

Safety Data Sheet

according to Regulation (EC) No 1907/2006

1690 Flexforce - 1690A resin

Revision: 26.02.2026

Product code: 1690A

Page 1 of 19

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

1690 Flexforce - 1690A resin

Further trade names

Product Flexforce 1690: 1690A resin + 1690B Hardener

UFI: NH13-QGGR-N005-0F88

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

Adhesives and sealants

Uses advised against

No information available.

1.3. Details of the supplier of the safety data sheet**Manufacturer**

Company name: Kisling AG
Street: Motorenstrasse 102
Place: CH-8620 Wetzikon
Telephone: +41 58 272 0 272
E-mail: customerservice@kisling.com
Contact person: Product Compliance Telephone: +49 7940 5096 143
E-mail (Contact person): compliance@kisling.com
Internet: www.kisling.com

Supplier

Company name: Kisling (Deutschland) GmbH
Street: Salzstraße 15
Place: D-74676 Niedernhall
Telephone: +49 7940 50961 61
E-mail: customerservice@kisling.com
Contact person: Product Compliance Telephone: +49 7940 5096 143
E-mail Contact person: compliance@kisling.com
Internet: www.kisling.com

1.4. Emergency telephone number:24 hr. emergency phone number +1 872 5888271 (KAR)
Medicines & Poisons Info Office +356 2545 6508**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Regulation (EC) No 1272/2008**

Skin Irrit. 2; H315
Eye Dam. 1; H318
Skin Sens. 1; H317
STOT SE 3; H335
Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

2.2. Label elements**Regulation (EC) No 1272/2008****Hazard components for labelling**

Benzyl methacrylate
methacrylic acid
Propylidynetrimethanol, ethoxylated, esters with acrylic acid

Safety Data Sheet

according to Regulation (EC) No 1907/2006

1690 Flexforce - 1690A resin

Revision: 26.02.2026

Product code: 1690A

Page 2 of 19

2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, reaction products with phosphorus oxide
 Dibenzyl ether
 Reaction mass of 2,2'-[(4-methylphenyl)imino]bisethanol and Ethanol
 2-[[2-(2-hydroxyethoxy)ethyl](4-methylphenyl)amino]-
 Dodecane-1-thiol
 Neodecanoic acid, cobalt salt

Signal word: Danger

Pictograms:



Hazard statements

H315 Causes skin irritation.
 H317 May cause an allergic skin reaction.
 H318 Causes serious eye damage.
 H335 May cause respiratory irritation.
 H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P273 Avoid release to the environment.
 P280 Wear protective gloves and eye protection/face protection.
 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/doctor.
 P391 Collect spillage.

Labelling of packages where the contents do not exceed 125 ml

Signal word: Danger

Pictograms:



Hazard statements

H317-H318

Precautionary statements

P280-P305+P351+P338-P310

2.3. Other hazards

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

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Mixtures

Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
2495-37-6	Benzyl methacrylate			30 - < 50 %
	219-674-4		01-2119960155-39	
	Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, STOT SE 3; H315 H319 H317 H335			

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Revision: 26.02.2026		1690 Flexforce - 1690A resin		Page 3 of 19
		Product code: 1690A		

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
79-41-4	methacrylic acid			3 - < 5 %
	201-204-4	607-088-00-5	01-2119463884-26	
	Acute Tox. 3, Acute Tox. 4, Acute Tox. 4, Skin Corr. 1A, Eye Dam. 1, STOT SE 3; H311 H332 H302 H314 H318 H335			
28961-43-5	Propylidynetrimethanol, ethoxylated, esters with acrylic acid			1 - < 5 %
	500-066-5		01-2119489900-30	
	Eye Irrit. 2, Skin Sens. 1B, Aquatic Chronic 2; H319 H317 H411			
1187441-10-6	2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, reaction products with phosphorus oxide			1 - < 5 %
	810-703-1		01-2120140608-57	
	Eye Dam. 1, Skin Sens. 1; H318 H317			
103-50-4	Dibenzyl ether			0.1 - < 1 %
	203-118-2		01-2119782240-44	
	Skin Sens. 1B, Aquatic Acute 1, Aquatic Chronic 1; H317 H400 H410			
	Reaction mass of 2,2'-[(4-methylphenyl)imino]bisethanol and Ethanol 2-[[2-(2-hydroxyethoxy)ethyl](4-methylphenyl)amino]-			0.1 - < 1 %
	911-490-9		01-2119979579-10	
	Acute Tox. 4, Skin Irrit. 2, Eye Dam. 1, Skin Sens. 1, Aquatic Chronic 3; H302 H315 H318 H317 H412			
91-66-7	N,N-diethylaniline			0.1 - < 1 %
	202-088-8	612-054-00-8	01-2119943758-22	
	Acute Tox. 3, Acute Tox. 3, Acute Tox. 3, STOT RE 2, Aquatic Chronic 2; H331 H311 H301 H373 H411			
112-55-0	Dodecane-1-thiol			0.1 - < 1 %
	203-984-1		01-2119491318-31	
	Skin Corr. 1C, Eye Dam. 1, Skin Sens. 1A, Aquatic Acute 1, Aquatic Chronic 1; H314 H318 H317 H400 H410			
27253-31-2	Neodecanoic acid, cobalt salt			0.1 - < 1 %
	248-373-0		01-2119970733-31	
	Acute Tox. 4, Skin Sens. 1, STOT RE 1, Aquatic Chronic 3; H302 H317 H372 H412			
36443-68-2	Ethylenebis(oxyethylene) bis[3-(5-tert-butyl-4-hydroxy-m-tolyl)propionate]			< 0.1 %
	253-039-2		01-2119956160-44	
	Aquatic Chronic 1; H410			

