

SAFETY DATA SHEET

Visico™ LE4438

Version 1.0

Revision Date:
2026-08-06

Date of last issue: -
Date of first issue: 2026-08-06

SECTION 1. IDENTIFICATION

Product name : Visico LE4438

Manufacturer or supplier's details

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

Emergency telephone : +55 11 4349 1907 (3E), Access code: 336296

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.

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification of the substance or mixture in accordance with ABNT NBR 14725 Standard

Skin sensitization : Category 1
Reproductive toxicity : Category 1B
Specific target organ toxicity - repeated exposure : Category 2 (Immune system)
Short-term (acute) aquatic hazard : Category 3
Long-term (chronic) aquatic hazard : Category 3

Other hazards which do not result in classification

The product burns, but is not classified as flammable.
Dust from the product gives a potential risk for dust explosion.
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.

Visico is a trademark of the Borealis group.

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SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture
Chemical nature : The product is a polyethylene copolymer.

Components

Chemical name	CAS-No.	Classification	Concentration (% w/w)
dioctyltin dilaurate	3648-18-8	Repr., 1B STOT RE, (Immune system) , 1	>= 1 -< 5
6,6'-di-tert-butyl-4,4'-thiodi-m-cresol	96-69-5	Skin Sens., 1 Aquatic Acute, 1 Aquatic Chronic, 1	>= 1 -< 2,5
zinc dioctadecanoate	557-05-1		>= 1 -< 5

SECTION 4. FIRST AID MEASURES

Description of necessary first-aid measures

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

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.
Wash off with soap and plenty of water.
Call a physician if irritation develops or persists.

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.
Symptoms of poisoning (methanol):
Daze
Dizziness
Nausea
Abdominal pain
Respiratory disorders
Symptoms of poisoning, prolonged exposure (methanol):
Blindness
May cause an allergic skin reaction.

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May damage fertility or the unborn child.
May cause damage to organs through prolonged or repeated exposure.

Indication of any immediate medical attention and special treatment needed

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

SECTION 5. FIRE-FIGHTING MEASURES

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

Unsuitable extinguishing media : High volume water jet

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

Special protective equipment for fire-fighters : 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.

Environmental precautions : It is recommended to implement systems and practices (such as Operation Clean Sweep®) to prevent accidental release of plastics in to the environment.

Should not be released into 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.

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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.

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

Conditions for safe storage : Store locked up.

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

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
dioctyltin dilaurate	3648-18-8	TWA	0,1 mg/m ³ (Tin)	ACGIH
		STEL	0,2 mg/m ³ (Tin)	ACGIH
		TWA	0,1 mg/m ³ (Tin)	ACGIH
		STEL	0,2 mg/m ³ (Tin)	ACGIH
6,6'-di-tert-butyl-4,4'-thiodi-m-cresol	96-69-5	TWA (Inhalable particulate matter)	1 mg/m ³	ACGIH
zinc dioctadecanoate	557-05-1	TWA (Inhalable particulate matter)	10 mg/m ³	ACGIH
		TWA (Respirable particulate matter)	3 mg/m ³	ACGIH
dioctyltin dilaurate	3648-18-8	TWA	0,1 mg/m ³ (Tin)	ACGIH
		STEL	0,2 mg/m ³ (Tin)	ACGIH
		TWA	0,1 mg/m ³ (Tin)	ACGIH
		STEL	0,2 mg/m ³ (Tin)	ACGIH
6,6'-di-tert-butyl-4,4'-thiodi-m-cresol	96-69-5	TWA (Inhalable particulate matter)	1 mg/m ³	ACGIH

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zinc dioctadecanoate	557-05-1	TWA (Inhalable particulate matter)	10 mg/m3	ACGIH
		TWA (Respirable particulate matter)	3 mg/m3	ACGIH

Occupational exposure limits of decomposition products

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
methanol	67-56-1	LT	156 ppm 200 mg/m3	BR OEL
	Further information: Absorption through the skin, Degree of harmfulness: maximum			
		TWA	200 ppm	ACGIH
		STEL	250 ppm	ACGIH

