

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

FINOPEARL Retention adhesive

REF 20672

Further trade names

XYLENE

MIBK

Product group:

Kohlenwasserstoffe, gesä.

UFI:

PT7U-113E-N00X-4JWQ

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

Coatings and paints, fillers, putties, thinners

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

Telefax: +49-97 08-90 94 21

e-mail: info@fino.com

Internet: www.fino.com

Contact person: Joachim Mahlmeister

Telephone: +49-97 08-90 94 20

e-mail: info@fino.com

Responsible Department: This number can only be reached during our office hours, Monday to Friday from 8 a.m. to 5 p.m.

1.4. Emergency telephone number:

+49-89-1 92 40

POISON CENTER München

24 hour(s) 7 day(s)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****GB CLP Regulation**

Flam. Liq. 2; H225

Acute Tox. 4; H332

Skin Irrit. 2; H315

Eye Irrit. 2; H319

Carc. 2; H351

STOT SE 3; H336

Full text of hazard statements: see SECTION 16.

2.2. Label elements**GB CLP Regulation****Hazard components for labelling**

4-methylpentan-2-one; isobutyl methyl ketone

Signal word:

Danger

Pictograms:



Hazard statements

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H351	Suspected of causing cancer if swallowed.
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 or shower.
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.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
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.
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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:	C ₈ H ₁₀
Molecular weight:	106,17 g/mol

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
1330-20-7	xylene			>= 30 - < 50 %
	215-535-7	601-022-00-9		
	Flam. Liq. 3, Acute Tox. 4, Acute Tox. 4, Skin Irrit. 2; H226 H332 H312 H315			
108-10-1	4-methylpentan-2-one; isobutyl methyl ketone			>= 30 - <50 %
	203-550-1	606-004-00-4		
	Flam. Liq. 2, Carc. 2, Acute Tox. 4, Eye Irrit. 2, STOT SE 3; H225 H351 H332 H319 H336 EUH066			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
1330-20-7	215-535-7	xylene	>= 30 - < 50 %
		inhalation: ATE = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: ATE = 1100 mg/kg	
108-10-1	203-550-1	4-methylpentan-2-one; isobutyl methyl ketone	>= 30 - <50 %
		inhalation: ATE 11 mg/l (vapours); dermal: LD50 = >16000 mg/kg; oral: LD50 = 2080 mg/kg	

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 unconsciousness or cramps.

After inhalation

In case of irregular respiration or respiratory arrest apply artificial respiration.
If unconscious but breathing normally, 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.
Call a physician immediately.

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

Dizziness, Dizziness

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.

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****General advice**

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

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**Other information**

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

Clean with detergents. Avoid solvent cleaners. Clear contaminated areas thoroughly.

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 eyes and skin.

Do not eat, drink or smoke when using this product.

Do not breathe gas/fumes/vapour/spray.

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.

Advice on general occupational hygiene

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.

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

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

Concentrated 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.

Hints on joint storage

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)

Retention adhesive

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
1330-20-7	Xylene: mixed isomers	50	220		TWA (8 h)	WEL
		100	441		STEL (15 min)	WEL

Biological Monitoring Guidance Values (EH40)

CAS No	Substance	Parameter	Value	Test material	Sampling time
1330-20-7	Xylene, o-, m-, p- or mixed isomers	methyl hippuric acid (creatinine)	650 mmol/mol	urine	Post shift
108-10-1	4-methylpentan-2-one	4-methylpentan-2-one	20 µmol/L	urine	Post shift

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.

Individual protection measures, such as personal protective equipment
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. EN ISO 374

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
Changes in the physical state

Melting point/freezing point:	Not available.
Boiling point or initial boiling point and boiling range:	Not available.
Softening point:	not applicable
Flash point:	> 23 - 55 °C

Flammability

Solid/liquid:	not applicable
	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:	---
Auto-ignition temperature:	not determined

Self-ignition temperature

Solid:	Product is not selfigniting.
Gas:	not applicable

Decomposition temperature:	not determined
pH-Value:	not applicable
Viscosity / dynamic:	not determined
Viscosity / kinematic:	not determined
Flow time:	60 s 6 mm 8 DIN EN ISO 2431
Water solubility:	not determined
Partition coefficient n-octanol/water:	not determined
Vapour pressure: (at 50 °C)	1 hPa
Density:	0,9409 g/cm ³
Relative vapour density:	Not available.

