

Version	Revision Date: 09.03.2018	SDS Number:	Date of last issue: 14.08.2017
3.1		671525-00009	Date of first issue: 24.10.2014

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

1.1 Product identifier		
Trade name	:	SILASTIC™ RTV-3081-F Mould-Making Curing Agent
Product code	:	04107685
1.2 Relevant identified uses of the	he s	substance or mixture and uses advised against
Use of the Sub- stance/Mixture	:	Vulcanising agents, Polymer
1.3 Details of the supplier of the	sat	ety data sheet
Company	:	DOW CHEMICAL COMPANY LIMITED STATION ROAD, BIRCH VALE, HIGH PEAK DERBYSHIRE England SK22 1BR UNITED KINGDOM
Telephone	:	+44 (0) 1663 746518
Telefax	:	+44 (0) 1663 746605
E-mail address of person responsible for the SDS	:	SDSQuestion@dow.com
1.4 Emergency telephone numb	er	
24-Hour Emergency Contact	:	0031 115 694 982
Local Emergency Contact	:	00 31 115 69 4982

# **SECTION 2: Hazards identification**

# 2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)					
Reproductive toxicity, Category 2	H361d: Suspected of damaging the unborn child.				
Specific target organ toxicity - repeated exposure, Category 2	H373: May cause damage to organs through pro- longed or repeated exposure.				

# 2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



# SILASTIC<sup>™</sup> RTV-3081-F Mould-Making Curing Agent

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Hazard pictograms					
Się	gnal word	: Warnir	ng		
Hazard statements		H373	H361d Suspected of damaging the unborn child. H373 May cause damage to organs through prolonged or repeated exposure.		
Precautionary statements		P280	Obtain spe Do not han nd understoo	ctive gloves/ protective clothing/ eye protec-	
		Respo P308 - attentio	- P313 IF e	exposed or concerned: Get medical advice/	
		<b>Storag</b> P405	<b>je:</b> Store locke	ed up.	

Hazardous components which must be listed on the label: Trimethoxyphenylsilane Dimethylbis[(1-oxoneodecyl)oxy]stannane

# 2.3 Other hazards

Vapours may form explosive mixture with air.

# **SECTION 3: Composition/information on ingredients**

## 3.2 Mixtures

Chemical nature : Organotin compound

## Hazardous components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Trimethoxyphenylsilane	2996-92-1 221-066-9 01-2119964479-19	Flam. Liq. 3; H226 Acute Tox. 4; H302 STOT RE 2; H373	>= 10 - < 20
Dimethylbis[(1- oxoneodecyl)oxy]stannane	68928-76-7 273-028-6	Acute Tox. 4; H302 Repr. 2; H361d STOT RE 1; H372 Aquatic Chronic 3; H412	>= 3 - < 10



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Metha	anol	67-56-1 200-659-6 603-001-00-X 01-2119433307-4	Flam. Liq. 2; H225 Acute Tox. 3; H301 Acute Tox. 3; H331 44 Acute Tox. 3; H311 STOT SE 1; H370	>= 0.1 - < 1
Tetra	methoxysilane	681-84-5 211-656-4	Flam. Liq. 3; H226 Acute Tox. 1; H330 Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT RE 1; H372	>= 0.1 - < 1

For explanation of abbreviations see section 16.

# **SECTION 4: First aid measures**

# 4.1 Description of first aid measures

General advice :	In the case of accident or if you feel unwell, seek medical ad- vice immediately. When symptoms persist or in all cases of doubt seek medical advice.			
Protection of first-aiders :	First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists.			
If inhaled :	If inhaled, remove to fresh air. Get medical attention.			
In case of skin contact :	In case of contact, immediately flush skin with soap and plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.			
In case of eye contact :	Flush eyes with water as a precaution. Get medical attention if irritation develops and persists.			
If swallowed :	If swallowed, DO NOT induce vomiting. Get medical attention. Rinse mouth thoroughly with water.			
4.2 Most important symptoms and	effects, both acute and delayed			
Risks :	Suspected of damaging the unborn child. May cause damage to organs through prolonged or repeated exposure.			
4.3 Indication of any immediate medical attention and special treatment needed				
Treatment :	Treat symptomatically and supportively.			



