Safety Data Sheet

according to UK REACH Regulation

TIKALFLEX TLB FLEX

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

1.1. Product identifier

TIKALFLEX TLB FLEX

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

Use of the substance/mixture

Adhesives, sealants

Uses advised against

Any non-intended use.

1.3. Details of the supplier of the safety data sheet

Company name:	Tikal Marine Systems GmbH	
Street:	Werkstraße 6	
Place:	D-22844 Norderstedt	
Telephone:	+49 40 526 30 60 3	Telefax: +49 40 526 30 60 5
e-mail:	info@tikal-online.de	
Internet:	www.tikal-online.com	

1.4. Emergency telephone number:

Tikal Marine Systems GmbH +49 40 526 30 60 3

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP Regulation

This mixture is not classified as hazardous in accordance with GB CLP Regulation.

2.2. Label elements

GB CLP Regulation

Special labelling of certain mixtures

EUH210	Safety data sheet available on request.
EUH212	Warning! Hazardous respirable dust may be formed when used. Do not breathe dust.

Additional advice on labelling

Labelling according to GHS (UK CLP) regulation.: none

2.3. Other hazards

The substances in the mixture (>0,1%) do not meet the PBT/vPvB criteria according to REACH, annex XIII.
No risks worthy of mention. Please observe the information on the safety data sheet at all times.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

The product does not contain dangerous substances according to UK REACH, Annex II, Part A , 3.1/3.2. that must be mentioned in Chapter 3.

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
2768-02-7	trimethoxyvinylsilane; trimethoxy(vinyl)silane			>= 1 - < 5 %
	220-449-8	014-049-00-0	01-2119513215-52	
	Flam. Liq. 3, Acute Tox. 4, Skin Sens. 1B; H226 H332 H317			
13822-56-5	3-(trimethoxysilyl)propylamine			>= 1 - < 5 %

	237-511-5		01-2119510159-45	
	Skin Irrit. 2, Eye Dam. 1; H315 H318			

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		
2768-02-7	220-449-8	trimethoxyvinylsilane; trimethoxy(vinyl)silane	>= 1 - < 5 %
	inhalation: LC50 = 16,8 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: LD50 = >2000 mg/kg; oral: LD50 = >5000 mg/kg		
13822-56-5	237-511-5	3-(trimethoxysilyl)propylamine	>= 1 - < 5 %
	dermal: LD50 = >2000 mg/kg; oral: LD50 = >2000 mg/kg		

Further Information

Product does not contain listed SVHC substances > 0,1 % according to Regulation (EC) No. 1907/2006 Article 59 (REACH)

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

In case of accident by inhalation: remove casualty to fresh air and keep at rest. In case of respiratory tract irritation, consult a physician.

After contact with skin

Gently wash with plenty of soap and water. In case of skin irritation, seek medical treatment.

After contact with eyes

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. In case of troubles or persistent symptoms, consult an ophthalmologist.

After ingestion

Rinse mouth thoroughly with water. Let water be drunken in little sips (dilution effect). Do NOT induce vomiting. In all cases of doubt, or when symptoms persist, seek medical advice.

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

Carbon dioxide (CO2). Dry extinguishing powder. alcohol resistant foam. Atomized water.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Can be released in case of fire: Carbon monoxide Carbon dioxide (CO2).

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus. Wear suitable protective clothing.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Ventilate affected area.
Avoid dust formation.
Do not breathe dust.

For non-emergency personnel

Wear personal protection equipment (refer to section 8).

For emergency responders

No special measures are necessary.

6.2. Environmental precautions

Discharge into the environment must be avoided.

6.3. Methods and material for containment and cleaning up

For containment

Take up mechanically.
Treat the recovered material as prescribed in the section on waste disposal.

For cleaning up

Clean contaminated objects and areas thoroughly observing environmental regulations.

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. Wear personal protection equipment (refer to section 8).

Advice on protection against fire and explosion

Usual measures for fire prevention. Dust clouds may present an explosion hazard.

Advice on general occupational hygiene

Always close containers tightly after the removal of product. Do not eat, drink, smoke or sneeze at the workplace. Wash hands before breaks and after work.

