

## Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

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

#### 1.1. Product identifier

Code: SE2011A  
Product name: SE2011A

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

Intended use: Silicone rubber potting compound

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

Name: ACC Silicones LTD  
Full address: Amber House Showground Road  
District and Country: TA6 6A Bridgwater (Somerset)  
England  
Tel. +44(0)1278411400  
Fax +44(0)1278411444  
e-mail address of the competent person responsible for the Safety Data Sheet: info@acc-silicones.com

#### 1.4. Emergency telephone number

For urgent enquiries refer to: For all enquiries except Sweden and Hungary and Australia: +44(0)1278411400

Sweden: Ring 112 vid inträffade förgiftningstillbud och begär giftinformation - dygnet runt.  
Ring 010-456-6700 i mindre brådska fall - dygnet runt. Allmänna och förebyggande frågor om akuta förgiftningar besvaras vardagar kl 9-17.

Hungary: Egészségügyi Toxikológiai Tájékoztató Szolgálat (ETTSZ) 1097 Budapest, Nagyvárad tér 2, 06-80-201-199 (zöld szám, ingyenesen, éjjel-nappal hívható) 06-1-4761120

Australia: DC Products Pty Ltd, Unit 117, 45 Gilby Road, Mount Waverley VIC 3149. Tel +61 3 9558 8898, Emergency contact number 0418529118

### SECTION 2. Hazards identification

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

The product is not classified as hazardous pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP). However, since the product contains hazardous substances in concentrations such as to be declared in section no. 3, it requires a safety data sheet with appropriate information, compliant to (EU) Regulation 2015/830.

Hazard classification and indication: --

#### 2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms: --

Signal words: --

Hazard statements:  
**EUH210** Safety data sheet available on request.

Precautionary statements: --

## SECTION 2. Hazards identification ... / >>

### 2.3. Other hazards

vPvB substances contained:  
DODECAMETHYL CYCLOHEXASILOXANE  
OCTAMETHYLTETRACYCLOSILOXANE  
DECAMETHYLCYCLOPENTASILOXANE

PBT substances contained:  
OCTAMETHYLTETRACYCLOSILOXANE

## SECTION 3. Composition/information on ingredients

### 3.1. Substances

Information not relevant

### 3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
<b>AMORPHOUS SILICATE HYDRATE</b>		
CAS	7631-86-9	Substance with a community workplace exposure limit.
EC	231-545-4	
INDEX		
Reg. no.	01-2119379499-16-0134	
<b>DODECAMETHYL CYCLOHEXASILOXANE</b>		
CAS	540-97-6	Substance vPvB
EC	208-762-8	
INDEX		
Reg. no.	01-2119517435-42	
<b>OCTAMETHYLTETRACYCLOSILOXANE</b>		
CAS	556-67-2	Flam. Liq. 3 H226, Repr. 2 H361f, Aquatic Chronic 2 H411
EC	209-136-7	
INDEX		
Reg. no.	01-2119529238-36	
<b>DECAMETHYLCYCLOPENTASILOXANE</b>		
CAS	541-02-6	Substance vPvB
EC	208-764-9	
INDEX		
Reg. no.	01-2119511367-43	

The full wording of hazard (H) phrases is given in section 16 of the sheet.

## SECTION 4. First aid measures

### 4.1. Description of first aid measures

Not specifically necessary. Observance of good industrial hygiene is recommended.

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

Specific information on symptoms and effects caused by the product are unknown.

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

Information not available

## SECTION 5. Firefighting measures

### 5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT  
The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.  
UNSUITABLE EXTINGUISHING EQUIPMENT  
None in particular.

**SECTION 5. Firefighting measures** ... / >>**5.2. Special hazards arising from the substance or mixture**

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE  
Do not breathe combustion products.

**5.3. Advice for firefighters****GENERAL INFORMATION**

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

**SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS**

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

**SECTION 6. Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

Use breathing equipment if fumes or powders are released into the air. These indications apply for both processing staff and those involved in emergency procedures.

