



according to Regulation (EC) No 1907/2006

FINOPEARL Retention adhesive

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

1.1. Product identifier

FINOPEARL Retention adhesive

Article numbers: 20672

Further trade names XYLENE MIBK

Product group: Kohlenwasserstoffe, gesä.

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

Use of the substance/mixture Uses advised against

Coatings and paints, fillers, putties, thinners

No further relevant information available.

for manufacturing mechanic retentions for veneers in the crown and bridge technique.

1.3. Details of the supplier of the safety data sheet

Company name: FINO GmbH
Street: Mangelsfeld 18
Place: D-97708 Bad Bocklet

 Telephone:
 +49-97 08-90 94 20
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 +49-97 08-90 94 21

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 Joachim Mahlmeister
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 www.fino.com

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Directive 67/548/EEC or 1999/45/EC

Indications of danger: F - Highly flammable, Xi - Irritant

R phrases: Highly flammable.

Harmful by inhalation and in contact with skin. Irritating to eyes, respiratory system and skin.

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Hazard categories:

Flammable liquid: Flam. Liq. 3

Serious eye damage/eye irritation: Eye Irrit. 2

Specific target organ toxicity - single exposure: STOT SE 3

Hazard Statements:

Flammable liquid and vapour.
May cause respiratory irritation.
Causes serious eye irritation.
May cause drowsiness or dizziness.

2.2. Label elements

Hazardous components which must be listed on the label

n-butyl acetate

Signal word: Danger
Pictograms: GHS02-GHS07





Hazard statements

H226 Flammable liquid and vapour.
 H335 May cause respiratory irritation.
 H319 Causes serious eye irritation.
 H336 May cause drowsiness or dizziness.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P261 Avoid breathing Vapour

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.





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P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P304+P312 IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell.

P337+P313 If eye irritation persists: Get medical advice/attention.

P370+P378 In case of fire: Use Dry sand, Extinguishing powder, alcohol resistant foam to extinguish.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Special labelling of certain mixtures

EUH066 Repeated exposure may cause skin dryness or cracking.

Additional advice on labelling

The product is classified and labelled according to EC directives or corresponding national laws.

Classification according to Regulation (EC) No. 1272/2008 [CLP]

2.3. Other hazards

The information is based on the present state of our knowledge and apply to the product as it is delivered. No risks worthy of mention. Please observe the information on the safety data sheet at all times.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Industrial sector specific solutions Mixture from the below listed substances with harmless additives.

Sum formula: C8H10 Molecular weight: 106,17 g/mol

Hazardous components

EC No	Chemical name	Quantity
CAS No	Classification according to Directive 67/548/EEC	
Index No	Classification according to Regulation (EC) No. 1272/2008 [CLP]	
REACH No		
204-658-1	n-butyl acetate	>= 30 - < 50 %
123-86-4	R10-66-67	
607-025-00-1	Flam. Liq. 3, STOT SE 3; H226 H336 EUH066	
203-550-1	4-methylpentan-2-one, isobutyl methyl ketone	>= 20 - < 25 %
108-10-1	F - Highly flammable, Xn - Harmful, Xi - Irritant R11-20-36/37-66	
606-004-00-4	Flam. Liq. 2, Acute Tox. 4, Eye Irrit. 2, STOT SE 3; H225 H332 H319 H335 EUH066	
203-631-1	cyclohexanone	>= 5 - < 10 %
108-94-1	Xn - Harmful R10-20	
606-010-00-7	Flam. Liq. 3, Acute Tox. 4; H226 H332	

Full text of R-, H- and EUH-phrases: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Consult physician if symptoms appear or if in doubt.

Remove affected person from the danger area and lay down.

No administration in cases of unconsiousness or cramps.

After inhalation

Move victim to fresh air. Put victim at rest and keep warm.

In case of irregular respiration or respiratory arrest apply artificial respiration.

If unconscious place in recovery position and seek medical advice.

After contact with skin

Remove contaminated, saturated clothing immediately.

After contact with skin, wash immediately with plenty of water and soap.

Do not use solvents or thinners!

After contact with eyes

In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Call a physician immediately.

Remove contact lenses, if present and easy to do. Continue rinsing.

After ingestion

Rinse mouth thoroughly with water.

