According to Regulation (EC) No 1907/2006

Safety Data Sheet

355 Brake Paste 05355006C

Revision date: 22.11.2018 Product code: 11A05355006C

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

1.1. Product identifier

355 Brake Paste 05355006C

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

1.3. Details of the supplier of the safety data sheet

Company name: TUNAP GmbH & Co. KG

Street: Bürgermeister-Seidl-Str. 2

Place: D-82515 Wolfratshausen

Telephone: +49 (0) 8171/1600 - 0

e-mail: sdb@tunap.com

SECTION 2: Hazards identification

2.2. Label elements

Regulation (EC) No. 1272/2008

EUH208 Contains Benzenesulfonic acids, di-C10-14-alkyl derivatives, calcium salts. May produce an allergic reaction.

EUH210 Safety data sheet available on request.

2.3. Other hazards

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>107-98-2</td>
<td>1-methoxy-2-propanol; monopropylene glycol methyl ether</td>
<td>1 - &lt; 3 %</td>
</tr>
<tr>
<td>203-539-1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>603-064-00-3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4306-88-1</td>
<td>Alkylphenols</td>
<td>1 - &lt; 3 %</td>
</tr>
<tr>
<td>224-320-7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Full text of H and EUH statements: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

First aider: Pay attention to self-protection! Remove persons to safety. Never give anything by mouth to an unconscious person or a person with cramps.

After inhalation

Remove person to fresh air and keep comfortable for breathing. In all cases of doubt, or when symptoms
**After contact with skin**
Wash with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse.
In all cases of doubt, or when symptoms persist, seek medical advice.

**After contact with eyes**
Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. In case of troubles or persistent symptoms, consult an ophthalmologist.

**After ingestion**
Do NOT induce vomiting. Observe risk of aspiration if vomiting occurs. Call a physician in any case!

### 4.2. Most important symptoms and effects, both acute and delayed
Headache, nausea, dizziness, fatigue, skin irritation

### 4.3. Indication of any immediate medical attention and special treatment needed
Treat symptomatically. Call a POISON CENTER. Symptoms can occur only after several hours.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

**Suitable extinguishing media**

**Unsuitable extinguishing media**
High power water jet.

#### 5.2. Special hazards arising from the substance or mixture
Incomplete combustion and thermolysis gases of different toxicity can occur. In the case of hydrocarbonaceous products such as CO, CO2, aldehydes and soot. These can be very dangerous if they are inhaled in high concentrations or in enclosed spaces.

#### 5.3. Advice for firefighters
In case of fire and/or explosion do not breathe fumes. Move undamaged containers from immediate hazard area if it can be done safely. In case of fire: Wear self-contained breathing apparatus.

**Additional information**
Use water spray jet to protect personnel and to cool endangered containers. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures
Wear breathing apparatus if exposed to vapours/dusts/aerosols. Remove all sources of ignition. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Wear personal protection equipment.

#### 6.2. Environmental precautions
Do not allow to enter into surface water or drains. Prevent spread over a wide area (e.g. by containment or oil barriers). Ensure all waste water is collected and treated via a waste water treatment plant.

#### 6.3. Methods and material for containment and cleaning up
Take up mechanically. Treat the recovered material as prescribed in the section on waste disposal.

#### 6.4. Reference to other sections
Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling
Advice on safe handling
Observe instructions for use.
Dust must be exhausted directly at the point of origin. Vapours/aerosols must be exhausted directly at the point of origin. If local exhaust ventilation is not possible or not sufficient, the entire working area should be ventilated by technical means.
When using do not eat, drink, smoke, sniff.
Wear personal protection equipment (refer to section 8).

Advice on protection against fire and explosion
Keep away from sources of ignition - No smoking.

Further information on handling
Avoid contact with skin and eyes.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels
Keep container tightly closed. Observe legal regulations and provisions.

Hints on joint storage
Do not store together with: Oxidizing agents. Pyrophoric or self-heating substances. Food and feedingstuffs.

Further information on storage conditions
Store in a cool dry place. Observe legal regulations and provisions.

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

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>ppm</th>
<th>mg/m³</th>
<th>fibres/ml</th>
<th>Category</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>107-98-2</td>
<td>1-Methoxypropan-2-ol</td>
<td>100</td>
<td>375</td>
<td></td>
<td>TWA (8 h)</td>
<td>WEL</td>
</tr>
<tr>
<td>7429-90-5</td>
<td>Aluminium metal, respirable dust</td>
<td>150</td>
<td>560</td>
<td></td>
<td>STEL (15 min)</td>
<td>WEL</td>
</tr>
</tbody>
</table>

Additional advice on limit values
a no restriction
b End of exposure or end of shift
c at long term exposure: after several previous shifts
d before next shift

blood (B)
Urine (U)

8.2. Exposure controls

Appropriate engineering controls
If handled uncovered, arrangements with local exhaust ventilation have to be used.