**6.2. Environmental precautions**

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

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

Confine using earth or inert material. Collect as much material as possible and eliminate the rest using jets of water. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

**6.4. Reference to other sections**

Any information on personal protection and disposal is given in sections 8 and 13.

**SECTION 7. Handling and storage****7.1. Precautions for safe handling**

Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use.

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

Keep the product in clearly labelled containers. Keep containers away from any incompatible materials, see section 10 for details.

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

Information not available

**SECTION 8. Exposure controls/personal protection****8.1. Control parameters**

Regulatory References:

DEU	Deutschland	TRGS 900 (Fassung 31.1.2018 ber.) - Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte
GBR	United Kingdom	EH40/2005 Workplace exposure limits
EU	OEL EU	Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 91/322/EEC.

### SECTION 8. Exposure controls/personal protection ... / >>

#### AMORPHOUS SILICATE HYDRATE

##### Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	4				INHAL
MAK	DEU	4				INHAL
WEL	GBR	6				INHAL
WEL	GBR	2.4				RESP
OEL	EU	6				INHAL
OEL	EU	2.4				RESP

##### Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute	Acute	Chronic	Chronic	Acute	Acute	Chronic	Chronic
	local	systemic	local	systemic	local	systemic	local	systemic
Inhalation					4	VND	4	VND
					mg/m3		mg/m3	

#### DODECAMETHYL CYCLOHEXASILOXANE

##### Predicted no-effect concentration - PNEC

Normal value for fresh water sediment	2.826	mg/kg
Normal value for marine water sediment	0.282	mg/kg
Normal value of STP microorganisms	1	mg/l
Normal value for the terrestrial compartment	3.336	mg/kg

##### Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute	Acute	Chronic	Chronic	Acute	Acute	Chronic	Chronic
	local	systemic	local	systemic	local	systemic	local	systemic
Oral				1.7				
				mg/kg bw/d				
Inhalation			0.3	2.7			1.22	11
			mg/m3	mg/m3			mg/m3	mg/m3

#### OCTAMETHYLTETRACYCLOSILOXANE

##### Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
OEL	EU		10			RESP

##### Predicted no-effect concentration - PNEC

Normal value in marine water	0.044	mg/l
Normal value for fresh water sediment	0.128	mg/kg
Normal value of STP microorganisms	100	mg/l
Normal value for the terrestrial compartment	0.16	mg/kg

##### Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute	Acute	Chronic	Chronic	Acute	Acute	Chronic	Chronic
	local	systemic	local	systemic	local	systemic	local	systemic
Inhalation	61	305	61	305				
	mg/m3	mg/m3	mg/m3	mg/m3				

#### DECAMETHYLCYCLOPENTASILOXANE

##### Predicted no-effect concentration - PNEC

Normal value in fresh water	0.0012	mg/l
Normal value in marine water	0.00012	mg/l
Normal value for fresh water sediment	2.4	mg/kg
Normal value for marine water sediment	0.24	mg/kg
Normal value of STP microorganisms	10	mg/l
Normal value for the terrestrial compartment	1.1	mg/kg

##### Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute	Acute	Chronic	Chronic	Acute	Acute	Chronic	Chronic
	local	systemic	local	systemic	local	systemic	local	systemic
Oral		5		5				
				mg/kg bw/d				
Inhalation			4.3	17.3			24.2	97.3
			mg/m3	mg/m3			mg/m3	mg/m3

### SECTION 8. Exposure controls/personal protection ... / >>

#### Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.  
VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

#### 8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

##### HAND PROTECTION

Protect hands with category III work gloves (see standard EN 374).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

##### SKIN PROTECTION

Wear category I professional long-sleeved overalls and safety footwear (see Directive 89/686/EEC and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

##### EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

##### RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type B filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

##### ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

### SECTION 9. Physical and chemical properties

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

Appearance	viscous liquid
Colour	black
Odour	mild
Odour threshold	Not available
pH	Not available
Melting point / freezing point	Not available
Initial boiling point	Not available
Boiling range	Not available
Flash point	150 °C
Evaporation Rate	Not available
Flammability of solids and gases	Not available
Lower inflammability limit	Not available
Upper inflammability limit	Not available
Lower explosive limit	Not available
Upper explosive limit	Not available
Vapour pressure	Not available
Vapour density	Not available
Relative density	Not available
Solubility	immiscible with water
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	> 400 °C
Decomposition temperature	Not available
Viscosity	liquid
Explosive properties	Not available
Oxidising properties	Not available

#### 9.2. Other information

Information not available

## SECTION 10. Stability and reactivity

### 10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

### 10.2. Chemical stability

The product is stable in normal conditions of use and storage.

### 10.3. Possibility of hazardous reactions

No hazardous reactions are foreseeable in normal conditions of use and storage.

### 10.4. Conditions to avoid

None in particular. However the usual precautions used for chemical products should be respected.

### 10.5. Incompatible materials

Information not available

### 10.6. Hazardous decomposition products

Information not available

## SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

### 11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Information not available

Interactive effects

Information not available

ACUTE TOXICITY

LC50 (Inhalation) of the mixture:

Not classified (no significant component)

LD50 (Oral) of the mixture:

Not classified (no significant component)

LD50 (Dermal) of the mixture:

Not classified (no significant component)

DECAMETHYLCYCLOPENTASILOXANE

LD50 (Oral)

4800 mg/kg (Rat)

AMORPHOUS SILICATE HYDRATE

LD50 (Oral)

> 2000 mg/kg Rat

LD50 (Dermal)

> 2000 mg/kg Rat

LC50 (Inhalation)

> 2.2 mg/l/1h Rat

OCTAMETHYLTETRACYCLOSILOXANE

LC50 (Inhalation)

2975 ppm/4h

**SECTION 11. Toxicological information** ... / >>SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

**SECTION 12. Ecological information**

No specific data are available for this product. Handle it according to good working practices. Avoid littering. Do not contaminate soil and waterways. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation. Please take all the proper measures to reduce harmful effects on aquifers.

**12.1. Toxicity**

Information not available

**12.2. Persistence and degradability****AMORPHOUS SILICATE HYDRATE**

Solubility in water

0,1 - 100 mg/l

Degradability: information not available

**12.3. Bioaccumulative potential****AMORPHOUS SILICATE HYDRATE**

Partition coefficient: n-octanol/water

0.53

**12.4. Mobility in soil**

Information not available

**12.5. Results of PBT and vPvB assessment**

vPvB substances contained:

**SECTION 12. Ecological information** ... / >>

DODECAMETHYL CYCLOHEXASILOXANE  
OCTAMETHYLTETRACYCLOSILOXANE  
DECAMETHYLCYCLOPENTASILOXANE

PBT substances contained:  
OCTAMETHYLTETRACYCLOSILOXANE

**12.6. Other adverse effects**

Information not available

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

Reuse, when possible. Neat product residues should be considered special non-hazardous waste.  
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.  
CONTAMINATED PACKAGING  
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

**SECTION 14. Transport information**

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

**14.1. UN number**

Not applicable

**14.2. UN proper shipping name**

Not applicable

**14.3. Transport hazard class(es)**

Not applicable

**14.4. Packing group**

Not applicable

**14.5. Environmental hazards**

Not applicable

**14.6. Special precautions for user**

Not applicable

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

Information not relevant

**SECTION 15. Regulatory information**

Australia AICS: On or in compliance with the inventory.  
Canada DSL Inventory List: On or in compliance with the inventory.  
EINECS, ELINCS or NLP: On or in compliance with the inventory.  
Japan (ENCS) List: On or in compliance with the inventory.  
China Inv. Existing Chemical Substances: On or in compliance with the inventory.  
Korea Existing Chemicals Inv. (KECI): On or in compliance with the inventory.  
Philippines PICCS: On or in compliance with the inventory.  
US TSCA Inventory: On or in compliance with the inventory.  
New Zealand Inventory of Chemicals: On or in compliance with the inventory.  
Taiwan Chemical Substance Inventory: On or in compliance with the inventory.



