

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

#### 1.1. Product identifier

Product form : Mixture  
Product name : 1C Perma Coat  
Product group : Trade product

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

##### 1.2.1. Relevant identified uses

Main use category : Professional use

Title	Use descriptors
1C Perma Coat	PC9a, AC13

Full text of use descriptors: see section 16

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

CHEMONA Holding B.V.  
Rouwkooplaan 5  
2251 AP VOORSCHOTEN  
T (+31) 088 - 141 04 44  
[info@nanocoatinternational.com](mailto:info@nanocoatinternational.com) - [www.nanocoatinternational.com](http://www.nanocoatinternational.com)

#### 1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH Birmingham	0344 892 0111	

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP] Mixtures/Substances: SDS EU 2015: According to Regulation (EU) 2015/830 (REACH Annex II)

Skin corrosion/irritation, Category 1B H314

Skin sensitisation, Category 1 H317

Full text of H statements : see section 16

#### Adverse physicochemical, human health and environmental effects

No additional information available

#### 2.2. Label elements

##### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



GHS05

GHS07

Signal word (CLP) : Danger

Hazardous ingredients : 3-aminopropyltriethoxysilane; 4,4'-Isopropylidenedicyclohexanol, oligomeric reaction products with 1-chloro-2,3-epoxypropane

Hazard statements (CLP) : H314 - Causes severe skin burns and eye damage.  
H317 - May cause an allergic skin reaction.

Precautionary statements (CLP) : P260 - Do not breathe dust/fume/gas/mist/vapours/spray.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water .  
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 or doctor.  
P362 - Take off contaminated clothing.

#### 2.3. Other hazards

No additional information available

# 1C Perma Coat

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Not applicable

#### 3.2. Mixtures

Name	Product identifier	% w/w (% w/w)	Classification according to Regulation (EC) No. 1272/2008 [CLP]
triethoxyisobutylsilane	(CAS-No.) 17980-47-1 (EC-No.) 402-810-3 (EC Index-No.) 014-007-00-1	20 - 30	Skin Irrit. 2, H315
3-aminopropyltriethoxysilane	(CAS-No.) 919-30-2 (EC-No.) 213-048-4 (EC Index-No.) 612-108-00-0 (REACH-no) 01-2119480479-24	20 - 30	Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Skin Sens. 1, H317
4,4'-Isopropylidenedicyclohexanol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	(CAS-No.) 30583-72-3 (EC-No.) 500-070-7 (REACH-no) 01-2119959495-22	20 - 30	Skin Sens. 1B, H317
tetraethyl silicate; ethyl silicate	(CAS-No.) 78-10-4 (EC-No.) 201-083-8 (EC Index-No.) 014-005-00-0	10 - 20	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation), H332 Eye Irrit. 2, H319 STOT SE 3, H335
methanol	(CAS-No.) 67-56-1 (EC-No.) 200-659-6 (EC Index-No.) 603-001-00-X (REACH-no) 01-2119433307-44	0.1 - 1	Flam. Liq. 2, H225 Acute Tox. 3 (Inhalation), H331 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Oral), H301 STOT SE 1, H370

#### Specific concentration limits:

Name	Product identifier	Specific concentration limits
methanol	(CAS-No.) 67-56-1 (EC-No.) 200-659-6 (EC Index-No.) 603-001-00-X (REACH-no) 01-2119433307-44	( 3 =<C < 10) STOT SE 2, H371 (C >= 10) STOT SE 1, H370

Full text of H-statements: see section 16

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Respiratory problems: consult a doctor/medical service. Seek medical attention if ill effect or irritation develops.
First-aid measures after skin contact	: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Immediately call a POISON CENTER/doctor.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor.

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

Symptoms/effects	: Causes severe skin burns and eye damage.
Symptoms/effects after inhalation	: May cause an allergic skin reaction.

#### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media	: Water spray or fog. BC powder. Carbon dioxide (CO <sub>2</sub> ).
Unsuitable extinguishing media	: Do not use a heavy water stream.

#### 5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire	: Nitrogen oxides. Carbon monoxide. Carbon dioxide (CO <sub>2</sub> ).
--	--

#### 5.3. Advice for firefighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.

# 1C Perma Coat

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### SECTION 6: Accidental release measures

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

##### 6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel. Ventilate the area thoroughly. Avoid contact with skin. Do not breathe spray.