Do NOT induce vomiting.



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Call a physician immediately.

4.2. Most important symptoms and effects, both acute and delayed

No further relevant information available

4.3. Indication of any immediate medical attention and special treatment needed

Description of first aid measures

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. When in doubt or if symptoms are observed, get medical advice.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Water spray jet, alcohol resistant foam, Dry extinguishing powder, Carbon dioxide (CO2)

Use water spray jet to protect personnel and to cool endangered containers.

Unsuitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

In case of fire thick, black fumes will form. Thermal decomposition may cause generation of irritant and harmful gases, so firefighters should wear proper protective equipment. Danger of serious damage to health by prolonged exposure.

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

Use water spray jet to protect personnel and to cool endangered containers.

Contaminated fire-fighting water must be collected separately. Residues of burned materials and fire water must be disposed in accordance with magisterial regulations.

Additional information

Do not empty into drains; dispose of this material and its container in a safe way.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Vapours are heavier than air and will spread at floor level. Provide adequate ventilation.

Wear personal protection equipment.

Remove persons to safety.

Keep away from unprotected people. Keep upwind. Ventilate affected area.

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

Clean with detergents. Avoid solvent cleaners. Clear contaminated areas thoroughly. Collect in closed containers for disposal.

6.4. Reference to other sections

Treat the recovered material as prescribed in the section on waste disposal. Disposal: see section 13 See protective measures under point 7 and 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

If handled uncovered, arrangements with local exhaust ventilation should be used if possible.

Avoid contact with skin and eyes.

Do no eat, drink or smoke when using this product.

Do not breathe gas/fumes/vapour/spray.

Wear personal protection equipment.

After use replace the closing cap immediately. Keep container tightly closed.

Advice on protection against fire and explosion

Avoid the formation of combustible and explosion-capable solvent fumes in air and an excess of MAK-thresholds. Take precautionary measures against static discharges. Use only antistatically equipped (spark-free) tools. Only use the material in places where open light, fire and other flammable sources can be kept away. When using do not smoke.

Further information on handling

No further measures if used according to specifications.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Always close containers tightly after the removal of product.

Store upright. Vapours are heavier than air, spread along floors and form explosive mixtures with air. Concentrated



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vapours are heavier than air. Vapours may form explosive mixtures with air.

Keep away from sources of ignition. - No smoking.

Protect from sunlight. Store in a well-ventilated place.

Store in a dry place. Store in a closed container.

Advice on storage compatibility

Do not store together with oxidising agents, toxic as well as strongly acid or alkaline substances.

Keep away from food, drink and animal feedingstuffs.

Further information on storage conditions

storage temperature of °C 5 up to °C 35

Take care for the labels and safety data sheets of the chemicals to be used.

Vapours are heavier than air and will spread at floor level.

As a standard electrical installations must be protected against explosion

7.3. Specific end use(s)

No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m³	fibres/ml	Category	Origin
108-10-1	4-Methylpentan-2-one	50	208		TWA (8 h)	WEL
		100	416		STEL (15 min)	WEL
123-86-4	Butyl acetate	150	724		TWA (8 h)	WEL
		200	966		STEL (15 min)	WEL
108-94-1	Cyclohexanone	10	41		TWA (8 h)	WEL
		20	82		STEL (15 min)	WEL

Biological Monitoring Guidance Values (EH40)

CAS No	Substance	Parameter	Value	Test material	Sampling time
108-10-1	4-methylpentan-2-one	4-methylpentan-2-one	20 µmol/L	urine	Post shift
108-94-1	Cyclohexanone	cyclohexanol	2 mmol/mol	urine	Post shift

DNEL/DMEL values

OAO No	2 halana							
CAS No	Substance							
DNEL type		Exposure route	Effect	Value				
123-86-4	n-butyl acetate							
Consumer DNEL, long-term dermal local				7 ppm				
Consumer DNEL, long-term		inhalation	local	48 mg/m³				

PNEC values

CAS No	Substance				
Environmental compartment Value					
123-86-4	23-86-4 n-butyl acetate				
Freshwater		0,18 mg/l			
Soil	0,093 mg/kg				

Additional advice on limit values

If local exhaust ventilation is not possible or not sufficient, the entire working area should be ventilated by technical means. In case of inadequate ventilation wear respiratory protection.