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	
2495-37-6	219-674-4	Benzyl methacrylate	30 - < 50 %
		dermal: LD50 = > 2000 mg/kg; oral: LD50 = 3980 mg/kg	
79-41-4	201-204-4	methacrylic acid	3 - < 5 %
		inhalation: ATE = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: LD50 = 500 mg/kg; oral: LD50 = 1320 mg/kg Eye Dam. 1; H318: >= 3 - 100 Eye Irrit. 2; H319: >= - < 3 STOT SE 3; H335: >= 1 - 100	
28961-43-5	500-066-5	Propylidynetrimethanol, ethoxylated, esters with acrylic acid	1 - < 5 %
		dermal: LD50 = > 13200 mg/kg; oral: LD50 = > 2000 mg/kg	

Safety Data Sheet

according to Regulation (EC) No 1907/2006

1690 Flexforce - 1690A resin

Revision: 26.02.2026

Product code: 1690A

Page 4 of 19

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
1187441-1 0-6	810-703-1	2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, reaction products with phosphorus oxide	1 - < 5 %
		dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 2000 mg/kg	
103-50-4	203-118-2	Dibenzyl ether	0.1 - < 1 %
		oral: LD50 = 4807 mg/kg Aquatic Acute 1; H400: M=1 Aquatic Chronic 1; H410: M=1	
	911-490-9	Reaction mass of 2,2'-[(4-methylphenyl)imino]bisethanol and Ethanol 2-[[2-(2-hydroxyethoxy)ethyl](4-methylphenyl)amino]-	0.1 - < 1 %
		oral: ATE = 500 mg/kg	
91-66-7	202-088-8	N,N-diethylaniline	0.1 - < 1 %
		inhalation: ATE = 3 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: LD50 = > 400 mg/kg; oral: ATE = 100 mg/kg	
112-55-0	203-984-1	Dodecane-1-thiol	0.1 - < 1 %
		inhalation: LC50 = >= 7,04 mg/l (vapours); dermal: LD50 = >= 2000 mg/kg; oral: LD50 = >= 5000 mg/kg Aquatic Acute 1; H400: M=10 Aquatic Chronic 1; H410: M=10	
27253-31-2	248-373-0	Neodecanoic acid, cobalt salt	0.1 - < 1 %
		dermal: LD50 = > 2000 mg/kg; oral: ATE = 500 mg/kg	
36443-68-2	253-039-2	Ethylenebis(oxyethylene) bis[3-(5-tert-butyl-4-hydroxy-m-tolyl)propionate]	< 0.1 %
		dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 7000 mg/kg Aquatic Chronic 1; H410: M=10	

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

No special measures are necessary.

After inhalation

Provide fresh air.

After contact with skin

Gently wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.

After ingestion

Do NOT induce vomiting. Rinse mouth thoroughly with water. IF SWALLOWED: Immediately call a doctor.

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

Irritant — skin irritation and eye damage

May cause respiratory irritation. Dyspnoea.

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

alcohol resistant foam, Carbon dioxide (CO₂), Dry extinguishing powder

Unsuitable extinguishing media

Full water jet.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products, Flammable vapours can accumulate in steam space of closed systems.

5.3. Advice for firefighters

Safety Data Sheet

according to Regulation (EC) No 1907/2006

1690 Flexforce - 1690A resin

Revision: 26.02.2026

Product code: 1690A

Page 5 of 19

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

Additional information

Co-ordinate fire-fighting measures to the fire surroundings. Use water spray jet to protect personnel and to cool endangered containers. Evacuate area.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Use personal protection equipment. See protective measures under point 7 and 8.

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

Prevent spread over a wide area (e.g. by containment or oil barriers). Retain contaminated washing water and dispose it. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

For cleaning up

Soak up inert absorbent and dispose as waste requiring special attention.

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

Use only in well-ventilated areas. Keep away from sources of ignition - No smoking.

Avoid contact with skin, eyes and clothes. People who suffer from skin sensitization problems, asthma, allergies, chronic or recurring respiratory illnesses should not be deployed in any process using this mixture.

