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

1.1. Product identifier

FINO RESIN LC Modelling Resin

REF 02149

Further trade names

TRIMETHYLBENZOYL DIPHENYLPHOSPHINE OXIDE

UFI: **QHX5-V027-A007-C72P**

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

Use of the substance/mixture

ready-to-use, light-curing PMMA-based plastic in a metering or rotary syringe. "Modelling of iInlays, onlays, crown and bridge constructions; Fixation of soldering joints"

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

Eye Dam. 1; H318
Skin Sens. 1; H317
Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

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

2.2. Label elements

GB CLP Regulation

Hazard components for labelling

Neopentyl glycol propoxylate Diacrylate
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

Signal word: Danger

Pictograms:

Hazard statements

H318	Causes serious eye damage.
H317	May cause an allergic skin reaction.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of water.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER.
P391	Collect spillage.
P501	Dispose of contents/container to an appropriate recycling or disposal facility.

Special labelling of certain mixtures

EUH208	Contains diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide. May produce an allergic reaction.

Additional advice on labelling

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

2.3. Other hazards

The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Paste made of different dimethyl-acrylates, mineral-free fillers, photo-chemical initiators, stabilisers, pigments.

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
84170-74-1	Neopentyl glycol propoxylate Diacrylate			35-<40%
	Skin Sens. 1, Aquatic Chronic 2; H317 H411			
	Aliphatic urethane acrylate			15-<20%
	Skin Sens. 1, Aquatic Chronic 2; H317 H411			
	Acrylated urethane			1-<5%
	Acute Tox. 4, Eye Dam. 1, Skin Sens. 1, Aquatic Chronic 2; H302 H318 H317 H411			
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide			<1%
	278-355-8	015-203-00-X		
	Repr. 2; H361f			

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		
84170-74-1		Neopentyl glycol propoxylate Diacrylate	35-<40% %
	inhalation: LC50 = >2 mg/l (vapours); dermal: LD50 = >2000 mg/kg; oral: LD50 = >5000 mg/kg		
		Aliphatic urethane acrylate	15-<20% %
	dermal: LD50 = >2000 mg/kg; oral: LD50 = >2000 mg/kg		
		Acrylated urethane	1-<5% %
	dermal: LD50 = >2000 mg/kg; oral: LD50 = 1350 mg/kg		
75980-60-8	278-355-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	<1% %
	oral: LD50 = >2000 mg/kg		

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

The polymerised material is not hazardous.

After inhalation

Provide fresh air. If breathing is irregular or stopped, administer artificial respiration. Medical treatment necessary.

After contact with skin

After contact with skin, wash immediately with polyethylene glycol, followed by plenty of water. Take off immediately all contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention.

After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water.

After ingestion

Rinse mouth immediately and drink plenty of water.

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

No information available.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

Non-flammable.

5.3. Advice for firefighters

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

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Use personal protection equipment.

For non-emergency personnel

Emergency procedures

Remove persons to safety. Remove victim out of the danger area.

The danger areas must be delimited and identified using relevant warning and safety signs.

For emergency responders

Use personal protection equipment.

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

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

For containment

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

Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

When the unprotected material is exposed to light slow polymerisation may occur. Reserved for industrial and professional use. Keep out of reach of children.

Advice on protection against fire and explosion

No special fire protection measures are necessary.

Advice on general occupational hygiene

The usual precautionary measures are to be adhered to when handling chemicals. Take off contaminated clothing. Wash hands before breaks and after work. When using do not eat or drink.

Further information on handling

Only by qualified personnel in dental surgery or dental laboratory.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Sensitivity to light. Protected from light not above 25 °C

Keep container tightly closed.

Hints on joint storage

No special measures are necessary.

Further information on storage conditions

None if stored and handled according to specifications.

Betriebssicherheitsverordnung (BetrSichV) ---

7.3. Specific end use(s)

for the modelling of secondary parts in the dental technological laboratory.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide			
Worker DNEL, long-term		dermal	systemic	0,233 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	0,145 mg/m³
Consumer DNEL, long-term		dermal	systemic	0,0833 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,0833 mg/kg bw/day

PNEC values

CAS No	Substance	
Environmental compartment		Value
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	

Additional advice on limit values

To date, no national critical limit values exist.

8.2. Exposure controls

Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear eye/face protection.