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# **SECTION 5: Firefighting measures**

5.1 Extinguishing media				
Suitable extinguishing media	:	Water spray Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical		
Unsuitable extinguishing media	:	High volume water jet		
5.2 Special hazards arising from	the	e substance or mixture		
Specific hazards during fire- fighting	:	Do not use a solid water stream as it may scatter and spread fire. Flash back possible over considerable distance. Vapours may form explosive mixtures with air. Exposure to combustion products may be a hazard to health.		
Hazardous combustion prod- ucts	:	Carbon oxides Silicon oxides Formaldehyde Metal oxides		
5.3 Advice for firefighters				
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.		
Specific extinguishing me- thods	:	Use extinguishing measures that are appropriate to local cir- cumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.		

# **SECTION 6:** Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	<ul> <li>Remove all sources of ignition.</li> <li>Use personal protective equipment.</li> <li>Follow safe handling advice and personal protective equipment recommendations.</li> </ul>
·	Follow safe handling advice and personal protective equ

# 6.2 Environmental precautions

Environmental precautions		Discharge into the environment must be avoided.
		Prevent further leakage or spillage if safe to do so.
		Prevent spreading over a wide area (e.g. by containment or oil
		barriers).



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			se of contaminated wash water. should be advised if significant spillages ned.
6.3 Method	is and material for co	ntainment and clean	ing up
Metho	ds for cleaning up	Soak up with ine Suppress (knock spray jet. For large spills, p ment to keep ma be pumped, store Clean up remain bent. Local or national posal of this mate employed in the mine which regul Sections 13 and	ols should be used. rt absorbent material. down) gases/vapours/mists with a water provide dyking or other appropriate contain- terial from spreading. If dyked material can e recovered material in appropriate container. ing materials from spill with suitable absor- regulations may apply to releases and dis- erial, as well as those materials and items cleanup of releases. You will need to deter- lations are applicable. 15 of this SDS provide information regarding ational requirements.

# 6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

# **SECTION 7: Handling and storage**

# 7.1 Precautions for safe handling

Technical measures	:	See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
Local/Total ventilation	:	Use with local exhaust ventilation.
Advice on safe handling	:	Avoid inhalation of vapour or mist. Do not swallow. Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure as- sessment Keep container tightly closed. Keep away from water. Protect from moisture. Keep away from heat and sources of ignition. Take precautionary measures against static discharges. Take care to prevent spills, waste and minimize release to the environment.
Hygiene measures	:	Ensure that eye flushing systems and safety showers are located close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use.



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7.2 Conditi	ions for safe storage,	including any incor	npatibilities
	ements for storage and containers	tightly closed. K accordance with	y labelled containers. Store locked up. Keep keep in a cool, well-ventilated place. Store in the particular national regulations. Keep and sources of ignition.
Advice	e on common storage	: Do not store wit Strong oxidizing Organic peroxid Explosives Gases	
-	<b>c end use(s)</b> ic use(s)	elevated temper quire added pre For further infor oils in consume guidance docum rials in consume oped by the silic	ons are for room temperature handling. Use at rature or aerosol/spray applications may re- cautions. mation regarding the use of silicones / organic r aerosol applications, please refer to the nent regarding the use of these type of mate- er aerosol applications that has been devel- cone industry (www.SEHSC.com) or contact cal customer service group.

# **SECTION 8: Exposure controls/personal protection**

# 8.1 Control parameters

# **Occupational Exposure Limits**

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis	
Trimethoxyphenyl- silane	2996-92-1	TWA	50 ppm	DCC OEL	
Dimethylbis[(1- oxoneo- decyl)oxy]stannan e	68928-76-7	TWA	0.1 mg/m3 (Tin)	GB EH40	
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.				
		STEL	0.2 mg/m3 (Tin)	GB EH40	
Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.				
Methanol	67-56-1	TWA	200 ppm 260 mg/m3	2006/15/EC	
Further information	Indicative, Identifies the possibility of significant uptake through the skin				
		TWA	200 ppm 266 mg/m3	GB EH40	
Further information	Can be absorbed through skin. The assigned substances are those for which				



