



Hinrivest Liquid

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

1.1. Product identifier

Commercial product name: Hinrivest Liquid

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

Use of the Substance/Mixture Inorganic binder, surface modifier and flocculating agent.
This substance/ mixture contains nanoforms

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier: ERNST HINRICHS Dental GmbH
Street / mailbox: Borsigstr. 1
Country code. / postal code / city: D - 38644 Goslar
Phone: 0 53 21 / 5 06 24
Fax: 0 53 21 / 5 08 81
E-mail / Website: info@hinrichs-dental.de / www.hinrichs-dental.de
Further information obtainable from: ERNST HINRICHS Dental GmbH

1.4 Emergency telephone number

ERNST HINRICHS Dental GmbH: +49 (0) 53 21 / 5 06 24 (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:

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.

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.

SECTION 3: Composition/information on ingredients

3.2 Mixtures:

Chemical nature: Amorphous Silica, aqueous colloidal solution.

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Substances with a workplace exposure limit:			
Silicon dioxide, amorphous	7631-86-9 231-545-4 01-2119379499-16		>= 30 - < 40

For explanation of abbreviations see section 16.

Remarks: Substances with a workplace exposure limit



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This substance/ mixture contains nanoforms

Components:

Silicon dioxide, amorphous:

Particle characteristics

Particle size:

Particle Size Distribution:

Assessment:

Further particle properties for nanomaterials see section 9

Further particle properties for nanomaterials see section 9

This substance/ mixture contains nanoforms

based on: Measurement data.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice:

No hazards which require special first aid measures.

If inhaled:

If breathed in, move person into fresh air. If symptoms persist, call a physician.

In case of skin contact:

Remove contaminated clothing and shoes. Rinse with water.

In case of eye contact:

Rinse with plenty of water. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing.

If swallowed:

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

Specific hazards during firefighting:

No hazards to be specially mentioned.

Hazardous 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.

Follow safe handling advice and personal protective equipment recommendations.



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- 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.

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.
- Advice on protection against fire and explosion: Normal measures for preventive fire protection.
- Hygiene measures: General industrial hygiene practice.
- 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.
- Further information on storage conditions: Do not freeze. May cause mild eye and skin irritation. Skin contact may cause dehydration. In case of spill or leak: Flush with water. Keep away from direct sunlight. Maximum storage duration 18 months
- Advice on common storage: No special restrictions on storage with other products.
- Storage class (TRGS 510): 12
- Further information on storage stability: No decomposition if stored and applied as directed.
- Minimum storage temperature: Avoid temperatures below: 5 °C
- Maximum storage temperature: 50 °C
- 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 type (Form of exposure)	Control parameters	Basis
Silicon dioxide, amorphous	7631-86-9	AGW (Inhalable fraction)	4 mg/m ³ (Silica)	DE TRGS 900
Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child				

- 8.2 Exposure controls:**
Engineering measures: Effective exhaust ventilation system.



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Personal protective equipment:

Eye/face protection:	Safety glasses
Hand protection:	PVC
Material:	
Material:	Rubber gloves
Respiratory protection:	No personal respiratory protective equipment normally required.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state:	liquid
Colour:	white
Odour:	odourless
Odour Threshold:	No data available
Melting point/range:	0 °C
Boiling point/boiling range:	100 °C
Flammability:	Not applicable
Upper explosion limit / Upper flammability limit:	Not applicable
Lower explosion limit / Lower flammability limit:	Not applicable
Flash point:	Not applicable
Auto-ignition temperature:	Not applicable
Decomposition temperature:	No data available
pH:	9 - 10
Viscosity	
Viscosity, dynamic:	< 20 mPa.s
Viscosity, kinematic:	No data available
Solubility(ies)	
Water solubility:	dispersible
Solubility in other solvents:	No data available
Partition coefficient: n- octanol/water:	Not applicable
Vapour pressure:	ca. 23 hPa (20 °C)
Relative density:	1,10 - 1,30
Relative vapour density:	No data available
Particle characteristics	
Assessment:	This substance/ mixture contains nanoforms
Particle size:	1 - 100 nm Method: ISO 22412 Further particle properties for nanomaterials see section 3
Particle Size Distribution:	D50 = 13 nm ± 4 nm Measurement method: ISO 22412
Shape:	spheres

9.2 Other information

Explosives:	Not explosive
Oxidizing properties:	Not classified as oxidising.
Flammability (liquids):	The product is not flammable.
Self-ignition:	Not applicable
Evaporation rate:	No data available

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:	



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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: Thermal decomposition:	No hazardous decomposition products are known. No data available.