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.

Further information on handling

Keep only in the original container in a cool, well-ventilated place.

Never use pressure to empty container. Do not allow to enter into surface water or drains.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed and in a well-ventilated place.

Hints on joint storage

No special measures are necessary.

Further information on storage conditions

No special measures are necessary.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL/DMEL values

CAS No	Name of agent	Exposure route	Effect	Value
2495-37-6	Benzyl methacrylate			
Worker DNEL, long-term		inhalation	systemic	24,2 mg/m ³

Safety Data Sheet

according to Regulation (EC) No 1907/2006

1690 Flexforce - 1690A resin

Revision: 26.02.2026

Product code: 1690A

Page 6 of 19

DNEL/DMEL values

CAS No	Name of agent	Exposure route	Effect	Value
	DNEL type			
	Worker DNEL, long-term	dermal	systemic	6,94 mg/kg bw/day
	Consumer DNEL, long-term	inhalation	systemic	7,2 mg/m ³
	Consumer DNEL, long-term	dermal	systemic	4,17 mg/kg bw/day
	Consumer DNEL, long-term	oral	systemic	4,17 mg/kg bw/day
79-41-4	methacrylic acid			
	Worker DNEL, long-term	inhalation	systemic	39.3 mg/m ³
	Worker DNEL, long-term	inhalation	local	44 mg/m ³
	Worker DNEL, long-term	dermal	systemic	4.25 mg/kg bw/day
	Worker DNEL, long-term	dermal	local	0.38 mg/cm ²
	Consumer DNEL, long-term	inhalation	systemic	11.7 mg/m ³
	Consumer DNEL, long-term	inhalation	local	8.8 mg/m ³
	Consumer DNEL, long-term	dermal	systemic	5.35 mg/kg bw/day
	Consumer DNEL, long-term	dermal	local	0.23 mg/cm ²
	Consumer DNEL, long-term	oral	systemic	5.35 mg/kg bw/day
28961-43-5	Propylidynetrimethanol, ethoxylated, esters with acrylic acid			
	Worker DNEL, long-term	inhalation	systemic	37 mg/m ³
	Worker DNEL, long-term	dermal	systemic	10.5 mg/kg bw/day
1187441-10-6	2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, reaction products with phosphorus oxide			
	Worker DNEL, long-term	inhalation	systemic	7.05 mg/m ³
	Worker DNEL, long-term	dermal	systemic	1 mg/kg bw/day
	Consumer DNEL, long-term	inhalation	systemic	3.53 mg/m ³
	Consumer DNEL, long-term	dermal	systemic	0.5 mg/kg bw/day
	Consumer DNEL, long-term	oral	systemic	0.5 mg/kg bw/day
103-50-4	Dibenzyl ether			
	Worker DNEL, long-term	inhalation	systemic	43.7 mg/m ³
	Worker DNEL, long-term	dermal	systemic	6.2 mg/kg bw/day
	Consumer DNEL, long-term	inhalation	systemic	10.8 mg/m ³
	Consumer DNEL, long-term	dermal	systemic	3.1 mg/kg bw/day
	Consumer DNEL, long-term	oral	systemic	3.1 mg/kg bw/day
91-66-7	N,N-diethylaniline			
	Worker DNEL, long-term	dermal	systemic	7 mg/kg bw/day
	Consumer DNEL, long-term	dermal	systemic	2,5 mg/kg bw/day
	Consumer DNEL, long-term	oral	systemic	0,0167 mg/kg bw/day
27253-31-2	Neodecanoic acid, cobalt salt			
	Consumer DNEL, long-term	oral	systemic	0.032 mg/kg bw/day

PNEC values

CAS No	Name of agent	Value
	Environmental compartment	
2495-37-6	Benzyl methacrylate	
	Freshwater	0,01 mg/l
	Freshwater (intermittent releases)	0,005 mg/l
	Marine water	0,001 mg/l
	Freshwater sediment	0,423 mg/kg
	Marine sediment	0,042 mg/kg
	Micro-organisms in sewage treatment plants (STP)	1,33 mg/l
	Soil	0,079 mg/kg

