

# SAFETY DATA SHEET

## Borlink™ LE4244S

Version 5.0

Revision Date:  
02.01.2020

Date of last issue: -  
Date of first issue: 02.01.2020

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name : Borlink LE4244S

#### Manufacturer or supplier's details

Supplier : Borealis AG

Address : Wagramer Strasse 17-19, 1220 Vienna, Austria

Telephone : +43 1 22400 0

Emergency telephone number : +44 (0) 1235 239 670 (NCEC Carechem 24)

E-mail address : [sds@borealisgroup.com](mailto:sds@borealisgroup.com)

#### Recommended use of the chemical and restrictions on use

Recommended use : raw material for plastics industry

Restrictions on use : Use only according to our recommendations.

### 2. HAZARDS IDENTIFICATION

#### GHS Classification

Skin irritation : Category 3

Skin sensitisation : Category 1

#### GHS-Labelling

Hazard pictograms :



Signal word : Warning

Hazard statements : H316 Causes mild skin irritation.  
H317 May cause an allergic skin reaction.

Precautionary statements : **Prevention:**  
P261 Avoid breathing dust.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P280 Wear protective gloves.

Borlink is a trademark of the Borealis group.

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### Response:

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.

P362 + P364 Take off contaminated clothing and wash it before reuse.

### Other hazards which do not result in classification

The product burns, but is not classified as flammable. Inhalation of dust may irritate the respiratory tract. Prolonged inhalation of high doses of decomposition products may give headache or irritation of the respiratory tract.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Chemical nature : The product is a polyethylene polymer.

#### Hazardous components

| Chemical name                               | CAS-No.   | Classification                                                                                                 | MAC value<br>mg/m <sup>3</sup> /<br>TSEL value               | Concentration (%<br>w/w) |
|---------------------------------------------|-----------|----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|--------------------------|
| polyethene                                  | 9002-88-4 |                                                                                                                | MPC-STEL: 10<br>mg/m <sup>3</sup><br>Class 4 - Low<br>hazard | > 90                     |
| bis(α,α-dimethylbenzyl)<br>peroxide         | 80-43-3   | Org.<br>Perox. C;<br>H242<br>Skin Irrit. 2;<br>H315<br>Eye Irrit. 2A;<br>H319<br>Aquatic<br>Chronic 2;<br>H411 |                                                              | >= 1 - < 2,5             |
| 6,6'-di-tert-butyl-4,4'-thiodi-m-<br>cresol | 96-69-5   | Skin Sens. 1;<br>H317<br>Aquatic<br>Acute 1; H400<br>Aquatic<br>Chronic 1;<br>H410                             |                                                              | >= 0,1 - < 0,25          |

For explanation of abbreviations see section 16.

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### 4. FIRST AID MEASURES

|                                                             |                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| If inhaled                                                  | : Move to fresh air in case of accidental inhalation of vapours or decomposition products.                                                                                                                                                                                                                                                                   |
| In case of skin contact                                     | : Wash off with soap and plenty of water.<br>Call a physician if irritation develops or persists.<br><br>If molten material comes in contact with the skin, cool with plenty of water. DO NOT remove solidified product, as removal could result in severe tissue damage.<br>Obtain medical attention.                                                       |
| In case of eye contact                                      | : Flush eyes with water as a precaution.                                                                                                                                                                                                                                                                                                                     |
| If swallowed                                                | : Rinse mouth with water.                                                                                                                                                                                                                                                                                                                                    |
| Most important symptoms and effects, both acute and delayed | : Inhalation of dust may irritate the respiratory tract.<br>Prolonged inhalation of high doses of decomposition products may give headache or irritation of the respiratory tract.<br><br>Prolonged skin contact may give skin irritation caused by the peroxide content present on the surface of the granules.<br><br>May cause an allergic skin reaction. |
| Notes to physician                                          | : Treat symptomatically.                                                                                                                                                                                                                                                                                                                                     |

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### 5. FIREFIGHTING MEASURES

#### Flammable properties

|                              |                                                               |
|------------------------------|---------------------------------------------------------------|
| Flash point                  | :<br>Not applicable (solid)                                   |
| Ignition temperature         | : > 320 °C                                                    |
| Upper explosion limit        | : Not applicable                                              |
| Lower explosion limit        | : Not applicable                                              |
| Flammability (solid, gas)    | : The product is not flammable.                               |
| Suitable extinguishing media | : Water in spread jet, dry chemicals, foam or carbon dioxide. |

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- Specific hazards during firefighting : Principal toxicant in the smoke is carbon monoxide.
- Special protective equipment for firefighters : Wear self-contained breathing apparatus and protective suit.