## SECTION 15. Regulatory information ... / >>

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

Seveso Category - Directive 2012/18/EC: None

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Contained substance		
Point	70	OCTAMETHYLTETRACYCLOSILOXANE Reg. no.: 01-2119529238-36
Point	70	DECAMETHYLCYCLOPENTASILOXANE Reg. no.: 01-2119511367-43

Substances in Candidate List (Art. 59 REACH)

DODECAMETHYL CYCLOHEXASILOXANE

Reg. no.: 01-2119517435-42

OCTAMETHYLTETRACYCLOSILOXANE

Reg. no.: 01-2119529238-36

DECAMETHYLCYCLOPENTASILOXANE

Reg. no.: 01-2119511367-43

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Information not available

### 15.2. Chemical safety assessment

No chemical safety assessment has been processed for the mixture and the substances it contains.

## SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

<b>Flam. Liq. 3</b>	Flammable liquid, category 3
<b>Repr. 2</b>	Reproductive toxicity, category 2
<b>Aquatic Chronic 2</b>	Hazardous to the aquatic environment, chronic toxicity, category 2
<b>H226</b>	Flammable liquid and vapour.
<b>H361f</b>	Suspected of damaging fertility.
<b>H411</b>	Toxic to aquatic life with long lasting effects.
<b>EUH210</b>	Safety data sheet available on request.

#### LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%

**SECTION 16. Other information ... / >>**

- OEL: Occupational Exposure Level- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

**GENERAL BIBLIOGRAPHY**

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
4. Regulation (EU) 2015/830 of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

**Note for users:**

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

**Changes to previous review:**

The following sections were modified:

01 / 15.

## Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

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

#### 1.1. Product identifier

Code: SE2011B  
Product name: SE2011B

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

Intended use: Catalyst

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

Name: ACC Silicones LTD  
Full address: Amber House Showground Road  
District and Country: TA6 6A Bridgwater (Somerset)  
England  
Tel. +44(0)1278411400  
Fax +44(0)1278411444  
e-mail address of the competent person responsible for the Safety Data Sheet: info@acc-silicones.com

#### 1.4. Emergency telephone number

For urgent enquiries refer to: For all enquiries except Sweden and Hungary and Australia: +44(0)1278411400

Sweden: Ring 112 vid inträffade förgiftningstillbud och begär giftinformation - dygnet runt.  
Ring 010-456-6700 i mindre brådska fall - dygnet runt. Allmänna och förebyggande frågor om akuta förgiftningar besvaras vardagar kl 9-17.

Hungary: Egészségügyi Toxikológiai Tájékoztató Szolgálat (ETTSZ) 1097 Budapest, Nagyvárad tér 2, 06-80-201-199 (zöld szám, ingyenesen, éjjel-nappal hívható) 06-1-4761120

Australia: DC Products Pty Ltd, Unit 117, 45 Gilby Road, Mount Waverley VIC 3149. Tel +61 3 9558 8898, Emergency contact number 0418529118

### SECTION 2. Hazards identification

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

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2015/830.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

##### Hazard classification and indication:

Flammable liquid, category 3	H226	Flammable liquid and vapour.
Aspiration hazard, category 1	H304	May be fatal if swallowed and enters airways.
Specific target organ toxicity - repeated exposure, category 2	H373	May cause damage to organs through prolonged or repeated exposure.
Skin corrosion, category 1B	H314	Causes severe skin burns and eye damage.
Serious eye damage, category 1	H318	Causes serious eye damage.
Skin sensitization, category 1	H317	May cause an allergic skin reaction.
Hazardous to the aquatic environment, chronic toxicity, category 4	H413	May cause long lasting harmful effects to aquatic life.

