

SAFETY DATA SHEET

Ambicat™ LE4472

Version 15.0

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 : Ambicat LE4472

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

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

Reproductive toxicity : Category 2

GHS-Labeling

Hazard pictograms :



Signal word : Warning

Hazard statements : H361d Suspected of damaging the unborn child.

Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P308 + P313 IF exposed or concerned: Get medical advice/

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attention.

Storage:

P405 Store locked up.

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 base resin: methanol (Flam. Liq. 2; H225, Acute Tox. 3; H301, Acute Tox. 3; H311, Acute Tox. 3; H331, STOT SE 1; H370) is released. In contact with water or moisture methanol will be released. 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 polymer. It contains carbon black.

Hazardous components

| Chemical name | CAS-No. | Classification | MAC value mg/m ³ / TSEL value | Concentration (% w/w) |
|---|------------|---|--|--------------------------|
| polyethene | 9002-88-4 | | MPC-STEL: 10 mg/m ³ Class 4 - Low hazard | > 50 |
| Phenol, 4-methyl-, reaction products with dicyclopentadiene and isobutylene | 68610-51-5 | Repr. 2; H361 Aquatic Chronic 4; H413 | | >= 2,5 - < 10 |
| Benzenesulfonic acid, 4-C10-13-sec-alkyl derivs. | 85536-14-7 | Acute Tox. 4; H302 Skin Corr. 1C; H314 Eye Dam. 1; H318 Aquatic Chronic 3; H412 | | >= 1 - < 2,5 |

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.
Seek medical advice immediately.
- In case of skin contact : Wash off with soap and plenty of water.
- 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 cautiously with water for several minutes.
- 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.
- Symptoms of poisoning (methanol):
Daze
Dizziness
Nausea
Abdominal pain
Respiratory disorders
- Symptoms of poisoning, prolonged exposure (methanol):
Blindness
- Suspected of damaging the unborn child.
- Notes to physician : Treat symptomatically.
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5. FIREFIGHTING MEASURES

Flammable properties

- Flash point : Not applicable (solid)
- Ignition temperature : > 320 °C
- Upper explosion limit : Not applicable
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- 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.
- 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 : 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 represents a risk for dust explosions when dispersed with air in a sufficient concentration and with the presence of an ignition source. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. All equipment shall be grounded.
- Advice on safe handling : Do not breathe vapours/dust.
Ensure adequate ventilation.
Local exhaust ventilation may be necessary.
Avoid contact with skin and eyes.
Minimize dust generation and accumulation.
- Conditions for safe storage : Store in a place accessible by authorized persons only.
- Further information on storage stability : Keep in a dry place.
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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

| Components | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Data Source |
|---|-----------|-------------------------------|--|-------------|
| polyethene | 9002-88-4 | MPC-STEEL (aerosol) | 10 mg/m ³ | RU OEL |
| Further information: Class 4 - Low hazard | | | | |

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 ³ | 2006/15/EC |
| Further information: Indicative, Identifies the possibility of significant uptake through the skin | | | | |
| | | MPC-TWA (vapour and/or gas) | 5 mg/m ³ | RU OEL |
| Further information: Class 3 - Moderately dangerous, Substances which require special skin and eye protection | | | | |
| | | MPC-STEEL (vapour and/or gas) | 15 mg/m ³ | 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.

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.

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|-----------------------------|--|
| Hand protection 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 |
| Protective measures | : Wash hands before breaks and immediately after handling the product. |

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---------------------------|--|
| Appearance | : pellets |
| Colour | : black |
| Odour | : odourless |
| Odour Threshold | : Methanol: Do NOT rely on the odour: olfactory level is above the exposure limit. |
| pH | : No data available |
| 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. |
| Upper explosion limit | : Not applicable |
| Lower explosion limit | : Not applicable |
| Vapour pressure | : Not applicable (solid) |
| Density | : 0,9 - 1,0 g/cm ³ |

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|--|--|
| Bulk density | : 600 - 700 kg/m ³ Method: ASTM D 1895 |
| 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. |

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

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11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified based on available information.

Components:

Benzenesulfonic acid, 4-C10-13-sec-alkyl derivs.:

Acute oral toxicity : LD50 (Rat): 1.470 mg/kg
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 402
Remarks: Read-across (Analogy)

Skin corrosion/irritation

Not classified based on available information.

Product:

Species: reconstructed human epidermis (RhE)
Method: OECD Test Guideline 439
Result: No skin irritation

Serious eye damage/eye irritation

Not classified based on available information.

Product:

Species: Bovine cornea
Result: No eye irritation
Method: OECD Test Guideline 437

Respiratory or skin sensitisation

Skin sensitisation: Not classified based on available information.
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

Suspected of damaging the unborn child.

Components:

Phenol, 4-methyl-, reaction products with dicyclopentadiene and isobutylene:

Effects on fertility : Test Type: Pre-/postnatal development
Species: Rabbit, female
Application Route: Oral

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Dose: 50 mg/kg
Method: OECD Test Guideline 414
Result: Some evidence of adverse effects on development,
based on animal experiments.
GLP: yes

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: 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) is released.

Methanol: Toxic by inhalation, in contact with skin and if swallowed.
Causes damage to organs.

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.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Phenol, 4-methyl-, reaction products with dicyclopentadiene and isobutylene:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 0,2 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
Remarks: No effect up to the limit of solubility.

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): > 0,2 mg/l
aquatic invertebrates : Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: No effect up to the limit of solubility.

Toxicity to algae : EC50 (Selenastrum capricornutum (fresh water algae)): > 0,2
mg/l
Exposure time: 72 h

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Method: OECD Test Guideline 201
Remarks: No effect up to the limit of solubility.

Persistence and degradability

Product:

Biodegradability : Remarks: Not readily biodegradable.

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Does not accumulate in organisms.

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.

13. DISPOSAL CONSIDERATIONS

Disposal methods

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

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

14. TRANSPORT INFORMATION

ADR

Not regulated as a dangerous good

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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.

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

| | |
|------|---|
| H302 | Harmful if swallowed. |
| H314 | Causes severe skin burns and eye damage. |
| H318 | Causes serious eye damage. |
| H361 | Suspected of damaging fertility or the unborn child. |
| H412 | Harmful to aquatic life with long lasting effects. |
| H413 | May cause long lasting harmful effects to aquatic life. |

Full text of other abbreviations

| | |
|-----------------|--------------------------------------|
| Acute Tox. | : Acute toxicity |
| Aquatic Chronic | : Long-term (chronic) aquatic hazard |
| Eye Dam. | : Serious eye damage |
| Repr. | : Reproductive toxicity |
| Skin Corr. | : Skin corrosion |

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 -

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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 / Aino Haritonova

Sources of key data used to compile the Safety Data Sheet : Information given is based on tests on the mixture itself., 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.

Borealis makes no warranties which extend beyond the description contained herein. Nothing herein shall constitute any warranty of merchantability or fitness for a particular purpose.

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.

No liability can be accepted in respect of the use of Borealis' products in conjunction with other materials. The information contained herein relates exclusively to our products when not used in conjunction with any third party materials.

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