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

1.1 Product identifier

Trade name : TBPND
REACH Registration Number : 01-2119948628-22-0000
Substance name : tert-Butyl peroxyneodecanoate
EC-No. : 247-955-1

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

Use of the Substance/Mixture : polymerisation initiators

1.3 Details of the supplier of the safety data sheet

Company : United Initiators GmbH
Dr.-Gustav-Adolph-Str. 3
82049 Pullach

Telephone : +49 / 89 / 74422 – 0
E-mail address of person responsible for the SDS : contact@united-in.com

1.4 Emergency telephone number

+49 / 89 / 74422 – 0 (24 h)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

**Classification (REGULATION (EC) No 1272/2008)**

Organic peroxides, Type D

H242: Heating may cause a fire.

Skin irritation, Category 2

H315: Causes skin irritation.

Skin sensitisation, Category 1

H317: May cause an allergic skin reaction.

Short-term (acute) aquatic hazard, Category 1

H400: Very toxic to aquatic life.

Long-term (chronic) aquatic hazard, Category 1

H410: Very toxic to aquatic life with long lasting effects.
2.2 Label elements

**Labelling (REGULATION (EC) No 1272/2008)**

**Hazard pictograms**

- ![Fire](image1.png)
- ![Exclamation](image2.png)
- ![Flame](image3.png)

**Signal word**: Danger

**Hazard statements**

- **H242**: Heating may cause a fire.
- **H315**: Causes skin irritation.
- **H317**: May cause an allergic skin reaction.
- **H410**: Very toxic to aquatic life with long lasting effects.

**Precautionary statements**

**Prevention**:

- **P220**: Keep/Store away from clothing/ strong acids, bases, heavy metal salts and other reducing substances /combustible materials.
- **P233**: Keep container tightly closed.
- **P261**: Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
- **P262**: Do not get in eyes, on skin, or on clothing.
- **P273**: Avoid release to the environment.
- **P280**: Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response**:

- **P333 + P313**: If skin irritation or rash occurs: Get medical advice/ attention.
- **P362 + P364**: Take off contaminated clothing and wash it before reuse.

**Storage**:

- **P411**: Store at temperatures not exceeding -5 °C.

**Disposal**:

- **P501**: Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

**Substance name**: tert-Butyl peroxyneodecanoate
EC-No. : 247-955-1

Chemical nature : Organic Peroxide liquid

Components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>tert-Butyl peroxyneodecanoate</td>
<td>26748-41-4</td>
<td>247-955-1</td>
<td>&lt;= 100</td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Move out of dangerous area. Show this safety data sheet to the doctor in attendance. Do not leave the victim unattended. Call a physician immediately.

Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing.

If inhaled : If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician. If breathed in, move person into fresh air.

In case of skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash contaminated clothing before re-use. If on skin, rinse well with water. If on clothes, remove clothes. If symptoms persist, call a physician.

In case of eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear. Call a physician immediately. Rinse mouth thoroughly with water.
4.2 Most important symptoms and effects, both acute and delayed

Risks: Causes skin irritation. May cause an allergic skin reaction.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment: Treat symptomatically and supportively.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Water spray jet
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media: High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting: Contact with incompatible materials or exposure to temperatures exceeding SADT may result in a self-accelerating decomposition reaction with release of flammable vapors which may auto-ignite. The product burns violently. Flash back possible over considerable distance. Vapours may form explosive mixtures with air. The product will float on water and can be reignited on surface water. Cool closed containers exposed to fire with water spray.

5.3 Advice for firefighters

Special protective equipment for firefighters: Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.

Specific extinguishing methods: Do not use a solid water stream as it may scatter and spread fire. Remove undamaged containers from fire area if it is safe to do so. Use water spray to cool unopened containers.

Further information: Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions
- Use personal protective equipment.
- Remove all sources of ignition.
- Follow safe handling advice and personal protective equipment recommendations.
- Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
- Never return spills in original containers for reuse.
- Treat recovered material as described in the section "Disposal considerations".

