Safety Data Sheet

according to Regulation (EC) No 1907/2006

UV Adhesive VERIFIX B 665-0

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

1.1. Product identifier

UV Adhesive VERIFIX B 665-0

Further trade names

BO 5209327, 20 g
BO 5209300, 100 g
BO 5209321, 250 g
BO 5209324, 1000 g

UFI: 6HGJ-6MEV-W7HW-X045

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

Use of the substance/mixture

adhesives

1.3. Details of the supplier of the safety data sheet

Company name:	BOHLE AG	
Street:	Dieselstr. 10	
Place:	D-42781 Haan	
Telephone:	+49 2129 5568-0	Telefax: +49 2129 5568-282
E-mail:	info@bohle.de	
Contact person:	Dr. Martin Schade	Telephone: +49 2129 5568-300
E-mail:	MSDS@bohle.de	
Internet:	www.bohle.com	
Responsible Department:	Chemie	

1.4. Emergency telephone number:

Emergency CONTACT (24-Hour-Number): GBK GmbH +49 (0)6132-84463

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 3; H412

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard components for labelling

2-hydroxyethyl methacrylate
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate
acrylic acid, prop-2-enoic acid
maleic acid
tert-butyl perbenzoate
3-methoxysilylpropyl methacrylate

Signal word: Danger

Pictograms:



Hazard statements

H315	Causes skin irritation.
H318	Causes serious eye damage.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.
EUH208	Contains 3-methoxysilylpropyl methacrylate. May produce an allergic reaction.

Precautionary statements

P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing 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.
P333+P317	If skin irritation or rash occurs: Get medical help.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Methacrylate/Acrylate resin(s).

Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
5888-33-5	Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate			<39 %
	227-561-6		01-2119957862-25	
	Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, STOT SE 3, Aquatic Acute 1, Aquatic Chronic 1; H315 H319 H317 H335 H400 H410			
868-77-9	2-hydroxyethyl methacrylate			<39 %
	212-782-2	607-124-00-X	01-2119490169-29	
	Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1; H315 H319 H317			
79-10-7	acrylic acid, prop-2-enoic acid			<5 %
	201-177-9	607-061-00-8	01-2119452449-31	
	Flam. Liq. 3, Acute Tox. 4, Acute Tox. 4, Acute Tox. 4, Skin Corr. 1A, Aquatic Acute 1; H226 H332 H312 H302 H314 H400			
110-16-7	maleic acid			0.1 - < 5 %
	203-742-5	607-095-00-3	01-2119488705-25	
	Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, STOT SE 3; H302 H315 H319 H317 H335			
24650-42-8	2,2-dimethoxy-1,2-diphenylethan-1-one			<3 %
	246-386-6		01-2120000336-73	
	Aquatic Acute 1, Aquatic Chronic 1; H400 H410			
614-45-9	tert-butyl perbenzoate			<3 %
	210-382-2		01-2119513317-46	
	Org. Perox. C, Acute Tox. 4, Skin Irrit. 2, Skin Sens. 1, Aquatic Acute 1, Aquatic Chronic 3; H242 H332 H315 H317 H400 H412			
2530-85-0	3-methoxysilylpropyl methacrylate			<1 %
	219-785-8		01-2119513216-50	
	Skin Sens. 1; 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		
5888-33-5	227-561-6	Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	<39 %
	dermal: LD50 = >5000 mg/kg; oral: LD50 = >5000 mg/kg Aquatic Acute 1; H400: M=1 Aquatic Chronic 1; H410: M=1		
868-77-9	212-782-2	2-hydroxyethyl methacrylate	<39 %
	dermal: LD50 = >5000 mg/kg; oral: LD50 = 5050 mg/kg		
79-10-7	201-177-9	acrylic acid, prop-2-enoic acid	<5 %
	inhalation: LC50 = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: LD50 = 1100 mg/kg; oral: LD50 = 500 mg/kg STOT SE 3; H335: >= 1 - 100 Aquatic Acute 1; H400: M=1		
110-16-7	203-742-5	maleic acid	0.1 - < 5 %
	dermal: LD50 = 1560 mg/kg; oral: LD50 = 1090 mg/kg Skin Sens. 1; H317: >= 0,1 - 100		
24650-42-8	246-386-6	2,2-dimethoxy-1,2-diphenylethan-1-one	<3 %
	oral: LD50 = >2000 mg/kg		
614-45-9	210-382-2	tert-butyl perbenzoate	<3 %
	inhalation: ATE = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: LD50 = 3817 mg/kg; oral: LD50 = 4838 mg/kg		
2530-85-0	219-785-8	3-methoxysilylpropyl methacrylate	<1 %
	oral: LD50 = >5000 mg/kg		