**SECTION 2. Hazards identification ... / >>**
**2.2. Label elements**

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words: Danger

Hazard statements:

<b>H226</b>	Flammable liquid and vapour.
<b>H304</b>	May be fatal if swallowed and enters airways.
<b>H373</b>	May cause damage to organs through prolonged or repeated exposure.
<b>H314</b>	Causes severe skin burns and eye damage.
<b>H317</b>	May cause an allergic skin reaction.
<b>H413</b>	May cause long lasting harmful effects to aquatic life.

Precautionary statements:

<b>P210</b>	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
<b>P260</b>	Do not breathe dust / fume / gas / mist / vapours / spray.
<b>P305+P351+P338</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
<b>P331</b>	Do NOT induce vomiting.

**Contains:** ALKANES C9-12 ISODECANE AND ISOUNDECANE  
 DIMETHYL TIN NEODECANOATE  
 AMINOPROPYL TRIETHOXY SILANE  
 Amino functional alkoxysilane

**2.3. Other hazards**

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

**SECTION 3. Composition/information on ingredients**
**3.1. Substances**

Information not relevant

**3.2. Mixtures**

**Contains:**

Identification	x = Conc. %	Classification 1272/2008 (CLP)
<b>ALKANES C9-12 ISODECANEAND ISOUNDECANE</b>		
CAS	64742-48-9	Flam. Liq. 3 H226, Asp. Tox. 1 H304, Aquatic Chronic 4 H413, EUH066
EC	923-037-2	
INDEX		
Reg. no.	01-2119471991-29	
<b>Amino functional alkoxysilane</b>		
CAS	11.5 ≤ x < 13	Eye Dam. 1 H318, Skin Irrit. 2 H315
EC		
INDEX		
<b>AMINOPROPYLTRIETHOXSILANE</b>		
CAS	919-30-2	Acute Tox. 4 H302, Skin Corr. 1B H314, Eye Dam. 1 H318, Skin Sens. 1 H317
EC	213-048-4	
INDEX		
Reg. no.	01-2119480479-24	

**SECTION 3. Composition/information on ingredients** ... / >>**DIMETHYLTIN NEODECANOATE**CAS 68928-76-7  $2.5 \leq x < 3$ 

EC 273-028-6

INDEX

Repr. 2 H361, Acute Tox. 4 H302, STOT RE 1 H372, Aquatic Chronic 4 H413

**Siloxanes and silicones, di-Me hydroxy terminated, reaction product with 3-(triethoxysilyl)-1 propaneamine**CAS 749886-39-3  $2 \leq x < 2.5$ 

EC

INDEX

Skin Corr. 1B H314, Eye Dam. 1 H318

**OCTAMETHYLTETRACYCLOSILOXANE**CAS 556-67-2  $0 \leq x < 0.1$ 

EC 209-136-7

INDEX

Flam. Liq. 3 H226, Repr. 2 H361f, Aquatic Chronic 2 H411

Reg. no. 01-2119529238-36

The full wording of hazard (H) phrases is given in section 16 of the sheet.

**SECTION 4. First aid measures****4.1. Description of first aid measures**

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 30-60 minutes, opening the eyelids fully. Get medical advice/attention.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention.

INGESTION: Have the subject drink as much water as possible. Get medical advice/attention. Do not induce vomiting unless explicitly authorised by a doctor.

INHALATION: Get medical advice/attention immediately. Remove victim to fresh air, away from the accident scene. If the subject stops breathing, administer artificial respiration. Take suitable precautions for rescue workers.

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

Specific information on symptoms and effects caused by the product are unknown.

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

Information not available

**SECTION 5. Firefighting measures****5.1. Extinguishing media****SUITABLE EXTINGUISHING EQUIPMENT**

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

**UNSUITABLE EXTINGUISHING EQUIPMENT**

None in particular.

**5.2. Special hazards arising from the substance or mixture****HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE**

Do not breathe combustion products.

**5.3. Advice for firefighters****GENERAL INFORMATION**

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

**SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS**

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

**SECTION 6. Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency

## SECTION 6. Accidental release measures ... / >>

procedures.

