

freeprint® model 385

Revision date: 10/15/2021

Product code: 935

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1. Identification

Product identifier

freeprint® model 385

Recommended use of the chemical and restrictions on use

Use of the substance/mixture

Ligth-curing resin for the generative fabrication of dental models.

Details of the supplier of the safety data sheet

Company name:	DETAX GmbH	
Street:	Carl-Zeiss-Straße 4	
Place:	D-76275 Ettlingen	
Telephone:	+49 7243/510-0	Telefax: +49 7243/510-100
E-mail:	post@detax.com	
Internet:	www.detax.com	
Responsible Department:	This number is only obtainable during office hours (Monday - Thursday 8.00 a.m. - 5.00 p.m., Friday 8.00 a.m. - 4.00 p.m.)	

Emergency phone number: +1-800-424-9300 (CHEMTREC worldwide)

2. Hazard(s) identification

Classification of the chemical

Regulation (EC) No 1272/2008

Eye Irrit. 2; H319
 Skin Sens. 1; H317
 Repr. 1B; H360D
 Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

Label elements

Regulation (EC) No 1272/2008

Hazard components for labelling

aliphatic urethane acrylate
 tripropyleneglycol diacrylate
 @0000030536.1
 diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide
 phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

Signal word: Danger

Pictograms:



Hazard statements

H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H360D	May damage the unborn child
H412	Harmful to aquatic life with long lasting effects

Precautionary statements

P201	Obtain special instructions before use.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

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P302+P352 If on skin: Wash with plenty of water.
 P308+P313 If exposed or concerned: Get medical advice/attention.
 P362+P364 Take off contaminated clothing and wash it before reuse.
 P501 Dispose of contents/ container in accordance with local and national regulations.

Special labelling of certain mixtures

EUH210 Safety data sheet available on request.

Hazards not otherwise classified

No information available.

3. Composition/information on ingredients

Mixtures

Chemical characterization

Mixture of acrylic/ methacrylic resins with auxilliary matters.

Hazardous components

CAS No	Components			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
2143103-44-8	aliphatic urethane acrylate			40 - < 60 %
	944-336-4		01-2120266262-60	
	Skin Sens. 1B, Aquatic Chronic 3; H317 H412			
	acrylated resin			5 - < 20 %
	Eye Irrit. 2; H319			
42978-66-5	tripropyleneglycol diacrylate			5 - < 20 %
	256-032-2		01-2119484613-34	
	Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, STOT SE 3, Aquatic Chronic 2; H315 H319 H317 H335 H411			
2455-24-5	tetrahydrofurfuryl methacrylate THFMA purified grade			0.1 - < 5 %
	219-529-5		01-2120748481-53	
	Repr. 1B, Skin Sens. 1, Aquatic Chronic 3; H360 H317 H412			
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide			0.1 - < 5 %
	278-355-8	015-203-00-X	01-2119972295-29	
	Repr. 2, Skin Sens. 1B, Aquatic Chronic 2; H361 H317 H411			
162881-26-7	phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide			0.1 - < 5 %
	423-340-5	015-189-00-5	01-2119489401-38	
	Skin Sens. 1A, Aquatic Chronic 4; H317 H413			

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

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Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Components	Quantity
		Specific Conc. Limits, M-factors and ATE	
2143103-44-8	944-336-4	aliphatic urethane acrylate	40 - < 60 %
		oral: LD50 = >5000 mg/kg	
		acrylated resin	5 - < 20 %
		dermal: LD50 = >2000 mg/kg; oral: LD50 = >2000 mg/kg	
42978-66-5	256-032-2	tripropylenglycol diacrylate	5 - < 20 %
		dermal: LD50 = >2000 mg/kg; oral: LD50 = 6200 mg/kg	
75980-60-8	278-355-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	0.1 - < 5 %
		dermal: LD50 = >2000 mg/kg; oral: LD50 = >5000 mg/kg	
162881-26-7	423-340-5	phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	0.1 - < 5 %
		dermal: LD50 = >2000 mg/kg; oral: LD50 = >2000 mg/kg	

4. First-aid measures

Description of first aid measures

After inhalation

Provide fresh air. When in doubt or if symptoms are observed, get medical advice.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. Medical treatment necessary.