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 vapor 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/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

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

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Skin and body protection : Protective clothing

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: solid
Appearance	: pellets
Color	: natural color
Odor	: odorless
Odor Threshold	: Methanol: Do NOT rely on the odor: olfactory level is above the exposure limit.
pH	: Not applicable insoluble
Melting point/ 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 / Upper flammability limit	: Not applicable
Lower explosion limit / Lower flammability limit	: Not applicable
Vapor pressure	: Not applicable (solid)
Density	: 0,9 - 1,0 g/cm3
Bulk density	: 500 - 600 kg/m3
Solubility(ies)	
Water solubility	: insoluble
Partition coefficient: n-octanol/water	: Not applicable insoluble
Autoignition temperature	: > 320 °C
Viscosity	
Viscosity, kinematic	: No data available
Explosive properties	: Not explosive

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

Particle characteristics

Particle size : 3 - 10 mm
Method: Image analysis (surface-based)

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Stable under recommended storage conditions.

Chemical stability : The product is a stable thermoplastic, with no chemical reactivity.
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.
Extremes of temperature and direct sunlight.

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

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

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

Components:

dioctyltin dilaurate:

Acute oral toxicity : LD50 Oral (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 423

Acute dermal toxicity : LD50 Dermal (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 402

Skin corrosion/irritation

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

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Serious eye damage/eye irritation

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

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

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

Components:

6,6'-di-tert-butyl-4,4'-thiodi-m-cresol:

Test Type	: Maximization Test
Species	: Guinea pig
Assessment	: May cause sensitization by skin contact.
Method	: No information available.
GLP	: No information available.

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

May damage fertility or the unborn child.

STOT-single exposure

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

STOT-repeated exposure

May cause damage to organs (Immune system) through prolonged or repeated exposure.

Aspiration toxicity

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

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.
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Remarks	: Inhalation of dust may irritate the respiratory tract. Prolonged inhalation of high doses of decomposition products
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may give headache or irritation of the respiratory tract.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

6,6'-di-tert-butyl-4,4'-thiodi-m-cresol:

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

M-Factor (Acute aquatic tox- : 1
icity)

M-Factor (Chronic aquatic : 1
toxicity)

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: Not expected to adsorb on soil.

Remarks: The product is insoluble and floats on water.

Other adverse effects

Product:

Additional ecological infor- : Should not be released into the environment.
mation

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SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Dispose of contents/ container to an approved waste disposal plant. Discharge into the environment must be avoided. 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

Not applicable for product as supplied.

Domestic regulation

ANTT

Not regulated as a dangerous good

Special precautions for user

Remarks	:	Not dangerous goods in the meaning of ADR/RID, ADN, IMDG-Code, ICAO/IATA-DGR
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SECTION 15. REGULATORY INFORMATION

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

National List of Carcinogenic Agents for Humans - (LINACH)	:	Not applicable
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Brazil. List of chemicals controlled by the Federal Police	:	Not applicable
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SECTION 16. OTHER INFORMATION

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Further information

Other information : Safety Data Sheet generated in accordance with ABNT NBR 14725:2023.
Contact Point : Borealis, Group Product Stewardship
Sources of key data used to compile the Material Safety Data Sheet : The classification information of components is based on raw material supplier data.

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
BR OEL : Brazil. NR 15 - Unhealthy activities and operations

ACGIH / TWA : 8-hour, time-weighted average
ACGIH / STEL : Short-term exposure limit
BR OEL / LT : Up to 48 hours /week

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardization; 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; ERG - Emergency Response Guide; 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 Organization 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; MERCOSUR - The Agreement for the Facilitation of the Transport of Dangerous Goods; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; 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, Authorization and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of

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Dangerous Goods; TECI - Thailand Existing Chemicals 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; WHMIS - Workplace Hazardous Materials Information System

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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