6.2 Environmental precautions

Environmental precautions
- Prevent product from entering drains.
- Prevent further leakage or spillage if safe to do so.
- If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up
- Contact with incompatible substances can cause decomposition at or below SADT.
- Clear spills immediately.
- Suppress (knock down) gases/vapours/mists with a water spray jet.
- To clean the floor and all objects contaminated by this material, use plenty of water.
- Soak up with inert absorbent material.
- Isolate waste and do not reuse.
- Non-sparking tools should be used.
- Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.

6.4 Reference to other sections
For personal protection see section 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Technical measures
- See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Advice on safe handling
- Do not swallow.
Do not breathe vapours/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
Avoid formation of aerosol.
Take precautionary measures against static discharges.
Never return any product to the container from which it was originally removed.
Provide sufficient air exchange and/or exhaust in work rooms.
Avoid confinement.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Smoking, eating and drinking should be prohibited in the application area.
Wash thoroughly after handling.
For personal protection see section 8.
Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Protect from contamination.

Advice on protection against fire and explosion:
Keep away from heat and sources of ignition. Use only explosion-proof equipment. Keep away from combustible material.

Hygiene measures:
Keep away from food and drink. When using do not eat or drink. When using do not smoke. Wash hands before breaks and immediately after handling the product.

7.2 Conditions for safe storage, including any incompatibilities
Requirements for storage areas and containers:
Avoid impurities (e.g. rust, dust, ash), risk of decomposition.
Electrical installations / working materials must comply with the technological safety standards. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in original container. Keep containers tightly closed in a cool, well-ventilated place. Store in accordance with the particular national regulations.

Advice on common storage:
Keep away from strong acids, bases, heavy metal salts and other reducing substances.

Recommended storage temperature:
< -10 °C

Further information on storage stability:
No decomposition if stored normally.

7.3 Specific end use(s)
Specific use(s):
For further information, refer to the product technical data sheet.
SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

<table>
<thead>
<tr>
<th>Substance name</th>
<th>End Use</th>
<th>Exposure routes</th>
<th>Potential health effects</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>tert-Butyl peroxyneodecanoate</td>
<td>Workers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>2.8 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Skin contact</td>
<td>Long-term systemic effects</td>
<td>8 mg/kg bw/day</td>
</tr>
</tbody>
</table>

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

<table>
<thead>
<tr>
<th>Substance name</th>
<th>Environmental Compartment</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>tert-Butyl peroxyneodecanoate</td>
<td>Fresh water</td>
<td>0.0049 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0.00049 mg/l</td>
</tr>
<tr>
<td></td>
<td>Intermittent use/release</td>
<td>0.0033 mg/l</td>
</tr>
<tr>
<td></td>
<td>Sewage treatment plant</td>
<td>96.69 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>2.19 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>0.219 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>0.434 mg/kg</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

Engineering measures
Minimize workplace exposure concentrations.

Personal protective equipment

Eye protection: Tightly fitting safety goggles
Please wear suitable protective goggles. Also wear face protection if there is a splash hazard.
Ensure that eyewash stations and safety showers are close to the workstation location.

Hand protection
Material: butyl-rubber
Break through time: >= 480 min
Glove thickness: 0.5 mm

Skin and body protection: Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.

Respiratory protection: In the case of dust or aerosol formation use respirator with an approved filter.