### 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
Ensure adequate ventilation.
- Environmental precautions : Prevent product from entering environment and drains.
- Methods and materials for containment and cleaning up : Vacuum or sweep up spill.  
All spill of material must be removed immediately to prevent slipping accidents.

### 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Dust from the product represents a risk for dust explosions when dispersed with air in a sufficient concentration and with the presence of an ignition source. All equipment shall be grounded. Routine housekeeping will also contribute in preventing risks of dust explosions.
- Advice on safe handling : During processing and thermal treatment of the product, small amounts of volatile hydrocarbons may be released.  
Avoid inhalation of dust and decomposition fumes.  
Avoid contact with skin and eyes.  
The product contains small amounts of a substance classified as sensitising, which may produce an allergic reaction to susceptible personnel.  
Personnel sensitised to this substance should not be allowed to handle the product.
- Conditions for safe storage : Safety aspects do not require any special precautions in terms of storage.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

| Components | CAS-No. | Value type<br>(Form of | Control<br>parameters / | Data Source |
|------------|---------|------------------------|-------------------------|-------------|
|------------|---------|------------------------|-------------------------|-------------|

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|                                           |           |                    |                           |        |
|-------------------------------------------|-----------|--------------------|---------------------------|--------|
|                                           |           | exposure)          | Permissible concentration |        |
| polyethene                                | 9002-88-4 | MPC-STEL (aerosol) | 10 mg/m <sup>3</sup>      | RU OEL |
| Further information: Class 4 - Low hazard |           |                    |                           |        |

**Engineering measures** : Provide adequate ventilation.  
Local exhaust ventilation may be necessary.

### Personal protective equipment

Respiratory protection : Ensure adequate ventilation.  
In case of dust development use dust mask.

Hand protection

Remarks : Wear suitable gloves: neoprene , Nitrile rubber or butyl-rubber  
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

Eye protection : Safety glasses

Skin and body protection : Protective suit

Hygiene measures : When using do not eat, drink or smoke.  
Wash hands before breaks and at the end of workday.  
Take off contaminated clothing and wash before reuse.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : pellets

Colour : natural colour

Odour : odourless

pH : Not applicable insoluble

Melting range : 100 - 140 °C

Boiling range : Decomposes on heating.

Flash point : Not applicable (solid)

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|                                        |                                                            |
|----------------------------------------|------------------------------------------------------------|
| Evaporation rate                       | : Not applicable (solid)                                   |
| Flammability (solid, gas)              | : The product is not flammable.                            |
| Upper explosion limit                  | : Not applicable                                           |
| Lower explosion limit                  | : Not applicable                                           |
| Vapour pressure                        | : Not applicable (solid)                                   |
| Density                                | : 0,9 - 1,0 g/cm <sup>3</sup>                              |
| Solubility(ies)<br>Water solubility    | : insoluble                                                |
| Partition coefficient: n-octanol/water | : Not applicable insoluble                                 |
| Auto-ignition temperature              | : > 320 °C                                                 |
| Viscosity<br>Viscosity, kinematic      | : No data available                                        |
| Explosive properties                   | : Not explosive                                            |
| Oxidizing properties                   | : The substance or mixture is not classified as oxidizing. |

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### 10. STABILITY AND REACTIVITY

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|                                    |                                                                                                                                         |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Reactivity                         | : Stable under recommended storage conditions.                                                                                          |
| Chemical stability                 | : The product is a stable thermoplastic with no chemical reactivity below 140°C. Above 140°C the intended crosslinking reaction occurs. |
| Possibility of hazardous reactions | : None known.                                                                                                                           |
| Conditions to avoid                | : Extremes of temperature and direct sunlight.                                                                                          |
| Incompatible materials             | : Strong oxidizing agents<br>Reducing agents<br>Strong acids and strong bases                                                           |
| Hazardous decomposition products   | : Under fire conditions:<br>Carbon monoxide                                                                                             |

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During processing and thermal treatment of the product, small amounts of volatile hydrocarbons may be released.

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### 11. TOXICOLOGICAL INFORMATION

#### **Acute toxicity**

Not classified based on available information.

#### **Skin corrosion/irritation**

Causes mild skin irritation.