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

First aider: Pay attention to self-protection!
Get medical advice/attention if you feel unwell.

After inhalation

Remove casualty to fresh air and keep warm and at rest. If symptoms persist, call a physician.

After contact with skin

Take off contaminated clothing and wash it before reuse. After contact with skin, wash immediately with plenty of water and soap. When in doubt or if symptoms are observed, get medical advice.

After contact with eyes

In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists, consult a specialist.

After ingestion

Do not induce vomiting. Immediately give large quantities of water to drink. Call a physician immediately.

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

Inhalation: Irritation to respiratory tract
Skin contact : May cause an allergic skin reaction.
Eye contact : Causes serious eye damage.

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, Extinguishing powder, Foam, Carbon dioxide (CO2)

Unsuitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

Burning produces irritant fumes. Carbon monoxide, Carbon dioxide, Hydrocarbons, Nitrogen oxides (NOx)

5.3. Advice for firefighters

Standard procedure for chemical fires.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
In the event of fire, wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Wear personal protection equipment (refer to section 8).
Provide adequate ventilation.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.
Local authorities should be advised if significant spillages cannot be contained.

6.3. Methods and material for containment and cleaning up

Other information

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Sweep up and shovel into suitable containers for disposal. Ensure adequate ventilation.

6.4. Reference to other sections

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

Avoid contact with skin and eyes.
Do not eat, drink or smoke when using this product.
Ensure adequate ventilation.

Advice on protection against fire and explosion

No special technical protective measures required.

Advice on general occupational hygiene

Wash hands before breaks and after work. When using do not eat, drink or smoke.
Take off immediately all contaminated clothing and wash it before reuse. Draw up and observe skin protection programme.

Further information on handling

Avoid: UV-radiation/sunlight

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep only in the original container in a cool, well-ventilated place.
Keep container tightly closed. Keep locked up.
Recommended storage temperature 5 - 25°C. Keep away from direct sunlight.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

CAS No	Substance	ppm	mg/m³	fib/cm³	Category	Origin
79-10-7	Acrylic acid	10	29		TWA (8 h)	
		20	59		STEL (1 min)	

DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
5888-33-5	Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate			
Worker DNEL, long-term		dermal	systemic	1,39 mg/kg bw/day
79-10-7	acrylic acid, prop-2-enoic acid			
Worker DNEL, long-term		inhalation	systemic	30 mg/m³
Worker DNEL, acute		inhalation	systemic	30 mg/m³
Worker DNEL, long-term		inhalation	local	30 mg/m³
Worker DNEL, acute		inhalation	local	30 mg/m³

PNEC values

CAS No	Substance	
Environmental compartment		Value
5888-33-5	Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	
Freshwater		0,00092 mg/l
Marine water		0,000092 mg/l
Freshwater sediment		0,145 mg/kg
Marine sediment		0,0145 mg/kg
Microorganisms in sewage treatment plants (STP)		2 mg/l
Soil		0,0285 mg/kg
79-10-7	acrylic acid, prop-2-enoic acid	
Freshwater		0,003 mg/l
Freshwater (intermittent releases)		0,0013 mg/l
Marine water		0,0003 mg/l
Freshwater sediment		0,0236 mg/kg
Marine sediment		0,00234 mg/kg