Filter type: ABEK-filter
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>Appearance</td>
<td>liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>colourless</td>
</tr>
<tr>
<td>Odour</td>
<td>ester-like</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Melting point/range</td>
<td>&lt; -20 °C</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>Decomposition: Decomposes below the boiling point.</td>
</tr>
<tr>
<td>Flash point</td>
<td>62 °C</td>
</tr>
<tr>
<td>Method</td>
<td>closed cup</td>
</tr>
<tr>
<td>Decomposition</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Upper explosion limit / Upper flammability limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower explosion limit / Lower flammability limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>0.53 hPa (65 °C)</td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>No data available</td>
</tr>
<tr>
<td>Density</td>
<td>0.898 g/cm³ (20 °C)</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>0.009 g/l insoluble (0 °C)</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>log Pow: 5.0</td>
</tr>
<tr>
<td>Viscosity</td>
<td></td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>6.3 mPa.s (20 °C)</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not explosive</td>
</tr>
</tbody>
</table>
Oxidizing properties: The substance or mixture is not classified as oxidizing. Organic peroxide

9.2 Other information

Self-Accelerating decomposition temperature (SADT): 15 °C
Method: UN-Test H.4
SADT-Self Accelerating Decomposition Temperature. Lowest temperature at which the tested package size will undergo a self-accelerating decomposition reaction.

Refractive index: 1.437 at 20 °C

SECTION 10: Stability and reactivity

10.1 Reactivity
Stable under recommended storage conditions.

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
Hazardous reactions: Vapours may form explosive mixture with air.

10.4 Conditions to avoid
Conditions to avoid: Protect from contamination.
Contact with incompatible substances can cause decomposition at or below SADT.
Heat, flames and sparks.
Avoid confinement.

10.5 Incompatible materials
Materials to avoid: Accelerators, strong acids and bases, heavy metals and heavy metal salts, reducing agents

10.6 Hazardous decomposition products
Irritant, caustic, flammable, noxious/toxic gases and vapours can develop in the case of fire and decomposition

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity
Not classified based on available information.
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

TBPND

Version: 3.0
Revision Date: 21.02.2019
SDS Number: 600000000014
Date of last issue: 16.03.2018
Date of first issue: 17.03.2016

Product:

Acute oral toxicity: LD50 (Rat, male and female): 8,082 mg/kg
Method: OECD Test Guideline 401
Remarks: The value is calculated

Acute inhalation toxicity: LC50 (Rat, male and female): 37.5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Remarks: The value is calculated

Acute dermal toxicity: LD50 (Rabbit, male and female): > 6,000 mg/kg
Method: OECD Test Guideline 402
Remarks: The value is calculated

Components:

tert-Butyl peroxyneodecanoate:

Acute oral toxicity: LD50 (Rat, male and female): 8,082 mg/kg
Method: OECD Test Guideline 401
Remarks: The value is calculated

Acute inhalation toxicity: LC50 (Rat, male and female): 37.5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Remarks: The value is calculated

Acute dermal toxicity: LD50 (Rabbit, male and female): > 6,000 mg/kg
Method: OECD Test Guideline 402
Remarks: The value is calculated

Skin corrosion/irritation
Causes skin irritation.

Product:

Species: Rabbit
Method: OECD Test Guideline 404
Result: Skin irritation

Remarks: May cause skin irritation in susceptible persons.

Components:

tert-Butyl peroxyneodecanoate:

Species: Rabbit
Method: OECD Test Guideline 404
Result: Skin irritation
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

TBPND

Version: 3.0
Revision Date: 21.02.2019
SDS Number: 600000000014
Date of last issue: 16.03.2018
Date of first issue: 17.03.2016

**Serious eye damage/eye irritation**
Not classified based on available information.

**Product:**

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>OECD Test Guideline 405</td>
</tr>
<tr>
<td>Result</td>
<td>No eye irritation</td>
</tr>
</tbody>
</table>

Remarks: Vapours may cause irritation to the eyes, respiratory system and the skin.

**Components:**

tert-Butyl peroxyneodecanoate:

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>OECD Test Guideline 405</td>
</tr>
<tr>
<td>Result</td>
<td>No eye irritation</td>
</tr>
</tbody>
</table>

**Respiratory or skin sensitisation**

**Skin sensitisation**
May cause an allergic skin reaction.

**Respiratory sensitisation**
Not classified based on available information.

**Product:**

<table>
<thead>
<tr>
<th>Species</th>
<th>Guinea pig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>OECD Test Guideline 406</td>
</tr>
<tr>
<td>Result</td>
<td>May cause sensitisation by skin contact.</td>
</tr>
</tbody>
</table>

Remarks: Causes sensitisation.