Safety Data Sheet

according to Regulation (EC) No 1907/2006

1690 Flexforce - 1690A resin

Revision: 26.02.2026

Product code: 1690A

Page 7 of 19

PNEC values

CAS No	Name of agent	Value
Environmental compartment		
79-41-4	methacrylic acid	
Freshwater		0.82 mg/l
Freshwater (intermittent releases)		0.45 mg/l
Marine water		0.082 mg/l
Freshwater sediment		3.09 mg/kg
Marine sediment		0.309 mg/kg
Micro-organisms in sewage treatment plants (STP)		100 mg/l
Soil		0.137 mg/kg
28961-43-5	Propylidynetrimethanol, ethoxylated, esters with acrylic acid	
Freshwater		0.002 mg/l
Freshwater (intermittent releases)		0.019 mg/l
Marine water		0 mg/l
Freshwater sediment		0.038 mg/kg
Marine sediment		0.004 mg/kg
Micro-organisms in sewage treatment plants (STP)		10 mg/l
Soil		0.006 mg/kg
1187441-10-6	2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, reaction products with phosphorus oxide	
Freshwater		0.165 mg/l
Freshwater (intermittent releases)		1.65 mg/l
Marine water		0.017 mg/l
Freshwater sediment		2.8 mg/kg
Marine sediment		0.28 mg/kg
Micro-organisms in sewage treatment plants (STP)		0.4 mg/l
Soil		0.46 mg/kg
103-50-4	Dibenzyl ether	
Freshwater		0.002 mg/l
Freshwater (intermittent releases)		0.008 mg/l
Marine water		0 mg/l
Freshwater sediment		0.12 mg/kg
Marine sediment		0.012 mg/kg
Micro-organisms in sewage treatment plants (STP)		1.38 mg/l
Soil		0.023 mg/kg
91-66-7	N,N-diethylaniline	
Freshwater		0,00936 mg/l
Freshwater (intermittent releases)		0,0742 mg/l
Marine water		0,000936 mg/l
Freshwater sediment		2,52 mg/kg
Marine sediment		0,252 mg/kg
Micro-organisms in sewage treatment plants (STP)		0,018 mg/l
Soil		0,498 mg/kg
27253-31-2	Neodecanoic acid, cobalt salt	
Freshwater		0.00106 mg/l
Marine water		0.00236 mg/l
Freshwater sediment		53.8 mg/kg
Marine sediment		69.8 mg/kg
Micro-organisms in sewage treatment plants (STP)		0.37 mg/l
Soil		10.9 mg/kg
36443-68-2	Ethylenebis(oxyethylene) bis[3-(5-tert-butyl-4-hydroxy-m-tolyl)propionate]	
Freshwater		0.001 mg/l

Safety Data Sheet

according to Regulation (EC) No 1907/2006

1690 Flexforce - 1690A resin

Revision: 26.02.2026

Product code: 1690A

Page 8 of 19

PNEC values

CAS No	Name of agent	
	Environmental compartment	Value
	Marine water	0 mg/l
	Freshwater sediment	0.195 mg/kg
	Marine sediment	0.019 mg/kg

Additional advice on limit values

To date, no national critical limit values exist.

8.2. Exposure controls



Appropriate engineering controls

Provide adequate ventilation as well as local exhaustion at critical locations.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear eye/face protection.

Hand protection

Tested protective gloves must be worn (EN ISO 374)
Breakthrough times and swelling properties of the material must be taken into consideration.
NBR (Nitrile rubber) 0,4 mm, Breakthrough time: 480 min

Skin protection

Avoid contact with skin, eyes and clothes.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. Filter type: A/P2

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:	solid
Colour:	light yellow
Odour:	characteristic
Odour threshold:	not determined
Melting point/freezing point:	not determined
Boiling point or initial boiling point and boiling range:	not determined
Flammability:	No data available
Lower explosion limits:	not determined
Upper explosion limits:	not determined
Flash point:	67 °C
Auto-ignition temperature:	400 - 447 °C
Decomposition temperature:	No data available
pH-Value:	not determined
Viscosity / kinematic:	not determined
Water solubility:	practically insoluble
Solubility in other solvents	
No data available	

Safety Data Sheet

according to Regulation (EC) No 1907/2006

1690 Flexforce - 1690A resin

Revision: 26.02.2026

Product code: 1690A

Page 9 of 19

Partition coefficient n-octanol/water:	not determined
Vapour pressure:	not determined
Density (at 20 °C):	1.07 g/cm ³
Relative density:	not determined
Relative vapour density:	not determined

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

No data available

Oxidizing properties

May cause or intensify fire; oxidiser.

Other safety characteristics

Viscosity / dynamic:

not determined

SECTION 10: Stability and reactivity

10.1. Reactivity

No known hazardous reactions.

10.2. Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions

Thermal decomposition can lead to the escape of irritating gases and vapours.

Vapours can form explosive mixtures with air.

10.4. Conditions to avoid

No information available.

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

No known hazardous decomposition products.