8.2. Exposure controls

Appropriate engineering controls

Provide sufficient air exchange and/or exhaust in work rooms.
Do not breathe vapour. To follow: Occupational exposure limit values

Individual protection measures, such as personal protective equipment

Eye/face protection

safety glasses with side-shields conforming to EN166

Hand protection

The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it.
Recommended material: NBR (Nitrile rubber), VITON
Unsuitable material: Natural fibres (e.g. cotton)

Skin protection

Wear suitable protective clothing.

Respiratory protection

Usually no personal respirative protection necessary. When using do not eat, drink or smoke.
In case of inadequate ventilation wear respiratory protection. Full-/half-/quarter-face masks (EN 136/140)
Respirator with filter for organic vapour. Recommended Filter type: A (P2)

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid	
Colour:	colourless	
Odour:	characteristic	
		Test method
Flash point:	101 °C	
Auto-ignition temperature:	238 °C	
pH-Value (at 21 °C):	2	5% emulsion
Water solubility:	practically insoluble	

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

None.

Other safety characteristics

Solvent content:	0%
Viscosity / dynamic: (at 25 °C)	55 mPa·s

SECTION 10: Stability and reactivity

10.1. Reactivity

Light / UV-radiation/sunlight
Oxidising agent, strong

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

No known hazardous reactions.

10.4. Conditions to avoid

Keep cool. Protect from sunlight. Heat, flames and sparks.
In case of light influence: Polymerisation

10.5. Incompatible materials

Reducing agent, strong. Oxidising agent, strong
strong acids and strong bases

10.6. Hazardous decomposition products

No decomposition if stored and applied as directed.
Thermal decomposition can lead to the escape of irritating gases and vapours. Carbon monoxide (CO), Carbon dioxide (CO2), Hydrocarbons

SECTION 11: Toxicological information

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

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

Acute toxicity

CAS No	Chemical name					
	Exposure route	Dose		Species	Source	Method
5888-33-5	Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate					
	oral	LD50 mg/kg	>5000	Rat		
	dermal	LD50 mg/kg	>5000	Rabbit		
868-77-9	2-hydroxyethyl methacrylate					
	oral	LD50 mg/kg	5050	Rat		
	dermal	LD50 mg/kg	>5000	Rabbit		
79-10-7	acrylic acid, prop-2-enoic acid					
	oral	LD50 mg/kg	500	Rat		
	dermal	LD50 mg/kg	1100	Rat		
	inhalation (4 h) vapour	LC50	11 mg/l	Rat		
	inhalation dust/mist	ATE	1,5 mg/l			
110-16-7	maleic acid					
	oral	LD50 mg/kg	1090	Rat	OECD 401	
	dermal	LD50 mg/kg	1560	Rabbit		
24650-42-8	2,2-dimethoxy-1,2-diphenylethan-1-one					
	oral	LD50 mg/kg	>2000	Rat		
614-45-9	tert-butyl perbenzoate					
	oral	LD50 mg/kg	4838	Rat		
	dermal	LD50 mg/kg	3817	Rabbit		
	inhalation vapour	ATE	11 mg/l			
	inhalation dust/mist	ATE	1,5 mg/l			
2530-85-0	3-methoxysilylpropyl methacrylate					
	oral	LD50 mg/kg	>5000	Rat		

11.2. Information on other hazards

Endocrine disrupting properties

This information is not available.