##### 6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection. Breathing apparatus. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Ventilate area.

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

#### 6.3. Methods and material for containment and cleaning up

For containment : Take up liquid spill into inert absorbent material.

Methods for cleaning up : Wipe up with absorbent material (for example cloth). Take up liquid spill into absorbent material, e.g.: sand, saw dust. Collect spillage. Store away from other materials.

#### 6.4. Reference to other sections

Concerning personal protective equipment to use, see section 8. Concerning disposal elimination after cleaning, see section 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Avoid breathing dust/fume/gas/mist/vapours/spray.

Hygiene measures : Wash hands thoroughly after handling. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Keep away from food, drink and animal feedingstuffs.

#### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations.

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Keep container closed when not in use.

Storage area : Keep out of direct sunlight.

#### 7.3. Specific end use(s)

Industrial use. Professional use.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### tetraethyl silicate; ethyl silicate (78-10-4)

EU	Local name	Tetraethyl orthosilicate
EU	IOELV TWA (mg/m <sup>3</sup> )	44 mg/m <sup>3</sup>
EU	IOELV TWA (ppm)	5 ppm
EU	Regulatory reference	COMMISSION DIRECTIVE (EU) 2017/164

##### methanol (67-56-1)

EU	Local name	Methanol
EU	IOELV TWA (mg/m <sup>3</sup> )	260 mg/m <sup>3</sup>
EU	IOELV TWA (ppm)	200 ppm
EU	Notes	skin
EU	Regulatory reference	COMMISSION DIRECTIVE 2006/15/EC
United Kingdom	Local name	Methanol
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	266 mg/m <sup>3</sup>
United Kingdom	WEL TWA (ppm)	200 ppm
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	333 mg/m <sup>3</sup>
United Kingdom	WEL STEL (ppm)	250 ppm
United Kingdom	Remark (WEL)	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)
United Kingdom	Regulatory reference	EH40. HSE

# 1C Perma Coat

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

<b>triethoxyisobutylsilane (17980-47-1)</b>	
<b>PNEC (Water)</b>	
PNEC aqua (freshwater)	0.17 mg/l
PNEC aqua (marine water)	0.017 mg/l
PNEC aqua (intermittent, freshwater)	1.7 mg/l
<b>PNEC (Sediment)</b>	
PNEC sediment (freshwater)	14 mg/kg bw
PNEC sediment (marine water)	1.4 mg/kg bw
<b>PNEC (Soil)</b>	
PNEC soil	2.7 mg/kg bw
<b>PNEC (Oral)</b>	
PNEC oral (secondary poisoning)	33.3 mg/kg food
<b>PNEC (STP)</b>	
PNEC sewage treatment plant	100 mg/l
<b>tetraethyl silicate; ethyl silicate (78-10-4)</b>	
<b>DNEL/DMEL (Workers)</b>	
Acute - systemic effects, dermal	56 mg/kg bodyweight/day
Long-term - systemic effects, dermal	56 mg/kg bodyweight/day
<b>DNEL/DMEL (General population)</b>	
Acute - systemic effects, dermal	3 mg/kg bodyweight
Acute - systemic effects, inhalation	14 mg/m <sup>3</sup>
Acute - local effects, inhalation	14 mg/m <sup>3</sup>
Long-term - systemic effects, inhalation	14 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	3 mg/kg bodyweight/day
Long-term - local effects, inhalation	14 mg/m <sup>3</sup>
<b>PNEC (Water)</b>	
PNEC aqua (freshwater)	0.19 mg/l
PNEC aqua (marine water)	0.019 mg/l
PNEC aqua (intermittent, freshwater)	10 mg/l
<b>PNEC (Sediment)</b>	
PNEC sediment (freshwater)	0.83 mg/kg bw
PNEC sediment (marine water)	0.083 mg/kg bw
<b>PNEC (Soil)</b>	
PNEC soil	0.05 mg/kg bw
<b>methanol (67-56-1)</b>	
<b>DNEL/DMEL (Workers)</b>	
Acute - systemic effects, dermal	40 mg/kg bodyweight/day
Acute - systemic effects, inhalation	260 mg/m <sup>3</sup>
Acute - local effects, inhalation	260 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	40 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	260 mg/m <sup>3</sup>
Long-term - local effects, inhalation	260 mg/m <sup>3</sup>
<b>DNEL/DMEL (General population)</b>	
Acute - systemic effects, dermal	8 mg/kg bodyweight
Acute - systemic effects, inhalation	50 mg/m <sup>3</sup>