Send away individuals who are not suitably equipped. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

### 6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

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

Collect the leaked product into a suitable container. If the product is flammable, use explosion-proof equipment. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

### 6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

## SECTION 7. Handling and storage

### 7.1. Precautions for safe handling

Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat.

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised.

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

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Keep containers away from any incompatible materials, see section 10 for details.

Store in a well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition.

### 7.3. Specific end use(s)

Information not available

## SECTION 8. Exposure controls/personal protection

### 8.1. Control parameters

Regulatory References:

EU OEL EU Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 91/322/EEC.

#### ALKANES C9-12 ISODECANE AND ISOUNDECANE

##### Threshold Limit Value

Type	Country	TWA/8h mg/m3	ppm	STEL/15min mg/m3	ppm
OEL	EU	1200			

### SECTION 8. Exposure controls/personal protection ... / >>

#### Amino functional alkoxysilane

##### Predicted no-effect concentration - PNEC

Normal value in fresh water	0.33	mg/l
Normal value for water, intermittent release	3.3	mg/l
Normal value of STP microorganisms	13	mg/l

##### Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute	Acute	Chronic	Chronic	Acute	Acute	Chronic	Chronic
	local	systemic	local	systemic	local	systemic	local	systemic
Inhalation					VND	58 mg/m3	VND	58 mg/m3
Skin					VND	8.3 mg/kg bw/d	VND	8.3 mg/kg bw/d

#### AMINOPROPYLTRIETHOXSILANE

##### Predicted no-effect concentration - PNEC

Normal value in fresh water	0.33	mg/l
Normal value in marine water	0.033	mg/l
Normal value for fresh water sediment	0.26	mg/kg
Normal value for water, intermittent release	3.3	mg/l
Normal value of STP microorganisms	13	mg/l
Normal value for the terrestrial compartment	0.04	mg/kg

##### Health - Derived no-effect level - DNEL / DMEL

Health	Derived no effect level: DNEL / DMEL	Effects on consumers				Effects on workers			
		Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation							VND	59 mg/m3	
Skin							VND	8.3 mg/kg bw/d	

#### OCTAMETHYLTETRACYCLOSILOXANE

##### Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		RESP
		mg/m3	ppm	mg/m3	ppm	
OEL	EU		10			

##### Predicted no-effect concentration - PNEC

Normal value in marine water	0.044	mg/l
Normal value for fresh water sediment	0.128	mg/kg
Normal value of STP microorganisms	100	mg/l
Normal value for the terrestrial compartment	0.16	mg/kg

##### Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute	Acute	Chronic	Chronic	Acute	Acute	Chronic	Chronic
	local	systemic	local	systemic	local	systemic	local	systemic
Inhalation	61	305	61	305				
	mg/m3	mg/m3	mg/m3	mg/m3				

##### Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.  
 VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

### 8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

Exposure levels must be kept as low as possible to avoid significant build-up in the organism. Manage personal protective equipment so as to guarantee maximum protection (e.g. reduction in replacement times).

#### HAND PROTECTION

Protect hands with category III work gloves (see standard EN 374).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

**SECTION 8. Exposure controls/personal protection ... / >>**

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

**SKIN PROTECTION**

Wear category II professional long-sleeved overalls and safety footwear (see Directive 89/686/EEC and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.

**EYE PROTECTION**

Wear airtight protective goggles (see standard EN 166).

**RESPIRATORY PROTECTION**

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type B filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

**ENVIRONMENTAL EXPOSURE CONTROLS**

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

**SECTION 9. Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Appearance	liquid
Colour	straw yellow
Odour	characteristic
Odour threshold	Not available
pH	Not available
Melting point / freezing point	Not available
Initial boiling point	Not available
Boiling range	Not available
Flash point	32 °C
Evaporation Rate	Not available
Flammability of solids and gases	Not available
Lower inflammability limit	Not available
Upper inflammability limit	Not available
Lower explosive limit	Not available
Upper explosive limit	Not available
Vapour pressure	Not available
Vapour density	Not available
Relative density	Not available
Solubility	immiscible with water
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Explosive properties	Not available
Oxidising properties	Not available

**9.2. Other information**

Information not available

**SECTION 10. Stability and reactivity****10.1. Reactivity**

There are no particular risks of reaction with other substances in normal conditions of use.