8.2. Exposure controls









Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.





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Protective and hygiene measures

The usual precautionary measures are to be adhered to when handling chemicals.

Wash hands before breaks and after work. When using do not eat, drink, smoke, sniff.

Eye/face protection

Wear eye/face protection.

Hand protection

Wear suitable gloves.

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

The precise time of rupture can be found out from the manufacturer of the protective gloves and must be observed. When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits.

Thorough skin-cleansing after handling the product.

After cleaning apply high-fat content skin care cream. Protect skin by using skin protective cream.

Skin protection

Wear suitable protective clothing. Wear antistatic work clothing.

Respiratory protection

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

Environmental exposure controls

If product enters soil, it will be mobile and may contaminate groundwater. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities. Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: liquid
Colour: clear
Odour: stinging

Test method

pH-Value: not applicable

Changes in the physical state

Melting point:Not available.Initial boiling point and boiling range:Not available.Softening point:not applicableFlash point:> 23 - 55 °CSustaining combustion:No data available

Flammability

Solid: not applicable Gas: not determined

Explosive properties

not explosive according to EU A.14 However, formation of explosive air/vapour mixtures are possible.

Lower explosion limits: --Upper explosion limits: --Ignition temperature: not determined

Auto-ignition temperature

Solid: Product is not selfigniting.
Gas: not applicable
Decomposition temperature: not determined

Oxidizing properties

no classification

Vapour pressure: 1 hPa

(at 50 °C)

Density: 0,9409 g/cm³
Water solubility: not determined
Partition coefficient: not determined
Viscosity / dynamic: not determined
Viscosity / kinematic: not determined





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Flow time: 60 s 6 mm 8 DIN EN ISO 2431

Vapour density: Not available. Evaporation rate: Not available.

Solvent content: Organic solvents: -,- %

Maximum VOC content: 67,99 %

9.2. Other information

Solid content: 32 %

SECTION 10: Stability and reactivity

10.1. Reactivity

No information available.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.

10.4. Conditions to avoid

Conditions for safe storage, including any incompatibilities, No specific if used according to specifications. Keep/Store only in original container.

Only use containers specifically approved for the substance/product.

10.5. Incompatible materials

Do not store together with oxidising agents, toxic as well as strongly acid or alkaline substances.

Exothermic reaction with: Oxidising agent, alkaline Substances

10.6. Hazardous decomposition products

Carbon dioxide (CO2), Nitrogen oxides (NOx), Carbon monoxide. In case of fire thick, black fumes will form

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

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

Vapours may cause drowsiness and dizziness.

CAS No	Chemical name	Chemical name						
	Exposure routes	Method	Dose	Species	Source			
123-86-4	n-butyl acetate							
	oral	LD50	10800 mg/kg	Ratte	RTECS			
	dermal	LD50	17600 mg/kg	Kaninchen	IUCLID			
108-10-1	4-methylpentan-2-one, isobutyl methyl ketone							
	oral	LD50	2080 mg/kg	Rat	RTECS			
	dermal	LD50	>16000 mg/kg	Rabbit	IUCLID			
	inhalative vapour	ATE	11 mg/l					
	inhalative aerosol	ATE	1,5 mg/l					
108-94-1	cyclohexanone							
	inhalative vapour	ATE	11 mg/l					
	inhalative aerosol	ATE	1,5 mg/l					

Irritation and corrosivity

Causes serious eye irritation.

Sensitising effects

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

STOT-single exposure

May cause respiratory irritation. (4-methylpentan-2-one, isobutyl methyl ketone)

May cause drowsiness or dizziness. (n-butyl acetate)

Severe effects after repeated or prolonged exposure

Repeated exposure may cause skin dryness or cracking.

Carcinogenic/mutagenic/toxic effects for reproduction

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

Aspiration hazard

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

Specific effects in experiment on an animal

Toxicological data are not available.





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Additional information on tests

none

Observations relevant to classification

No special references.

Other observations

No special precautionary measures.

Further information

The ecotoxicological properties of this mixture are determined by the ecotoxicological properties of the single components (see section 3).

