

# SAFETY DATA SHEET

**LE4437**

Version 1

Revision Date 07/24/2015

Print Date 07/25/2015

## SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : LE4437

### Manufacturer or supplier's details

Supplier : Borealis Compounds Inc  
176 Thomas Road, NJ 07865 Port Murray, United States of America  
Telephone: +1 908 850 6200E-mail address : [sds@borealisgroup.com](mailto:sds@borealisgroup.com)

Emergency telephone number : Borealis Compounds Inc, William E Wallace: +1 908 850 6243

## SECTION 2. HAZARDS IDENTIFICATION

### Emergency Overview

|                |   |
|----------------|---|
| Appearance     | pellets   |
| Colour         | natural colour  |
| Odour          | odourless   |
| Hazard Summary | During crosslinking reaction in combination with base resin: methanol (Flam. Liq. 2; H225, Acute Tox. 3; H301, Acute Tox. 3; H311, Acute Tox. 3; H331, STOT SE 1; H370 - see chapter 16) is released.<br>In contact with water or moisture methanol will be released.<br>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. |

### GHS-Classification

Skin sensitisation : Category 1  
Reproductive toxicity : Category 2  
Specific target organ toxicity - repeated exposure : Category 2

### GHS-Labeling

Hazard pictograms :



Signal word : Warning

Hazard statements : H317 May cause an allergic skin reaction.  
H361 Suspected of damaging fertility or the unborn child.  
H373 May cause damage to organs through prolonged or

# SAFETY DATA SHEET

**LE4437**

Version 1

Revision Date 07/24/2015

Print Date 07/25/2015

repeated exposure.

Precautionary statements : **Prevention:**  
P201 Obtain special instructions before use.  
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
P280 Wear protective gloves.  
P281 Use personal protective equipment as required.  
**Response:**  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.

## Potential Health Effects

Aggravated Medical Condition : None known.  
Symptoms of Overexposure : Inhalation may provoke the following symptoms:  
Headache  
Irritation

Symptoms of poisoning (methanol):  
Daze  
Dizziness  
Nausea  
Abdominal pain  
Respiratory disorders

Symptoms of poisoning, prolonged exposure (methanol):  
Blindness

## Carcinogenicity:

**IARC** None known.  
**ACGIH** None known.  
**OSHA** None known.  
**NTP** None known.

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## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : The product is a polyethylene copolymer.  
It contains stabilisers.

### Hazardous components

| Chemical Name                              | CAS-No.    | Concentration [%] |
|--|------------|-------------------|
| Stannane, dioctylbis[(1-oxododecyl)oxy]-   | 3648-18-8  | < 4               |
| 1H-Benzotriazole-1-methanamine, N,N-bis(2- | 94270-86-7 | < 2               |

# SAFETY DATA SHEET

**LE4437**

Version 1

Revision Date 07/24/2015

Print Date 07/25/2015

|  |         |     |
|--|---------|-----|
| ethylhexyl)-ar-methyl-<br>Phenol, 4,4'-thiobis[2-(1,1-dimethylethyl)-5-<br>methyl- | 96-69-5 | < 2 |
|--|---------|-----|

## SECTION 4. FIRST AID MEASURES

- If inhaled : Move to fresh air in case of accidental inhalation of vapours.
- In case of skin contact : Cool melted product on skin with plenty of water. Do not remove solidified product.
- If swallowed : Get medical advice/ attention if you feel unwell.
- Most important symptoms and effects, both acute and delayed : Inhalation may provoke the following symptoms:  
Headache  
Irritation
- Symptoms of poisoning (methanol):  
Daze  
Dizziness  
Nausea  
Abdominal pain  
Respiratory disorders
- Symptoms of poisoning, prolonged exposure (methanol):  
Blindness
- Notes to physician : No specific instructions needed.

## SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Water in spread jet, dry chemicals, foam or carbon dioxide.
- 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 : Ensure adequate ventilation.  
Use personal protective equipment.
- Environmental precautions : Avoid release 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

# SAFETY DATA SHEET

**LE4437**

Version 1

Revision Date 07/24/2015

Print Date 07/25/2015

slipping accidents.