After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

After ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention.

Seek immediately medical advice. Do not induce vomiting. In case of spontaneous vomiting take care of an unhindered flow out of the vomit (danger of suffocation).

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

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

Specific hazards arising from the chemical

Non-flammable.

Special protective equipment and precautions for fire-fighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

Additional information

Suppress gases/vapors/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

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General advice

Provide adequate ventilation. Do not breathe gas/fume/vapor/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

Environmental precautions

Do not allow to enter into surface water or drains.

Methods and material for containment and cleaning up

Other information

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.

Reference to other sections

Safe handling: see section 7

Personal protection equipment (PPE): see section 8

Disposal: see section 13

7. Handling and storage

Precautions for safe handling

Advice on safe handling

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fume/vapor/spray.

Advice on protection against fire and explosion

No special fire protection measures are necessary.

Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff.

Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaust at critical locations.

Hints on joint storage

Keep away from spontaneous flammable or combustible substances.

Further information on storage conditions

Keep only in the original container in a dry and well-ventilated place, away from foodstuffs. Keep away from all kind of lighth. An inert gas blanket should not be applied, because the stability of the product depends on the presence of oxygen (air).

Specific end use(s)

Lighth-curing resin for the generative fabrication of dental models.
For use by trained specialist staff.

8. Exposure controls/personal protection

Control parameters

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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	inhalation	systemic	0,822 mg/m ³
Worker DNEL, long-term	dermal	systemic	0,233 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	0,145 mg/m ³
Consumer DNEL, long-term	dermal	systemic	0,0833 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	0,0833 mg/kg bw/day

Exposure controls
Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fume/vapor/spray.

Individual protection measures, such as personal protective equipment
Eye/face protection

Suitable eye protection: goggles.

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.

Suitable are gloves of the following material: Butyl caoutchouc (butyl rubber)

Skin protection

Wear suitable protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

9. Physical and chemical properties
Information on basic physical and chemical properties

Physical state:	liquid:
Color:	several shades, according to the product name
Odor:	faintly like esters

Test method

Melting point/freezing point:	not determined
Boiling point or initial boiling point and boiling range:	not determined
Flammability:	not applicable
Lower explosion limits:	not applicable
Upper explosion limits:	not determined
Flash point:	>100 °C DIN 51755
Decomposition temperature:	>=190 °C
pH-Value:	not determined
Water solubility:	practically insoluble

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Solubility in other solvents

not determined

Partition coefficient n-octanol/water:

not determined

Vapor pressure:

<1 hPa

(at 20 °C)

Density (at 20 °C):

1,09 g/cm³ DIN 51757

Relative vapour density:

not determined

Other information

Information with regard to physical hazard classes

Explosive properties

The product is not: Explosive.

Self-ignition temperature

Solid:

not applicable

Gas:

not applicable

Oxidizing properties

Not oxidizing.

Other safety characteristics

Evaporation rate:

not determined

Solid content:

not determined

10. Stability and reactivity

Reactivity

No hazardous reaction when handled and stored according to provisions.

Chemical stability

The product is stable under storage at normal ambient temperatures.

Possibility of hazardous reactions

Reacts with : strong oxidising agents, strong alkaline or acidic materials.

Conditions to avoid

Ultra-violet light and daylight initiate polymerisation of the product. Therefore keep only in tightly closed containers away from any sources of light at 15°C - 28°C / 59°F - 82 °F.

Incompatible materials

No information available.

Hazardous decomposition products

In case of fire, acrid acrylic fumes may occur.

11. Toxicological information

Information on toxicological effects

Acute toxicity

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

For the product itself no toxicological data are available. In products with a comparable composition, a LD50 (orally, species rat) of > 5000 mg/kg has been found.