SECTION 11: Toxicological information

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

Acute toxicity:	Not classified based on available information.
Product: Acute oral toxicity:	LD50 (Rat): > 5.000 mg/kg Remarks: The value is estimated from tests on similar products.
Components: Silicon dioxide, amorphous: Acute oral toxicity	LD50 (Rat): > 10.000 mg/kg
Skin corrosion/irritation:	Not classified based on available information.
Serious eye damage/eye irritation:	Not classified based on available information.
Respiratory or skin sensitisation Skin sensitisation:	Not classified based on available information.
Respiratory sensitisation:	Not classified based on available information.
Product: Method: Result: Remarks:	(Magnusson-Kligman) Did not cause sensitisation on laboratory animals. The value is estimated from tests on similar products.
Germ cell mutagenicity: Genotoxicity in vitro:	Not classified based on available information. Ames test Result: negative Method: OECD Test Guideline 471 The value is estimated from tests on similar products.
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 toxicity:	Not classified based on available information.

11.2 Information on other hazards **Endocrine disrupting properties** **Product:**



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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:

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

SECTION 12: Ecological information

Product information:

Ecotoxicology Assessment:

Additional ecological information:

None known.

12.1 Toxicity

Product:

Toxicity to fish:

LC50 (Danio rerio (zebra fish)): > 5.000 mg/l Exposure time: 96 h

Remarks: The value is estimated from tests on similar products.

Toxicity to daphnia and other aquatic invertebrates:

EC50 (Ceriodaphnia dubia (water flea)): 7.600 mg/l Exposure time: 48 h

Remarks: The value is estimated from tests on similar products.

Toxicity to algae:

NOEC (Selenastrum capricornutum (green algae)): 60 mg/l Exposure time: 48 h

Remarks: The value is estimated from tests on similar products.

EC50 (Selenastrum capricornutum (green algae)): 120 mg/l Exposure time: 48 h

Remarks: The value is estimated from tests on similar products.

EC10 (Selenastrum capricornutum (green algae)): 140 mg/l Exposure time: 48 h

Remarks: The value is estimated from tests on similar products.

12.2 Persistence and degradability

Product:

Biodegradability:

Result: Not applicable

Remarks: inorganic

Biochemical Oxygen Demand (BOD):

Remarks: No data available

12.3 Bioaccumulative potential

Product:

Bioaccumulation:

Remarks: No bioaccumulation is expected.

12.4 Mobility in soil



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Product:

Mobility:

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

Distribution among environmental compartments:

Remarks: Transport to air is not expected.

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 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:

None known.

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 or ID number:

ADN:
ADR:
RID:
IMDG:
IATA_P

Not regulated as a dangerous good.
Not regulated as a dangerous good.
Not regulated as a dangerous good.
Not regulated as a dangerous good.
Not regulated as a dangerous good.

14.2 UN proper shipping name:

ADN:
ADR:
RID:
IMDG:
IATA_P

Not regulated as a dangerous good.
Not regulated as a dangerous good.
Not regulated as a dangerous good.
Not regulated as a dangerous good.
Not regulated as a dangerous good.

14.3 Transport hazardous class:

ADN:
ADR:
RID:
IMDG:
IATA_P

Not regulated as a dangerous good.
Not regulated as a dangerous good.
Not regulated as a dangerous good.
Not regulated as a dangerous good.
Not regulated as a dangerous good.

14.4 Packing group:

ADN:

Not regulated as a dangerous good.



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ADR:	Not regulated as a dangerous good.
RID:	Not regulated as a dangerous good.
IMDG:	Not regulated as a dangerous good.
IATA_P	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

Water contaminating class (Germany): nwg - not water endangering
Classification according to AwSV, Annex 1 (2.2)

TA Luft List (Germany): Total dust: Not applicable
Inorganic substances in powdered form: Not applicable
Inorganic substances in vapour or gaseous form: Not applicable
Organic substances: Not applicable
Carcinogenic substances: Not applicable
Mutagenic: Not applicable
Toxic to reproduction: Not applicable

The components of this product are reported in the following inventories:

TCSI:	On the inventory, or in compliance with the inventory
TSCA:	All substances listed as active on the TSCA inventory
AIC:	On the inventory, or in compliance with the inventory
DSL:	All components of this product are on the Canadian DSL
ENCS:	On the inventory, or in compliance with the inventory
ISHL:	On the inventory, or in compliance with the inventory
KECI:	On the inventory, or in compliance with the inventory
PICCS:	On the inventory, or in compliance with the inventory
IECSC:	On the inventory, or in compliance with the inventory
NZIoC:	On the inventory, or in compliance with the inventory

15.2 Chemical Safety Assessment: A Chemical Safety Assessment is not required for this substance.

Product information: not required

Silicon dioxide, amorphous: A Chemical Safety Assessment is not required for this substance.



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SECTION 16: Other information

Full text of other abbreviations

DE TRGS 900: Germany. TRGS 900 - Occupational exposure limit values.
DE TRGS 900 / AGW: Time Weighted Average

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIIC - Australian Inventory of Industrial Chemicals; 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 Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals 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:

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

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.