# 1C Perma Coat

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

<b>methanol (67-56-1)</b>	
Acute - systemic effects, oral	8 mg/kg bodyweight
Acute - local effects, inhalation	50 mg/m <sup>3</sup>
Long-term - systemic effects, oral	8 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	50 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	8 mg/kg bodyweight/day
Long-term - local effects, inhalation	50 mg/m <sup>3</sup>
<b>PNEC (Water)</b>	
PNEC aqua (freshwater)	<= 20.8 mg/l
PNEC aqua (marine water)	2.08 mg/l
PNEC aqua (intermittent, freshwater)	1540 mg/l
<b>PNEC (Sediment)</b>	
PNEC sediment (freshwater)	77 mg/kg bw
PNEC sediment (marine water)	7.7 mg/kg bw
<b>PNEC (Soil)</b>	
PNEC soil	100 mg/kg bw
<b>PNEC (STP)</b>	
PNEC sewage treatment plant	100 mg/l
<b>3-aminopropyltriethoxysilane (919-30-2)</b>	
<b>DNEL/DMEL (Workers)</b>	
Acute - systemic effects, dermal	8.3 mg/kg bodyweight/day
Acute - systemic effects, inhalation	59 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	8.3 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	59 mg/m <sup>3</sup>
<b>DNEL/DMEL (General population)</b>	
Acute - systemic effects, dermal	5 mg/kg bodyweight
Acute - systemic effects, inhalation	17.4 mg/m <sup>3</sup>
Long-term - systemic effects, inhalation	17.4 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	5 mg/kg bodyweight/day
<b>PNEC (Water)</b>	
PNEC aqua (freshwater)	0.33 mg/l
PNEC aqua (marine water)	0.033 mg/l
PNEC aqua (intermittent, freshwater)	3.3 mg/l
<b>PNEC (Sediment)</b>	
PNEC sediment (freshwater)	1.2 mg/kg bw
PNEC sediment (marine water)	0.12 mg/kg bw
<b>PNEC (Soil)</b>	
PNEC soil	0.05 mg/kg bw
<b>PNEC (STP)</b>	
PNEC sewage treatment plant	13 mg/l
<b>4,4'-Isopropylidenedicyclohexanol, oligomeric reaction products with 1-chloro-2,3-epoxypropane (30583-72-3)</b>	
<b>DNEL/DMEL (Workers)</b>	
Acute - systemic effects, dermal	5.5 mg/kg bodyweight/day
Acute - local effects, dermal	0.23 mg/cm <sup>2</sup>
Long-term - systemic effects, dermal	5.5 mg/kg bodyweight/day

# 1C Perma Coat

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 4,4'-Isopropylidenedicyclohexanol, oligomeric reaction products with 1-chloro-2,3-epoxypropane (30583-72-3)

Long-term - local effects, dermal	0.021 mg/m <sup>3</sup>
<b>DNEL/DMEL (General population)</b>	
Acute - systemic effects, dermal	3.3 mg/kg bodyweight
Acute - local effects, dermal	0.021 mg/cm <sup>2</sup>
Long-term - systemic effects, oral	3.3 mg/kg bodyweight/day
Long-term - systemic effects, dermal	3.3 mg/kg bodyweight/day
Long-term - local effects, dermal	0.021 mg/cm <sup>2</sup>

#### PNEC (Water)

PNEC aqua (freshwater)	0.0115 mg/l
PNEC aqua (marine water)	0.00115 mg/l
PNEC aqua (intermittent, freshwater)	0.115 mg/l

#### PNEC (Sediment)

PNEC sediment (freshwater)	0.229 mg/kg bw
PNEC sediment (marine water)	0.0229 mg/kg bw

#### PNEC (Soil)

PNEC soil	0.099 mg/kg bw
-----------	----------------

#### PNEC (STP)

PNEC sewage treatment plant	100 mg/l
-----------------------------	----------

### 8.2. Exposure controls

#### Appropriate engineering controls:

Ensure that there is a suitable ventilation system.