Further information on handling

Avoid generation of dust.
General protection and hygiene measures: refer to chapter 8

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a cool, well-ventilated place.
Suitable material: synthetic

Hints on joint storage

Do not store together with: Explosives. Oxidizing solids. Oxidizing liquids. Radioactive substances. Infectious substances. Food and animal feedingstuff.

Further information on storage conditions

Keep the packing dry and well sealed to prevent contamination and absorbtion of humidity.
Recommended storage temperature: 20°C
Maximum storage time: 1 year
Protect against: frost. UV-radiation/sunlight. heat. Humidity

7.3. Specific end use(s)

See section 1.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
2768-02-7	trimethoxyvinylsilane; trimethoxy(vinyl)silane			
Worker DNEL, long-term		inhalation	systemic	27,6 mg/m³
Worker DNEL, long-term		dermal	systemic	3,9 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	18,9 mg/m³
Consumer DNEL, acute		inhalation	systemic	93,4 mg/m³
Consumer DNEL, long-term		dermal	systemic	7,8 mg/kg bw/day
Consumer DNEL, acute		dermal	systemic	26,9 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,3 mg/kg bw/day
13822-56-5	3-(trimethoxysilyl)propylamine			
Worker DNEL, long-term		inhalation	systemic	58 mg/m³
Worker DNEL, long-term		dermal	systemic	8,3 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	17 mg/m³
Consumer DNEL, long-term		dermal	systemic	5 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	5 mg/kg bw/day

PNEC values

CAS No	Substance	
Environmental compartment		Value
2768-02-7	trimethoxyvinylsilane; trimethoxy(vinyl)silane	
Freshwater		0,34 mg/l
Freshwater (intermittent releases)		3,4 mg/l
Marine water		0,034 mg/l
Marine water (intermittent releases)		3,4 mg/l
Freshwater sediment		1,24 mg/kg
Marine sediment		0,124 mg/kg
Micro-organisms in sewage treatment plants (STP)		6,6 mg/l
Soil		0,052 mg/kg
13822-56-5	3-(trimethoxysilyl)propylamine	
Freshwater		0.33 mg/l
Marine water		0.033 mg/l
Freshwater sediment		1.2 mg/kg
Marine sediment		0.12 mg/kg
Secondary poisoning		44.4 mg/kg
Micro-organisms in sewage treatment plants (STP)		13 mg/l
Soil		0.045 mg/kg

Additional advice on limit values

To date, no national critical limit values exist.

8.2. Exposure controls



Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

Dust should be exhausted directly at the point of origin.

Individual protection measures, such as personal protective equipment

Eye/face protection

Tightly sealed safety glasses.

Hand protection

In case of prolonged or frequently repeated skin contact:
Wear suitable gloves.
Suitable material:
FKM (fluororubber). - Thickness of glove material: 0,4 mm
Breakthrough time >= 8 h
Butyl rubber. - Thickness of glove material: 0,5 mm
Breakthrough time >= 8 h
CR (polychloroprenes, Chloroprene rubber). - Thickness of glove material: 0,5 mm
Breakthrough time >= 8 h
NBR (Nitrile rubber). - Thickness of glove material: 0,35 mm
Breakthrough time >= 8 h
PVC (Polyvinyl chloride). - Thickness of glove material: 0,5 mm
Breakthrough time >= 8 h
The selected protective gloves have to satisfy the specifications of EU Directive EC/2016/425 and the standard EN 374 derived from it.
Before using check leak tightness / impermeability. In the case of wanting to use the gloves again, clean them before taking off and air them well.

Skin protection

Suitable protective clothing: Protective clothing.
Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500 (D).

Respiratory protection

With correct and proper use, and under normal conditions, breathing protection is not required.
Respiratory protection necessary at:
-Exceeding exposure limit values
-Insufficient ventilation and Generation/formation of dust
Suitable respiratory protective equipment: particulates filter device (DIN EN 143). Type: P1-3
The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

Thermal hazards

Material handled at elevated temperature may cause thermal burns by contact with molten product.