9.2. Other information**Information with regard to physical hazard classes**

Sustaining combustion:	No data available
Oxidizing properties no classification	

Other safety characteristics

Solvent content:	Organic solvents: -, % Maximum VOC content: 67,99 %
Solid content:	32 %
Evaporation rate:	Not available.

Further Information**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: 0 Oxidising agent, strong Substances, Alkalis

10.6. Hazardous decomposition products

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

SECTION 11: Toxicological information**11.1. Information on hazard classes as defined in GB CLP Regulation****Acute toxicity**

Harmful if inhaled.
Vapours may cause drowsiness and dizziness.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
1330-20-7	xylene				
	dermal	ATE 1100 mg/kg			
	inhalation vapour	ATE 11 mg/l			
	inhalation dust/mist	ATE 1,5 mg/l			
108-10-1	4-methylpentan-2-one; isobutyl methyl ketone				
	oral	LD50 2080 mg/kg	Rat	RTECS	
	dermal	LD50 >16000 mg/kg	Rabbit	IUCLID	
	inhalation vapour	ATE 11 mg/l			

Irritation and corrosivity

Causes skin irritation.

Causes serious eye irritation.

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

Suspected of causing cancer. (4-methylpentan-2-one; isobutyl methyl ketone)

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

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

STOT-single exposure

May cause drowsiness or dizziness. (4-methylpentan-2-one; isobutyl methyl ketone)

STOT-repeated exposure

Repeated exposure may cause skin dryness or cracking.

Aspiration hazard

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

Specific effects in experiment on an animal

Toxicological data are not available.

Additional information on tests

none

Practical experience

No special references.

11.2. Information on other hazards
Other information

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	Dose	[h] [d]	Species	Source	Method
108-10-1	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
108-10-1	4-methylpentan-2-one; isobutyl methyl ketone	1,31

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

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

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

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.

List of Wastes Code - 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 hazardous substances; hazardous waste

List of Wastes Code - 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 hazardous substances; 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.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number: UN 1263
14.2. UN proper shipping name: Paint
14.3. Transport hazard class(es): 3
14.4. Packing group: III
Hazard label: 3



Classification code: F1
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 or ID number: UN 1263
14.2. UN proper shipping name: Paint
14.3. Transport hazard class(es): 3
14.4. Packing group: III
Hazard label: 3



Classification code: F1
Special Provisions: 163 640E 650
Limited quantity: 5 L
Excepted quantity: E1

Marine transport (IMDG)

14.1. UN number or ID number: UN 1263
14.2. UN proper shipping name: Paint
14.3. Transport hazard class(es): 3
14.4. Packing group: III
Hazard label: 3



Special Provisions: 163, 223, 955
Limited quantity: 5 L
Excepted quantity: E1
EmS: F-E, S-E

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 1263
14.2. UN proper shipping name: Paint
14.3. Transport hazard class(es): 3
14.4. Packing group: III
Hazard label: 3



Special Provisions: A3 A72
Limited quantity Passenger: 10 L

Passenger LQ:	Y344	
Excepted quantity:	E1	
IATA-packing instructions - Passenger:		355
IATA-max. quantity - Passenger:		60 L
IATA-packing instructions - Cargo:		366
IATA-max. quantity - Cargo:		220 L

14.6. Special precautions for user

Warning: Flammable liquids

14.7. Maritime transport in bulk according to IMO instruments

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

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40, Entry 75

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 under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water hazard class (D): 1 - slightly hazardous to water

Additional information

Betriebssicherheitsverordnung (BetrSichV)

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): 6,15.

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 H and EUH statements (number and full text)

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer if swallowed.
H351	Suspected of causing cancer.
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 the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

Identified uses

No	Short title	LCS	SU	PC	PROC	ERC	AC	TF	Specification
1	Retentionskleber	-	20	9a	10	8f	0	-	123-86-4

LCS: Life cycle stages

PC: Product categories

ERC: Environmental release categories

TF: Technical functions

SU: Sectors of use

PROC: Process categories

AC: Article categories

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