SECTION 12: Ecological information

12.1. Toxicity

CAS No	Chemical name								
	Aquatic toxicity	Method	Dose	[h] [d]	Species	Source			
123-86-4	n-butyl acetate	n-butyl acetate							
	Acute fish toxicity	LC50	81 mg/l	96 h					
108-10-1	4-methylpentan-2-one, isobutyl meth	4-methylpentan-2-one, isobutyl methyl ketone							
	Acute fish toxicity	LC50	505 - 540 mg/l	96 h	Pimephales promelas				
	Acute algae toxicity	ErC50	400 mg/l	96 h	Selenastrum capricornutum				
	Acute crustacea toxicity	EC50	170 mg/l	48 h	Daphnia magna	IUCLID			

12.2. Persistence and degradability

none Evidence exists for biodegradation processes.

12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
123-86-4	n-butyl acetate	0,29
108-10-1	4-methylpentan-2-one, isobutyl methyl ketone	1,31
108-94-1	cyclohexanone	0,81

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

This substance does not meet the criteria for classification as PBT or vPvB.

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

Prevent from reaching waters or soil. Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

Must not be disposed together with household garbage.

Waste disposal number of waste from residues/unused products

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by dangerous substances

Classified as hazardous waste.

Waste disposal number of used product

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by dangerous substances

Classified as hazardous waste.

Contaminated packaging

Contaminated packages must be completely emptied and can be re-used following proper cleaning. Packing which cannot be properly cleaned must be disposed of. Dispose of waste according to applicable legislation. Handle contaminated packages in the same way as the substance itself.





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SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number:UN 126314.2. UN proper shipping name:Paint14.3. Transport hazard class(es):314.4. Packing group:IIIHazard label:3



Classification code:

Special Provisions: 163 640E 650

Limited quantity: 5 L
Excepted quantity: E1
Transport category: 3
Hazard No: 30
Tunnel restriction code: D/E

Inland waterways transport (ADN)

14.1. UN number:UN 126314.2. UN proper shipping name:Paint14.3. Transport hazard class(es):314.4. Packing group:IIIHazard label:3



Classification code: F1

Special Provisions: 163 640E 650

Limited quantity: 5 L
Excepted quantity: E1

Marine transport (IMDG)

14.1. UN number:UN 126314.2. UN proper shipping name:Paint14.3. Transport hazard class(es):314.4. Packing group:IIIHazard label:3



Special Provisions: 163, 223, 955

Air transport (ICAO)

14.1. UN number:UN 126314.2. UN proper shipping name:Paint14.3. Transport hazard class(es):314.4. Packing group:IIIHazard label:3





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Special Provisions:

Limited quantity Passenger:

Passenger LQ:

Y344

Excepted quantity:

E1

IATA-packing instructions - Passenger:355IATA-max. quantity - Passenger:60 LIATA-packing instructions - Cargo:366IATA-max. quantity - Cargo:220 L

14.6. Special precautions for user

Warning: Flammable liquids

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

No special precautionary measures.

SECTION 15: Regulatory information

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

EU regulatory information

2010/75/EU (VOC): 31 % (291,679 g/l) 2004/42/EC (VOC): 31 % (291,679 g/l)

Additional information

The product is classified and labelled according to EC directives or corresponding national laws.

Classification according to Regulation (EC) No. 1272/2008 [CLP]

National regulatory information

Employment restrictions: Observe employment restrictions for child bearing mothers and nursing.

Water contaminating class (D): 1 - slightly water contaminating

Additional information

Betriebssicherheitsverordnung (BetrSichV) Highly flammable.

No further data.

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 2,3,4,8,9,10,11,12,13,14,15,16.

Abbreviations and acronyms

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations

Concerning the International Transport of Dangerous Goods by Rail)

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the

International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Relevant R-phrases (Number and full text)

10 Flammable.
11 Highly flammable.
20 Harmful by inhalation.

36/37 Irritating to eyes and respiratory system.

66 Repeated exposure may cause skin dryness or cracking.

67 Vapours may cause drowsiness and dizziness.





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Relevant H- and EUH-phrases (Number and full text)

H225 Highly flammable liquid and vapour.
H226 Flammable liquid and vapour.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.

H335 May cause respiratory irritation. H336 May cause drowsiness or dizziness.

EUH066 Repeated exposure may cause skin dryness or cracking.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material. The information is based on present level of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)