**10.2. Chemical stability**

The product is stable in normal conditions of use and storage.



## SECTION 10. Stability and reactivity ... / >>

### 10.3. Possibility of hazardous reactions

No hazardous reactions are foreseeable in normal conditions of use and storage.

### 10.4. Conditions to avoid

None in particular. However the usual precautions used for chemical products should be respected.

### 10.5. Incompatible materials

Information not available

### 10.6. Hazardous decomposition products

Information not available

## SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

### 11.1. Information on toxicological effects

#### Metabolism, toxicokinetics, mechanism of action and other information

Information not available

#### Information on likely routes of exposure

Information not available

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

Information not available

#### Interactive effects

Information not available

#### ACUTE TOXICITY

LC50 (Inhalation) of the mixture:	Not classified (no significant component)
LD50 (Oral) of the mixture:	>2000 mg/kg
LD50 (Dermal) of the mixture:	Not classified (no significant component)

#### AMINOPROPYLTRIETHOXYSILANE

LD50 (Dermal)	> 2000 mg/kg
---------------	--------------

#### DIMETHYL TIN NEODECANOATE

LD50 (Oral)	894 mg/kg OECD Test Guideline 401
-------------	-----------------------------------

#### ALKANES C9-12 ISODECANEA AND ISOUNDECANE

LD50 (Oral)	> 5000 mg/kg
-------------	--------------

#### OCTAMETHYL TETRACYCLOSILOXANE

LC50 (Inhalation)	2975 ppm/4h
-------------------	-------------

#### Amino functional alkoxysilane

LD50 (Oral)	> 1500 mg/kg (Rat)
LD50 (Dermal)	3800 mg/kg (Rabbit)

#### SKIN CORROSION / IRRITATION

Corrosive for the skin

#### SERIOUS EYE DAMAGE / IRRITATION

**SECTION 11. Toxicological information** ... / >>

Causes serious eye damage

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

STOT - REPEATED EXPOSURE

May cause damage to organs

ASPIRATION HAZARD

Toxic for aspiration

**SECTION 12. Ecological information**

This product may damage the structure and/or the functions of the aquatic ecosystems in the long and/or delayed term.

**12.1. Toxicity****AMINOPROPYLTRIETHOXYSILANE**

EC50 - for Crustacea

331 mg/l/48h *Daphnia magna*

EC50 - for Algae / Aquatic Plants

> 1000 mg/l/72h *Desmodesmus subspicatus* (green algae)

**ALKANES C9-12 ISODECANE AND ISOUNDECANE**

LC50 - for Fish

1000 mg/l/96h *Onchorhynchus mykiss* (Rainbow trout)

**12.2. Persistence and degradability**

Information not available

**12.3. Bioaccumulative potential**

Information not available

**12.4. Mobility in soil**

Information not available

**12.5. Results of PBT and vPvB assessment**

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

**12.6. Other adverse effects**

Information not available

## SECTION 13. Disposal considerations

### 13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

Waste transportation may be subject to ADR restrictions.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

## SECTION 14. Transport information

### 14.1. UN number

ADR / RID, IMDG, IATA: 1993

### 14.2. UN proper shipping name

ADR / RID: FLAMMABLE LIQUID, N.O.S. (ALKANES C9-C12 ISODECANE)

IMDG: FLAMMABLE LIQUID, N.O.S. (ALKANES C9-C12 ISODECANE)

IATA: FLAMMABLE LIQUID, N.O.S. (ALKANES C9-C12 ISODECANE)

