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

1.1 Product identifier

| Trade name | TBPB |
| REACH Registration Number | 01-2119513317-46-0003 |
| Substance name | tert-Butyl perbenzoate |
| EC-No. | 210-382-2 |

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) | Description |
| Organic peroxides, Type C | H242: Heating may cause a fire. |
| Acute toxicity, Category 4 | H332: Harmful if inhaled. |
| 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 | H412: Harmful to aquatic life with long lasting ef- |
2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms: 
- Flammable icon
- Exclamation mark
- Plant icon

Signal word: Danger

Hazard statements:
- H242 Heating may cause a fire.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H332 Harmful if inhaled.
- 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.
- P235 Keep cool.
- 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:
- P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
- P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
- P362 + P364 Take off contaminated clothing and wash it before reuse.
- P370 + P378 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.

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

<table>
<thead>
<tr>
<th>Substance name</th>
<th>tert-Butyl perbenzoate</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC-No.</td>
<td>210-382-2</td>
</tr>
<tr>
<td>Chemical nature</td>
<td>Organic Peroxide liquid</td>
</tr>
</tbody>
</table>

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 perbenzoate</td>
<td>614-45-9</td>
<td>210-382-2</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.
Symptoms of poisoning may appear several hours later.
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:
Call a physician or poison control centre immediately.
If unconscious, place in recovery position and seek medical advice.
Keep respiratory tract clear.
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.
- Harmful if inhaled.

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

<table>
<thead>
<tr>
<th>Suitable extinguishing media</th>
<th>Water spray jet</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Alcohol-resistant foam</td>
</tr>
<tr>
<td></td>
<td>Carbon dioxide (CO2)</td>
</tr>
<tr>
<td></td>
<td>Dry chemical</td>
</tr>
</tbody>
</table>

| 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

- Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.
- 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. Ensure adequate ventilation. 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 re-use. 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 - 30 °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 perbenzoate</td>
<td>Workers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>4 mg/m3</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Skin contact</td>
<td>Long-term systemic effects</td>
<td>6.25 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 perbenzoate</td>
<td>Fresh water</td>
<td>0.0088 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0.0009 mg/l</td>
</tr>
<tr>
<td></td>
<td>Intermittent use/release</td>
<td>0.008 mg/l</td>
</tr>
<tr>
<td></td>
<td>Sewage treatment plant</td>
<td>0.6 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>0.24 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>0.024 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>0.043 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
Remarks: Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

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

Filter type: ABEK-filter

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

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance: liquid

Colour: light yellow

Odour: ester-like

Odour Threshold: No data available

pH: No data available

Melting point/freezing point: ca. 10 °C

Initial boiling point and boiling range: Decomposition: Decomposes below the boiling point.

Flash point: 100 °C
Method: ISO 3679

Evaporation rate: No data available

Flammability (solid, gas): Not applicable

Upper explosion limit / Upper flammability limit: No data available

Lower explosion limit / Lower flammability limit: No data available

Vapour pressure: 0.003 hPa (20 °C)
**Relative vapour density** : No data available

**Density** : 1.04 g/cm³ (20 °C)

**Solubility(ies)**
- **Water solubility** : 1.18 g/l insoluble
- **Solubility in other solvents**:
  - Completely miscible
  - Solvent: Alcohol
  - Completely miscible
  - Solvent: Phthalates

**Partition coefficient: n-octanol/water** : log Pow: 3.0 (25 °C)

**Viscosity**
- **Viscosity, dynamic** : 8 mPa.s (20 °C)

**Explosive properties** : Not explosive

**Oxidizing properties** : The substance or mixture is not classified as oxidizing. Organic peroxide

### 9.2 Other information

**Self-Accelerating decomposition temperature (SADT)** : 60 °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** : 1.499 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 decomposi-
tion 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
Harmful if inhaled.

Product:
Acute inhalation toxicity: LC50 (Rat): > 1.01 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 436

Components:

tert-Butyl perbenzoate:
Acute oral toxicity: LD0 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 423
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity: LC50 (Rat): 1.01 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 436

Acute dermal toxicity: LD0 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation
Causes skin irritation.

Product:
Remarks: May cause skin irritation in susceptible persons.
Components:
tert-Butyl perbenzoate:
Species : Rabbit
Method : OECD Test Guideline 404
Result : Skin irritation

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

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

Components:
tert-Butyl perbenzoate:
Species : Rabbit
Method : OECD Test Guideline 405
Result : No eye irritation

Respiratory or skin sensitisation
Skin sensitisation
May cause an allergic skin reaction.

Respiratory sensitisation
Not classified based on available information.

Product:
Remarks : Causes sensitisation.

Components:
tert-Butyl perbenzoate:
Species : Mouse
Method : OECD Test Guideline 429
Result : May cause sensitisation by skin contact.

Germ cell mutagenicity
Not classified based on available information.

Components:
tert-Butyl perbenzoate:
Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
                        Method: OECD Test Guideline 471
Result: positive

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: positive

Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: positive

Test Type: Mouse Lymphoma
Result: positive

Genotoxicity in vivo
Test Type: Micronucleus test
Species: Mouse (male and female)
Application Route: Oral
Result: negative

**Carcinogenicity**
Not classified based on available information.

**Components:**
**tert-Butyl perbenzoate:**

**Reproductive toxicity**
Not classified based on available information.

**Components:**
**tert-Butyl perbenzoate:**

**Effects on fertility**
Species: Rat
Application Route: Oral
General Toxicity - Parent: NOAEL: 300 mg/kg body weight
Method: OECD Test Guideline 421

**Effects on foetal development**
Species: Rat
Application Route: Oral
General Toxicity Maternal: NOAEL: 300 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.

