12-17

**Reason for revision**

SDS sections updated, 1, 15.

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