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		there are cond		absorption will lead to systemic	
			STEL	250 ppm 333 mg/m3	GB EH40
	Further information	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			

## Occupational exposure limits of decomposition products

Components	CAS-No.	Value type (Form	Control parameters	Basis	
		of exposure)			
Propan-1-ol	71-23-8	STEL	250 ppm	GB EH40	
			625 mg/m3		
Further information			e assigned substances are t		
	there are cond	cerns that dermal ab	sorption will lead to systemic	toxicity.	
		TWA	200 ppm	GB EH40	
			500 mg/m3		
Further information	Can be absor	bed through skin. Th	e assigned substances are t	hose for which	
	there are cond	cerns that dermal ab	sorption will lead to systemic	toxicity.	
Methanol	67-56-1	TWA	200 ppm	2006/15/EC	
			260 mg/m3		
Further information	Indicative, Identifies the possibility of significant uptake through the skin				
		TWA	200 ppm	GB EH40	
			266 mg/m3		
Further information	Can be absorbed through skin. The assigned substances are those for which				
	there are concerns that dermal absorption will lead to systemic toxicity.				
		STEL	250 ppm	GB EH40	
			333 mg/m3		
Further information	Can be absorbed through skin. The assigned substances are those for which			hose for which	
	there are concerns that dermal absorption will lead to systemic toxicity.				

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

		ang to Regulation	(==)	
Substance name	End Use	Exposure routes	Potential health ef- fects	Value
Tetrapropyl orthosili- cate	Workers	Inhalation	Long-term systemic effects	85 mg/m3
	Workers	Inhalation	Acute systemic ef- fects	85 mg/m3
	Workers	Skin contact	Long-term systemic effects	12 mg/kg bw/day
	Workers	Skin contact	Acute systemic ef- fects	12 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	21 mg/m3
	Consumers	Inhalation	Acute systemic ef- fects	21 mg/m3
	Consumers	Skin contact	Long-term systemic effects	6 mg/kg bw/day
	Consumers	Skin contact	Acute systemic ef- fects	6 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	6 mg/kg bw/day
	Consumers	Ingestion	Acute systemic ef-	6 mg/kg



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		1	1	fects	bw/day
Alkoxysilane	ysilane	Workers	Skin contact	Acute systemic ef- fects	2.5 mg/kg bw/day
		Workers	Inhalation	Acute systemic ef- fects	40.2 mg/m3
		Workers	Skin contact	Long-term systemic effects	2.5 mg/kg bw/day
		Workers	Inhalation	Long-term systemic effects	40.2 mg/m3
		Consumers	Skin contact	Acute systemic ef- fects	33.3 mg/kg bw/day
		Consumers	Inhalation	Acute systemic ef- fects	10 mg/m3
		Consumers	Ingestion	Long-term systemic effects	0.7 mg/kg bw/day
		Consumers	Skin contact	Long-term systemic effects	1.7 mg/kg bw/day
		Consumers	Inhalation	Long-term systemic effects	10 mg/m3
Metha	anol	Workers	Inhalation	Long-term systemic effects	260 mg/m3
	Workers	Inhalation	Acute systemic ef- fects	260 mg/m3	
		Workers	Inhalation	Long-term local ef- fects	260 mg/m3
		Workers	Inhalation	Acute local effects	260 mg/m3
		Workers	Skin contact	Long-term systemic effects	40 mg/kg bw/day
		Workers	Skin contact	Acute systemic ef- fects	40 mg/kg bw/day
		Consumers	Inhalation	Long-term systemic effects	50 mg/m3
		Consumers	Inhalation	Acute systemic ef- fects	50 mg/m3
		Consumers	Inhalation	Long-term local ef- fects	50 mg/m3
		Consumers	Inhalation	Acute local effects	50 mg/m3
		Consumers	Skin contact	Long-term systemic effects	8 mg/kg bw/day
		Consumers	Skin contact	Acute systemic ef- fects	8 mg/kg bw/day
		Consumers	Ingestion	Long-term systemic effects	8 mg/kg bw/day
		Consumers	Ingestion	Acute systemic ef- fects	8 mg/kg bw/day
Tetrar	methoxysilane	Workers	Inhalation	Long-term local ef- fects	93 mg/m3
		Workers	Skin contact	Long-term systemic effects	0.3 mg/kg bw/day