### 14.3. Transport hazard class(es)

ADR / RID: Class: 3 Label: 3



IMDG: Class: 3 Label: 3



IATA: Class: 3 Label: 3



### 14.4. Packing group

ADR / RID, IMDG, IATA: III

### 14.5. Environmental hazards

ADR / RID: NO

IMDG: NO

IATA: NO

### 14.6. Special precautions for user

ADR / RID: HIN - Kemler: 30  
Special Provision: -

Limited Quantities: 5 L

Tunnel restriction code: (D/E)

IMDG: EMS: F-E, S-E

Limited Quantities: 5 L

IATA: Cargo:

Maximum quantity: 220 L

Packaging instructions: 366

Pass.:

Maximum quantity: 60 L

Packaging instructions: 355

Special Instructions:

A3

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

Information not relevant

## SECTION 15. Regulatory information

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

Seveso Category - Directive 2012/18/EC:

P5c

### SECTION 15. Regulatory information ... / >>

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product		
Point	3 - 40	
Contained substance		
Point	70	OCTAMETHYLTETRACYCLOSILOXANE Reg. no.: 01-2119529238-36

Substances in Candidate List (Art. 59 REACH)

OCTAMETHYLTETRACYCLOSILOXANE

Reg. no.: 01-2119529238-36

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

#### 15.2. Chemical safety assessment

No chemical safety assessment has been processed for the mixture and the substances it contains.

### SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

<b>Flam. Liq. 3</b>	Flammable liquid, category 3
<b>Repr. 2</b>	Reproductive toxicity, category 2
<b>Acute Tox. 4</b>	Acute toxicity, category 4
<b>STOT RE 1</b>	Specific target organ toxicity - repeated exposure, category 1
<b>Asp. Tox. 1</b>	Aspiration hazard, category 1
<b>STOT RE 2</b>	Specific target organ toxicity - repeated exposure, category 2
<b>Skin Corr. 1B</b>	Skin corrosion, category 1B
<b>Eye Dam. 1</b>	Serious eye damage, category 1
<b>Skin Irrit. 2</b>	Skin irritation, category 2
<b>Skin Sens. 1</b>	Skin sensitization, category 1
<b>Aquatic Chronic 2</b>	Hazardous to the aquatic environment, chronic toxicity, category 2
<b>Aquatic Chronic 4</b>	Hazardous to the aquatic environment, chronic toxicity, category 4
<b>H226</b>	Flammable liquid and vapour.
<b>H361</b>	Suspected of damaging fertility or the unborn child.
<b>H361f</b>	Suspected of damaging fertility.
<b>H302</b>	Harmful if swallowed.
<b>H372</b>	Causes damage to organs through prolonged or repeated exposure.
<b>H304</b>	May be fatal if swallowed and enters airways.
<b>H373</b>	May cause damage to organs through prolonged or repeated exposure.
<b>H314</b>	Causes severe skin burns and eye damage.
<b>H318</b>	Causes serious eye damage.
<b>H315</b>	Causes skin irritation.
<b>H317</b>	May cause an allergic skin reaction.
<b>H411</b>	Toxic to aquatic life with long lasting effects.
<b>H413</b>	May cause long lasting harmful effects to aquatic life.
<b>EUH066</b>	Repeated exposure may cause skin dryness or cracking.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008

**SECTION 16. Other information ... / >>**

- DNEL: Derived No Effect Level- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

**GENERAL BIBLIOGRAPHY**

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
  2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
  3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
  4. Regulation (EU) 2015/830 of the European Parliament
  5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
  6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
  7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
  8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
  9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
  10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
  11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
  12. Regulation (EU) 2016/1179 (IX Atp. CLP)
  13. Regulation (EU) 2017/776 (X Atp. CLP)
- The Merck Index. - 10th Edition
  - Handling Chemical Safety
  - INRS - Fiche Toxicologique (toxicological sheet)
  - Patty - Industrial Hygiene and Toxicology
  - N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
  - IFA GESTIS website
  - ECHA website
  - Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

**Note for users:**

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

**Changes to previous review:**

The following sections were modified:

01.