

according to Regulation (EC) No. 1907/2006
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GeoVest Expansion liquid

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

1.1. Product identifier

Identification of the substance or preparation:

Commercial product name: GeoVest Expansion liquid

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

Use of the Substance/Mixture

Specific use(s): Inorganic binder, surface modifier and flocculating agent.

1.3. Details of the supplier of the safety data sheet

Manufacturer/Supplier:

al dente Dentalprodukte GmbH
Street / mailbox: Borsigstr. 1
Country code. / postal code / city: D - 38644 Goslar
Phone: 0 53 21 / 80031
Fax: 0 53 21 / 50881
E-mail / Website: info@aldente.de / www.aldente.de
Further information obtainable from: al dente Dentalprodukte GmbH

1.4. Emergency telephone number

al dente Dentalprodukte GmbH: +49 (0) 53 21 / 80031 (Mon-Fri. 8 a.m. – 4 p.m.)

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.

2.3. Other hazards:

No further data available.

PBT and vPvB 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.

SECTION 3: Composition/information on ingredients

3.2. Mixtures:

Common Name: Amorphous Silica, aqueous colloidal solution.
Pure substance/mixture: Mixture

Chemical name	PBT vPvB OEL	CAS-No. EC-No. REACH No.	Classification (REGULATION (EC) No 1272/2008)	Concentration [%]
Remarks	:	No ingredients according to the criteria in Regulation (EC) No. 1907/2006 (Annex II).		
Silicon dioxide, amorphous	OEL	7631-86-9 231-545-4 01-2119379499-16		>= 30 - < 60

OEL : Occupational exposure limit.
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).
Status: Not applicable

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SECTION 4: First aid measures

4.1 Description of first aid measures

General advice:	No hazards which require special first aid measures.
After inhalation:	If breathed in, move person into fresh air. If symptoms persist, call a physician.
After skin contact:	Remove contaminated clothing. Rinse with water.
After eye contact:	Rinse with plenty of water. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing.
After swallowing:	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person.
4.2 Most important symptoms and effects, both acute and delayed:	
Symptoms:	No information available.
Risks:	No information available.
4.3 Indication of any immediate medical attention and special treatment needed:	
Treatment:	Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Suitable extinguishing agents:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
5.2 Special hazards arising from the substance or mixture:	No hazards to be specially mentioned.
Combustion products:	No hazardous combustion products are known.
5.3 Advice for firefighters	
Special protective equipment for firefighters:	In the event of fire, wear self-contained breathing apparatus.
Further information:	Standard procedure for chemical fires.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures	
Personal precautions:	No conditions to be specially mentioned.
Emergency measures on accidental release:	Follow safe handling advice and personal protective equipment recommendations.
6.2 Environmental precautions:	No special environmental precautions required.
6.3 Methods for cleaning up / Methods for containment:	Wipe up with absorbent material (e.g. cloth, fleece). Keep in suitable, closed containers for disposal. If liquid has been spilt in large quantities clean up promptly by scoop or vacuum.
6.4 Reference to other sections	
Additional advice:	For disposal considerations see section 13. For personal protection see section 8.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling: For personal protection, see section 8.
 No special handling advice required.

Information about fire- and explosion protection: Normal measures for preventive fire protection.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers: Keep container tightly closed in a dry and well-ventilated place.
 Keep away from direct sunlight.

Advice on common storage: No special restrictions on storage with other products.

Minimum storage temperature: Avoid temperatures below: 5 °C

Maximum storage temperature: 50 °C

Other data: No decomposition if stored and applied as directed.

7.3 Specific end use(s): No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters:

Components	CAS-No.	Value	Control parameters	Update	Basis	Form of exposure
Silicon dioxide, amorphous	7631-86-9	TWA	6 mg/m3	2011-12-01	GB EH40	Inhalable dust

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<p>Further Information:</p>	<p>15: For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust 44: The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit. 45: Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. 46: Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/3. 47: Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with. 2: Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used Silica</p>				
	TWA	2.4 mg/m3	2011-12-01	GB EH40	Respirable dust
<p>Further information:</p>	<p>15: For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust 44: The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit. 45: Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. 46: Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/3. 47: Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with. 2: Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used Silica</p>				
	TWA	0.1 mg/m3	2012-07-01	2004/37/EC	Respirable dust
<p>Further information:</p>	<p>Carcinogens or mutagens</p>				

ACGIH: American Conference of Governmental Industrial Hygienists

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AGW:	Arbeitsplatzgrenzwert
BEI:	Biological Exposure Index
MAC:	Maximum Allowable Concentration
NIOSH:	National Institute for Occupational Safety and Health
OEL:	Occupational exposure limit.
STEL:	Short term exposure limit
TRGS:	Technische Regel für Gefahrstoffe
TWA:	Time Weighted Average

8.2 Exposure controls:	
Engineering Controls:	Effective exhaust ventilation system.
Personal protective equipment:	
Respiratory protection:	No personal respiratory protective equipment normally required.
Protection of hands:	PVC Rubber gloves.
Eye protection:	Safety glasses.
Hygiene measures:	General industrial hygiene practice.
Environmental exposure controls:	
General advice:	No special environmental precautions required.

