

Safety Data Sheet

according to Regulation (EC) No 1907/2006

freeform® bond

Revision date: 01.02.2024

Product code: 10571.2

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

1.1. Product identifier

freeform® bond

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

Flam. Liq. 2; H225
Skin Irrit. 2; H315
Eye Irrit. 2; H319
Skin Sens. 1; H317
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

"methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate, MMA"
acrylic acid derivatives
@000000030301
vinylester resin
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

Signal word: Danger

Pictograms:



Hazard statements

H225	Highly flammable liquid and vapour.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.

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Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
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 .
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	

Special labelling of certain mixtures

EUH210	Safety data sheet available on request.
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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)	
80-62-6	"methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate, MMA"	20 - 70 %
	201-297-1	607-035-00-6
	Flam. Liq. 2, Skin Irrit. 2, Skin Sens. 1, STOT SE 3; H225 H315 H317 H335	
1384855-91-7	2-propenoic acid , reaction products with dipentaerythritol	25 - 50 %
	800-838-4	01-2119980666-22
	Eye Irrit. 2, Skin Sens. 1A, Aquatic Chronic 3; H319 H317 H412	
55818-57-0	vinylester resin	0.1 - < 5 %
		01-2119490020-53
	Skin Sens. 1, Aquatic Chronic 2; H317 H411	
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	

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	
80-62-6	201-297-1	"methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate, MMA"	20 - 70 %
		inhalation: LC50 = 78 mg/l (vapours); dermal: LD50 = >5000 mg/kg; oral: LD50 = 7870 mg/kg	
1384855-91-7	800-838-4	2-propenoic acid , reaction products with dipentaerythritol	25 - 50 %
		dermal: LD50 = 2000 mg/kg; oral: LD50 = 2000 mg/kg	
55818-57-0		vinylester resin	0.1 - < 5 %
		dermal: LD50 = >2000 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	

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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 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

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

Water spray jet, Carbon dioxide (CO₂), Foam, Extinguishing powder.

5.2. Special hazards arising from the substance or mixture

Highly flammable. Vapours can form explosive mixtures with air.

5.3. Advice for firefighters

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

Additional information

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

Remove all sources of ignition. 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 uncontrolled discharge of product into the environment. Explosion risk.

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

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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

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Vapours can form explosive mixtures with air.

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.

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 exhaust at critical locations. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Hints on joint storage

Do not store together with: Oxidising agent . Pyrophoric or self-heating substances.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limit values

CAS No	Name of agent	ppm	mg/m ³	fib/cm ³	Category	Origin
80-62-6	Methyl methacrylate	50	-		TWA (8 h)	
		100	-		STEL (15 min)	

DNEL/DMEL values

CAS No	Name of agent	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

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

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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

Flame-retardant protective clothing. Wear anti-static footwear and 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:	light yellow	
		Test method
Melting point/freezing point:	not determined	
Boiling point or initial boiling point and boiling range:	92 °C	DIN 51356
Flammability:	not applicable	
	not applicable	
Lower explosion limits:	2 vol. %	
Upper explosion limits:	12 vol. %	
Flash point:	12 °C	DIN 51755
Auto-ignition temperature:	>400 °C	DIN 51794
Decomposition temperature:	>100 °C	
pH-Value:	not determined	
Water solubility: (at 20 °C)	16 g/L	
Solubility in other solvents	not determined	
Partition coefficient n-octanol/water:	not determined	
Vapour pressure: (at 20 °C)	40 hPa	
Vapour pressure: (at 50 °C)	160 hPa	
Density (at 20 °C):	1,07 g/cm ³	DIN 51757
Relative vapour density:	not determined	

9.2. 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

SECTION 10: Stability and reactivity

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10.1. Reactivity

Highly flammable.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.4. Conditions to avoid

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapours can form explosive mixtures with air.

10.5. Incompatible materials

No information available.

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) > 5 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
80-62-6	"methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate, MMA"				
	oral	LD50 mg/kg	7870	Rat	
	dermal	LD50 mg/kg	>5000	Rabbit	
	inhalation (4 h) vapour	LC50	78 mg/l	Rat	
1384855-91-7	2-propenoic acid , reaction products with dipentaerythritol				
	oral	LD50 mg/kg	2000	Rat	OECD 423
	dermal	LD50 mg/kg	2000	Rabbit	OECD 402
55818-57-0	vinylester resin				
	oral	LD50 mg/kg	>2000	Rat	OECD 401
	dermal	LD50 mg/kg	>2000	Rat	OECD 402
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide				
	oral	LD50 mg/kg	>5000	Rat	
	dermal	LD50 mg/kg	>2000	Rat	

Irritation and corrosivity

Causes skin irritation.