#### Hand protection:

Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): e.g. nitrile rubber ( $\geq 0.4$  mm), butyl rubber ( $\geq 0.7$  mm) and others. Choosing the proper glove is a decision that depends not only on the type of material, but also on other quality features, which differ for each manufacturer. The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

#### Eye protection:

Wear eye glasses with side protection according to EN 166.

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

No personal breathing protective equipment is normally required. In case of inadequate ventilation wear respiratory protection. Recommended: Combined filter ABEK or AXBEK.

#### Personal protective equipment symbol(s):



#### Environmental exposure controls:

Use appropriate container to avoid environmental contamination. Do not allow to enter drains or water courses.

#### Other information:

Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

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

Physical state	: Liquid
Colour	: clear.
Odour	: Characteristic odour.
Odour threshold	: No data available

# 1C Perma Coat

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 165 °C
Flash point	: 62 °C @ 101.3 kPa
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: 110 Pa @ 20°C
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 1.1 g/cm <sup>3</sup>
Solubility	: No data available
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

VOC content : 29.99 %

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Not established.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known.

### 10.4. Conditions to avoid

No supplementary information available.

### 10.5. Incompatible materials

Oxidizer.

### 10.6. Hazardous decomposition products

Nitrogen oxides. Carbon monoxide. Carbon dioxide.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

#### triethoxyisobutylsilane (17980-47-1)

LD50 oral rat	5000 mg/kg
LD50 dermal rat	2000 mg/kg
LC50 inhalation rat (mg/l)	5.88 mg/l/4h

#### tetraethyl silicate; ethyl silicate (78-10-4)

LD50 oral rat	2500 mg/kg
LC50 inhalation rat (mg/l)	10 - 16.8 mg/l/4h

#### methanol (67-56-1)

LD50 oral rat	700 mg/kg
LD50 oral	1400 mg/kg
LD50 dermal rabbit	15800 mg/kg (Rabbit; Literature study)
LC50 inhalation rat (mg/l)	85 mg/l/4h (Rat; Literature study)

# 1C Perma Coat

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

LC50 inhalation rat (ppm)	64000 ppm/4h (Rat; Literature study)
---------------------------	--------------------------------------

### 3-aminopropyltriethoxysilane (919-30-2)

LD50 oral rat	1.57 - 2.83 ml/kg
LD50 dermal rabbit	4.29 ml/kg
LC50 inhalation rat (ppm)	> 5 ppm (6h)

### 4,4'-Isopropylidenedicyclohexanol, oligomeric reaction products with 1-chloro-2,3-epoxypropane (30583-72-3)

LD50 oral rat	2000 mg/kg
LD50 dermal rat	> 2000 mg/kg

Skin corrosion/irritation	: Causes severe skin burns and eye damage.
Serious eye damage/irritation	: Serious eye damage, category 1, implicit
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Carcinogenicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Reproductive toxicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
STOT-single exposure	: Not classified
Additional information	: Based on available data, the classification criteria are not met
STOT-repeated exposure	: Not classified
Additional information	: Based on available data, the classification criteria are not met

### triethoxyisobutylsilane (17980-47-1)

NOAEL (oral, rat, 90 days)	1000 mg/kg bodyweight/day
NOAEC (inhalation, rat, vapour, 90 days)	2.54 mg/l

### tetraethyl silicate; ethyl silicate (78-10-4)

NOAEL (oral, rat, 90 days)	10 - 50 mg/kg bodyweight/day
----------------------------	------------------------------

### 3-aminopropyltriethoxysilane (919-30-2)

LOAEL (oral, rat, 90 days)	600 mg/kg bodyweight/day
NOAEL (oral, rat, 90 days)	200 mg/kg bodyweight/day

Aspiration hazard	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Potential adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

### 12.1. Toxicity

Acute aquatic toxicity	: Not classified
Chronic aquatic toxicity	: Not classified

