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

1.1 Product identifier
Tradename: Hinrisol

1.2 Relevant identified uses of the substance or mixture and uses advised against
Use of substance / preparation: Industrial.
elastomer products

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
Importer:	Ivoclar Vivadent Ltd 12 Omega St, Rosedale, Auckland, New Zealand Phone +64 9 914 9999 Fax +64 9 914 9990 www.ivoclarvivadent.co.nz

1.4 **Emergency phone number:** 0800 764 766 (National Poison Centre)
Poisons Hotline (24 hours / 7 days)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Hazard class	Hazard category	Route of exposure
Flammable liquids	Category 2	
Serious eye damage / eye irritation	Category 2	
Chronic aquatic toxicity	Category 2	
Acute aquatic toxicity	Category 1	

2.2 Label elements
Pictograms:

Signal word: Danger

H-Code	Hazard Statements
H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

P-Code	Precautionary Statements
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P280	Wear protective gloves/protective clothing/eye protection.
P273	Avoid release to the environment.
P243	Take action to prevent static discharges.
P312	Call a POISON CENTER/doctor if you feel unwell.
P403+P235	Store in a well-ventilated place. Keep cool.

Hazard ingredients (labelling):
Isopropanol

2.3 Other hazards: No data available.

SECTION 3: Composition/information on ingredients

3.1 Substances — Not applicable

3.2 Mixtures

3.2.1 Chemical characteristics: — Polydimethylsiloxane with functional groups + solvent

3.2.2 Hazardous ingredients

EC-No.	CAS No.	Material	Content %
203-492-7	107-46-0	Hexamethyldisiloxane	>75
200-661-7	67-63-0	Isopropanol	>10 – <20
	27306-78-1	Poly(oxy-1,2-ethanediyl), .alpha.-methyl-.omega.-[3-[1,3,3,3-tetramethyl-1-[(trimethylsilyl)oxy]disiloxanyl]propoxy]-	<2
202-481-4	96-14-0	3-Methylpentane	<0,5
203-523-4	107-83-5	2-Methylpentane	<0,5

SECTION 4: First aid measures

4.1 Description of first aid measures

General information: Remove contaminated clothes at once. Where there is a risk of unconsciousness place and transport on one side in a stable position.

After contact with the eyes: Rinse immediately with plenty of water for 10-15 minutes and seek medical advice.

After contact with the skin: Wash with plenty of water or soap and water; immediately remove all contaminated clothing. In cases of sickness seek medical advice (show label if possible).

After inhalation: Move to fresh air, keep the victim laying down and restful. If breathing has stopped, give artificial respiration. If unconscious place in stable sideways position. Seek medical advice and clearly identify substance.

After swallowing: If conscious, give several small portions of water to drink. Do not induce vomiting. Seek medical advice immediately and produce the label or packaging.

4.2 Most important symptoms and effects, both acute and delayed: Any relevant information can be found in other parts of this section.

4.3 Indication of any immediate medical attention and special treatment needed: Further toxicology information in section 11 must be observed.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents: Plenty of water, extinguishing powder, sand, alcohol-resistant foam, carbon dioxide.

Extinguishing media which must not be used for safety reasons: Water jet.

5.2 Special hazards arising from the substance or mixture: None known.

5.3 Advice for firefighters

Special protective equipment for firefighting: Use respiratory protection independent of recirculated air.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures: Wear personal protection equipment (see section 8). Avoid inhaling mists and vapours. Avoid contact with eyes and skin.

6.2	Environmental precautions:	Prevent material from entering sewers or surface waters. Contain any fluid that runs out using suitable material (e.g. earth). Retain contaminated water/extinguishing water. Dispose of in prescribed marked containers.
6.3	Methods and material for containment and cleaning up:	Do not flush away with water. Take up mechanically and dispose of according to local/state/federal regulations. Absorb with a liquid binding material such as diatomaceous earth and dispose of according to local/state/federal regulations. Contain larger amounts and pump up into suitable containers. Exhaust vapours.
	Further information:	Eliminate all sources of ignition.
6.4	Reference to other sections:	Relevant information in other sections has to be considered. This applies in particular for information given on personal protective equipment (section 8) and on disposal (section 13).