Environmental exposure controls

No special precautionary measures are necessary.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	solid
Colour:	various
Odour:	characteristic

Changes in the physical state

Melting point/freezing point:	not determined
Boiling point or initial boiling point and boiling range:	not determined
Sublimation point:	not determined
Softening point:	not determined
Pour point:	not determined
Flash point:	> 100 °C

Explosive properties

Dust clouds may present an explosion hazard.

Lower explosion limits:	not determined
Upper explosion limits:	not determined
Auto-ignition temperature:	not determined

Self-ignition temperature

Gas:	not determined
Decomposition temperature:	not determined
pH-Value:	not determined
Viscosity / dynamic:	not determined
Viscosity / kinematic:	not determined
Flow time:	not applicable
Water solubility:	not determined

Solubility in other solvents

not determined

Partition coefficient n-octanol/water:	SECTION 12: Ecological information
Vapour pressure:	not determined
Density (at 20 °C):	1,7 g/cm³
Bulk density:	not determined
Relative vapour density:	not applicable

9.2. Other information

Information with regard to physical hazard classes

Sustaining combustion:	Not sustaining combustion

Oxidizing properties

none

Other safety characteristics

Solvent separation test:	not applicable
Solvent content:	not determined
Solid content:	not determined
Evaporation rate:	not applicable

Further Information

No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

No information available.

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.
Refer to chapter 10.5.

10.4. Conditions to avoid

Protect against: UV-radiation/sunlight. heat.

10.5. Incompatible materials

Materials to avoid: Oxidizing agents, strong. Reducing agents, strong.

10.6. Hazardous decomposition products

Does not decompose when used for intended uses.
Can be released in case of fire: Carbon monoxide Carbon dioxide (CO_2).

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in GB CLP Regulation

Toxicocinetics, metabolism and distribution

No data available.

Acute toxicity

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

CAS No	Chemical name					
	Exposure route	Dose		Species	Source	Method
2768-02-7	trimethoxyvinylsilane; trimethoxy(vinyl)silane					
	oral	LD50 mg/kg	>5000	Rat	ECHA Dossier	
	dermal	LD50 mg/kg	>2000	Rabbit	ECHA Dossier	
	inhalation (4 h) vapour	LC50	16,8 mg/l	Rat	ECHA Dossier	
	inhalation dust/mist	ATE	1,5 mg/l			
13822-56-5	3-(trimethoxysilyl)propylamine					
	oral	LD50 mg/kg	>2000	Rat	ECHA Dossier	
	dermal	LD50 mg/kg	>2000	Rat	ECHA Dossier	

Irritation and corrosivity

Based on available data, the classification criteria are not met.
On basis of test data: no classification

Sensitising effects

Based on available data, the classification criteria are not met.
On basis of test data: no classification

Carcinogenic/mutagenic/toxic effects for reproduction

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

STOT-single exposure

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

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.

Specific effects in experiment on an animal

No data available.

11.2. Information on other hazards

Endocrine disrupting properties

No data available.

SECTION 12: Ecological information

12.1. Toxicity

The product has not been tested.

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] | [d]	Species	Source	Method
2768-02-7	trimethoxyvinylsilane; trimethoxy(vinyl)silane						
	Acute fish toxicity	LC50	191 mg/l	96 h	Oncorhynchus mykiss	ECHA Dossier	
	Acute algae toxicity	ErC50	210 mg/l	72 h	Pseudokirchnerella subcapitata	ECHA Dossier	
	Acute crustacea toxicity	EC50 mg/l	168,7	48 h	Daphnia magna	ECHA Dossier	
13822-56-5	3-(trimethoxysilyl)propylamine						
	Acute fish toxicity	LC50 mg/l	> 934	96 h	Danio rerio	ECHA Dossier	
	Acute algae toxicity	ErC50 mg/l	> 1000	72 h	Desmodesmus subspicatus	ECHA Dossier	
	Acute crustacea toxicity	EC50	331 mg/l	48 h	Daphnia magna	ECHA Dossier	

12.2. Persistence and degradability

The product has not been tested.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
2768-02-7	trimethoxyvinylsilane; trimethoxy(vinyl)silane			
	OECD 301F/ ISO 9408/ EEC 92/69/V, C.4-D	51%	28	ECHA Dossier
	Not readily biodegradable (according to OECD criteria)			
13822-56-5	3-(trimethoxysilyl)propylamine			
	OECD 301D/ EEC 92/69/V, C.4-E	80,2	28	ECHA Dossier
	Easily biodegradable (concerning to the criteria of the OECD)			

12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
2768-02-7	trimethoxyvinylsilane; trimethoxy(vinyl)silane	-0,82

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 UK REACH.