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# Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
Tetrapropyl orthosilicate	Fresh water	10 mg/l
	Marine water	1 mg/l
	Fresh water sediment	11 mg/kg
	Marine sediment	1.1 mg/kg
	Soil	3.9 mg/kg
	Sewage treatment plant	96 mg/l
Alkoxysilane	Fresh water	0.24 mg/l
	Marine water	0.024 mg/l
	Fresh water sediment	0.24 mg/kg
	Marine sediment	0.024 mg/kg
	Soil	0.07 mg/kg
	Sewage treatment plant	74 mg/l
Methanol	Fresh water	20.8 mg/l
	Marine water	2.08 mg/l
	Intermittent use/release	1540 mg/l
	Sewage treatment plant	100 mg/l
	Fresh water sediment	77 mg/kg
	Marine sediment	7.7 mg/kg
	Soil	100 mg/kg
Tetramethoxysilane	Fresh water	5 mg/l
	Marine water	0.5 mg/l
	Fresh water sediment	4.44 mg/kg
	Marine sediment	0.44 mg/kg
	Soil	0.99 mg/kg
	Sewage treatment plant	> 1 mg/l



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# 8.2 Exposure controls

#### Engineering measures

Processing may form hazardous compounds (see section 10). Ensure adequate ventilation, especially in confined areas. Minimize workplace exposure concentrations.

Personal protective equipment	
Eye protection :	Wear the following personal protective equipment: Safety glasses
Hand protection Material :	Chemical-resistant gloves
Remarks :	Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous sub- stance and specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Take note that the product is flammable, which may impact the selection of hand protection. Wash hands before breaks and at the end of workday.
Skin and body protection :	Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential. Wear the following personal protective equipment: Flame retardant antistatic protective clothing, unless as- sessment demonstrates that the risk of explosive atmos- pheres or flash fires is low Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).
Respiratory protection :	Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.
Filter type :	Self-contained breathing apparatus

# **SECTION 9: Physical and chemical properties**

#### 9.1 Information on basic physical and chemical properties

Appearance	:	liquid
Colour	:	Clear to slightly hazy, colourless
Odour	:	slight
Odour Threshold	:	No data available



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	рН		:	No data available	9
	Melting	point/freezing point	:	No data available	9
	Initial b range	oiling point and boiling	:	> 35 °C	
	Flash p	oint	:	64 °C Method: Pensky-	Martens closed cup
	Evapor	ation rate	:	No data available	9
	Flamma	ability (solid, gas)	:	Not applicable	
		explosion limit / Upper bility limit	:	No data available	
		explosion limit / Lower bility limit	:	No data available	•
	Vapour	pressure	:	No data available	9
	Relative	e vapour density	:	No data available	9
	Relative	e density	:	0.969	
	Solubili Wat	ty(ies) er solubility	:	No data available	
	Partitio octanol	n coefficient: n- /water	:	No data available	•
	Auto-ig	nition temperature	:	No data available	9
	Decom	position temperature	:	No data available	9
	Viscosi Visc	ty cosity, dynamic	:	40 mPa.s	
	Explosi	ve properties	:	Not explosive	
	Oxidizir	ng properties	:	The substance o	r mixture is not classified as oxidizing.
9.2	<b>9.2 Other information</b> Flammability (liquids)		:	Not applicable	
	Molecu	lar weight	:	No data available	9
	Particle	size	:	Not applicable	
	Self-igr	nition	:	The substance o	r mixture is not classified as pyrophoric. The



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substance or mixture is not classified as self heating.

# **SECTION 10: Stability and reactivity**

#### 10.1 Reactivity

Not classified as a reactivity hazard.

# 10.2 Chemical stability

Stable under normal conditions.