**Components:**

tert-Butyl peroxyneodecanoate:

<table>
<thead>
<tr>
<th>Species</th>
<th>Guinea pig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>OECD Test Guideline 406</td>
</tr>
<tr>
<td>Result</td>
<td>May cause sensitisation by skin contact.</td>
</tr>
</tbody>
</table>

**Germ cell mutagenicity**
Not classified based on available information.

**Product:**

<table>
<thead>
<tr>
<th>Genotoxicity in vitro</th>
<th>Test Type: Bacterial reverse mutation assay (AMES)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Test system: Escherichia coli</td>
</tr>
<tr>
<td></td>
<td>Method: OECD Test Guideline 471</td>
</tr>
<tr>
<td></td>
<td>Result: positive</td>
</tr>
</tbody>
</table>
Test Type: In vitro mammalian cell gene mutation test
Test system: Chinese hamster ovary cells
Method: OECD Test Guideline 476
Result: negative

Genotoxicity in vivo:
Test Type: In vivo micronucleus test
Species: Mouse (male and female)
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative

Components:

tert-Butyl peroxyneodecanoate:
Genotoxicity in vitro:
Test Type: Bacterial reverse mutation assay (AMES)
Test system: Escherichia coli
Method: OECD Test Guideline 471
Result: positive

Test Type: In vitro mammalian cell gene mutation test
Test system: Chinese hamster ovary cells
Method: OECD Test Guideline 476
Result: negative

Genotoxicity in vivo:
Test Type: In vivo micronucleus test
Species: Mouse (male and female)
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative

Carcinogenicity
Not classified based on available information.

Product:
Remarks:
This information is not available.

Components:

tert-Butyl peroxyneodecanoate:
Remarks:
This information is not available.

Reproductive toxicity
Not classified based on available information.

Product:
Effects on fertility:
Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat
Application Route: Oral
SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006  

TBPND

Version 3.0  Revision Date: 21.02.2019 SDS Number: 600000000014  Date of last issue: 16.03.2018  Date of first issue: 17.03.2016

General Toxicity - Parent: NOAEL: 60 mg/kg body weight  
General Toxicity F1: NOAEL: 60 mg/kg body weight  
Fertility: NOAEL Mating/Fertility: 200 mg/kg body weight  
Method: OECD Test Guideline 422

Effects on foetal development:

Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test  
Species: Rat  
Strain: wistar  
Application Route: Oral  
General Toxicity Maternal: NOAEL: 60 mg/kg body weight  
Teratogenicity: NOAEL: 200 mg/kg body weight  
Developmental Toxicity: NOAEL: 60 mg/kg body weight  
Method: OECD Test Guideline 414

Components:

tert-Butyl peroxyneodecanoate:

Effects on fertility:

Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test  
Species: Rat  
Application Route: Oral  
General Toxicity - Parent: NOAEL: 60 mg/kg body weight  
General Toxicity F1: NOAEL: 60 mg/kg body weight  
Fertility: NOAEL Mating/Fertility: 200 mg/kg body weight  
Method: OECD Test Guideline 422

Effects on foetal development:

Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test  
Species: Rat  
Strain: wistar  
Application Route: Oral  
General Toxicity Maternal: NOAEL: 60 mg/kg body weight  
Teratogenicity: NOAEL: 200 mg/kg body weight  
Developmental Toxicity: NOAEL: 60 mg/kg body weight  
Method: OECD Test Guideline 414

STOT - single exposure  
Not classified based on available information.

STOT - repeated exposure  
Not classified based on available information.