SECTION 7: Handling and storage

7.1	Precautions for safe handling:	Ensure adequate ventilation. Must be syphoned off in situ.
	Precautions against fire and explosion:	Keep away from sources of ignition and do not smoke. Take precautionary measures against electrostatic charging. Cool endangered containers with water. Flammable vapours may accumulate and form explosive mixtures with air in containers, process vessels, including partial, empty and uncleaned containers and vessels, or other enclosed spaces. Keep away from open flames, heat and sparks.
7.2	Conditions for safe storage, including any incompatibilities	
	Conditions for storage rooms and vessels:	Protect against light.
	Advice for storage of incompatible materials:	Not applicable.
	Further information for storage:	Keep container tightly closed and store in a cool, well ventilated place.
7.3	Specific end use(s):	No data available.

SECTION 8: Exposure controls/personal protection

8.1	Control parameters	-
8.2	Exposure controls:	
8.2.1	Exposure in the work place limited and controlled	
	General protection and hygiene measures:	Avoid contact with eyes and skin. Do not breathe vapours. Do not eat, drink or smoke when handling.
	Personal protection equipment:	
	Respiratory protection:	In case of long or strong exposure: gas mask filter ABEK.
	Eye protection:	Protective goggles.
	Hand protection:	Protective gloves, rubber or PVC.
	Skin protection:	Protective clothing.
8.2.2	Exposure to the environment limited and controlled:	Prevent material from entering surface waters and soil. Do not introduce large amounts into purification plants.
8.3	Further information for system design and engineering measures:	Observe information in section 7. Observe regulations for protection against explosion.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Property:	**Value:**	**Method**
Appearance:		
Physical state:	liquid	

	Colour:	colourless
	Odour:	faint
	Odour limit:	no data available
	pH:	8.
	Melting point/Freezing point	not determined
	Boiling point/Boiling range:	100 °C
	Flash point:	3 °C
	Evaporation rate:	no data available
	Upper/lower flammability or explosive limits	
	Lower explosion limit (LEL):	approx. 2,0 Vol-%
	Upper explosion limit (UEL):	approx. 12 Vol-%
	Vapour pressure:	approx. 175 hPa / 50 °C
	Vapour pressure:	approx. 44 hPa / 20 °C
	Solubility(ies)	
	Water solubility / miscibility:	virtually insoluble
	Vapour density	
	Relative gas/vapour density:	No data known.
	Relative Density:	0,77 (23 °C) (Water / 4 °C = 1,00)
	Density:	0,77 g/cm³ (23 °C)
	Partition coefficient: n-octanol/water:	No data known.
	Auto-ignition temperature	
	Ignition temperature:	325 °C
	Decomposition temperature	
	Thermal decomposition:	not applicable
	Viscosity (dynamic):	
	Viscosity (kinematic):	0,7 mm²/s at 25 °C
	Molecular mass:	not applicable
9.2	Other information:	No data available.

SECTION 10: Stability and reactivity

10.1-10.3	Reactivity; Chemical stability; Possibility of hazardous reactions:	If stored and handled in accordance with standard industrial practices no hazardous reactions are known. Relevant information can possibly be found in other parts of this section.
10.4	Conditions to avoid:	None known.
10.5	Incompatible materials:	None known.
10.6	Hazardous decomposition products:	If stored and handled properly: none known.

SECTION 11: Toxicological information

11.1	Information on toxicological effects	
11.1.1	General information:	Data derived for the product as a whole are of higher priority than data for single ingredients.
11.1.2	Acute toxicity	
	Assessment:	For this endpoint no toxicological test data is available for the whole product.
	Acute toxicity estimate (ATE):	ATEmix (oral): > 2000 mg/kg
	Data related to ingredients:	
	Hexamethyldisiloxane:	

Route of exposure	Result/Effect	Species/Test system	Source
oral	LD_{50}: > 16 mL/kg	rat	test report
dermal	LD_{50}: > 2000 mg/kg	rabbit	test report

	Neither mortality nor clinical signs of toxicity were observed with the given dose.		OECD 402
by inhalation (vapour)	LC_{50}: 106 mg/l = 16000 ppm; 4 h	rat	test report OECD 403

Isopropanol:

Route of exposure	Result/Effect	Species/Test system	Source
oral	LD_{50}: > 5000 mg/kg	rat	ECHA
dermal	LD_{50}: > 5000 mg/kg	rabbit	ECHA
by inhalation (vapour)	LC_{50}: > 10000 ppm; 6 h	rat	ECHA OECD 403

11.1.3 Skin corrosion/irritation

Assessment: For this endpoint no toxicological test data is available for the whole product.