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Skin protection

Wear suitable protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

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:	blue
Odour:	characteristic

Changes in the physical state

Melting point/freezing point:	not determined

Boiling point or initial boiling point and boiling range:	not determined
Softening point:	not determined
Solidification point::	not determined
Flash point:	> 100 °C
Flammability	
Solid/liquid:	not applicable
Explosive properties	
not explosive.	
Lower explosion limits:	No
Upper explosion limits:	No
Auto-ignition temperature:	not determined
Self-ignition temperature	
Solid:	Product is not selfigniting.
Decomposition temperature:	not determined
pH-Value:	not applicable
Viscosity / dynamic:	not determined
Flow time:	This information is not available.
Water solubility:	practically insoluble
Solubility in other solvents	
not determined	
Partition coefficient n-octanol/water:	not determined
Vapour pressure: (at 20 °C)	< 1 hPa
Density (at 20 °C):	1,12 g/cm³
Bulk density:	not determined
Relative vapour density:	not determined

9.2. Other information

Information with regard to physical hazard classes	
Sustaining combustion:	No data available
Oxidizing properties	
Not oxidising.	
Other safety characteristics	
Solvent content:	Organic solvents: -,- % Maximum VOC content: - %
Solid content:	not determined
Evaporation rate:	not determined
Further Information	

SECTION 10: Stability and reactivity

10.1. Reactivity

UV-radiation/sunlight, Light, Sensitivity to light.

10.2. Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature. When the unprotected material is exposed to light slow polymerisation may occur.

10.3. Possibility of hazardous reactions

Sensitivity to light. Protected from light not above

10.4. Conditions to avoid

Light.

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

No known hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in GB CLP Regulation

Acute toxicity

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

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
84170-74-1	Neopentyl glycol propoxylate Diacrylate				
	oral	LD50 >5000 mg/kg	Rat	ECHA	
	dermal	LD50 >2000 mg/kg	Rat	ECHA	
	inhalation (4 h) vapour	LC50 >2 mg/l	Rat		
	Aliphatic urethane acrylate				
	oral	LD50 >2000 mg/kg	Rat	ECHA	
	dermal	LD50 >2000 mg/kg	Rabbit	ECHA	
	Acrylated urethane				
	oral	LD50 1350 mg/kg	Rat	ECHA	
	dermal	LD50 >2000 mg/kg	Rabbit	ECHA	
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide				
	oral	LD50 >2000 mg/kg			

Irritation and corrosivity

Causes serious eye damage.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Sensitising effects

Contains diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide. May produce an allergic reaction.May cause an allergic skin reaction. (Neopentyl glycol propoxylate Diacrylate; Aliphatic urethane acrylate; Acrylated urethane)

Carcinogenic/mutagenic/toxic effects for reproduction

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

STOT-single exposure

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

STOT-repeated exposure

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

Specific symptoms in animal studies Toxicological analyses are not available.

Additional information on tests

The study does not need to be conducted because the substance is known to be insoluble in water..

Practical experience

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

11.2. Information on other hazards

Other information

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

SECTION 12: Ecological information

12.1. Toxicity

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] | [d]	Species	Source	Method
84170-74-1	Neopentyl glycol propoxylate Diacrylate						
	Acute fish toxicity	LC50	2,7 mg/l	96 h	Danio rerio (zebrafish)		
	Acute algae toxicity	ErC50	11 mg/l	72 h	Pseudokirchneriella subcapitata		
	Acute crustacea toxicity	EC50	37 mg/l	48 h	Daphnia magna (Big water flea)		
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide						
	Acute fish toxicity	LC50 mg/l	6,53	96 h	Oryzias latipes (Ricefish)		
	Acute algae toxicity	ErC50 mg/l	2,01	72 h	Pseudokirchneriella subcapitata		OECD 203
	Acute crustacea toxicity	EC50 mg/l	3,53	48 h	Daphnia magna (Big water flea)		OECD 202

12.2. Persistence and degradability

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
84170-74-1	Neopentyl glycol propoxylate Diacrylate			
		51%	28	

12.3. Bioaccumulative potential

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
84170-74-1	Neopentyl glycol propoxylate Diacrylate	1-4,68
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	3,257

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

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

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.

Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Water hazard class highly hazardous to water

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.
Dispose of waste according to applicable legislation.

List of Wastes Code - residues/unused products

200139 MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS; separately collected fractions (except 15 01); Plastics

List of Wastes Code - used product

200139 MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS; separately collected fractions (except 15 01); Plastics

Contaminated packaging

Non-contaminated packages may be recycled.
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 0000
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 0000
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

14.1. UN number or ID number:	UN 0000
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	UN 0000
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No special measures are necessary.

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 75

2004/42/EC (VOC):	22,447% (244,672 g/l)
Information according to 2012/18/EU (SEVESO III):	E2 Hazardous to the Aquatic Environment
Additional information:	0

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 restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).
Water hazard class (D):	2 - obviously hazardous to water

15.2. Chemical safety assessment

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

SECTION 16: Other information

Changes

* Data changed compared with the previous version.

Abbreviations and acronyms

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
Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3

Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H361f	Suspected of damaging fertility.
H411	Toxic to aquatic life with long lasting effects.
EUH208	Contains diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide. May produce an allergic reaction.

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	Plastic articles	C	20	0	-	4	13g, 0	-	12

LCS: Life cycle stages
SU: Sectors of use
PC: Product categories
PROC: Process categories
ERC: Environmental release categories
AC: Article categories
TF: Technical functions

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