Protective and hygiene measures
Avoid exposure. Wear suitable protective clothing. Draw up and observe skin protection programme.

Eye/face protection
Suitable eye protection: Tightly sealed safety glasses.
DIN EN 166

Hand protection
Protect skin by using skin protective cream. When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to
chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. Suitable material: NBR (Nitrile rubber) Breakthrough time (maximum wearing time) 480min Thickness of the glove material 0.45 mm DIN EN 374

**Skin protection**

Wear suitable protective clothing. Take off immediately all contaminated clothing and wash it before reuse.

**Respiratory protection**

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

When exceeding the relevant workplace exposure limits, note the following:

Suitable respiratory protective equipment: Combination filter device (DIN EN 141).

Filtering device with filter or ventilator filtering device of type: P2

Observe the wear time limits as specified by the manufacturer.

Observe legal regulations and provisions.

**Environmental exposure controls**

Observe legal regulations and provisions.

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**SECTION 9: Physical and chemical properties**

### 9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state:</td>
<td>Paste</td>
</tr>
<tr>
<td>Colour:</td>
<td>grey</td>
</tr>
<tr>
<td>Odour:</td>
<td>odourless</td>
</tr>
<tr>
<td>pH-Value (at 20 °C):</td>
<td>not applicable</td>
</tr>
<tr>
<td>Initial boiling point and boiling range:</td>
<td>not applicable</td>
</tr>
<tr>
<td>Sublimation point:</td>
<td>not applicable</td>
</tr>
<tr>
<td>Softening point:</td>
<td>not applicable</td>
</tr>
<tr>
<td>Pour point:</td>
<td>not applicable</td>
</tr>
<tr>
<td>Flash point:</td>
<td>280 °C</td>
</tr>
<tr>
<td>Sustaining combustion:</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability</td>
<td></td>
</tr>
<tr>
<td>Solid:</td>
<td>not determined</td>
</tr>
<tr>
<td>Gas:</td>
<td>not applicable</td>
</tr>
<tr>
<td>Lower explosion limits:</td>
<td>not applicable</td>
</tr>
<tr>
<td>Upper explosion limits:</td>
<td>not applicable</td>
</tr>
<tr>
<td>Auto-ignition temperature:</td>
<td></td>
</tr>
<tr>
<td>Solid:</td>
<td>not determined</td>
</tr>
<tr>
<td>Gas:</td>
<td>not determined</td>
</tr>
<tr>
<td>Decomposition temperature:</td>
<td>not determined</td>
</tr>
<tr>
<td>Vapour pressure:</td>
<td>No information available.</td>
</tr>
<tr>
<td>Density (at 20 °C):</td>
<td>0.9 g/cm³ DIN 51757</td>
</tr>
<tr>
<td>Viscosity / dynamic:</td>
<td>not determined</td>
</tr>
<tr>
<td>Viscosity / kinematic:</td>
<td>not determined</td>
</tr>
<tr>
<td>(at 40 °C)</td>
<td></td>
</tr>
</tbody>
</table>

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### 9.2. Other information
SECTION 10: Stability and reactivity

10.1. Reactivity
No hazardous reaction when handled and stored according to provisions.

10.2. Chemical stability
The product is stable under normal conditions.

10.3. Possibility of hazardous reactions
No hazardous reaction when handled and stored according to provisions.

10.4. Conditions to avoid
Oxidizing agents. Pyrophoric or self-heating substances.

10.5. Incompatible materials

10.6. Hazardous decomposition products
Incomplete combustion and thermolysis gases of different toxicity can occur. In the case of hydrocarbonaceous products such as CO, CO2, aldehydes and soot. These can be very dangerous if they are inhaled in high concentrations or in enclosed spaces.

Further information
Do not mix with other chemicals.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Toxicokinetics, metabolism and distribution
There are no data available on the mixture itself.

Acute toxicity
Based on available data, the classification criteria are not met.

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Exposure route</th>
<th>Dose</th>
<th>Species</th>
<th>Source</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>107-98-2</td>
<td>1-methoxy-2-propanol: monopropylene glycol methyl ether</td>
<td>oral</td>
<td>LD50</td>
<td>&gt;5000</td>
<td>Rat</td>
<td>IUCLID</td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50</td>
<td>11000</td>
<td>Rabbit</td>
<td></td>
</tr>
<tr>
<td>4306-88-1</td>
<td>Alkylphenols</td>
<td>oral</td>
<td>LD50</td>
<td>&gt;2000</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50</td>
<td>&gt;2000</td>
<td>Rabbit</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalation (4 h) aerosol</td>
<td>LC50</td>
<td>&gt;10 mg/l</td>
<td>Rat</td>
<td></td>
</tr>
</tbody>
</table>

Irritation and corrosivity
Based on available data, the classification criteria are not met.

Sensitising effects
Contains Benzenesulfonic acids, di-C10-14-alkyl derivatives, calcium salts. May produce an allergic reaction.

