Safety Data Sheet

according to Regulation (EC) No 1907/2006

freeprint® ortho 405

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

1.1. Product identifier

freeprint® ortho 405

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

1.3. 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.)	

1.4. Emergency telephone number:

+1-800-424-9300 (CHEMTREC worldwide)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Skin Irrit. 2; H315
Eye Irrit. 2; H319
Skin Sens. 1; H317
Repr. 2; H361
STOT SE 3; H335
Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

2.2. Label elements

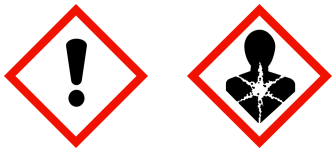
Regulation (EC) No 1272/2008

Hazard components for labelling

7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate
1,12-Dodecanediol Dimethacrylate
tetrahydrofurfuryl methacrylate THFMA purified grade
Hydroxy propyl methacrylate
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide
2-hydroxyethyl methacrylate

Signal word: Warning

Pictograms:



Hazard statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H361	Suspected of damaging fertility or the unborn child.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

P501	Dispose of contents/ container in accordance with local and national regulations.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P302+P352	IF ON SKIN: Wash with plenty of water.
P362+P364	Take off contaminated clothing and wash it before reuse.

Special labelling of certain mixtures

Restricted to professional users.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
72869-86-4	7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate			20 - < 40 %
	276-957-5		01-2120751202-68	
	Skin Sens. 1B, Aquatic Chronic 2; H317 H411			
41637-38-1	isopropylidenediphenol peg dimethacrylate			20 - < 40 %
	609-946-4		01-2119980659-17	
	Aquatic Chronic 4; H413			
72829-09-5	1,12-Dodecanediol Dimethacrylate			5 - < 20 %
	276-900-4		01-2120756306-53	
	Skin Sens. 1B, Aquatic Acute 1, Aquatic Chronic 1; H317 H400 H410			
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			
27813-02-1	Hydroxy propyl methacrylate			0.1 - < 5 %
	248-666-3		01-2119490226-37	
	Eye Irrit. 2, Skin Sens. 1; H319 H317			
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			
868-77-9	2-hydroxyethyl methacrylate			0.1 - < 5 %
	212-782-2	607-124-00-X	01-2119490169-29	
	Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1; H315 H319 H317			

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		
72869-86-4	276-957-5	7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate	20 - < 40 %
	dermal: LD50 = >2000 mg/kg; oral: LD50 = >5000 mg/kg		
41637-38-1	609-946-4	isopropylidenediphenol peg dimethacrylate	20 - < 40 %
	dermal: LD50 = >2000 mg/kg; oral: LD50 = >2000 mg/kg		
72829-09-5	276-900-4	1,12-Dodecanediol Dimethacrylate	5 - < 20 %
	oral: LD50 = >2000 mg/kg		
27813-02-1	248-666-3	Hydroxy propyl methacrylate	0.1 - < 5 %
	dermal: LD50 = >5000 mg/kg; oral: LD50 = >2000 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		
868-77-9	212-782-2	2-hydroxyethyl methacrylate	0.1 - < 5 %
	dermal: LD50 = >5000 mg/kg; oral: LD50 = 5564 mg/kg		

SECTION 4: First aid measures

4.1. 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 polyethylene glycol, followed by plenty of water. 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

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.

5.2. Special hazards arising from the substance or mixture

Non-flammable.

5.3. Advice for firefighters

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

Additional information

Suppress gases/vapours/mists with water spray jet. 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

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

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

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). 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

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/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 or drink.

7.2. 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 exhaustion at critical locations.

7.3. Specific end use(s)

For use by trained specialist personnel.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL/DMEL values

CAS No	Name of agent			
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/m³
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

8.2. Exposure controls

Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/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.

Butyl caoutchouc (butyl rubber)

Skin protection

Wear suitable protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	liquid:		
Colour:	clear		
			Test method
Melting point/freezing point:		not determined	
Boiling point or initial boiling point and boiling range:		not determined	
Flammability:		not applicable not applicable	
Lower explosion limits:		not determined	
Upper explosion limits:		not determined	
Flash point:		>100 °C	DIN 51755
Decomposition temperature:		>=190 °C	
pH-Value:		not determined	
Water solubility:		The study does not need to be conducted because the substance is known to be insoluble in water.	

Solubility in other solvents

not determined

Partition coefficient n-octanol/water:	not determined	
Vapour pressure: (at 20 °C)	<1 hPa	
Density (at 20 °C):	1,09 g/cm³	DIN 51757
Relative vapour density:	not determined	

9.2. Other information

Information with regard to physical hazard classes

Self-ignition temperature

Solid:	not applicable
Gas:	not applicable

Oxidizing properties

Not oxidizing.