Data related to ingredients:
Hexamethyldisiloxane:

Result/Effect	Species/Test system	Source
not irritating	rabbit	test report OECD 404

Isopropanol:

Result/Effect	Species/Test system	Source
not irritating	not specified	literature

11.1.4 Serious eye damage / eye irritation

Assessment: For this endpoint no toxicological test data is available for the whole product.

Data related to ingredients:
Hexamethyldisiloxane:

Result/Effect	Species/Test system	Source
not irritating	rabbit	test report OECD 405

Isopropanol:

Result/Effect	Species/Test system	Source
irritating	rabbit	ECHA

11.1.5 Respiratory or skin sensitization

Assessment: For this endpoint no toxicological test data is available for the whole product.

Data related to ingredients:
Hexamethyldisiloxane:

Route of exposure	Result/Effect	Species/Test system	Source
dermal	not sensitizing	Voluntary persons; Human skin patch test	test report

Isopropanol:

Route of exposure	Result/Effect	Species/Test system	Source
dermal	not sensitizing	guinea-pig; Bühler	ECHA OECD 406

11.1.6 Germ cell mutagenicity

Assessment: For this endpoint no toxicological test data is available for the whole product.

Data related to ingredients:
Hexamethyldisiloxane:

Result/Effect	Species/Test system	Source
negative	mutation assay (in vitro) bacterial cells	test report OECD 471
negative	mutation assay (in vitro) mammalian cells	test report OECD 476
negative	chromosome aberration assay (in vitro) mammalian cells	test report OECD 473
negative	chromosome aberration assay (in vivo) rat (Sprague Dawley) intraperitoneal; bone marrow cells	test report OECD 475

11.1.7 Carcinogenicity

Assessment: For this endpoint no toxicological test data is available for the whole product.

Data related to ingredients:
Hexamethyldisiloxane: Animal tests have not revealed any carcinogenic effects.

Result/Effect	Species/Test system	Source
NOAEC: >= 33,2 mg/l NOAEC = NOAEC (carcinogenic effects relevant for humans)	carcinogenicity study rat (F344) by inhalation (vapour) 2 a; 5 d/w; 6 hours/day	test report OECD 453

11.1.8 Reproductive toxicity

Assessment: For this endpoint no toxicological test data is available for the whole product.

Data related to ingredients
Hexamethyldisiloxane: Animal tests have shown no indications of possibility of damage to embryo and impairment of fertility.

Result/Effect (Examinations of fertility disruption)	Species/Test system	Source
NOAEC: >= 33,2 mg/l NOAEC = NOAEC (fertility)	two generation study rat (Sprague Dawley) by inhalation (vapour) ; 7 d/w; 6 hours/day	test report EPA OPPTS 870.3800+870.6300

Result/Effect (Examinations of developmental toxicity and teratogenicity)	Species/Test system	Source
NOAEC (developmental): 10,6 mg/l NOAEC (maternal): >= 33,2 mg/l Symptoms/Effect: Pups: lack of habituation	Reproduction and Fertility Effects + Developmental Neurotoxicity Study rat (Sprague Dawley) by inhalation (vapour) ; 7 d/w; 6 hours/day	test report EPA OPPTS 870.3800+870.6300

11.1.9 Specific target organ toxicity (single exposure)

Assessment: For this endpoint no toxicological test data is available for the whole product.

Data related to ingredients:
Isopropanol:

Route of exposure	Result/Effect	Source
by inhalation	Target organs: central nervous system Vapours may be narcotising.	ECHA

11.1.10 Specific target organ toxicity (repeated exposure)

Assessment: For this endpoint no toxicological test data is available for the whole product.

Data related to ingredients:
Hexamethyldisiloxane: In animal experiments with repeated exposure no effects with relevance for humans were observed.

Result/Effect	Species/Test system	Source
NOAEL: >= 1000 mg/kg NOAEL = NOAEL (relevant to humans)	Subacute study rat oral (gavage) 28 d	test report OECD 407
NOAEL: >= 1000 mg/kg NOAEL = NOAEL (relevant to humans)	Subacute study rat dermal 28 d; 5 d/w; 6 hours/day	test report OECD 410
NOAEC: > 33,2 mg/l NOAEC = NOAEC (relevant to humans)	chronic study rat 2 a; 5 d/w; 6 hours/day	test report OECD 453

11.1.11 Aspiration hazard

Assessment: For this endpoint no toxicological test data is available for the whole product.