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

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CAS No	Components				
	Exposure route	Dose	Species	Source	Method
2143103-44-8	aliphatic urethane acrylate				
	oral	LD50 >5000 mg/kg	Ratte	Lieferanten-Sicherheit sdatenblatt	OECD 401
	acrylated resin				
	oral	LD50 >2000 mg/kg	Rat		
	dermal	LD50 >2000 mg/kg	Rabbit		
42978-66-5	tripropyleneglycol diacrylate				
	oral	LD50 6200 mg/kg	Rat		
	dermal	LD50 >2000 mg/kg	Rabbit		
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide				
	oral	LD50 >5000 mg/kg	Rat		
	dermal	LD50 >2000 mg/kg	Rat		
162881-26-7	phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide				
	oral	LD50 >2000 mg/kg	Rat	OECD 401	
	dermal	LD50 >2000 mg/kg	Rat	OECD 402	

Irritation and corrosivity

Causes serious eye irritation

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

Sensitizing effects

May cause an allergic skin reaction (aliphatic urethane acrylate; tripropyleneglycol diacrylate; tetrahydrofurfuryl methacrylate THFMA purified grade; diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide; phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide)

Carcinogenic/mutagenic/toxic effects for reproduction

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

Specific target organ toxicity (STOT) - single exposure

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

Specific target organ toxicity (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.

Additional information on tests

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP]. Specific hazards arising from the chemical!

12. Ecological information

Ecotoxicity

Harmful to aquatic life with long lasting effects.

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CAS No	Components					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
2143103-44-8	aliphatic urethane acrylate					
	Acute fish toxicity	LC50 18 mg/l	96 h	Oncorhynchus mykiss	Lieferanten-SDB	OECD 203
	Acute crustacea toxicity	EC50 15.9 mg/l	48 h	Daphnia magna	Lieferanten-SDB	OECD 202
	Acute bacteria toxicity	(EC50 25.4 mg/l)		Pseudokirchneriella subcapitata	Lieferanten-SDB	OECD 201
42978-66-5	tripropylene glycol diacrylate					
	Acute fish toxicity	LC50 4,5-10 mg/l	96 h	Leuciscus idus (golden orfe)		
	Acute algae toxicity	ErC50 >28 mg/l	72 h	Desmodesmus subspicatus		
	Acute crustacea toxicity	EC50 88,7 mg/l	48 h	Daphnia magna (Big water flea)		
2455-24-5	tetrahydrofurfuryl methacrylate THFMA purified grade					
	Acute fish toxicity	LC50 34,7 mg/l	96 h		GESTIS	
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide					
	Acute algae toxicity	ErC50 >2,01 mg/l	72 h	Pseudokirchneriella subcapitata		
	Acute crustacea toxicity	EC50 3,53 mg/l	48 h	Daphnia magna (Big water flea)		
	Acute bacteria toxicity	(EC50 >1000 mg/l)	3 h	Activated sludge		
162881-26-7	phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide					
	Acute fish toxicity	LC50 >0,09 mg/l	96 h	Danio rerio (zebrafish)	OECD 203	
	Acute algae toxicity	ErC50 >0,26 mg/l	72 h	Desmodesmus subspicatus	OECD 201	
	Acute crustacea toxicity	EC50 >1,175 mg/l	48 h	Daphnia magna (Big water flea)	OECD 202	
	Crustacea toxicity	NOEC >0,008 mg/l	21 d	Daphnia magna (Big water flea)	OECD 211	
	Acute bacteria toxicity	(EC50 >100 mg/l)	3 h	OECD 209		

Persistence and degradability

The product has not been tested.

CAS No	Components			
	Method	Value	d	Source
	Evaluation			
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide			
		0-10%	28	
	Not readily biodegradable (according to OECD criteria)			
162881-26-7	phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide			
	CO2 formation (% of the theoretical value).	1%	29	
	Not readily biodegradable (according to OECD criteria)			

Bioaccumulative potential

The product has not been tested.