Repeated dose toxicity

Product:

Species: Rat, male and female  
NOAEL: 160 mg/kg  
Application Route: Oral  
Exposure time: 90 d
**SAFETY DATA SHEET**

according to Regulation (EC) No. 1907/2006

**TBPND**

<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date</th>
<th>SDS Number</th>
<th>Date of last issue</th>
<th>Date of first issue</th>
</tr>
</thead>
</table>

Method : OECD Test Guideline 408  
Remarks : Based on data from similar materials

**Components:**

**tert-Butyl peroxyneodecanoate:**

Species : Rat, male and female  
NOAEL : 160 mg/kg  
Application Route : Oral  
Exposure time : 90 d  
Method : OECD Test Guideline 408  
Remarks : Based on data from similar materials

Aspiration toxicity

Not classified based on available information.

**Product:**

No data available

**Components:**

**tert-Butyl peroxyneodecanoate:**

No data available

**Further information**

**Product:**

Remarks : No data available

### SECTION 12: Ecological information

#### 12.1 Toxicity

**Product:**

<table>
<thead>
<tr>
<th>Toxicity to fish</th>
<th>LC50 (Danio rerio (zebra fish)): 0.33 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time</td>
<td>96 h</td>
</tr>
<tr>
<td>Test Type</td>
<td>semi-static test</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 203</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Toxicity to daphnia and other aquatic invertebrates</th>
<th>EC50 (Daphnia magna (Water flea)): 0.79 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time</td>
<td>48 h</td>
</tr>
<tr>
<td>Test Type</td>
<td>static test</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 202</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Toxicity to algae</th>
<th>ErC50 (Pseudokirchneriella subcapitata (green algae)): 0.48 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time</td>
<td>72 h</td>
</tr>
</tbody>
</table>
**Method:** OECD Test Guideline 201

- **NOEC** (Pseudokirchneriella subcapitata (green algae)): 0.03 mg/l
- **Exposure time:** 72 h

**Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):**

- **NOEC:** 0.049 mg/l
- **Exposure time:** 21 d
- **Species:** Daphnia magna (Water flea)
- **Method:** OECD Test Guideline 211

**Toxicity to microorganisms:**

- **EC50:** > 1,000 mg/l
- **Exposure time:** 3 h
- **Test Type:** Respiration inhibition of activated sludge
- **Method:** OECD Test Guideline 209

## Components:

**tert-Butyl peroxyneodecanoate:**

**Toxicity to fish:**

- **LC50** (Danio rerio (zebra fish)): 0.33 mg/l
- **Exposure time:** 96 h
- **Test Type:** semi-static test
- **Method:** OECD Test Guideline 203

**Toxicity to daphnia and other aquatic invertebrates:**

- **EC50** (Daphnia magna (Water flea)): 0.79 mg/l
- **Exposure time:** 48 h
- **Test Type:** static test
- **Method:** OECD Test Guideline 202

**Toxicity to algae:**

- **ErC50** (Pseudokirchneriella subcapitata (green algae)): 0.48 mg/l
- **Exposure time:** 72 h
- **Method:** OECD Test Guideline 201

- **NOEC** (Pseudokirchneriella subcapitata (green algae)): 0.03 mg/l
- **Exposure time:** 72 h
- **Method:** OECD Test Guideline 201

**M-Factor (Acute aquatic toxicity):**

- **1**

**Toxicity to microorganisms:**

- **EC50:** > 1,000 mg/l
- **Exposure time:** 3 h
- **Test Type:** Respiration inhibition of activated sludge
- **Method:** OECD Test Guideline 209

**Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):**

- **NOEC:** 0.049 mg/l
- **Exposure time:** 21 d
12.2 Persistence and degradability

**Product:**
- Biodegradability: Result: Not readily biodegradable.
  Method: OECD Test Guideline 301D

**Components:**
- tert-Butyl peroxyneodecanoate:
  - Biodegradability: Result: Not readily biodegradable.
    Method: OECD Test Guideline 301D

12.3 Bioaccumulative potential

**Components:**
- tert-Butyl peroxyneodecanoate:
  - Partition coefficient: n-octanol/water: log Pow: 5.0

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

**Product:**
- Assessment: This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

**Product:**
- Additional ecological information: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
  Very toxic to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Product: The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of wastes in an approved waste disposal facility.