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## SECTION 7. HANDLING AND STORAGE

|                             |  |
|-----------------------------|--|
| Advice on safe handling     | : During processing and thermal treatment of the product, small amounts of volatile hydrocarbons may be released.<br>Provide adequate ventilation.<br>Local exhaust ventilation may be necessary.<br>Avoid inhalation of dust and decomposition fumes.<br>When using do not eat, drink or smoke. |
| Conditions for safe storage | : Safety aspects do not require any special precautions in terms of storage.   |
| Materials to avoid          | : None known.  |
| Storage temperature         | : 10 - 30 °C   |
| Storage period              | : 15 Months  |

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## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

### Personal protective equipment

Respiratory protection : In case of insufficient ventilation: Respirator with ABEK-P3 filter or self-contained breathing apparatus.

#### Hand protection

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

Fluorinated rubber  
>= 480 min  
0.4 mm

Remarks : The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. 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.

# SAFETY DATA SHEET

**LE4437**

Version 1

Revision Date 07/24/2015

Print Date 07/25/2015

Eye protection : Safety glasses

Hygiene measures : Provide adequate ventilation.  
Local exhaust ventilation may be necessary.  
Wash hands before breaks and at the end of workday.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : pellets

Colour : natural colour

Odour : odourless

pH : no data available

Melting range : 100 - 140 °C

Boiling range : Not applicable

Flash point : Not applicable

Evaporation rate : Not applicable

Flammability (solid, gas) : The product is not flammable.

Upper explosion limit : Not applicable

Lower explosion limit : Not applicable

Vapour pressure : Not applicable

Relative vapour density : Not applicable

Density : 0.9 - 1.0 g/cm<sup>3</sup>

Bulk density : 500 - 600 kg/m<sup>3</sup>

Solubility(ies)

Water solubility : insoluble

Partition coefficient: n-octanol/water : Not applicable

Auto-ignition temperature : > 320 °C

Viscosity

Viscosity, kinematic : Not applicable

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

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## SECTION 10. STABILITY AND REACTIVITY

Reactivity : Stable under recommended storage conditions.

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# SAFETY DATA SHEET

**LE4437**

Version 1

Revision Date 07/24/2015

Print Date 07/25/2015

|                                    |   |   |
|------------------------------------|---|---|
| Chemical stability                 | : | The product is a stable thermoplastic. The intended crosslinking reaction occurs in combination with the base resin and moisture: at ambient conditions, in sauna or hot water bath.  |
| Possibility of hazardous reactions | : | None known.   |
| Conditions to avoid                | : | Exposure to moisture  |
| Incompatible materials             | : | None known.   |
| Hazardous decomposition products   | : | Under fire conditions:<br>Carbon monoxide<br>During processing and thermal treatment of the product, small amounts of volatile hydrocarbons may be released.<br>During crosslinking reaction in combination with base resin: methanol<br>In contact with water or moisture methanol will be released. |

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## SECTION 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

#### Product:

|                           |   |  |
|---------------------------|---|--|
| Acute oral toxicity       | : | Remarks: Harmful: danger of serious damage to health by prolonged exposure if swallowed. |
| Acute inhalation toxicity | : | Remarks: No known effect.  |
| Acute dermal toxicity     | : | Remarks: No known effect.  |

#### Components:

##### **Stannane, dioctylbis[(1-oxododecyl)oxy]-:**

|                     |   |                         |
|---------------------|---|-------------------------|
| Acute oral toxicity | : | LD50 (Rat): 6,450 mg/kg |
|---------------------|---|-------------------------|

### Skin corrosion/irritation

#### Product:

Remarks: No known effect.

### Serious eye damage/eye irritation

#### Product:

Remarks: No known effect.

# SAFETY DATA SHEET

**LE4437**

Version 1

Revision Date 07/24/2015

Print Date 07/25/2015

## Respiratory or skin sensitisation

### Product:

Remarks: 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.

## Germ cell mutagenicity

### Product:

Genotoxicity in vitro : Remarks: no data available

Genotoxicity in vivo : Remarks: no data available

## Carcinogenicity

### Product:

Remarks: Not classified based on available information.

## Reproductive toxicity

### Product:

Effects on fertility :  
Remarks: No known effect.

## STOT - single exposure

### Product:

Remarks: no data available

## STOT - repeated exposure

### Product:

Remarks: no data available

## Repeated dose toxicity

### Components:

#### **Stannane, dioctylbis[(1-oxododecyl)oxy]-:**

Application Route: Oral

Target Organs: thymus

Assessment: May cause damage to organs through prolonged or repeated exposure.