Further information

No data available

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Toxicocinetics, metabolism and distribution

No data available

Acute toxicity

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

ATEmix calculated

ATE (oral) > 5000 mg/kg; ATE (dermal) > 5000 mg/kg

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
2495-37-6	Benzyl methacrylate				
	oral	LD50 3980 mg/kg	Rat	Study report (1984)	OECD Guideline 401
	dermal	LD50 > 2000 mg/kg	Rat	Study report (2011)	EU Method B.3

Safety Data Sheet

according to Regulation (EC) No 1907/2006

1690 Flexforce - 1690A resin

Revision: 26.02.2026

Product code: 1690A

Page 10 of 19

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
79-41-4	methacrylic acid				
	oral	LD50 1320 mg/kg	Rat	Study report (1977)	OECD Guideline 401
	dermal	LD50 500 mg/kg	Rabbit	Pre-supplier/manufacterer	
	inhalation vapour	ATE 11 mg/l			OECD 403
	inhalation dust/mist	ATE 1,5 mg/l			
28961-43-5	Propylidynetrimethanol, ethoxylated, esters with acrylic acid				
	oral	LD50 > 2000 mg/kg	Rat	Study report (1998)	OECD Guideline 401
	dermal	LD50 > 13200 mg/kg	Rabbit	Study report (1984)	An acute dermal toxicity study was performed
1187441-10-6	2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, reaction products with phosphorus oxide				
	oral	LD50 > 2000 mg/kg	Rat	Study report (2004)	OECD Guideline 423
	dermal	LD50 > 2000 mg/kg	Rat	REACH Registration Dossier	OECD Guideline 423
103-50-4	Dibenzyl ether				
	oral	LD50 4807 mg/kg	Rat	Study report (1976)	Ten male rats received a single oral app
	Reaction mass of 2,2'-[(4-methylphenyl)imino]bisethanol and Ethanol 2-[[2-(2-hydroxyethoxy)ethyl](4-methylphenyl)amino]-				
	oral	ATE 500 mg/kg			
91-66-7	N,N-diethylaniline				
	oral	ATE 100 mg/kg			
	dermal	LD50 > 400 mg/kg	Rabbit	ChemIDplus (2018)	other: As mentioned below
	inhalation vapour	ATE 3 mg/l			
	inhalation dust/mist	ATE 0,5 mg/l			
112-55-0	Dodecane-1-thiol				
	oral	LD50 >= 5000 mg/kg	Rat	Study report (1977)	In a pre-guideline study, WBS/W rats
	dermal	LD50 >= 2000 mg/kg	Rat	Study report (1977)	OECD Guideline 402
	inhalation (4 h) vapour	LC50 >= 7,04 mg/l	Rat	Study report (1987)	OECD Guideline 403
27253-31-2	Neodecanoic acid, cobalt salt				
	oral	ATE 500 mg/kg			
	dermal	LD50 > 2000 mg/kg	Rat	Study report (2007)	OECD Guideline 402
36443-68-2	Ethylenebis(oxyethylene) bis[3-(5-tert-butyl-4-hydroxy-m-tolyl)propionate]				
	oral	LD50 > 7000 mg/kg	Rat	Study report (1979)	OECD Guideline 423
	dermal	LD50 > 2000 mg/kg	Rat	Study report (1992)	OECD Guideline 402

Irritation and corrosivity

Skin corrosion/irritation: Causes skin irritation.

Serious eye damage/eye irritation: Causes serious eye damage.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

1690 Flexforce - 1690A resin

Revision: 26.02.2026

Product code: 1690A

Page 11 of 19

Sensitising effects

May cause an allergic skin reaction. (Benzyl methacrylate; Propylidynetrimethanol, ethoxylated, esters with acrylic acid; 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, reaction products with phosphorus oxide; Dibenzyl ether; Reaction mass of 2,2'-[(4-methylphenyl)imino]bisethanol and Ethanol 2-[[2-(2-hydroxyethoxy)ethyl](4-methylphenyl)amino]-; Dodecane-1-thiol; Neodecanoic acid, cobalt salt)

Carcinogenic/mutagenic/toxic effects for reproduction

Germ cell mutagenicity: Based on available data, the classification criteria are not met.
 Carcinogenicity: 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 respiratory irritation. (Benzyl methacrylate; methacrylic acid)

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.

Information on likely routes of exposure

No data available

Specific effects in experiment on an animal

No data available

Additional information on tests

No data available

Practical experience

May be harmful if swallowed, in contact with skin or if inhaled.

11.2. Information on other hazards

Other information

No data available

Further information

No data available

SECTION 12: Ecological information

12.1. Toxicity

Toxic to aquatic life with long lasting effects.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h][d]	Species	Source	Method
2495-37-6	Benzyl methacrylate					
	Acute fish toxicity	LC50 4,67 mg/l	96 h	Pimephales promelas	REACH Registration Dossier	OECD Guideline 203
	Acute algae toxicity	ErC50 2,28 mg/l	72 h	Desmodesmus subspicatus	REACH Registration Dossier	OECD Guideline 201
	Crustacea toxicity	NOEC 4,21 mg/l	21 d	Daphnia magna	REACH Registration Dossier	OECD Guideline 211