Contaminated packaging: Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum. Dispose of in accordance with local regulations.

SECTION 14: Transport information

14.1 UN number

<table>
<thead>
<tr>
<th>ADN</th>
<th>UN 3115</th>
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<tbody>
<tr>
<td>ADR</td>
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<tr>
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<tr>
<td>IMDG</td>
<td>UN 3115</td>
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<td>IATA</td>
<td>UN 3115</td>
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14.2 UN proper shipping name

<table>
<thead>
<tr>
<th>ADN</th>
<th>ORGANIC PEROXIDE TYPE D, LIQUID, TEMPERATURE CONTROLLED (tert-BUTYL PEROXYNEODECANOATE)</th>
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14.3 Transport hazard class(es)

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<tbody>
<tr>
<td>ADR</td>
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</tbody>
</table>
SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

TBPND

RID : Not permitted for transport
IMDG : 5.2
IATA : Not permitted for transport

14.4 Packing group

ADN
Packing group : Not assigned by regulation
Classification Code : P2
Labels : 5.2

ADR
Packing group : Not assigned by regulation
Classification Code : P2
Labels : 5.2
Tunnel restriction code : (D)
RID : Not permitted for transport

IMDG
Packing group : Not assigned by regulation
Labels : 5.2
EmS Code : F-F, S-R
IATA (Cargo) : Not permitted for transport
IATA (Passenger) : Not permitted for transport

14.5 Environmental hazards

ADN
Environmentally hazardous : yes

ADR
Environmentally hazardous : yes

RID : Not permitted for transport

IMDG
Marine pollutant : yes

14.6 Special precautions for user

Additional advice:

Temperature controlled transport:
Control temperature : -5 °C
Emergency temperature : 5 °C

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.
SECTION 15: Regulatory information

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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59): Not applicable

REACH - List of substances subject to authorisation (Annex XIV): Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer: Not applicable

Regulation (EC) No 850/2004 on persistent organic pollutants: Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals: Not applicable

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII): Conditions of restriction for the following entries should be considered:

- Number on list 3


<table>
<thead>
<tr>
<th>P6b</th>
<th>SELF-REACTIVE SUBSTANCES AND MIXTURES and ORGANIC PEROXIDES</th>
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<table>
<thead>
<tr>
<th>E1</th>
<th>ENVIRONMENTAL HAZARDS</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Quantity 1: 100 t</td>
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</tbody>
</table>

Other regulations:
Gefahrgruppe nach § 3 BGV B4: Ia (German regulatory requirements)

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

The components of this product are reported in the following inventories:

- DSL (CA): All components of this product are on the Canadian DSL
- AICS (AU): On the inventory, or in compliance with the inventory
- ENCS (JP): On the inventory, or in compliance with the inventory
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

TBPND

Version 3.0
Revision Date: 21.02.2019
SDS Number: 600000000014
Date of last issue: 16.03.2018
Date of first issue: 17.03.2016

ISHL (JP) : On the inventory, or in compliance with the inventory
KECI (KR) : On the inventory, or in compliance with the inventory
PICCS (PH) : On the inventory, or in compliance with the inventory
IECSC (CN) : On the inventory, or in compliance with the inventory
TCSI (TW) : On the inventory, or in compliance with the inventory
TSCA (US) : On TSCA Inventory

15.2 Chemical safety assessment
A Chemical Safety Assessment has been carried out for this substance.
For further information see eSDS.

SECTION 16: Other information

Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature;
Further information

Other information: This safety datasheet only contains information relating to safety and does not replace any product information or product specification. These safety instructions also apply to empty packaging which may still contain product residues.


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.

IE / EN