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 data available.

Further information

Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Observe in addition any national regulations! Consult the local waste disposal expert about waste disposal.
Non-contaminated packages may be recycled.
According to (EWC) European Waste Catalogue, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.
Control report for waste code/ waste marking according to (EWC) European Waste Catalogue:

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

150106 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); mixed packaging

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 these transport regulations.
14.2. UN proper shipping name:	No dangerous good in sense of these transport regulations.
14.3. Transport hazard class(es):	No dangerous good in sense of these transport regulations.
14.4. Packing group:	No dangerous good in sense of these transport regulations.

Inland waterways transport (ADN)

14.1. UN number or ID number:	No dangerous good in sense of these transport regulations.
14.2. UN proper shipping name:	No dangerous good in sense of these transport regulations.
14.3. Transport hazard class(es):	No dangerous good in sense of these transport regulations.
14.4. Packing group:	No dangerous good in sense of these transport regulations.

Marine transport (IMDG)

14.1. UN number or ID number:	No dangerous good in sense of these transport regulations.
14.2. UN proper shipping name:	No dangerous good in sense of these transport regulations.
14.3. Transport hazard class(es):	No dangerous good in sense of these transport regulations.
14.4. Packing group:	-

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	No dangerous good in sense of these transport regulations.
14.2. UN proper shipping name:	No dangerous good in sense of these transport regulations.
14.3. Transport hazard class(es):	No dangerous good in sense of these transport regulations.
14.4. Packing group:	-

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

Refer to section 6-8

14.7. Maritime transport in bulk according to IMO instruments

not relevant

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 40, Entry 75

2010/75/EU (VOC):	No information available.
2004/42/EC (VOC):	< 2 % (< 55,04 g/l)
Information according to 2012/18/EU (SEVESO III):	Not subject to 2012/18/EU (SEVESO III)

Additional information

Safety Data Sheet according to UK-REACH Regulation
The mixture is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].
UK REACH Appendix XVII, No (mixture): not relevant

National regulatory information

Water hazard class (D): 1 - slightly hazardous to water

15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:
3-(trimethoxysilyl)propylamine

SECTION 16: Other information

Changes

Rev. 1.0; Initial release 28.01.2022

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)
CAS: Chemical Abstracts Service
CLP: Classification, Labelling and Packaging of substances and mixtures
DNEL: Derived No Effect Level
d: day(s)
EINECS: European INventory of Existing Commercial chemical Substances

ELINCS: European LIst of Notified Chemical Substances
ECHA: European Chemicals Agency
EWC: European Waste Catalogue
IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)
h: hour
LOAEL: Lowest observed adverse effect level
LOAEC: Lowest observed adverse effect concentration
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
NOAEL: No observed adverse effect level
NOAEC: No observed adverse effect concentration
NLP: No-Longer Polymers
N/A: not applicable
OECD: Organisation for Economic Co-operation and Development
PNEC: predicted no effect concentration
PBT: Persistent bioaccumulative toxic
RID: Reglement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
REACH: Registration, Evaluation, Authorisation of Chemicals
SVHC: substance of very high concern
TRGS: Technische Regeln für Gefahrstoffe
UN: United Nations
VOC: Volatile Organic Compounds

Relevant H and EUH statements (number and full text)

H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
EUH210	Safety data sheet available on request.
EUH212	Warning! Hazardous respirable dust may be formed when used. Do not breathe dust.

Further Information

Classification according to Regulation (EC) No 1272/2008 [CLP] - Classification procedure:
Health hazards: Calculation method.
Environmental hazards: Calculation method.
Physical hazards: On basis of test data and / or calculated and / or estimated.

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