Carcinogenic/mutagenic/toxic effects for reproduction
Based on available data, the classification criteria are not met.
No indications of human carcinogenicity exist.
No indications of human germ cell mutagenicity exist.
No indications of human reproductive toxicity exist.
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.

Specific effects in experiment on an animal
No information available.

Additional information on tests
The substance is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

SECTION 12: Ecological information

12.1. Toxicity
There are no data available on the mixture itself.

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Aquatic toxicity</th>
<th>Dose</th>
<th>[h]</th>
<th>[d]</th>
<th>Species</th>
<th>Source</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>107-98-2</td>
<td>1-methoxy-2-propanol; monopropylene glycol methyl ether</td>
<td>Acute fish toxicity</td>
<td>LC50</td>
<td>4600 - 10000 mg/l</td>
<td>96 h</td>
<td>Leuciscus idus</td>
<td>IUCLID</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute algae toxicity</td>
<td>ErC50</td>
<td>&gt; 1000 mg/l</td>
<td>72 h</td>
<td>Selenastrum capricornutum</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute crustacea toxicity</td>
<td>EC50</td>
<td>&gt; 500 mg/l</td>
<td>48 h</td>
<td>Daphnia magna</td>
<td>IUCLID</td>
<td></td>
</tr>
<tr>
<td>4306-88-1</td>
<td>Alkylphenols</td>
<td>Acute fish toxicity</td>
<td>LC50</td>
<td>&gt;10 mg/l</td>
<td>96 h</td>
<td>Onchorhynchus mykiss (Rainbow trout)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute algae toxicity</td>
<td>ErC50</td>
<td>&gt;10 mg/l</td>
<td>96 h</td>
<td>Scenedesmus subspicatus</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute crustacea toxicity</td>
<td>EC50</td>
<td>&gt;10 mg/l</td>
<td>48 h</td>
<td>Daphnia magna (Big water flea)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability
There are no data available on the mixture itself. AOX (mg/l): 0

12.3. Bioaccumulative potential
There are no data available on the mixture itself.

Partition coefficient n-octanol/water

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>107-98-2</td>
<td>1-methoxy-2-propanol; monopropylene glycol methyl ether</td>
<td>-0.437</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil
No information available.

12.5. Results of PBT and vPvB assessment
This substance does not meet the criteria for classification as PBT or vPvB.

12.6. Other adverse effects
No information available.

Further information
The classification was carried out according to the calculation method of the Preparations Directive (1999/45/EC).

SECTION 13: Disposal considerations
13.1. Waste treatment methods

Advice on disposal
Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

Waste disposal number of waste from residues/unused products
120112 WASTES FROM SHAPING AND PHYSICAL AND MECHANICAL SURFACE TREATMENT OF METALS AND PLASTICS; wastes from shaping and physical and mechanical surface treatment of metals and plastics; spent waxes and fats; hazardous waste

Waste disposal number of used product
120112 WASTES FROM SHAPING AND PHYSICAL AND MECHANICAL SURFACE TREATMENT OF METALS AND PLASTICS; wastes from shaping and physical and mechanical surface treatment of metals and plastics; spent waxes and fats; hazardous waste

Waste disposal number of contaminated packaging
150102 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); plastic packaging

Contaminated packaging
Water (with cleaning agent). Completely emptied packages can be recycled.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number: No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.
14.4. Packing group: No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

14.1. UN number: No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.
14.4. Packing group: No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

14.1. UN number: No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.
14.4. Packing group: No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.
14.4. Packing group: No dangerous good in sense of this transport regulation.

14.5. Environmental hazards
ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user
No dangerous good in sense of this transport regulation.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
No dangerous good in sense of this transport regulation.
SECTION 15: Regulatory information

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

EU regulatory information

2010/75/EU (VOC): No information available.
2004/42/EC (VOC): No information available.

Additional information

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

National regulatory information

Water contaminating class (D): 1 - slightly water contaminating

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 5,6,8,9,10,15.

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)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IATA: International Air Transport Association
IMDG: International Maritime Code for Dangerous Goods
GHS: Globally Harmonized 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)
DNEL/DMEL: Derived No Effect Level / Derived Minimal Effect Level
WEL (UK): Workplace Exposure Limits
TWA (EC): Time-Weighted Average
ATE: Acute Toxicity Estimate
STEL (EC) Short Term Exposure Limit
LC50: Lethal Concentration
EC50: half maximal Effective Concentration
ErC50: means EC50 in terms of reduction of growth rate

Relevant H and EUH statements (number and full text)

H226 Flammable liquid and vapour.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H412 Harmful to aquatic life with long lasting effects.
EUH208 Contains Benzenesulfonic acids, di-C10-14-alkyl derivatives, calcium salts. May produce an allergic reaction.
EUH210 Safety data sheet available on request.

Further Information

Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]: Calculation method.

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be
transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)