

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**FR4830**

Version 4.0

Revision Date: 20.02.2024

Former date: 06.03.2023

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

### 1.1 Product identifier

Trade name : FR4830

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

Use of the Substance/Mixture : Raw material for plastics industry

### 1.3 Details of the supplier of the safety data sheet

Supplier : Borealis AG  
Trabrennstrasse 6-8, 1020 Vienna, Austria  
Telephone: +43 1 22400 0  
Borealis AG  
Trabrennstrasse 6-8, 1020 Vienna, Austria  
Telephone: +43 1 22400 0

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

### 1.4 Emergency telephone number

||+1 760 476 3962 (3E), Access code: 336296

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## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

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

Not a hazardous substance or mixture.

### 2.2 Label elements

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

Not a hazardous substance or mixture.

#### Additional Labelling

EUH210 Safety data sheet available on request.

### 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.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**FR4830**

Version 4.0

Revision Date: 20.02.2024

Former date: 06.03.2023

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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

### 3.2 Mixtures

Chemical nature : The product is an elastomer modified polyethylene copolymer. It contains aluminium hydroxide (EC No 244-492-7, CAS No 21645-51-2)

#### Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
[1,3(or 1,4)-phenylenebis(1-methylethylidene)]bis[tert-butyl] peroxide	25155-25-3 246-678-3 01-2119495677-17	Org. Perox. D; H242 Aquatic Chronic 4; H413	>= 1 - < 2,5

For explanation of abbreviations see section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

If inhaled : Move to fresh air.

In case of skin contact : 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 : Flush eyes with water as a precaution. Get medical attention if irritation develops and persists.

If swallowed : Rinse mouth with water.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**FR4830**

Version 4.0

Revision Date: 20.02.2024

Former date: 06.03.2023

Consult a physician if necessary.

## 4.2 Most important symptoms and effects, both acute and delayed

Symptoms : 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.

## 4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.  
No specific instructions needed.

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

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

### 5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : Principal toxicant in the smoke is carbon monoxide.

### 5.3 Advice for firefighters

Special protective equipment for firefighters : Wear self-contained breathing apparatus and protective suit.

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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment.  
Ensure adequate ventilation.

### 6.2 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.

### 6.3 Methods and material 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.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**FR4830**

Version 4.0

Revision Date: 20.02.2024

Former date: 06.03.2023

Do not flush into surface water or sanitary sewer system.

## 6.4 Reference to other sections

For personal protection see section 8.

For disposal considerations see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

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.

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.

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

### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Safety aspects do not require any special precautions in terms of storage.

Further information on storage stability : Keep in a dry place.

### 7.3 Specific end use(s)

Specific use(s) : Raw material for wire and cable applications.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

For national exposure limit (OEL) values, check country specific safety data sheets.

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

Substance name	End Use	Exposure routes	Potential health effects	Value
FR4830				
Remarks:	Not applicable			

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

Substance name	Environmental Compartment	Value
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# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**FR4830**

Version 4.0

Revision Date: 20.02.2024

Former date: 06.03.2023

FR4830		
Remarks:	Not applicable	

## 8.2 Exposure controls

### Engineering measures

Provide adequate ventilation.  
Local exhaust ventilation may be necessary.

### Personal protective equipment

- Eye protection : Safety glasses  
Use eye protection according to EN 166.
- 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.  
Protective gloves complying with EN 374.
- Skin and body protection : Protective clothing
- Respiratory protection : In case of insufficient ventilation: Respirator with ABEK-P3 filter or self-contained breathing apparatus.
- Protective measures : Appropriate personal protective equipment (PPE) shall be worn in accordance with Regulation (EU) 2016/425.

### Environmental exposure controls

- General advice : 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.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- Physical state : pellets  
Colour : off-white  
Odour : odourless  
Melting point/range : 100 - 140 °C
- Boiling range : Decomposes on heating.
- Flammability : The product is not flammable.
- Upper explosion limit / Upper : Not applicable

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**FR4830**

Version 4.0

Revision Date: 20.02.2024

Former date: 06.03.2023

flammability limit

Lower explosion limit / Lower  
flammability limit : Not applicable

Flash point : Not applicable, (solid)

Auto-ignition temperature : > 320 °C

pH : Not applicable insoluble

Viscosity

Viscosity, kinematic : No data available

Solubility(ies)

Water solubility : insoluble

Partition coefficient: n-  
octanol/water : Not applicable  
insoluble

Vapour pressure : Not applicable  
(solid)

Density : > 1,3 g/cm<sup>3</sup>

Bulk density : No data available

Relative vapour density : Not applicable

Particle size : 3 - 10 mm

Method: Image analysis (surface-based)

## 9.2 Other information

Explosives : Not explosive

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

Evaporation rate : Not applicable  
(solid)

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Stable under recommended storage conditions.

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# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**FR4830**

Version 4.0

Revision Date: 20.02.2024

Former date: 06.03.2023

## 10.2 Chemical stability

The product is a stable thermoplastic, with no chemical reactivity.

## 10.3 Possibility of hazardous reactions

Hazardous reactions : None known.

## 10.4 Conditions to avoid

Conditions to avoid : Extremes of temperature and direct sunlight.

## 10.5 Incompatible materials

Materials to avoid : None known.

## 10.6 Hazardous decomposition products

Under fire conditions:

Carbon monoxide

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

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## SECTION 11: Toxicological information

### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### 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.

#### Serious eye damage/eye irritation

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

#### Respiratory or skin sensitisation

##### Skin sensitisation

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

##### 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.

#### Reproductive toxicity

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

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# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**FR4830**

Version 4.0

Revision Date: 20.02.2024

Former date: 06.03.2023

## 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.

## 11.2 Information on other hazards

### Endocrine disrupting properties

#### Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### Further information

#### Product:

Remarks : The product is not classified as hazardous to human health. Information given is based on data of the components.

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## SECTION 12: Ecological information

### 12.1 Toxicity

No data available

### 12.2 Persistence and degradability

#### Product:

Biodegradability : Remarks: Not readily biodegradable.

### 12.3 Bioaccumulative potential

#### Product:

Bioaccumulation : Remarks: Does not accumulate in organisms.

### 12.4 Mobility in soil

#### Product:

Mobility : Remarks: Not expected to adsorb on soil.



# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**FR4830**

Version 4.0

Revision Date: 20.02.2024

Former date: 06.03.2023

## 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 Endocrine disrupting properties

### Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

## 12.7 Other adverse effects

### Product:

Additional ecological information : Should not be released into the environment.

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : Dispose of contents/ container to an approved waste disposal plant.  
Reuse or recycle if not contaminated.  
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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## SECTION 14: Transport information

### 14.1 UN number or ID number

Not regulated as a dangerous good

### 14.2 UN proper shipping name

Not regulated as a dangerous good

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**FR4830**

Version 4.0

Revision Date: 20.02.2024

Former date: 06.03.2023

## 14.3 Transport hazard class(es)

Not regulated as a dangerous good

## 14.4 Packing group

Not regulated as a dangerous good

## 14.5 Environmental hazards

Not regulated as a dangerous good

## 14.6 Special precautions for user

Remarks : Not dangerous goods in the meaning of ADR/RID, ADN, IMDG-Code, ICAO/IATA-DGR

## 14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

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## SECTION 15: Regulatory information

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

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.  
Not applicable

#### Other regulations:

No data available

### 15.2 Chemical safety assessment

no

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## SECTION 16: Other information

### Full text of H-Statements

H242 : Heating may cause a fire.

H413 : May cause long lasting harmful effects to aquatic life.

### Full text of other abbreviations

Aquatic Chronic : Long-term (chronic) aquatic hazard

Org. Perox. : Organic peroxides

### Further information

Other information : Issued according to Regulation (EC) No 1907/2006, Annex II,

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**FR4830**

Version 4.0

Revision Date: 20.02.2024

Former date: 06.03.2023

and its amendments.  
Changes since the last version are highlighted in the margin.  
This version replaces all previous versions.

Issuer : Borealis, Group Product Stewardship

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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