Causes serious eye irritation.

Sensitising effects

May cause an allergic skin reaction. ("methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate, MMA"; 2-propenoic acid , reaction products with dipentaerythritol; vinylester resin; diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide)

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Carcinogenic/mutagenic/toxic effects for reproduction

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

STOT-single exposure

May cause respiratory irritation. ("methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate, MMA")

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].

SECTION 12: Ecological information

12.1. Toxicity

Harmful to aquatic life with long lasting effects.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
80-62-6	"methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate, MMA"					
	Acute fish toxicity	LC50 mg/l	>100	96 h		
1384855-91-7	2-propenoic acid , reaction products with dipentaerythritol					
	Algae toxicity	NOEC	10 mg/l	72 d	Pseudokirchneriella subcapitata	OECD 201
55818-57-0	vinylester resin					
	Acute fish toxicity	LC50 mg/l	>100	96 h		OECD 201
	Acute crustacea toxicity	EC50 mg/l	>100	48 h		OECD 202
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide					
	Acute algae toxicity	ErC50 mg/l	>2,01	72 h	Pseudokirchneriella subcapitata	
	Acute crustacea toxicity	EC50 mg/l	3,53	48 h	Daphnia magna (Big water flea)	
	Acute bacteria toxicity	(EC50 mg/l)	>1000	3 h	Activated sludge	

12.2. Persistence and degradability

The product has not been tested.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
55818-57-0	vinylester resin			
		42%	28	
	Not 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)			

12.3. Bioaccumulative potential

The product has not been tested.

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Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
55818-57-0	vinylester resin	3,8
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

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 1866
14.2. UN proper shipping name:	RESIN SOLUTION
14.3. Transport hazard class(es):	3
14.4. Packing group:	I
Hazard label:	3
Classification code:	F1
Limited quantity:	500 mL
Excepted quantity:	E3
Transport category:	1
Hazard No:	33
Tunnel restriction code:	D/E

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 1866
14.2. UN proper shipping name:	Resin solution
14.3. Transport hazard class(es):	3
14.4. Packing group:	I
Hazard label:	3
Classification code:	F1

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Limited quantity: 500 mL
 Excepted quantity: E3

Marine transport (IMDG)

14.1. UN number or ID number: UN 1866
14.2. UN proper shipping name: RESIN SOLUTION
14.3. Transport hazard class(es): 3
14.4. Packing group: I
 Hazard label: 3
 Special Provisions: -
 Limited quantity: 500 mL
 Excepted quantity: E3
 EmS: F-E, S-E

Other applicable information (marine transport)

Flash point: 12°C c.c.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 1866
14.2. UN proper shipping name: RESIN SOLUTION
14.3. Transport hazard class(es): 3
14.4. Packing group: I
 Hazard label: 3
 Special Provisions: A3
 Limited quantity Passenger: Forbidden
 Passenger LQ: Forbidden
 Excepted quantity: E3
 IATA-packing instructions - Passenger: 351
 IATA-max. quantity - Passenger: 1 L
 IATA-packing instructions - Cargo: 361
 IATA-max. quantity - Cargo: 30 L

14.6. Special precautions for user

Warning: Combustible liquid.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

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

Information according to 2012/18/EU (SEVESO III): P5c FLAMMABLE LIQUIDS

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

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

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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
Flam. Liq: Flammable liquid
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 Regulation (EC) No 1272/2008 [CLP]

Classification	Classification procedure
Flam. Liq. 2; H225	On basis of test data
Skin Irrit. 2; H315	Calculation method
Eye Irrit. 2; H319	Calculation method
Skin Sens. 1; H317	Calculation method
STOT SE 3; H335	Calculation method
Aquatic Chronic 3; H412	Calculation method

Relevant H and EUH statements (number and full text)

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H225	Highly flammable liquid and vapour.
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.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH210	Safety data sheet available on request.

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.)