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

1.1. Product identifier
321 Motorsystem-Additive

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

1.3. Details of the supplier of the safety data sheet
Company name: TUNAP Deutschland Vertriebs GmbH & Co. Betriebs KG
Street: Bürgermeister-Seidl-Str. 2
Place: D-82515 Wolfratshausen
Telephone: +49 (0) 8171/1600 - 0
Fax: +49 (0) 8171/1600 - 40
E-mail: sdb@tunap.com
Internet: www.tunap.com

1.4. Emergency telephone number:
+49 (0) 30 30 686 790 (Giftnotruf Berlin)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Regulation (EC) No. 1272/2008
Hazard categories:
- Hazardous to the aquatic environment: Aquatic Chronic 3

2.2. Label elements
Regulation (EC) No. 1272/2008
Hazard statements
- H412 Harmful to aquatic life with long lasting effects.

Precautionary statements
- P273 Avoid release to the environment.
- P280 Wear eye/face protection.

SECTION 3: Composition/information on ingredients

3.2. Mixtures
### Hazardous components

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>EC No</th>
<th>Index No</th>
<th>REACH No</th>
<th>Quantity</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>64742-54-7</td>
<td>Baseoil - unspecified, Distillates (petroleum), hydrotreated heavy paraffinic</td>
<td></td>
<td></td>
<td></td>
<td>25 - &lt; 50 %</td>
<td>Asp. Tox. 1; H304</td>
</tr>
<tr>
<td>36878-20-3</td>
<td>bis(nonylphenyl)amine</td>
<td></td>
<td></td>
<td></td>
<td>1 - &lt; 3 %</td>
<td>Aquatic Chronic 4; H413</td>
</tr>
<tr>
<td>68937-41-7</td>
<td>Propylated triphenyl phosphate</td>
<td></td>
<td></td>
<td></td>
<td>0.1 - &lt; 1 %</td>
<td>Repr. 2, STOT RE 2, Aquatic Chronic 2; H361 f H373 H411</td>
</tr>
<tr>
<td>121158-58-5</td>
<td>Phenol, dodecyl-, branched</td>
<td></td>
<td></td>
<td></td>
<td>&lt; 0.1 %</td>
<td>Repr. 2, Skin Irrit. 2, Eye Irrit. 2, Aquatic Acute 1 (M-Factor = 10), Aquatic Chronic 1 (M-Factor = 10); H361 H315 H319 H400 H410</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 persist, seek medical advice.

**After contact with skin**
Wash 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 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

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Clean contaminated objects and areas thoroughly observing environmental regulations.

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.

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

Further information on storage conditions
Protect from frost.

7.3. Specific end use(s)
SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Additional advice on limit values
- a no restriction
- b End of exposure or shift
- c in long-term exposure: after several shifts
- d prior to next shift

STEL (EC): Short Term Exposure Limit
TWA (EC): time-weighted average
U: Urea
B: Blood

8.2. Exposure controls

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: A
Observe the wear time limits as specified by the manufacturer.
Observe legal regulations and provisions.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state:</th>
<th>liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour:</td>
<td>brown</td>
</tr>
<tr>
<td>Odour:</td>
<td>characteristic</td>
</tr>
</tbody>
</table>

Test method
pH-Value (at 20 °C): No information available.

Changes in the physical state
Melting point: No information available.
Initial boiling point and boiling range: 200 °C
Flash point: > 150 °C
Lower explosion limits: No information available.
Upper explosion limits: No information available.
Vapour pressure: No information available.
Density (at 20 °C): 0.882 g/cm³ DIN 51757
Partition coefficient: No information available.
Viscosity / dynamic:
Viscosity / kinematic: (at 40 °C) 135 mm²/s DIN EN ISO 3104
Flow time: No information available.
Vapour density: No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity
No known hazardous reactions.

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
Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Take precautionary measures against static discharges.

10.5. Incompatible materials
Oxidizing agents. Pyrophoric or self-heating substances.

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.
### Chemical names and properties

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Source</th>
<th>Dose</th>
<th>Species</th>
<th>Exposure route</th>
</tr>
</thead>
<tbody>
<tr>
<td>64742-54-7</td>
<td>Base oil - unspecified, Distillates (petroleum), hydrotreated heavy paraffinic</td>
<td></td>
<td>LD50</td>
<td>&gt;5000 mg/kg</td>
<td>oral</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>dermal</td>
</tr>
<tr>
<td>36878-20-3</td>
<td>bis(nonylphenyl)amine</td>
<td></td>
<td>LD50</td>
<td>&gt;5000 mg/kg</td>
<td>oral</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>dermal</td>
</tr>
<tr>
<td>68937-41-7</td>
<td>Propylated triphenyl phosphate</td>
<td></td>
<td>LD50</td>
<td>&gt;2530 - 5000</td>
<td>Rat</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>121158-58-5</td>
<td>Phenol, dodecyl-, branched</td>
<td></td>
<td>LD50</td>
<td>2200 mg/kg</td>
<td>oral</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