SECTION 12: Ecological information

12.1. Toxicity

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] | [d]	Species	Source	Method
5888-33-5	Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate						
	Acute fish toxicity	LC50 mg/l	0,704	96 h	Danio rerio (zebrafish)	OECD 203	
	Crustacea toxicity	NOEC mg/l	0,092	21 d	Daphnia magna (Big water flea)		
868-77-9	2-hydroxyethyl methacrylate						
	Acute fish toxicity	LC50	227 mg/l	96 h	Pimephales promelas		
110-16-7	maleic acid						
	Acute fish toxicity	LC50	75 mg/l	96 h	Oncorhynchus mykiss (Rainbow trout)		
	Acute algae toxicity	ErC50 mg/l	74,35	72 h	Pseudokirchneriella subcapitata	OECD 201	
	Acute crustacea toxicity	EC50 mg/l	42,81	48 h	Daphnia magna (Big water flea)	OECD 202	
24650-42-8	2,2-dimethoxy-1,2-diphenylethan-1-one						
	Acute fish toxicity	LC50	6 mg/l	96 h	Lepomis macrochirus (Bluegill)		
	Acute algae toxicity	ErC50 mg/l	0,17	72 h			
	Acute crustacea toxicity	EC50	26 mg/l	48 h	Daphnia magna (Big water flea)		
614-45-9	tert-butyl perbenzoate						
	Acute fish toxicity	LC50	1,6 mg/l	96 h	Danio rerio (zebrafish)	OECD 203	
	Acute algae toxicity	ErC50	1,3 mg/l	72 h	Pseudokirchneriella subcapitata	OECD 201	
	Acute crustacea toxicity	EC50	11 mg/l	48 h	Daphnia magna (Big water flea)	OECD 202	
2530-85-0	3-methoxysilylpropyl methacrylate						
	Acute fish toxicity	LC50 mg/l	>1024	96 h	Danio rerio (zebrafish)		
	Acute algae toxicity	ErC50 mg/l	>536	72 h	Scenedesmus subspicatus		
	Acute crustacea toxicity	EC50 mg/l	>876	48 h	Daphnia magna (Big water flea)		

12.2. Persistence and degradability

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
5888-33-5	Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate			
		57%	28	
614-45-9	tert-butyl perbenzoate			
	aerob	70%	28	
	Readily biodegradable, according to appropriate OECD test.			
2530-85-0	3-methoxysilylpropyl methacrylate			
	aerob	69%	28	
	Readily biodegradable (according to OECD criteria).			

12.3. Bioaccumulative potential

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
5888-33-5	Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	4,52
868-77-9	2-hydroxyethyl methacrylate	0,47
79-10-7	acrylic acid, prop-2-enoic acid	0,35
110-16-7	maleic acid	-1,3
614-45-9	tert-butyl perbenzoate	3
2530-85-0	3-methoxysilylpropyl methacrylate	2,1

BCF

CAS No	Chemical name	BCF	Species	Source
110-16-7	maleic acid	<10		

12.4. Mobility in soil

This information is not 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.

12.7. Other adverse effects

This information is not available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Consult the appropriate local waste disposal expert about waste disposal.

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

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

Contaminated packaging

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.
14.3. 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.
14.3. 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.
14.3. 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.

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

Directive 2004/42/EC on VOC in paints and varnishes:	0 % 0 g/l

National regulatory information

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

15.2. Chemical safety assessment

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

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 2,11,12.

Abbreviations and acronyms

Org. Perox. C: Organic peroxides, type C
Flam. Liq. 3: Flammable liquids, hazard category 3
Acute Tox. 4: Acute toxicity, hazard category 4
Skin Corr. 1A: Skin corrosion, sub-category 1A
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
STOT SE 3: Specific target organ toxicity - single exposure, hazard category 3
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 3: Hazardous to the aquatic environment, long-term hazard category: Chronic 3

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
Aquatic Chronic 3; H412	

Relevant H and EUH statements (number and full text)

H226	Flammable liquid and vapour.
H242	Heating may cause a fire.
H302	Harmful if swallowed.
H312	Harmful 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.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH208	Contains 3-methoxysilylpropyl methacrylate. May produce an allergic reaction.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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