#### **Serious eye damage/eye irritation**

Not classified based on available information.

#### **Respiratory or skin sensitisation**

Skin sensitisation: May cause an allergic skin reaction.

Respiratory sensitisation: Not classified based on available information.

#### **Germ cell mutagenicity**

Not classified based on available information.

#### **Carcinogenicity**

Not classified based on available information.

#### **Reproductive toxicity**

Not classified based on available information.

#### **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.

#### **Further information**

#### **Product:**

Remarks: Inhalation of dust may irritate the respiratory tract.

Prolonged inhalation of high doses of decomposition products may give headache or irritation of the respiratory tract.

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### 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

##### Product:

- Toxicity to daphnia and other aquatic invertebrates : NOEC (Daphnia magna (Water flea)):  
Exposure time: 48 h  
Test Type: Immobilization  
Method: OECD Test Guideline 202  
GLP: yes  
Remarks: No effect up to the limit of solubility.  
Read-across (Analogy)
- Toxicity to algae : NOEC (Pseudokirchneriella subcapitata (green algae)):  
End point: Growth rate  
Exposure time: 72 h  
Test Type: Growth inhibition  
Method: OECD Test Guideline 201  
GLP: yes  
Remarks: No effect up to the limit of solubility.  
Read-across (Analogy)

##### Components:

##### **6,6'-di-tert-butyl-4,4'-thiodi-m-cresol:**

- Toxicity to fish : LC50 (fathead minnow (Pimephales promelas)): 0,36 mg/l  
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0,16 mg/l  
Exposure time: 48 h

#### Persistence and degradability

##### Product:

- Biodegradability : Remarks: Not readily biodegradable.

#### Bioaccumulative potential

##### Product:

- Bioaccumulation : Remarks: Does not accumulate in organisms.

##### Components:

##### **bis( $\alpha,\alpha$ -dimethylbenzyl) peroxide:**

- Bioaccumulation : Bioconcentration factor (BCF): 137 - 1.470  
Exposure time: 56 d  
Temperature: 25 °C  
Concentration: 0,01 mg/l



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### Mobility in soil

#### Product:

Mobility : Remarks: The product is insoluble and floats on water.  
Not expected to adsorb on soil.

### Other adverse effects

#### Product:

Additional ecological information : The product is not classified as hazardous for the environment.  
Information given is based on tests on mixtures with similar compositions.

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## 13. DISPOSAL CONSIDERATIONS

### Disposal methods

Waste from residues : Reuse or recycle if not contaminated.  
The product may be safely used as fuel.  
Proper combustion does not require any special flue gas control.  
Check with local regulations.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

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## 14. TRANSPORT INFORMATION

### ADR

Not regulated as a dangerous good

### UNRTDG

Not regulated as a dangerous good

### IATA-DGR

Not regulated as a dangerous good

### IMDG-Code

Not regulated as a dangerous good

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

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### 15. REGULATORY INFORMATION

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

No data available

### 16. OTHER INFORMATION

#### Full text of H-Statements

|      |                                                       |
|------|-------------------------------------------------------|
| H242 | Heating may cause a fire.                             |
| H315 | Causes skin irritation.                               |
| H317 | May cause an allergic skin reaction.                  |
| H319 | Causes serious eye irritation.                        |
| 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.      |

#### Full text of other abbreviations

|                 |                                      |
|-----------------|--------------------------------------|
| Aquatic Acute   | : Short-term (acute) aquatic hazard  |
| Aquatic Chronic | : Long-term (chronic) aquatic hazard |
| Eye Irrit.      | : Eye irritation                     |
| Org. Perox.     | : Organic peroxides                  |
| Skin Irrit.     | : Skin irritation                    |
| Skin Sens.      | : Skin sensitisation                 |

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; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); 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

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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; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

### Further information

Other information : SDS According to GOST 30333-2007

Issuer : Borealis, Group Product Stewardship / Aino Haritonova

Sources of key data used to compile the Safety Data Sheet : Information given is based on tests on mixtures with similar compositions., The classification information of components is based on raw material supplier data.

### Disclaimer

To the best of our knowledge, the information contained herein is accurate and reliable as of the date of publication; however we do not assume any liability whatsoever for the accuracy and completeness of such information.

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**It is the customer's responsibility to inspect and test our products in order to satisfy itself as to the suitability of the products for the customer's particular purpose. The customer is responsible for the appropriate, safe and legal use, processing and handling of our products.**

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