Other safety characteristics

Evaporation rate:	not determined
Solid content:	not determined

SECTION 10: Stability and reactivity

10.1. Reactivity

No hazardous reaction when handled and stored according to provisions.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

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 Regulation (EC) No 1272/2008

Acute toxicity

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

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) 2945 mg/l

CAS No	Chemical name					
	Exposure route	Dose		Species	Source	Method
72869-86-4	7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate					
	oral	LD50 mg/kg	>5000	Rat	OECD 401	
	dermal	LD50 mg/kg	>2000	Rat	OECD 402	
41637-38-1	isopropylidenediphenol peg dimethacrylate					
	oral	LD50 mg/kg	>2000	Rat		
	dermal	LD50 mg/kg	>2000	Rat		
72829-09-5	1,12-Dodecanediol Dimethacrylate					
	oral	LD50 mg/kg	>2000	Rat		
27813-02-1	Hydroxy propyl methacrylate					
	oral	LD50 mg/kg	>2000	Rat	OECD 401	
	dermal	LD50 mg/kg	>5000	Rabbit		
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide					
	oral	LD50 mg/kg	>5000	Rat		
	dermal	LD50 mg/kg	>2000	Rat		
868-77-9	2-hydroxyethyl methacrylate					
	oral	LD50 mg/kg	5564	Rat		
	dermal	LD50 mg/kg	>5000	Rabbit		

Irritation and corrosivity

Causes skin irritation.
Causes serious eye irritation.

Sensitising effects

May cause an allergic skin reaction. (7,7,9(or 7,9,9) -trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate; 1,12-Dodecanediol Dimethacrylate; tetrahydrofurfuryl methacrylate THFMA purified grade; Hydroxy propyl methacrylate; diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide; 2-hydroxyethyl methacrylate)

Carcinogenic/mutagenic/toxic effects for reproduction

Suspected of damaging fertility or the unborn child. (diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide)
Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Carcinogenicity: Based on available data, the classification criteria are not met.

STOT-single exposure

May cause respiratory irritation.

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]. Special hazards

arising from the substance or mixture!

SECTION 12: Ecological information

12.1. Toxicity

The product is not: Ecotoxic.

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] | [d]	Species	Source	Method
72869-86-4	7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate						
	Acute fish toxicity	LC50	10,1 mg/l	96 h			OECD 203
	Acute algae toxicity	ErC50	0,21 mg/l	72 h			OECD 201
	Acute crustacea toxicity	EC50	>1,2 mg/l	48 h	Daphnia magna (Big water flea)	OECD 202	
41637-38-1	isopropylidenediphenol peg dimethacrylate						
	Acute fish toxicity	LC50	>100 mg/l	96 h			
	Acute crustacea toxicity	EC50	>100 mg/l	48 h			
72829-09-5	1,12-Dodecanediol Dimethacrylate						
	Acute crustacea toxicity	EC50	>100 mg/l	48 h	Daphnia		
2455-24-5	tetrahydrofurfuryl methacrylate THFMA purified grade						
	Acute fish toxicity	LC50	34,7 mg/l	96 h		GESTIS	
27813-02-1	Hydroxy propyl methacrylate						
	Acute fish toxicity	LC50	493 mg/l	96 h	Leuciscus idus (golden orfe)		
	Acute algae toxicity	ErC50	>97,2 mg/l	72 h	Pseudokirchneriella subcapitata	OECD 201	
	Acute crustacea toxicity	EC50	380 mg/l	48 h	Daphnia magna (Big water flea)	OECD 202	
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		
868-77-9	2-hydroxyethyl methacrylate						
	Acute fish toxicity	LC50	>100 mg/l	96 h	Oryzias latipes		OECD 203
	Acute algae toxicity	ErC50	836 mg/l	72 h	Selenastrum capricornutum		OECD 201
	Acute crustacea toxicity	EC50	380 mg/l	48 h	Daphnia magna		OECD 202

12.2. Persistence and degradability

The product has not been tested.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
27813-02-1	Hydroxy propyl methacrylate			
	OECD	94%	28	
	Readily biodegradable (according to OECD criteria).			
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide			
		0-10%	28	
	Not readily biodegradable (according to OECD criteria)			
868-77-9	2-hydroxyethyl methacrylate			
		92-100%	14	
	Readily biodegradable (according to OECD criteria).			

12.3. Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
72869-86-4	7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate	3,39
27813-02-1	Hydroxy propyl methacrylate	0,97
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	3,1

BCF

CAS No	Chemical name	BCF	Species	Source
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	47-55	Cyprinus carpio (Common Carp)	

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 REACH, annex XIII.

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.

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.

Contaminated packaging

This material and its container must be disposed of as hazardous waste. 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:	No dangerous good in sense of this transport regulation.
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:	No dangerous good in sense of this transport regulation.
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:	No dangerous good in sense of this transport regulation.
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:	No dangerous good in sense of this transport regulation.
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.

14.6. Special precautions for user

No dangerous good in sense of this transport regulation.

14.7. Maritime transport in bulk according to IMO instruments

No dangerous good in sense of this transport regulation.

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

National regulatory information

Employment restrictions:	Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.
Water hazard class (D):	3 - highly hazardous to water
Skin resorption/Sensitization:	Causes allergic hypersensitivity reactions.

15.2. Chemical safety assessment

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

SECTION 16: Other information

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%
Skin Irrit: Skin irritation
Eye Irrit: Eye irritation
Skin Sens: Skin sensitisation
Repr: Reproductive toxicity
STOT SE: Specific target organ toxicity - single exposure
Aquatic Acute: Acute aquatic hazard
Aquatic Chronic: Chronic aquatic hazard

Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

Classification	Classification procedure
Skin Irrit. 2; H315	
Eye Irrit. 2; H319	
Skin Sens. 1; H317	Calculation method
Repr. 2; H361	
STOT SE 3; H335	
Aquatic Chronic 3; H412	

Relevant H and EUH statements (number and full text)

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H360	May damage fertility or the unborn child.
H361	Suspected of damaging fertility or the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
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.

Further Information

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.)