#### 10.3 Possibility of hazardous reactions

Hazardous reactions	<ul> <li>Combustible liquid.</li> <li>Vapours may form explosive mixture with air.</li> <li>Use at elevated temperatures may form highly hazardous compounds.</li> <li>Can react with strong oxidizing agents.</li> <li>Hazardous decomposition products will be formed upon contact with water or humid air.</li> <li>Hazardous decomposition products will be formed at elevated temperatures.</li> </ul>
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## 10.4 Conditions to avoid

Conditions to avoid	:	Exposure to moisture
		Heat, flames and sparks

## 10.5 Incompatible materials

Materials to avoid	:	Oxidizing agents Water
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# **10.6 Hazardous decomposition products**

Contact with water or humid air	:	Propan-1-ol Methanol
Thermal decomposition	:	Benzene Formaldehyde

## **SECTION 11: Toxicological information**

# 11.1 Information on toxicological effects

Information on likely routes of	:	Inhalation
exposure		Skin contact
		Ingestion
		Eye contact

#### Acute toxicity

Not classified based on available information.



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	<u>Produ</u>	ct:			
		oral toxicity	:	Acute toxicity esti Method: Calculati	mate: > 2,000 mg/kg on method
	Acute i	nhalation toxicity	:	Acute toxicity esti Exposure time: 4 Test atmosphere: Method: Calculati	h vapour
	Acute	dermal toxicity	:	Acute toxicity esti Method: Calculati	mate: > 2,000 mg/kg on method
	<u>Comp</u>	onents:			
	Trimet	hoxyphenylsilane:			
	Acute	oral toxicity	:	LD50 (Rat): 1,049 Remarks: On bas	
	Dimetl	hylbis[(1-oxoneodecy	/l)ox	y]stannane:	
	Acute	oral toxicity	:	LD50 (Rat): 894 r Method: OECD T	
	Acute	dermal toxicity	:		00 mg/kg est Guideline 402 substance or mixture has no acute dermal
	Metha	nol:			
	Acute	oral toxicity	:	Acute toxicity esti Method: Expert ju	mate (Humans): 300 mg/kg Idgement
	Acute i	nhalation toxicity	:	Acute toxicity esti Exposure time: 4 Test atmosphere: Method: Expert ju Remarks: Based 1272/2008, Anne	h vapour idgement on harmonised classification in EU regulation
	Acute	dermal toxicity	:	Acute toxicity esti Method: Expert ju	mate (Humans): 300 mg/kg Idgement
	Tetran	nethoxysilane:			
		oral toxicity	:	icity	00 mg/kg substance or mixture has no acute oral tox- on data from similar materials
	Acute i	nhalation toxicity	:	LC50 (Rat): 63 pp Exposure time: 4 Test atmosphere:	h



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		Remarks: On b	asis of test data.
Acute dermal toxicity		toxicity	17,544 mg/kg he substance or mixture has no acute dermal mation taken from reference works and the

## Skin corrosion/irritation

Not classified based on available information.

## **Components:**

#### Trimethoxyphenylsilane:

Species: Rabbit Result: No skin irritation Remarks: On basis of test data.

#### Dimethylbis[(1-oxoneodecyl)oxy]stannane:

Species: Rabbit Method: OECD Test Guideline 404 Result: No skin irritation

## Methanol:

Species: Rabbit Result: No skin irritation

## Tetramethoxysilane:

Species: Rabbit Result: Skin irritation Remarks: Based on data from similar materials

## Serious eye damage/eye irritation

Not classified based on available information.

### Components:

#### Trimethoxyphenylsilane:

Species: Rabbit Result: No eye irritation Remarks: Based on data from similar materials

## Dimethylbis[(1-oxoneodecyl)oxy]stannane:

Species: Rabbit Method: OECD Test Guideline 405 Result: No eye irritation

## Methanol:



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Species: Rabbit Result: No eye irritation

# Tetramethoxysilane:

Result: Irreversible effects on the eye Remarks: On basis of test data.

## Respiratory or skin sensitisation

#### Skin sensitisation

Not classified based on available information.

# **Respiratory sensitisation**

Not classified based on available information.

#### Components:

#### Methanol:

Test Type: Maximisation Test Exposure routes: Skin contact Species: Guinea pig Result: negative

#### Tetramethoxysilane:

Assessment: Does not cause skin sensitisation.