Safety Data Sheet

according to Regulation (EC) No 1907/2006

1690 Flexforce - 1690A resin

Revision: 26.02.2026

Product code: 1690A

Page 12 of 19

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h][d]	Species	Source	Method
79-41-4	methacrylic acid					
	Acute fish toxicity	LC50 833 mg/l	96 h	Scophthalmus maximus	Publication (2001)	other: OSPAR Protocols on Methods for th
	Acute algae toxicity	ErC50 54 mg/l	72 h	Raphidocelis subcapitata	Study report, unpublished, cover page mi	OECD Guideline 201
	Acute crustacea toxicity	EC50 > 130 mg/l	48 h	Daphnia magna	REACH Registration Dossier	EPA OTS 797.1300
	Fish toxicity	NOEC 10 mg/l	35 d	Danio rerio	REACH Registration Dossier	OECD Guideline 210
	Crustacea toxicity	NOEC 53 mg/l	21 d	Daphnia magna	REACH Registration Dossier	OECD Guideline 211
	Acute bacteria toxicity	EC50 13500 mg/l ()	3 h	Activated sludge	Publication (2008)	ISO 8192
28961-43-5	Propylidynetrimethanol, ethoxylated, esters with acrylic acid					
	Acute fish toxicity	LC50 1.95 mg/l	96 h	Danio rerio	REACH Registration Dossier	OECD Guideline 203
	Acute algae toxicity	ErC50 2.2 mg/l	72 h	Desmodesmus subspicatus	REACH Registration Dossier	OECD Guideline 201
	Acute crustacea toxicity	EC50 70.7 mg/l	48 h	Daphnia magna	REACH Registration Dossier	OECD Guideline 202
1187441-10-6	2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, reaction products with phosphorus oxide					
	Acute fish toxicity	LC50 > 100 mg/l	96 h	Cyprinus carpio	REACH Registration Dossier	EU Method C.1
	Acute algae toxicity	ErC50 90 mg/l	72 h	Selenastrum capricornutum, strain: NIVA CHL 1.	REACH Registration Dossier	OECD Guideline 201
	Acute crustacea toxicity	EC50 > 100 mg/l	48 h	Daphnia magna	REACH Registration Dossier	OECD Guideline 202
103-50-4	Dibenzyl ether					
	Acute fish toxicity	LC50 6.8 mg/l	96 h	Oryzias latipes	Study report (1996)	OECD Guideline 203
	Acute crustacea toxicity	EC50 0.77 mg/l	48 h	Daphnia magna	Study report (1996)	OECD Guideline 202
	Acute bacteria toxicity	EC50 138 mg/l ()		Activated sludge	Study report (1996)	other: Official Journal of the European

Safety Data Sheet

according to Regulation (EC) No 1907/2006

1690 Flexforce - 1690A resin

Revision: 26.02.2026

Product code: 1690A

Page 13 of 19

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h][d]	Species	Source	Method
91-66-7	N,N-diethylaniline					
	Acute fish toxicity	LC50 42,25 mg/l	96 h	Danio rerio	REACH Registration Dossier	OECD Guideline 203
	Acute algae toxicity	ErC50 7,42 mg/l	72 h	Desmodesmus subspicatus	REACH Registration Dossier	OECD Guideline 201
	Acute crustacea toxicity	EC50 35,2 mg/l	48 h	Daphnia magna	REACH Registration Dossier	OECD Guideline 202
	Crustacea toxicity	NOEC 0,936 mg/l	21 d	Daphnia magna	REACH Registration Dossier	other: modelling data
112-55-0	Dodecane-1-thiol					
	Acute fish toxicity	LC50 > 100 mg/l	96 h	Oncorhynchus mykiss	Study report (1998)	other: TSCA 797.1400
	Acute algae toxicity	ErC50 < 0,0145 mg/l	72 h	Raphidocelis subcapitata	Study report (1999)	OECD Guideline 201
	Acute crustacea toxicity	EC50 1 - 10 mg/l	48 h	Daphnia magna	Study report (1997)	OECD Guideline 202
	Acute bacteria toxicity	EC50 > 10000 mg/l ()	3 h	Activated sludge	Study report (1990)	OECD Guideline 209
27253-31-2	Neodecanoic acid, cobalt salt					
	Acute fish toxicity	LC50 85.3 mg/l	96 h	Danio rerio	Study report (2008)	other: ASTM guideline
	Acute algae toxicity	ErC50 71.314 mg/l	96 h	Dunaliella tertiolecta	Study report (2010)	other: American Society for Testing and
	Acute crustacea toxicity	EC50 42.7 mg/l	48 h	Aeolosoma sp.	Study report (2008)	Newman, J.P., Jr. 1975. The effects of h
	Fish toxicity	NOEC 0.21 mg/l	34 d	Pimephales promelas	Study report (2009)	other: This study was conducted accordin
	Algae toxicity	NOEC 0.0018 mg/l	7 d	Champia parvula	Study report - model refit from original	other: EPA 821-R- 02-014, Method 1009.0
	Crustacea toxicity	NOEC 0.1697 mg/l	14 d	Aeolosoma sp.	Study report (2008)	other: Newman, J.P., Jr. 1975. The effec
	Acute bacteria toxicity	EC50 120 mg/l ()		Activated sludge	Study report (2010)	OECD Guideline 209