#### Sensitising effects
- Based on available data, the classification criteria are not met.

#### 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.

### SECTION 12: Ecological information

#### 12.1. Toxicity
- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
### Aquatic Toxicity

<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>
</tr>
</thead>
<tbody>
<tr>
<td>64742-54-7</td>
<td>Baseoil - unspecified, Distillates (petroleum), hydrotreated heavy paraffinic</td>
<td>Acute fish toxicity</td>
<td>LC50</td>
<td>&gt;1000 mg/l</td>
<td>96</td>
<td>h</td>
<td>Oncorhynchus mykiss (Rainbow trout)</td>
</tr>
<tr>
<td></td>
<td>Acute algae toxicity</td>
<td>ErC50</td>
<td>&gt;1000 mg/l</td>
<td>72</td>
<td>h</td>
<td>Scenedesmus subspicatus</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute crustacea toxicity</td>
<td>EC50</td>
<td>&gt;1000 mg/l</td>
<td>48</td>
<td>h</td>
<td>Daphnia magna (Big water flea)</td>
<td></td>
</tr>
<tr>
<td>36878-20-3</td>
<td>bis(nonylphenyl)amine</td>
<td>Acute fish toxicity</td>
<td>LC50</td>
<td>&gt;100 mg/l</td>
<td>96</td>
<td>h</td>
<td>Oncorhynchus mykiss (Rainbow trout)</td>
</tr>
<tr>
<td></td>
<td>Acute algae toxicity</td>
<td>ErC50</td>
<td>&gt;600 mg/l</td>
<td>72</td>
<td>h</td>
<td>Selenastrum capricornutum</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute crustacea toxicity</td>
<td>EC50</td>
<td>&gt;100 mg/l</td>
<td>48</td>
<td>h</td>
<td>Daphnia magna</td>
<td></td>
</tr>
<tr>
<td>68937-41-7</td>
<td>Propylated triphenyl phosphate</td>
<td>Acute fish toxicity</td>
<td>LC50</td>
<td>0,36 mg/l</td>
<td>96</td>
<td>h</td>
<td>Oncorhynchus mykiss (Rainbow trout)</td>
</tr>
<tr>
<td></td>
<td>Acute algae toxicity</td>
<td>ErC50</td>
<td>1000 mg/l</td>
<td>72</td>
<td>h</td>
<td>Pseudokirchneriella subcapitata</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute crustacea toxicity</td>
<td>EC50</td>
<td>1 mg/l</td>
<td>48</td>
<td>h</td>
<td>Daphnia magna</td>
<td></td>
</tr>
<tr>
<td>121158-58-5</td>
<td>Phenol, dodecyl-, branched</td>
<td>Acute fish toxicity</td>
<td>LC50</td>
<td>24 mg/l</td>
<td>96</td>
<td>h</td>
<td>Pimephales promelas (fathead minnow)</td>
</tr>
<tr>
<td></td>
<td>Acute algae toxicity</td>
<td>ErC50</td>
<td>0,765 mg/l</td>
<td>72</td>
<td>h</td>
<td>Algae</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute crustacea toxicity</td>
<td>EC50</td>
<td>0,037 mg/l</td>
<td>48</td>
<td>h</td>
<td>Daphnia magna (Big water flea)</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.

#### 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**
Do not allow to enter into surface water or drains.

### 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**

- 130206 OIL WASTES AND WASTES OF LIQUID FUELS (except edible oils, and those in chapters 05, 12 and 19); waste engine, gear and lubricating oils; synthetic engine, gear and lubricating oils
  Classified as hazardous waste.
Waste disposal number of used product

130206  OIL WASTES AND WASTES OF LIQUID FUELS (except edible oils, and those in chapters 05, 12 and 19); waste engine, gear and lubricating oils; synthetic engine, gear and lubricating oils

Classified as hazardous waste.

Waste disposal number of contaminated packaging

150104  WASTE PACKAGING; ABSORBENTS, WIPIING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); metallic packaging

Contaminated packaging

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

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.
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
Restrictions on use (REACH, annex XVII):
  28: Baseoil - unspecified, Distillates (petroleum), hydrotreated heavy paraffinic

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)
  Classification for mixtures and used evaluation method according to regulation (EC) 1272/2008 [CLP]:
  Calculation method.

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): 2,4,5,6,7,8,10,11,15.

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)
  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)
  H304 May be fatal if swallowed and enters airways.
  H315 Causes skin irritation.
  H319 Causes serious eye irritation.
  H361 Suspected of damaging fertility or the unborn child.
  H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
  H373 May cause damage to organs through prolonged or repeated exposure.
  H400 Very toxic to aquatic life.
  H410 Very toxic to aquatic life with long lasting effects.
  H411 Toxic to aquatic life with long lasting effects.
  H412 Harmful to aquatic life with long lasting effects.
  H413 May cause long lasting harmful effects to aquatic life.

Further Information
  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.)