### triethoxyisobutylsilane (17980-47-1)

LC50 fishes	85 mg/l
EC50 Daphnia	49.1 mg/l
EC50 96h algae (1)	100 mg/l

### tetraethyl silicate; ethyl silicate (78-10-4)

LC50 fishes	245 mg/l
EC50 Daphnia	75 mg/l

# 1C Perma Coat

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

EC50 72h algae (1)	22 - 100 mg/l
--------------------	---------------

### methanol (67-56-1)

LC50 fishes	15400 mg/l (96 h; Lepomis macrochirus; Lethal)
LC50 fish 2	10800 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia	> 10000 mg/l (48 h; Daphnia magna; Lethal)
EC50 Daphnia 2	24500 mg/l (48 h; Daphnia magna; Locomotor effect)
EC50 96h algae (1)	22000 mg/l
Threshold limit other aquatic organisms 1	6600 mg/l (16 h; Pseudomonas putida)
Threshold limit algae 1	530 mg/l (192 h; Microcystis aeruginosa)
Threshold limit algae 2	8000 mg/l (168 h; Scenedesmus quadricauda)

### 3-aminopropyltriethoxysilane (919-30-2)

LC50 fishes	> 934 mg/l
EC50 Daphnia	331 mg/l
EC50 72h algae (1)	603 - 1000 mg/l

### 4,4'-Isopropylidenedicyclohexanol, oligomeric reaction products with 1-chloro-2,3-epoxypropane (30583-72-3)

LC50 fishes	11.5 mg/l
EC50 72h algae (1)	100 mg/l

## 12.2. Persistence and degradability

### 1C Perma Coat

Persistence and degradability	Not established.
-------------------------------	------------------

### methanol (67-56-1)

Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil.
Biochemical oxygen demand (BOD)	0.6 - 1.12 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	1.42 g O <sub>2</sub> /g substance
ThOD	1.5 g O <sub>2</sub> /g substance
BOD (% of ThOD)	0.8 % ThOD

## 12.3. Bioaccumulative potential

### 1C Perma Coat

Bioaccumulative potential	Not established.
---------------------------	------------------

### triethoxyisobutylsilane (17980-47-1)

Log Pow	3.6 @ 20 °C and pH 7
---------	----------------------

### methanol (67-56-1)

BCF fish 1	< 10 (72 h; Leuciscus idus)
BCF fish 2	1 (72 h; Cyprinus carpio; Blood)
Log Pow	-0.77 (Experimental value; Other)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

### 3-aminopropyltriethoxysilane (919-30-2)

Log Pow	1.7 @ 20 °C and pH 7
---------	----------------------

### 4,4'-Isopropylidenedicyclohexanol, oligomeric reaction products with 1-chloro-2,3-epoxypropane (30583-72-3)

Log Pow	3.84 @ 20 °C and pH 7
---------	-----------------------

# 1C Perma Coat

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 12.4. Mobility in soil

#### methanol (67-56-1)

Surface tension 0.023 N/m (20 °C)

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

Additional information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Regional legislation (waste) : Disposal must be done according to official regulations.  
Product/Packaging disposal recommendations : Dispose as hazardous waste. Completely emptied packings can be re-cycled. Contaminated packing must be completely emptied and can be re-used following appropriate cleaning.  
Additional information : Do not empty into drains.  
Ecology - waste materials : Avoid release to the environment.

## SECTION 14: Transport information

In accordance with ADN / ADR / IATA / IMDG / RID

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number</b>				
1760	1760	1760	1760	1760
<b>14.2. UN proper shipping name</b>				
CORROSIVE LIQUID, N.O.S.	CORROSIVE LIQUID, N.O.S.	Corrosive liquid, n.o.s.	CORROSIVE LIQUID, N.O.S.	CORROSIVE LIQUID, N.O.S.
<b>Transport document description</b>				
UN 1760 CORROSIVE LIQUID, N.O.S. (3-aminopropyltriethoxysilane), 8, II, (E)	UN 1760 CORROSIVE LIQUID, N.O.S., 8, II	UN 1760 Corrosive liquid, n.o.s., 8, II	UN 1760 CORROSIVE LIQUID, N.O.S., 8, II	UN 1760 CORROSIVE LIQUID, N.O.S., 8, II
<b>14.3. Transport hazard class(es)</b>				
8	8	8	8	8
				
<b>14.4. Packing group</b>				
II	II	II	II	II
<b>14.5. Environmental hazards</b>				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available				

### 14.6. Special precautions for user

#### Overland transport

Classification code (ADR) : C9  
Special provisions (ADR) : 274  
Limited quantities (ADR) : 1I  
Excepted quantities (ADR) : E2  
Packing instructions (ADR) : P001, IBC02  
Mixed packing provisions (ADR) : MP15  
Portable tank and bulk container instructions (ADR) : T11  
Portable tank and bulk container special provisions (ADR) : TP2, TP27