Test Type: Buehler Test Species: Guinea pig Remarks: Based on data from similar materials

## Germ cell mutagenicity

Not classified based on available information.

## Components:

# Trimethoxyphenylsilane:

Genotoxicity in vitro	:	Test Type: Bacterial reverse mutation assay (AMES) Result: negative
		Remarks: On basis of test data.

## Dimethylbis[(1-oxoneodecyl)oxy]stannane:

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Method: OECD Test Guideline 471 Result: negative
Methanol:	

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES)
	Method: OECD Test Guideline 471
	Result: negative



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			Test Type: In vitr Result: negative	o mammalian cell gene mutation test
Geno	toxicity in vivo	:	cytogenetic assa Species: Mouse	nalian erythrocyte micronucleus test (in vivo y) e: Intraperitoneal injection
			Result: negative	
Tetra	methoxysilane:			
	toxicity in vivo	:	Test Type: Mam cytogenetic assa Species: Rat Application Route Result: negative Remarks: On bas	e: Inhalation
Germ sessr		:	Animal testing di	d not show any mutagenic effects.
Not c	<b>nogenicity</b> lassified based on availa ponents:	able	information.	
Meth	anol:			
Speci Applic Expos	es: Mouse cation Route: inhalation sure time: 18 Months It: negative	(vap	pour)	
_				
•	oductive toxicity		rn child	
	acted of domoging the u			
COIII	ected of damaging the u	nbo	m child.	
	oonents:	INDO	in child.	
	oonents: ethoxyphenylsilane:			ined repeated does to visity at usy with the
	oonents:	inbo :	Test Type: Comb	e: Ingestion ffects on fertility



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	Reprod sessme	uctive toxicity - As- ent	:		lverse effects on sexual function and fertility, it, based on animal experiments.
	Dimeth	ylbis[(1-oxoneodecy	l)ox	y]stannane:	
	Reprod sessme	uctive toxicity - As- ent	:	Some evidence of animal experimen	adverse effects on development, based on ts.
	Methar	nol:			
	Effects	on fertility	:	Test Type: Fertility Species: Mouse Application Route Result: negative	y/early embryonic development : Ingestion
	Effects ment	on foetal develop-	:	Species: Mouse Application Route Result: positive	o-foetal development : Ingestion ects were seen only at maternally toxic dos-

## STOT - single exposure

Not classified based on available information.

## **Components:**

#### Methanol:

Target Organs: Eyes, Central nervous system Assessment: Causes damage to organs.

## STOT - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

#### **Components:**

#### Trimethoxyphenylsilane:

Exposure routes: Ingestion Target Organs: Bladder, Kidney Assessment: Shown to produce significant health effects in animals at concentrations of >10 to 100 mg/kg bw.

Exposure routes: inhalation (vapour)

Assessment: No significant health effects observed in animals at concentrations of 1 mg/l/6h/d or less.

## Dimethylbis[(1-oxoneodecyl)oxy]stannane:

Exposure routes: Ingestion Target Organs: Immune system, Central nervous system Assessment: Shown to produce significant health effects in animals at concentrations of 10 mg/kg bw or less.



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#### Tetramethoxysilane:

Exposure routes: inhalation (vapour) Target Organs: Respiratory system Assessment: Shown to produce significant health effects in animals at concentrations of 0.2 mg/l/6h/d or less.

#### Repeated dose toxicity

#### **Components:**

#### Trimethoxyphenylsilane:

Species: Rat Application Route: Ingestion Target Organs: Bladder, Kidney Remarks: On basis of test data.

Species: Rat Application Route: inhalation (vapour) Remarks: On basis of test data.

## Dimethylbis[(1-oxoneodecyl)oxy]stannane:

Species: Rat NOAEL: < 1.6 mg/kg Application Route: Ingestion Exposure time: 90 Days Remarks: Based on data from similar materials

#### Methanol:

Species: Rat NOAEL: 1.06 mg/l Application Route: inhalation (vapour) Exposure time: 90 Days

## Tetramethoxysilane:

Species: Rat Application Route: inhalation (vapour) Target Organs: Respiratory system Remarks: On basis of test data.

# Aspiration toxicity

Not classified based on available information.



