SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

chemius.net/b5R93

Product name

Nanoflex Dura Light

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

Relevant identified uses

Coating.

Uses advised against

No information.

1.3. Details of the supplier of the safety data sheet

Supplier

Signo Nano-Care UK Ltd
PO Box 225,
Oswestry, Shropshire SY10 1DL
P/F +44 (0)1691 654282
Email Info@nano-care.co.uk

1.4. Emergency telephone number

Emergency

112

Supplier

Poison centre in Berlin (Giftnotruf Berlin): +49 (0)30 30686700

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Flam. Liq. 3; H226 Flammable liquid and vapour.
Water-react. 3; H261 In contact with water releases flammable gases.
Acute Tox. 4; H302 Harmful if swallowed.
Skin Corr. 1B; H314 Causes severe skin burns and eye damage.
Eye Dam. 1; H318 Causes serious eye damage.
Acute Tox. 4; H332 Harmful if inhaled.

2.2 Label elements

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

Signal word: **Danger**

H226 Flammable liquid and vapour.
H261 In contact with water releases flammable gases.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H332 Harmful if inhaled.
EUH208 Contains 3-aminopropyltriethoxysilane. May produce an allergic reaction.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P232 Protect from moisture.
P260 Do not breathe mist/vapours.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P402 + P404 Store in a dry place. Store in a closed container.
P501 Dispose of contents/container in accordance with national regulation.

2.2.2. Contains:

2-butoxyethyl acetate (CAS: 112-07-2, EC: 203-933-3, Index: 607-038-00-2)
organic polysilazanes (CAS: 475645-84-2)
3-aminopropyltriethoxysilane (CAS: 919-30-2, EC: 213-048-4, Index: 612-108-00-0)

2.2.3. Special provisions

Special hazards are not known or expected.

2.3. Other hazards

decamethylcyclopentasiloxane: The substance meets the criteria for PBT/vPvB according to Regulation (EC) No. 1907/2006, Annex XIII.
Dodecamethylcyclohexasiloxane (D6) (CAS: 540-97-6): The substance meets the criteria for PBT/vPvB according to Regulation (EC) No. 1907/2006, Annex XIII.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

For mixtures see 3.2.

3.2. Mixtures

Name	CAS EC Index	%	Classification according to Regulation (EC) No 1272/2008 (CLP)	Specific Conc. Limits	REACH Registration No.
2-butoxyethyl acetate	112-07-2 203-933-3 607-038-00-2	50-60	Acute Tox. 4; H302 Acute Tox. 4; H312 Acute Tox. 4; H332		01-2119475112-47
n-butyl acetate	123-86-4 204-658-1 607-025-00-1	10-<20	Flam. Liq. 3; H226 STOT SE 3; H336 EUH066		01-2119485493-29
organic polysilazanes	475645-84-2 - -	5-15	Flam. Liq. 2; H225 Water-react. 3; H261 Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 Aquatic Chronic 3; H412		-
decamethylpentasiloxane *[SVHC]*	541-02-6 208-764-9 -	5-10	not classified		01-2119511367-43
dodecamethylcyclohexasiloxane *[SVHC]*	540-97-6 208-762-8 -	0,1-<1	not classified		-
3-aminopropyltriethoxysilane	919-30-2 213-048-4 612-108-00-0	0,1-<1	Acute Tox. 4; H302 Skin Corr. 1B; H314 Skin Sens. 1; H317 Eye Dam. 1; H318		-

Notes for substances:

SVHC	Substance of very high concern.

SECTION 4. FIRST AID MEASURES

4.1. Description of first aid measures

General notes

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Never give anything by mouth to an unconscious person. Place patient in recovery position and ensure airway patency.

Following inhalation

Remove patient to fresh air - move out of dangerous area. If symptoms develop and persist, seek medical attention. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Seek medical help immediately. In case of unconsciousness bring patient into stable side position and seek medical attention.

Following skin contact

Take off all contaminated clothing. Areas of the body that have come into contact with the product must be rinsed with water. Immediately obtain professional medical help! Wash contaminated clothes and shoes before reuse.

Following eye contact

Immediately flush eyes with running water, keeping eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. Consult a physician immediately!

Following ingestion

Do not induce vomiting! Rinse mouth thoroughly with water. Immediately consult a doctor. Show the physician the safety data sheet or label. Never give anything by mouth to an unconscious person.

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

Inhalation

Harmful.
Excessive exposure to spray mist, fog, or vapours may cause respiratory irritation.
Coughing, sneezing, nasal discharge, labored breathing.
Vapours may cause drowsiness and dizziness.
Symptoms include: headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, unconsciousness.

Skin contact

Redness, ulcers, pain.
Skin burns: Signs/symptoms may include localised redness, swelling, itching, dryness, blistering.
May cause sensitisation by skin contact (symptoms: itching, redness, rashes).

Eye contact

Corrosive effect. Risk of serious damage to eyes.
Causes burns: signs/symptoms include corneal damage, burns, pain, lacrimation, corrosive effects, partial or complete lost of sight.

Ingestion

Harmful to health.
May cause abdominal discomfort.
May cause nausea/vomiting and diarrhea.
If ingested, may causes burns of the mouth and throat, as well as perforation of the esophagus and stomach.
Pain in the mouth and throat.

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

Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

Full water jet. Water.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products

In case of a fire toxic gases can be generated; do not inhale gases/smoke. In the event of fire the following can be generated: carbon monoxide (CO), carbon dioxide (CO_2). Silicon oxides.

5.3. Advice for firefighters

Protective actions

In case of fire evacuate the area. In case of fire or heating do not breathe fumes/vapours. Vapours are heavier than air and spread along floor. Vapours may form explosive mixtures with the air. Prolonged heating can cause an explosion. Cool containers at risk with water spray. If possible remove containers from endangered area.

Special protective equipment for firefighters

Firefighters should wear appropriate protective clothing for firefighters (including helmets, protective boots and gloves) (EN 469) and self-contained breathing apparatus (SCBA) with a full face-piece (EN 137).

Additional information

Contaminated firefighting water and fire residues must be disposed of in accordance with the local regulations.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment

Use personal protective equipment (Section 8).

Emergency procedures

Ensure adequate ventilation. Keep away from sources of ignition and/or heat; No smoking! No action shall be taken involving any personal risk or without suitable training. Evacuate the danger zone. Prevent access to unprotected personnel. