

# SAFETY DATA SHEET

## Visico™ FR4451

Version 1.0

Revision Date:  
30.08.2019

Date of last issue: -  
Date of first issue: 30.08.2019

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

Product name : Visico FR4451

#### 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.

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### 2. HAZARDS IDENTIFICATION

#### GHS Classification

Skin sensitisation : Category 1

#### GHS-Labeling

Hazard pictograms :



Signal word : Warning

Hazard statements : H317 May cause an allergic skin reaction.

Precautionary statements : **Prevention:**  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P280 Wear protective gloves.  
**Response:**  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.

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

**Disposal:**

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

### Other hazards which do not result in classification

During crosslinking reaction in combination with catalyst masterbatch: methanol (Flam. Liq. 2; H225, Acute Tox. 3; H301, Acute Tox. 3; H311, Acute Tox. 3; H331, STOT SE 1; H370 - see chapter 16) may be released.

In contact with water or moisture methanol will be released. 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. The product burns, but is not classified as flammable. Dust from the product gives a potential risk for dust explosion.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Chemical nature : The product is a silane crosslinkable polyethylene copolymer. It contains mineral filler.

#### Hazardous components

Chemical name	CAS-No.	Classification	MAC value mg/m3 / TSEL value	Concentration (% w/w)
4-(1-methyl-1-phenylethyl)-N-[4-(1-methyl-1-phenylethyl)phenyl]aniline	10081-67-1	Skin Sens. 1; H317 Aquatic Chronic 4; H413		>= 0,1 - < 0,25

For explanation of abbreviations see section 16.

### 4. FIRST AID MEASURES

If inhaled : Move to fresh air.  
If symptoms persist, call a physician.

In case of skin contact : Wash off with soap and plenty of water.  
Call a physician if irritation develops or persists.

Cool melted product on skin with plenty of water. Do not remove solidified product.

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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. Consult a physician if necessary.
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  May cause an allergic skin reaction.
Notes to physician	: Treat symptomatically. No specific instructions needed.

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### 5. FIREFIGHTING MEASURES

#### Flammable properties

Flash point	: Not applicable
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.
Unsuitable extinguishing media	: High volume water jet
Specific hazards during	: Principal toxicant in the smoke is carbon monoxide.

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firefighting

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

### 6. ACCIDENTAL RELEASE MEASURES

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

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 gives a potential risk for dust explosion.  
All equipment shall be grounded.

Conditions for safe storage : Safety aspects do not require any special precautions in terms of storage.

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

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

Contains no substances with occupational exposure limit values.

#### Occupational exposure limits of decomposition products

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Data Source
methanol	67-56-1	TWA	200 ppm 260 mg/m <sup>3</sup>	2006/15/EC
	Further information: Indicative, Identifies the possibility of significant uptake through the skin			
		MPC-TWA (vapour and/or gas)	5 mg/m <sup>3</sup>	RU OEL

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	Further information: Class 3 - Moderately dangerous, Substances which require special skin and eye protection		
	MPC-STEL (vapour and/or gas)	15 mg/m3	RU OEL
	Further information: Class 3 - Moderately dangerous, Substances which require special skin and eye protection		

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

### Personal protective equipment

Respiratory protection : In case of dust development use dust mask.  
In the case of vapour formation use a respirator with an approved filter.

#### Hand protection

Material : butyl-rubber  
Break through time : >= 480 min  
Glove thickness : 0,5 mm

Material : Fluorinated rubber  
Break through time : >= 480 min  
Glove thickness : 0,4 mm

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 : Handle in accordance with good industrial hygiene and safety practice.  
When using do not eat, drink or smoke.  
Wash hands before breaks and immediately after handling the product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : pellets

Colour : opaque, white

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Odour	: odourless
pH	: No data available
Melting range	: 100 - 140 °C
Boiling range	: Not relevant
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	: 1,1 - 1,2 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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### 10. STABILITY AND REACTIVITY

Reactivity	: Stable under recommended storage conditions.
Chemical stability	: The product is a stable thermoplastic. The intended crosslinking reaction occurs in combination with the catalyst masterbatch and moisture: at ambient conditions,

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in steam 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:  
Carbon monoxide

During crosslinking reaction in combination with catalyst masterbatch: methanol

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

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: 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.

#### Reproductive toxicity

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

#### 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.

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### Aspiration toxicity

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

### 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.  
However, as the chemical is 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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## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Product:

Toxicity to fish :  
Remarks: No data available

Toxicity to daphnia and other :  
aquatic invertebrates : Remarks: No data available

### Persistence and degradability

#### Product:

Biodegradability : Remarks: Not readily biodegradable.

### Bioaccumulative potential

#### Product:

Bioaccumulation : Remarks: Does not bioaccumulate.

### Mobility in soil

#### Product:

Mobility : Remarks: insoluble  
Not expected to adsorb on soil.

### Other adverse effects

#### Product:

Additional ecological : The product is not considered hazardous for the environment.  
information

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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 : Dispose of as unused product.  
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

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### 16. OTHER INFORMATION

#### Full text of H-Statements

- H317 May cause an allergic skin reaction.  
H413 May cause long lasting harmful effects to aquatic life.

#### Full text of other abbreviations

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Aquatic Chronic : Long-term (chronic) aquatic hazard  
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 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 / Maarit Vakkala

Sources of key data used to compile the Safety Data Sheet : Safety data sheets of raw material suppliers.

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