Safety Data Sheet

according to Regulation (EC) No 1907/2006

1690 Flexforce - 1690A resin

Revision: 26.02.2026

Product code: 1690A

Page 14 of 19

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h][d]	Species	Source	Method
36443-68-2	Ethylenebis(oxyethylene) bis[3-(5-tert-butyl-4-hydroxy-m-tolyl)propionate]					
	Acute fish toxicity	LC50 43 mg/l	96 h	Lepomis macrochirus	REACH Registration Dossier	OECD Guideline 203
	Acute algae toxicity	ErC50 > 100 mg/l	72 h	Desmodesmus subspicatus	REACH Registration Dossier	EU Method C.3
	Acute crustacea toxicity	EC50 > 100 mg/l	48 h		REACH Registration Dossier	
	Fish toxicity	NOEC > 0.115 mg/l	7 d	Pimephales promelas	REACH Registration Dossier	OECD Guideline 210
	Crustacea toxicity	NOEC > 0.045 mg/l	21 d	Daphnia magna	REACH Registration Dossier	OECD Guideline 211

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No data available

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
2495-37-6	Benzyl methacrylate	3,1
79-41-4	methacrylic acid	0.93
28961-43-5	Propylidynetrimethanol, ethoxylated, esters with acrylic acid	2.89
1187441-10-6	2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, reaction products with phosphorus oxide	>= 0.3
103-50-4	Dibenzyl ether	3.31
91-66-7	N,N-diethylaniline	3,904
112-55-0	Dodecane-1-thiol	> 6,5
36443-68-2	Ethylenebis(oxyethylene) bis[3-(5-tert-butyl-4-hydroxy-m-tolyl)propionate]	4.7

BCF

CAS No	Chemical name	BCF	Species	Source
103-50-4	Dibenzyl ether	>= 171	Cyprinus carpio	Study report (2009)
91-66-7	N,N-diethylaniline	>= 44 - = 17	Cyprinus carpio	REACH Registration D
112-55-0	Dodecane-1-thiol	234	fish	EPIWEB v4.0 (2009)
27253-31-2	Neodecanoic acid, cobalt salt	23	Asterias rubens	Marine Pollution Bul
36443-68-2	Ethylenebis(oxyethylene) bis[3-(5-tert-butyl-4-hydroxy-m-tolyl)propionate]	2 - 12	Cyprinus carpio	REACH Registration D

12.4. Mobility in soil

No data available

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

1690 Flexforce - 1690A resin

Revision: 26.02.2026

Product code: 1690A

Page 15 of 19

12.7. Other adverse effects

No data available

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Disposal recommendations**

Dispose of waste according to applicable legislation.

List of Wastes Code - residues/unused products

080409 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU of adhesives and sealants (including waterproofing products); waste adhesives and sealants containing organic solvents or other hazardous substances; hazardous waste

List of Wastes Code - used product

080409 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU of adhesives and sealants (including waterproofing products); waste adhesives and sealants containing organic solvents or other hazardous substances; hazardous waste

List of Wastes Code - contaminated packaging

080409 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU of adhesives and sealants (including waterproofing products); waste adhesives and sealants containing organic solvents or other hazardous substances; hazardous waste

Contaminated packaging

Completely emptied packages can be recycled. Dispose of waste according to applicable legislation.

SECTION 14: Transport information**Land transport (ADR/RID)**

14.1. UN number or ID number: UN 3077
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (TRIACRYLATE ESTER)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
Hazard label: 9



Classification code: M7
Special Provisions: 274 335 375 601
Limited quantity: 5 kg
Excepted quantity: E1
Transport category: 3
Hazard No: 90
Tunnel restriction code: -

Other applicable information (land transport)

ADR: 375: These substances when carried in single or combination packagings containing a net quantity per single or inner packaging of 5 l or less for liquids or having a net mass per single or inner packaging of 5 kg or less for solids, are not subject to any other provisions of ADR provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

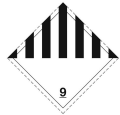
Inland waterways transport (ADN)

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Revision: 26.02.2026	1690 Flexforce - 1690A resin	Product code: 1690A	Page 16 of 19
----------------------	-------------------------------------	---------------------	---------------

14.1. UN number or ID number: UN 3077
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (TRIACRYLATE ESTER)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
 Hazard label: 9



Classification code: M7
 Special Provisions: 274 335 375 601
 Limited quantity: 5 kg
 Excepted quantity: E1

Marine transport (IMDG)

14.1. UN number or ID number: UN 3077
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (TRIACRYLATE ESTER)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
 Hazard label: 9