SECTION 9: Physical and chemical properties

9.1 General information:	
Form:	liquid
Colour:	white
Odour:	odourless
Odour threshold:	No data available.
pH-value:	9 - 10
Melting point / Melting range:	0°C
Boiling point / Boiling range:	100°C
Flash point:	Not applicable.
Evaporation rate:	No data available.
Flammability (solid, gas):	Not applicable.
Flammability (liquids):	The product is not flammable.
Lower explosion limit :	Not applicable.
Upper explosion limit :	Not applicable.
Vapour pressure:	Approx. 23 hPa at 20°C
Relative vapour density:	No data available.
Relative density:	1.10 - 1.30
Water solubility:	dispersible
Solubility in other solvents:	No data available.
Partition coefficient: n octanol/water:	Not applicable.
Auto-ignition temperature:	Not applicable.
Decomposition temperature:	No data available.
Viscosity, dynamic:	< 20 mPa.s at 20 °C
Viscosity, kinematic:	No data available.
Explosive properties:	Not explosive.
Oxidizing properties:	Not classified as oxidising.

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9.2 Other information

This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

SECTION 10: Stability and reactivity

10.1 Reactivity:

Stable under normal conditions.

10.2 Chemical stability:

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions:

No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid:

Avoid drying out of the solution as this can lead to a build up of dust.

10.5 Incompatible materials:

Materials to avoid :
 Copper, Mild steel, Aluminium

10.6 Hazardous decomposition products:

No hazardous decomposition products are known.

Thermal decomposition:

No data available.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product information

Acute oral toxicity:

Not classified based on available information.

Skin corrosion/irritation:

Not classified based on available information.

Serious eye damage/eye irritation:

Not classified based on available information.

Respiratory or skin sensitisation:

Respiratory sensitisation: Not classified based on available information.
 Skin 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:

Not classified based on available information.

STOT - single exposure:

Not classified based on available information.

STOT - repeated exposure:

Not classified based on available information.

Aspiration hazard:

Not classified based on available information.

Further information:

Information given is based on data on the components and the toxicology of similar products.

Test result

Acute oral toxicity:

LD50: > 5,000 mg/kg
 Species: Rat
 The value is estimated from tests on similar products.

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Respiratory or skin sensitisation:

Result: Did not cause sensitisation on laboratory animals.
Method: (Magnusson-Kligman):
The value is estimated from tests on similar products.

**Germ cell mutagenicity
Genotoxicity in vitro:**

Ames test
Result: negative
Method: OECD Test Guideline 471
The value is estimated from tests on similar products.

**Silicon dioxide, amorphous
Acute toxicity:
Acute oral toxicity:**

LD50: > 10,000 mg/kg
Species: Rat

SECTION 12: Ecological information

**Product information:
Ecotoxicology Assessment:
Additional ecological information:**

None known.

12.1 Toxicity

**Test result:
Toxicity to fish:**

LC50: > 5 000 mg/l
Exposure time: 96 h
Species: Danio rerio (zebra fish)
The value is estimated from tests on similar products.

**Toxicity to daphnia and other
aquatic invertebrates:**

EC50: 7 600 mg/l
Exposure time: 48 h
Species: Ceriodaphnia Dubia (water flea)
The value is estimated from tests on similar products.

Toxicity to algae:

NOEC: 60 mg/l
Exposure time: 48 h
Species: Selenastrum capricornutum (green algae)
The value is estimated from tests on similar products.

EC50: 120 mg/l
Exposure time: 48 h
Species: Selenastrum capricornutum (green algae)
The value is estimated from tests on similar products.

EC10: 140 mg/l
Exposure time: 48 h
Species: Selenastrum capricornutum (green algae)
The value is estimated from tests on similar products.

12.2 Persistence and degradability

**Product information:
Biodegradability:**

Result: Not applicable
inorganic

12.3 Bioaccumulative potential

Product information:

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Bioaccumulation: No bioaccumulation is expected.

12.4 Mobility in soil

Product information:

Mobility:

No test results. Under extreme circumstances, transport from earth to water may take place.

Distribution among environmental compartments:

Transport to air is not expected.

12.5 Results of PBT and vPvB assessment

Product information:

PBT and vPvB 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 Other adverse effects

Product information:

Biochemical Oxygen Demand (BOD):

No data available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods - Contaminated packaging:

Empty remaining contents.
 Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14: Transport information

14.1 UN-Number:

Not regulated as a dangerous good.

14.2 UN proper shipping name:

Not regulated as a dangerous good.

14.3 Transport hazardous class:

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:

Not classified as dangerous in the meaning of transport regulations.

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

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Seveso II - Directive 2003/105/EC amending Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances: Not applicable

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

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Notification status:

DSL:	YES. All components of this product are on the Canadian DSL
AICS:	YES. On the inventory, or in compliance with the inventory
NZIoC:	YES. On the inventory, or in compliance with the inventory
ENCS:	YES. On the inventory, or in compliance with the inventory
ISHL:	YES. On the inventory, or in compliance with the inventory
KECI:	YES. On the inventory, or in compliance with the inventory
PICCS:	YES. On the inventory, or in compliance with the inventory
IECSC:	YES. On the inventory, or in compliance with the inventory
TCSI:	YES. On the inventory, or in compliance with the inventory
TSCA:	YES. All chemical substances in this product are either listed on the TSCA Inventory or in compliance with a TSCA Inventory exemption.

For explanation of abbreviation, see section 16.

15.2 Chemical Safety Assessment:

Silicon dioxide, amorphous :

A Chemical Safety Assessment is not required for this substance.

SECTION 16: Other information

Full text of other abbreviations

2004/37/EC:	Europe. Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work
GB EH40:	UK. EH40 WEL - Workplace Exposure Limits
2004/37/EC / TWA:	Long term exposure limit
GB EH40 / TWA:	Long-term exposure limit (8-hour TWA reference period)

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; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; 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

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Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information:

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.