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# **SECTION 12: Ecological information**

# 12.1 Toxicity

Components:		
Trimethoxyphenylsilane:		
Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: Based on data from similar materials No toxicity at the limit of solubility
		LC50 (Oncorhynchus mykiss (rainbow trout)): > 0.20 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: On basis of test data. No toxicity at the limit of solubility
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 0.0029 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 Remarks: On basis of test data. No toxicity at the limit of solubility
Toxicity to algae	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): > 0.17 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: On basis of test data. No toxicity at the limit of solubility
Toxicity to microorganisms	:	EC50 : > 1,000 mg/l Exposure time: 3 h Method: OECD Test Guideline 209 Remarks: Based on data from similar materials
Dimethylbis[(1-oxoneodecyl	)ox	xy]stannane:
Toxicity to fish	•	LC50 (Danio rerio (zebra fish)): > 100 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 17 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 Remarks: Based on data from similar materials
Toxicity to algae	:	ErC50 (Desmodesmus subspicatus (green algae)): 37 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
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			Remarks: Based	on data from similar materials
			Exposure time: 72 Method: OECD Te	
Ме	thanol:			
	xicity to fish	:	LC50 (Lepomis m Exposure time: 96	acrochirus (Bluegill sunfish)): 15,400 mg/l Sh
	xicity to daphnia and other uatic invertebrates	:	EC50 (Daphnia m Exposure time: 48	agna (Water flea)): > 10,000 mg/l 3 h
To	xicity to algae	:	EC50 (Pseudokiro mg/l Exposure time: 96 Method: OECD Te	
To	xicity to microorganisms	:	IC50 : > 1,000 mg Exposure time: 3	
To: ity)	xicity to fish (Chronic toxic-	:	Exposure time: 20	
Te	tramethoxysilane:			
	xicity to fish	:	Exposure time: 96 Method: Directive	(zebra fish)): > 245 mg/l 3 h 67/548/EEC, Annex V, C.1. on data from similar materials
	xicity to daphnia and other uatic invertebrates	:	Exposure time: 48 Method: OECD Te	est Guideline 202 on data from similar materials
To	xicity to algae	:	Exposure time: 72 Method: OECD Te	
	otoxicology Assessment ute aquatic toxicity	:	This product has i	no known ecotoxicological effects.



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12.2 Pers	sistence and degradab	ility	
Con	nponents:		
	nethoxyphenylsilane: legradability	<ul> <li>Result: Not readily biodegradable.</li> <li>Biodegradation: 1 %</li> <li>Exposure time: 28 d</li> <li>Method: OECD Test Guideline 310</li> <li>Remarks: Based on data from similar materials</li> </ul>	
Dim	ethylbis[(1-oxoneodec	yl)oxy]stannane:	
Biod	legradability	<ul> <li>Result: Not readily biodegradable.</li> <li>Biodegradation: 3 %</li> <li>Exposure time: 35 d</li> <li>Method: OECD Test Guideline 301F</li> <li>Remarks: Based on data from similar materials</li> </ul>	
Met	hanol:		
Biod	legradability	: Result: Readily biodegradable. Biodegradation: 95 % Exposure time: 20 d	
	amethoxysilane: bility in water	: Degradation half life: < 3 min pH: 7	
12.3 Bioa	accumulative potential		
<u>Con</u>	nponents:		
Met	hanol:		
Bioa	accumulation	: Species: Leuciscus idus (Golden orfe) Bioconcentration factor (BCF): < 10	
	ition coefficient: n- nol/water	: log Pow: -0.77	
Tetr	amethoxysilane:		
	ition coefficient: n- nol/water	: log Pow: -0.5	
	<b>bility in soil</b> data available		
	ults of PBT and vPvB a relevant	issessment	



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#### 12.6 Other adverse effects

No data available

## **SECTION 13: Disposal considerations**

#### 13.1 Waste treatment methods

Product	: Dispose of in accordance with local regulations. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.
Contaminated packaging	: Empty containers should be taken to an approved waste han- dling site for recycling or disposal. Empty containers retain residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or ex- pose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death. If not otherwise specified: Dispose of as unused product.