**Aspiration toxicity**
Not classified based on available information.
SECTION 12: Ecological information

12.1 Toxicity

**Components:**

**tert-Butyl perbenzoate:**

- **Toxicity to fish:** LC50 (Danio rerio (zebra fish)): 1.6 mg/l
  Exposure time: 96 h
  Method: OECD Test Guideline 203

- **Toxicity to daphnia and other aquatic invertebrates:** EC50 (Daphnia magna (Water flea)): 11 mg/l
  Exposure time: 48 h
  Method: OECD Test Guideline 202

- **Toxicity to algae:** EC50 (Pseudokirchneriella subcapitata (green algae)): 0.8 mg/l
  Exposure time: 72 h
  Method: OECD Test Guideline 201

  NOEC (Pseudokirchneriella subcapitata (green algae)): 0.72 mg/l
  Exposure time: 72 h
  Method: OECD Test Guideline 201

- **M-Factor (Acute aquatic toxicity):** 1

- **Toxicity to microorganisms:** EC50: 43 mg/l
  Exposure time: 0.5 h
  Method: OECD Test Guideline 209

- **Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):** EC10: 0.49 mg/l
  Exposure time: 21 d
  Species: Daphnia magna (Water flea)
  Method: OECD Test Guideline 211

12.2 Persistence and degradability

**Components:**

**tert-Butyl perbenzoate:**

- **Biodegradability:** Result: Readily biodegradable.
  Method: OECD Test Guideline 301D
12.3 Bioaccumulative potential

Components:

tert-Butyl perbenzoate:
Partition coefficient: n-octanol/water  :  log Pow: 2.89 (25 °C)

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.
Harmful 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
ADN : UN 3103
ADR : UN 3103
RID : UN 3103
IMDG : UN 3103
IATA : UN 3103

14.2 UN proper shipping name
ADN : ORGANIC PEROXIDE TYPE C, LIQUID (tert-BUTYL PEROXYBENOZATE)
ADR : ORGANIC PEROXIDE TYPE C, LIQUID (tert-BUTYL PEROXYBENOZATE)
RID : ORGANIC PEROXIDE TYPE C, LIQUID (tert-BUTYL PEROXYBENOZATE)
IMDG : ORGANIC PEROXIDE TYPE C, LIQUID (tert-BUTYL PEROXYBENOZATE)
IATA : Organic peroxide type C, liquid (tert-Butyl peroxbenzoate)

14.3 Transport hazard class(es)
ADN : 5.2
ADR : 5.2
RID : 5.2
IMDG : 5.2
IATA : 5.2

14.4 Packing group
ADN
Packing group : Not assigned by regulation
Classification Code : P1
Labels : 5.2

ADR
Packing group : Not assigned by regulation
Classification Code : P1
Labels : 5.2
Tunnel restriction code : (D)

RID
Packing group : Not assigned by regulation
Classification Code : P1
Hazard Identification Number : 539
Labels : 5.2

IMDG
Packing group : Not assigned by regulation
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

TBPB

Version 2.1 Revision Date: 28.11.2019 SDS Number: 6000000000000 Date of last issue: 19.12.2016 Date of first issue: 07.03.2016

Labels: 5.2
EmS Code: F-J, S-R

IATA (Cargo)
Packing instruction (cargo aircraft): 570
Packing group: Not assigned by regulation
Labels: Organic Peroxides, Keep Away From Heat

IATA (Passenger)
Packing instruction (passenger aircraft): 570
Packing group: Not assigned by regulation
Labels: Organic Peroxides, Keep Away From Heat

14.5 Environmental hazards

ADN
Environmentally hazardous: yes

ADR
Environmentally hazardous: yes

RID
Environmentally hazardous: yes

IMDG
Marine pollutant: yes

14.6 Special precautions for user

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
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

TBPB

Version: 2.1
Revision Date: 28.11.2019
SDS Number: 600000000000
Date of last issue: 19.12.2016
Date of first issue: 07.03.2016

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:


P6b
SELF-REACTIVE SUBSTANCES AND MIXTURES AND ORGANIC PEROXIDES

E1
ENVIRONMENTAL HAZARDS

Other regulations:
Gefahrgruppe nach § 3 BGV B4: Ib, S+ (German regulatory requirements)

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

Produkt unterliegt dem Sprengstoffgesetz (SprengG; Stoffgruppe C). (German regulatory requirements)

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

NZIoC (NZ): On the inventory, or in compliance with the inventory

ENCS (JP): On the inventory, or in compliance with the inventory

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
**SAFETY DATA SHEET**

*according to Regulation (EC) No. 1907/2006*

**TBPB**

**Version** 2.1  
**Revision Date:** 28.11.2019  
**SDS Number:** 600000000000  
**Date of last issue:** 19.12.2016  
**Date of first issue:** 07.03.2016

**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;  
- RID - Regulations concerning the International Carriage of Dangerous Goods by Rail;  
- SADT - Self-Accelerating Decomposition Temperature;  
- SDS - Safety Data Sheet;  
- SVHC - Substance of Very High Concern;  
- TCSI - Taiwan Chemical Substance Inventory;  
- TRGS - Technical Rule for Hazardous Substances;  
- TSCA - Toxic Substances Control Act (United States);  
- UN - United Nations;  
- vPvB - Very Persistent and Very Bioaccumulative

**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.
<table>
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<tr>
<th>Version</th>
<th>Revision Date</th>
<th>SDS Number</th>
<th>Date of last issue</th>
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Sources of key data used to compile the Safety Data Sheet:
- Internal technical data
- Data from raw material SDSs
- OECD eChem Portal search results

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.

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