Special Provisions: 274 335 375 966 967 969
 Limited quantity: 5 kg
 Excepted quantity: E1
 EmS: F-A, S-F

Other applicable information (marine transport)

IMDG: 375: These substances when carried in single or combination packagings containing a net quantity per single or inner packaging of 5 l or less for liquids or having a net mass per single or inner packaging of 5 kg or less for solids, are not subject to any other provisions of ADR provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 3077
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (TRIACRYLATE ESTER)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
 Hazard label: 9



Special Provisions: A97 A158 A179 A197 A215
 Limited quantity Passenger: 30 kg G
 Passenger LQ: Y956
 Excepted quantity: E1
 IATA-packing instructions - Passenger: 956
 IATA-max. quantity - Passenger: 400 kg
 IATA-packing instructions - Cargo: 956

Safety Data Sheet

according to Regulation (EC) No 1907/2006

1690 Flexforce - 1690A resin

Revision: 26.02.2026

Product code: 1690A

Page 17 of 19

IATA-max. quantity - Cargo: 400 kg

Other applicable information (air transport)

IATA: A197 (375): These substances when transported in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass of 5 kg or less for solids, are not subject to any other provisions of these Regulations provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: Yes



Danger releasing substance: TRIACRYLATE ESTER

14.6. Special precautions for user

No information available.

14.7. Maritime transport in bulk according to IMO instruments

No information available.

Other applicable information

No information available.

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 75

Directive 2010/75/EU on industrial emissions: 5.78 % (61.843 g/l)

Information according to Directive 2012/18/EU (SEVESO III): E2 Hazardous to the Aquatic Environment

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): 3 - highly hazardous to water

(EU) EINECS/ELINCS/NLP: yes

(RC) TCSI: yes

(NZ) NZIoC: no

(USA) TSCA: yes

(CDN) DSL: no

(ROK) KECI/ECL: yes

(RP) PICCS: unknown

(JP) MITI: yes

(CHN) IECSC: yes

(AUS) AIIC: no

(CDN) NDSL: no

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): 8,14.

Abbreviations and acronyms

Safety Data Sheet

according to Regulation (EC) No 1907/2006

1690 Flexforce - 1690A resin

Revision: 26.02.2026

Product code: 1690A

Page 18 of 19

Acute Tox. 3: Acute toxicity, hazard category 3
 Acute Tox. 4: Acute toxicity, hazard category 4
 Skin Corr. 1A: Skin corrosion, sub-category 1A
 Skin Corr. 1C: Skin corrosion, sub-category 1C
 Skin Irrit. 2: Skin irritation, hazard category 2
 Eye Dam. 1: Serious eye damage, hazard category 1
 Eye Irrit. 2: Eye irritation, hazard category 2
 Skin Sens. 1: Skin sensitisation, hazard category 1
 Skin Sens. 1A: Skin sensitisation, hazard category 1A
 Skin Sens. 1B: Skin sensitisation, hazard category 1B
 STOT SE 3: Specific target organ toxicity - single exposure, hazard category 3
 STOT RE 1: Specific target organ toxicity - repeated exposure, hazard category 1
 STOT RE 2: Specific target organ toxicity - repeated exposure, hazard category 2
 Aquatic Acute 1: Hazardous to the aquatic environment, hazard category: Acute 1
 Aquatic Chronic 1: Hazardous to the aquatic environment, long-term hazard category: Chronic 1
 Aquatic Chronic 2: Hazardous to the aquatic environment, long-term hazard category: Chronic 2
 Aquatic Chronic 3: Hazardous to the aquatic environment, long-term hazard category: Chronic 3

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

CAS: Chemical Abstracts Service

DNEL: Derived No Effect Level

DMEL: Derived Minimal Effect Level

PNEC: Predicted No Effect Concentration

ATE: Acute toxicity estimate

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

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

ADR: Accord européen sur le transport des marchandises dangereuses par Route

(European Agreement concerning the International Carriage of Dangerous Goods by Road)

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)

IMDG: International Maritime Code for Dangerous Goods

EmS: Emergency Schedules

MFAG: Medical First Aid Guide

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

MARPOL: International Convention for the Prevention of Marine Pollution from Ships

IBC: Intermediate Bulk Container

VOC: Volatile Organic Compounds

SVHC: Substance of Very High Concern

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

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

Classification	Classification procedure
Skin Irrit. 2; H315	Calculation method
Eye Dam. 1; H318	Calculation method
Skin Sens. 1; H317	Calculation method
STOT SE 3; H335	Calculation method

Safety Data Sheet

according to Regulation (EC) No 1907/2006

1690 Flexforce - 1690A resin

Revision: 26.02.2026

Product code: 1690A

Page 19 of 19

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

Classification	Classification procedure
Aquatic Chronic 2; H411	Calculation method

Relevant H and EUH statements (number and full text)

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
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.

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