## **SECTION 14: Transport information**

#### 14.1 UN number

Not regulated as a dangerous good

## 14.2 UN proper shipping name

Not regulated as a dangerous good

# 14.3 Transport hazard class(es)

Not regulated as a dangerous good

#### 14.4 Packing group

Not regulated as a dangerous good

## 14.5 Environmental hazards

Not regulated as a dangerous good

## 14.6 Special precautions for user

Not applicable

Remarks

## 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

: Not applicable for product as supplied.

# **SECTION 15: Regulatory information**

#### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Candidate List of Substances of Very High : Not applicable Concern for Authorisation (Article 59).

Regulation (EC) No 1005/2009 on substances that dep- : Not applicable



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lete th	ne ozone layer			
Regul lutant	ation (EC) No 850/200 s	04 on persistent organ	nic pol- :	Not applicable
Regulation (EC) No 649/2012 of the European Parlia- : Not applicable ment and the Council concerning the export and import of dangerous chemicals				
Seves	so III: Directive 2012/1	8/EU of the Europear	n Parliamen	t and of the Council on the co

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. Not applicable

## Other regulations:

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

#### The components of this product are reported in the following inventories:

NZIOC	:	All ingredients listed or exempt.
REACH	:	For purchases from Dow Chemical EU legal entities, all ingre- dients are currently pre/registered or exempt under REACH. Please refer to section 1 for recommended uses. For pur- chases from non-EU Dow Chemical legal entities with the intention to export into EEA please contact your DC repre- sentative/local office.
TSCA	:	All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.
AICS	:	All ingredients listed or exempt.
IECSC	:	All ingredients listed or exempt.
ENCS/ISHL	:	All components are listed on ENCS/ISHL or exempted from inventory listing.
KECI	:	All ingredients listed, exempt or notified.
PICCS	:	All ingredients listed or exempt.
DSL	:	All chemical substances in this product comply with the CEPA 1999 and NSNR and are on or exempt from listing on the Canadian Domestic Substances List (DSL).
TCSI	:	All ingredients listed or exempt.



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#### 15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

#### **SECTION 16: Other information**

H225 :	Highly flammable liquid and vapour.			
H226 :	Flammable liquid and vapour.			
H301 :	Toxic if swallowed.			
H302 :	Harmful if swallowed.			
H311 :	Toxic in contact with skin.			
H315 :	Causes skin irritation.			
H318 :	Causes serious eye damage.			
H330 :	Fatal if inhaled.			
H331 :	Toxic if inhaled.			
H361d :	Suspected of damaging the unborn child.			
H370 :	Causes damage to organs.			
H372 :	Causes damage to organs through prolonged or repeated			
	exposure if inhaled.			
H372 :	Causes damage to organs through prolonged or repeated			
	exposure if swallowed.			
H373 :	May cause damage to organs through prolonged or repeated			
	exposure if swallowed.			
H412 :	Harmful to aquatic life with long lasting effects.			
Full text of other abbreviations				
Acute Tox. :	Acute toxicity			
Aquatic Chronic :	Chronic aquatic toxicity			
Eye Dam. :	Serious eye damage			
Flam. Liq. :	Flammable liquids			
Repr. :	Reproductive toxicity			
Skin Irrit. :	Skin irritation			
STOT RE :	Specific target organ toxicity - repeated exposure			
STOT SE :	Specific target organ toxicity - single exposure			
2006/15/EC :	Europe. Indicative occupational exposure limit values			
DCC OEL :	Dow Chemical Guide			
GB EH40 :	UK. EH40 WEL - Workplace Exposure Limits			
2006/15/EC / TWA :	Limit Value - eight hours			
DCC OEL / TWA :	Time weighted average			
GB EH40 / TWA :	Long-term exposure limit (8-hour TWA reference period)			
GB EH40 / STEL :	Short-term exposure limit (15-minute reference period)			

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response;



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EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx -Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China: IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIOC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development: OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

## Further information

STOT RE 2

Sources of key data used to compile the Safety Data Sheet		Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/	
Classification of the mixture:		Classification procedure:	
Repr. 2	H36	d Calculation method	

H373

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

Calculation method

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

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