11.1.12 Further toxicological information

Data related to ingredients:
Hexamethyldisiloxane: May cause skin irritation at prolonged/repeated contact with the product.

SECTION 12: Ecological information

12.1 Toxicity

Assessment: For the product as a whole, no test data is available.
Data related to ingredients: Data derived for the product as a whole are of higher priority than data for single ingredients.
Hexamethyldisiloxane: Very toxic to aquatic organisms. Toxic to aquatic life with long lasting effects.

Result/Effect	Species/Test system	Source
LC_{50}: 0,46 mg/l (measured)	dynamic rainbow trout (Oncorhynchus mykiss) (96 h)	test report OECD 203
EC_{50}: > 0,37 mg/l (measured)	static Daphnia magna (48 h)	test report OECD 202
IC_{10} (growth rate): 0,14 mg/l (measured)	static Selenastrum capricornutum (95 h)	test report OECD 201
IC_{50} (growth rate): > 0,55 mg/l (measured)	static Selenastrum capricornutum (95 h)	test report OECD 201
EC_{50} (respiratory inhibition): >= 100 mg/l (nominal)	static sludge (3 h)	test report OECD 209
NOEC: >= 0,04 mg/l (measured)	dynamic carp (Cyprinus carpio) (56 d)	test report OECD 305

NOEC (reproduction): 0,08 mg/l (measured)	semistatic Daphnia magna (21 d)	test report OECD 211

Isopropanol:

Result/Effect	Species/Test system	Source
LC50: > 9640 mg/l	dynamic minnow (Pimephales promelas) (96 h)	ECHA
EC50: > 10000 mg/l	static Daphnia magna (48 h)	ECHA
IC0: 1800 mg/l	static Scenedesmus quadricauda (7 d)	ECHA

12.2 Persistence and degradability

Assessment: For the product as a whole, no test data is available.
Organic solvent: readily biologically degradable.

Data related to ingredients:
Hexamethyldisiloxane: The substance is degradable in abiotic processes.
Biodegradation:

Result	Test system/Method	Source
2 % / 28 d Not readily biodegradable.	biological oxygen demand (BOD)	test report OECD 301C

Hydrolysis:

Result	Test system	Source
Half-life: 1,47 h	pH 5; 24,8 °C	test report OECD 111
Half-life: 120 h	pH 7; 24,7 °C	test report OECD 111
Half-life: 12,4 h	pH 9; 24,8 °C	test report OECD 111

Isopropanol:
Biodegradation:

Result	Test system/Method	Source
readily biodegradable	biological oxygen demand (BOD)	ECHA

12.3 Bioaccumulative potential

Assessment: For the product as a whole, no test data is available.
Data related to ingredients
Hexamethyldisiloxane: Under experimental conditions the substance showed an increased potential for bioaccumulation.

Result/Effect	Species/Test system	Source
Bioconcentration factor (BCF): 1290 - 2410	carp (Cyprinus carpio) (70 d; 0,04 mg/l)	no data available
Bioconcentration factor (BCF): 776 - 1660	carp (Cyprinus carpio) (70 d; 0,004 mg/l)	no data available

12.4 Mobility in soil

Assessment: No data known.
Data related to ingredients:
Hexamethyldisiloxane:
adsorption - desorption:

Result	Test system/Method	Source
log KOC: 2,53	Berechnung	no data available

12.5 Other adverse effects: none known

SECTION 13: Disposal considerations

13.1 Waste treatment methods

13.1.1 Material

Recommendation: Dispose of according to regulations by incineration in a special waste incinerator. Observe local/state/federal regulations.

13.1.2 Uncleaned packaging

Recommendation: Completely discharge containers (no tear drops, no powder rest, scraped carefully). Containers may be recycled or re-used. Observe local/state/federal regulations.