## Aspiration toxicity

### Product:

Not applicable

# SAFETY DATA SHEET

**LE4437**

Version 1

Revision Date 07/24/2015

Print Date 07/25/2015

## Further information

### Product:

Remarks: During crosslinking reaction in combination with base resin: methanol (Flam. Liq. 2; H225, Acute Tox. 3; H301, Acute Tox. 3; H311, Acute Tox. 3; H331, STOT SE 1; H370 - see chapter 16) is released., Prolonged inhalation of high doses of decomposition products may give headache or irritation of the respiratory tract., Inhalation of dust may irritate the respiratory tract.

Remarks: Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

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## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Components:

##### **1H-Benzotriazole-1-methanamine, N,N-bis(2-ethylhexyl)-ar-methyl-:**

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): 1.3 mg/l  
Exposure time: 96 h  
Test Type: static test

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 2.05 mg/l  
aquatic invertebrates Exposure time: 48 h  
Test Type: static test

Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): 0.976 mg/l  
Exposure time: 72 h  
Test Type: Growth inhibition

EC10 (Desmodesmus subspicatus (green algae)): 0.658 mg/l  
Exposure time: 72 h  
Test Type: Growth inhibition

##### **Phenol, 4,4'-thiobis[2-(1,1-dimethylethyl)-5-methyl-:**

Toxicity to fish : LC50 (fathead minnow (Pimephales promelas)): 0.36 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 0.16 mg/l  
aquatic invertebrates Exposure time: 48 h

### Persistence and degradability

#### Product:

Biodegradability : Remarks: Not readily biodegradable.

### Bioaccumulative potential

#### Product:



# SAFETY DATA SHEET

**LE4437**

Version 1

Revision Date 07/24/2015

Print Date 07/25/2015

Bioaccumulation : Remarks: no data available

## Mobility in soil

### Product:

Mobility : Remarks: Not applicable

## Other adverse effects

no data available

### Product:

Additional ecological information : The product is classified as dangerous for the environment, However, as the chemicals are embedded in a solid polymer, exposure is unlikely, unless the polymer is processed in a way that makes such exposure possible.

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## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal methods

Waste from residues : This substance, when discarded or disposed of is not specifically listed as a hazardous waste in Federal regulations. However, it could be hazardous if it is considered toxic, corrosive, ignitable or reactive according to Federal definitions (40 CFR 261). Additionally, it could be designated as hazardous waste if it is mixed with or comes in contact with a hazardous waste. If such contact or mixing may have occurred, check 40 CFR 261 to determine whether it is a hazardous waste.  
The transportation, storage, treatment and disposal of this waste material must be conducted in accordance with all applicable Federal, state and local regulations.

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## SECTION 14. TRANSPORT INFORMATION

### International Regulation

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

Not applicable for product as supplied.

### National Regulations

#### Special precautions for user

Remarks : The product is not regulated by ADR/RID, IMDG or IATA.

# SAFETY DATA SHEET

**LE4437**

Version 1

Revision Date 07/24/2015

Print Date 07/25/2015

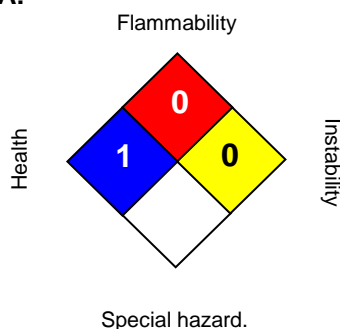
## SECTION 15. REGULATORY INFORMATION

All ingredients within this product meet TSCA regulations., In accordance with Hazard Communication Standard 2012 (29 CFR 1910.1200), the product does not need to be classified nor labelled.

## SECTION 16. OTHER INFORMATION

### Further information

#### NFPA:



#### HMIS III:

|                        |          |
|------------------------|----------|
| <b>HEALTH</b>          | <b>1</b> |
| <b>FLAMMABILITY</b>    | <b>0</b> |
| <b>PHYSICAL HAZARD</b> | <b>0</b> |

0 = not significant, 1 =Slight,  
2 = Moderate, 3 = High  
4 = Extreme, \* = Chronic

Issued according to Regulation (EC) No 1907/2006, Annex II, and its amendments. 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.

### Disclaimer

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# SAFETY DATA SHEET

**LE4437**

Version 1

Revision Date 07/24/2015

Print Date 07/25/2015

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