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Partition coefficient n-octanol/water

CAS No	Components	Log Pow
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	3,1
162881-26-7	phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	5,8

BCF

CAS No	Components	BCF	Species	Source
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	47-55	Cyprinus carpio (Common Carp)	
162881-26-7	phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	<5	Cyprinus carpio (Common Carp)	OECD 305

Mobility in soil

The product has not been tested.

Results of PBT and vPvB assessment

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

Not identified as PBT/ vPvB substances

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.

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.

13. Disposal considerations

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.

Contaminated packaging

Hazardous waste according to Directive 2008/98/EC (waste framework directive). Handle contaminated packages in the same way as the substance itself.

14. Transport information

Land transport (ADR/RID)

UN number or ID number:

No dangerous good in sense of this transport regulation.

UN proper shipping name:

No dangerous good in sense of this transport regulation.

Transport hazard class(es):

No dangerous good in sense of this transport regulation.

Packing group:

No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

UN number or ID number:

No dangerous good in sense of this transport regulation.

UN proper shipping name:

No dangerous good in sense of this transport regulation.

Transport hazard class(es):

No dangerous good in sense of this transport regulation.

Packing group:

No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

UN number or ID number:

No dangerous good in sense of this transport regulation.

UN proper shipping name:

No dangerous good in sense of this transport regulation.

Transport hazard class(es):

No dangerous good in sense of this transport regulation.

Packing group:

No dangerous good in sense of this transport regulation.

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Air transport (ICAO-TI/IATA-DGR)

<u>UN number or ID number:</u>	No dangerous good in sense of this transport regulation.
<u>UN proper shipping name:</u>	No dangerous good in sense of this transport regulation.
<u>Transport hazard class(es):</u>	No dangerous good in sense of this transport regulation.
<u>Packing group:</u>	No dangerous good in sense of this transport regulation.

Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

Special precautions for user

No dangerous good in sense of this transport regulation.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No dangerous good in sense of this transport regulation.

15. Regulatory information

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

Information according to 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

National regulatory information

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

Water hazard class (D): 3 - highly hazardous to water

Skin resorption/Sensitization: Causes allergic hypersensitivity reactions.

Chemical Safety Assessment

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

16. Other information

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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
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%
CLP: Classification, labelling and Packaging
REACH: Registration, Evaluation and Authorization of Chemicals
GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals
UN: United Nations
DNEL: Derived No Effect Level
DMEL: Derived Minimal Effect Level
PNEC: Predicted No Effect Concentration
ATE: Acute toxicity estimate
LL50: Lethal loading, 50%
EL50: Effect loading, 50%
EC50: Effective Concentration 50%
ErC50: Effective Concentration 50%, growth rate
NOEC: No Observed Effect Concentration
BCF: Bio-concentration factor
PBT: persistent, bioaccumulative, toxic
vPvB: very persistent, very bioaccumulative
RID: Regulations concerning the international carriage of dangerous goods by rail
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
(Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)
EmS: Emergency Schedules
MFAG: Medical First Aid Guide
ICAO: International Civil Aviation Organization
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
IBC: Intermediate Bulk Container
SVHC: Substance of Very High Concern
Skin Irrit: Skin irritation
Eye Irrit: Eye irritation
Skin Sens: Skin sensitisation
Repr: Reproductive toxicity
STOT SE: Specific target organ toxicity single exposure
Aquatic Chronic: Chronic aquatic hazard

Classification for mixtures and used evaluation method according to GHS

Classification	Classification procedure
Eye Irrit. 2; H319	Calculation method
Skin Sens. 1; H317	Calculation method
Repr. 1B; H360D	Calculation method
Aquatic Chronic 3; H412	Calculation method

Relevant H statements (full text)

H315 Causes skin irritation
H317 May cause an allergic skin reaction
H319 Causes serious eye irritation
H335 May cause respiratory irritation

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H360	May damage fertility or the unborn child
H360D	May damage the unborn child
H361	Suspected of damaging fertility or the unborn child
H411	Toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects
H413	May cause long lasting harmful effects to aquatic life
EUH210	Safety data sheet available on request.

Other data

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. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

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