SECTION 14:Transport information

14.1 - 14.4 UN number; UN proper shipping name; Transport hazard class(es); Packing group

Road ADR:

Valuation:	Dangerous Goods
14.1 UN no.:	1993
14.2 Proper Shipping Name:	Entzündbarer flüssiger Stoff, n.a.g. (Enthält Hexamethyldisiloxan und 2-Propanol)
14.3 Class:	3
14.4 Packaging Group:	II

Railway RID:

Valuation:	Dangerous Goods
14.1 UN no.:	1993
14.2 Proper Shipping Name:	Flammable liquid, n.o.s. (Contains hexamethyldisiloxane and 2-propanol)
14.3 Class:	3
14.4 Packaging Group:	II

Transport by sea IMDG-Code:

Valuation:	Dangerous Goods
14.1 UN no.:	1993
14.2 Proper Shipping Name:	Flammable liquid, n.o.s. (Contains hexamethyldisiloxane and 2-propanol)
14.3 Class:	3
14.4 Packaging Group:	II

Air transport ICAO-TI/IATA-DGR:

Valuation:	Dangerous Goods
14.1 UN no.:	1993
14.2 Proper Shipping Name:	Flammable liquid, n.o.s. (Contains hexamethyldisiloxane and 2-propanol)
14.3 Class:	3
14.4 Packaging Group:	II

14.5 Environmental hazards

Hazardous to the environment:	yes
Marine Pollutant (IMDG):	yes

14.6	Special precautions for user:	Relevant information in other sections has to be considered.
14.7	Transport in bulk according to Annex II of MARPOL and the IBC Code:	Bulk transport in tankers is not intended.

SECTION 15: Regulatory information

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

Classified as Hazardous according to the criteria of the National Occupational Health and Safety Commission (NOHSC) approved criteria for the classifying hazardous substances [NOHSC: 1008] 3rd edition.
Standard for the Uniform Scheduling of Medicines and Poisons.
Carcinogen classification under WHS Regulation 2011, Schedule 10.
Notification status in accordance with section 3 and current national legislation.
HSNO Approval: HSR006733, HSR006710, HSR004127, HSR003332
EPA NZ Classes of hazardous properties:
Classification 3.1B Flammable Liquids: high hazard
Classification 9.1A (All) Very ecotoxic in the aquatic environment
Classification 3.1C Flammable Liquids: medium hazard
Classification 6.3B Mildly irritating to the skin
Classification 6.4A Classification based on the pure chemical classification and mixture rules.
Classification 6.1E (All) Acutely toxic
Classification 6.3A Irritating to the skin
Classification 9.1B (All) Very ecotoxic in the aquatic environment

15.2 Details of international registration status

Relevant information about individual substance inventories, where available, is given below.

South Korea (Republic of Korea):	ECL (Existing Chemicals List): This product is listed in, or complies with, the substance inventory.
Japan:	ENCS (Handbook of Existing and New Chemical Substances): This product is listed in, or complies with, the substance inventory.
Australia:	AICS (Australian Inventory of Chemical Substances): This product is listed in, or complies with, the substance inventory.
People's Republic of China:	IECSC (Inventory of Existing Chemical Substances in China): This product is listed in, or complies with, the substance inventory.
Canada:	DSL (Domestic Substance List): This product is listed in, or complies with, the substance inventory.
Philippines:	PICCS (Philippine Inventory of Chemicals and Chemical Substances): This product is listed in, or complies with, the substance inventory.
United States of America (USA):	TSCA (Toxic Substance Control Act Chemical Substance Inventory): All components of this product are listed as active or are in compliance with the substance inventory.
European Economic Area (EEA):	REACH (Regulation (EC) No 1907/2006): General note: the registration obligations for substances imported into the EEA or manufactured within the EEA by the supplier mentioned in section 1 are fulfilled by the said supplier. The registration obligations for substances imported into the EEA by customers or other downstream users must be fulfilled by the latter.

SECTION 16: Other information

16.1 Material

The details in this document are based on the state of our knowledge at the time of revision. They do not constitute an assurance of the described product properties in terms of statutory warranty requirements.

The providing of this document to a recipient does not relieve the recipient of his or her responsibility toward compliance with all laws and stipulations applicable to the product. This applies in particular to the further sale or distribution of the product or substances or items containing the product, in other jurisdictions and with regard to the protection of third-party intellectual property rights. If the described product is processed or mixed with other substances or materials, the details stated in this document cannot be conferred to the resultant new product unless this has been expressly mentioned. If the product is repackaged, the recipient is obligated to additionally provide the required safety-related information.

16.2 Further information: Commas appearing in numerical data denote a decimal point. Vertical lines in the left-hand margin indicate changes compared with the previous version. This version supersedes all previous versions.