# 1C Perma Coat

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Tank code (ADR) : L4BN  
Vehicle for tank carriage : AT  
Transport category (ADR) : 2  
Hazard identification number (Kemler No.) : 80  
Orange plates :



Tunnel restriction code (ADR) : E  
EAC code : 2X  
APP code : B

### Transport by sea

Special provisions (IMDG) : 274  
Packing instructions (IMDG) : P001  
IBC packing instructions (IMDG) : IBC02  
Tank instructions (IMDG) : T11  
Tank special provisions (IMDG) : TP2, TP27  
EmS-No. (Fire) : F-A  
EmS-No. (Spillage) : S-B  
Stowage category (IMDG) : B  
Stowage and handling (IMDG) : SW2  
Properties and observations (IMDG) : Causes burns to skin, eyes and mucous membranes.

### Air transport

PCA Excepted quantities (IATA) : E2  
PCA Limited quantities (IATA) : Y840  
PCA limited quantity max net quantity (IATA) : 0.5L  
PCA packing instructions (IATA) : 851  
PCA max net quantity (IATA) : 1L  
CAO packing instructions (IATA) : 855  
CAO max net quantity (IATA) : 30L  
Special provisions (IATA) : A3  
ERG code (IATA) : 8L

### Inland waterway transport

Classification code (ADN) : C9  
Special provisions (ADN) : 274  
Limited quantities (ADN) : 1 L  
Excepted quantities (ADN) : E2  
Carriage permitted (ADN) : T  
Equipment required (ADN) : PP, EP  
Number of blue cones/lights (ADN) : 0

### Rail transport

Classification code (RID) : C9  
Special provisions (RID) : 274  
Limited quantities (RID) : 1L  
Excepted quantities (RID) : E2  
Packing instructions (RID) : P001, IBC02  
Mixed packing provisions (RID) : MP15  
Portable tank and bulk container instructions (RID) : T11  
Portable tank and bulk container special provisions (RID) : TP2, TP27  
Tank codes for RID tanks (RID) : L4BN  
Transport category (RID) : 2  
Colis express (express parcels) (RID) : CE6  
Hazard identification number (RID) : 80

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

Not applicable

# 1C Perma Coat

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### SECTION 15: Regulatory information

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

##### 15.1.1. EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

3(b) Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10	1C Perma Coat - triethoxysilyl silane - tetraethyl silicate; ethyl silicate - methanol - 4,4'-Isopropylidenedicyclohexanol, oligomeric reaction products with 1-chloro-2,3-epoxypropane - 3-aminopropyltriethoxysilane
40. Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or not.	tetraethyl silicate; ethyl silicate - methanol
3. Liquid substances or mixtures which are regarded as dangerous in accordance with Directive 1999/45/EC or are fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008	triethoxysilyl silane - tetraethyl silicate; ethyl silicate - methanol - 4,4'-Isopropylidenedicyclohexanol, oligomeric reaction products with 1-chloro-2,3-epoxypropane - 3-aminopropyltriethoxysilane
3(a) Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F	tetraethyl silicate; ethyl silicate - methanol

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

VOC content : 29.99 %

Directive 2012/18/EU (SEVESO III)

##### 15.1.2. National regulations

No additional information available

#### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

### SECTION 16: Other information

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : DISCLAIMER OF LIABILITY The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Full text of H- and EUH-statements:	
Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 3 (Inhalation)	Acute toxicity (inhal.), Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1

# 1C Perma Coat

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Skin Sens. 1B	Skin sensitisation, category 1B	
STOT SE 1	Specific target organ toxicity — single exposure, Category 1	
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation	
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.	
H314	Causes severe skin burns and eye damage.	
H315	Causes skin irritation.	
H317	May cause an allergic skin reaction.	
H319	Causes serious eye irritation.	
H331	Toxic if inhaled.	
H332	Harmful if inhaled.	
H335	May cause respiratory irritation.	
H370	Causes damage to organs.	
<b>Full text of use descriptors</b>		
AC13	Plastic articles	
PC9a	Coatings and paints, thinners, paint removers	
<b>Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:</b>		
Skin Corr. 1B	H314	Calculation method
Skin Sens. 1	H317	Calculation method

SDS EU (REACH Annex II)

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*