

SAFETY DATA SHEET

Borlink™ LE4212

Version 5.0

Revision Date 11/08/2021

Former date 03/27/2019

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Borlink LE4212

Manufacturer or supplier's details

Supplier : Borealis Compounds Inc
176 Thomas Road, NJ 07865 Port Murray, United States of America (USA)
Telephone: +1 908 850 6200

E-mail address : sds@borealisgroup.com

Emergency telephone number : +1 215 207 0061 (regional number, NCEC Carechem 24)

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.

Prepared by : Borealis, Group Product Stewardship

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations

Skin sensitisation : Category 1

Reproductive toxicity : Category 1B

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H317 May cause an allergic skin reaction.
H360D May damage the unborn child.

Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read

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SAFETY DATA SHEET

Borlink LE4212

Version 5.0

Revision Date 11/08/2021

Former date 03/27/2019

and understood.

P261 Avoid breathing dust.

P272 Contaminated work clothing should not be allowed out of the workplace.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of water.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

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

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

Storage:

P405 Store locked up.

Disposal:

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

Other hazards

The product burns, but is not classified as flammable.

Dust from the product gives a potential risk for dust explosion.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : The product is a polyethylene polymer.

Hazardous components

Chemical name	CAS-No.	Concentration (%)
polyethene	9002-88-4	≥ 80 - ≤ 100
bis(α,α -dimethylbenzyl) peroxide	80-43-3	≥ 1 - < 5
4-methyl-2,4-diphenyl-1-pentene	6362-80-7	≥ 0.1 - < 1

Actual concentration or concentration range is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

If inhaled : Move to fresh air in case of accidental inhalation of vapours or decomposition products.
Seek medical advice immediately.

In case of skin contact : Wash off with soap and plenty of water.

SAFETY DATA SHEET

Borlink LE4212

Version 5.0

Revision Date 11/08/2021

Former date 03/27/2019

Call a physician if irritation develops or persists.

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. Obtain medical attention.

In case of eye contact : Rinse thoroughly with plenty of water, also under the eyelids. Get medical attention if irritation develops and persists.

If swallowed : If swallowed, rinse mouth with water (only if the person is conscious). Seek medical advice immediately.

Most important symptoms and effects, both acute and delayed : 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.

Skin contact may provoke the following symptoms:
Local irritation

May cause an allergic skin reaction.

May cause an allergic skin reaction.
May damage the unborn child.

Notes to physician : Treat symptomatically.
No specific instructions needed.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Water in spread jet, dry chemicals, foam or carbon dioxide.

Unsuitable extinguishing media : High volume water jet

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.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Ensure adequate ventilation.

SAFETY DATA SHEET

Borlink LE4212

Version 5.0

Revision Date 11/08/2021

Former date 03/27/2019

- Environmental precautions : Should not be released into the environment.
- It is recommended to implement systems and practices (such as Operation Clean Sweep®) to prevent accidental release of plastics in to the environment.
- 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.
Recycle or dispose loose material properly.
Do not flush into surface water or sanitary sewer system.

SECTION 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Dust from the product gives a potential risk for dust explosion.
All equipment shall be grounded. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces.
- Advice on safe handling : During processing and thermal treatment of the product, small amounts of volatile hydrocarbons may be released.
Provide adequate ventilation.
Local exhaust ventilation may be necessary.
Avoid inhalation of dust and decomposition fumes.
Avoid contact with skin and eyes.
- Conditions for safe storage : Store locked up.
- Further information on storage stability : Keep in a dry place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
polyethene	9002-88-4	TWAEV (total dust)	10 mg/m3	CA QC OEL

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

Personal protective equipment

- Respiratory protection : In case of dust development use dust mask.

SAFETY DATA SHEET

Borlink LE4212

Version 5.0

Revision Date 11/08/2021

Former date 03/27/2019

In the case of vapour formation use a respirator with an approved filter.

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Hand protection

Material : Neoprene

Material : Nitrile rubber

Remarks

: 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 clothing

Hygiene measures : When using do not eat, drink or smoke.
Wash hands before breaks and at the end of workday.

SECTION 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)
Evaporation rate	: Not applicable (solid)
Flammability (solid, gas)	: The product is not flammable.

SAFETY DATA SHEET

Borlink LE4212

Version 5.0

Revision Date 11/08/2021

Former date 03/27/2019

Upper explosion limit	: Not applicable
Lower explosion limit	: Not applicable
Vapour pressure	: Not applicable (solid)
Density	: 0.9 - 1.0 g/cm ³
Solubility(ies)	
Water solubility	: insoluble
Partition coefficient: n-octanol/water	: Not applicable insoluble
Auto-ignition temperature	: > 320 °C
Viscosity	
Viscosity, kinematic	: No data available
Explosive properties	: Not explosive
Oxidizing properties	: The substance or mixture is not classified as oxidizing.

SECTION 10. STABILITY AND REACTIVITY

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 Reducing agents Strong acids and strong bases
Hazardous decomposition products	: Under fire conditions: Carbon monoxide During processing and thermal treatment of the product, small amounts of volatile hydrocarbons may be released.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

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

Skin corrosion/irritation

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

Product:

Remarks: Prolonged skin contact may give skin irritation caused by the peroxide content present on the surface of the granules.

Serious eye damage/eye irritation

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

Product:

Remarks: Contact with eyes may cause irritation.

Respiratory or skin sensitisation**Skin sensitisation**

May cause an allergic skin reaction.

Respiratory sensitisation

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

Germ cell mutagenicity

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

Carcinogenicity

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

ACGIH

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Reproductive toxicity

May damage the unborn child.

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 toxicity

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

SAFETY DATA SHEET

Borlink LE4212

Version 5.0

Revision Date 11/08/2021

Former date 03/27/2019

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.

SECTION 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:

4-methyl-2,4-diphenyl-1-pentene:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.057 mg/l
Exposure time: 48 h
GLP: yes

Persistence and degradability

Product:

Biodegradability : Remarks: Not readily biodegradable.

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Does not accumulate in organisms.

Components:

bis(α,α -dimethylbenzyl) peroxide:

Bioaccumulation : Bioconcentration factor (BCF): 137 - 1,470

SAFETY DATA SHEET

Borlink LE4212

Version 5.0

Revision Date 11/08/2021

Former date 03/27/2019

Exposure time: 56 d
Temperature: 25 °C
Concentration: 0.01 mg/l

Mobility in soil

Product:

Mobility

: Remarks: Not expected to adsorb on soil.

Remarks: The product is insoluble and floats on water.

Other adverse effects

Product:

Additional ecological
information

: Should not be released into the environment.

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

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues

: Dispose of contents/ container to an approved waste disposal
plant.
Check with local regulations.

Contaminated packaging

: Dispose of as unused product.
Empty containers should be taken to an approved waste
handling site for recycling or disposal.

SECTION 14. TRANSPORT INFORMATION

International Regulations

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

SAFETY DATA SHEET

Borlink LE4212

Version 5.0

Revision Date 11/08/2021

Former date 03/27/2019

Not applicable for product as supplied.

National Regulations

TDG

Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

This product has been classified according to the hazard criteria of the HPR and the SDS contains all of the information required by the HPR.

Canadian PBT Chemicals : This product does not contain any components on the DSL that are classified as Persistent, Bioaccumulative and Toxic (PBT) under CEPA.

SECTION 16. OTHER INFORMATION

Issued according to HPR (WHMIS 2015).
Changes since the last version are highlighted in the margin. This version replaces all previous versions.

Sources of key data used to compile the Safety Data Sheet : The classification information of components is based on raw material supplier data.

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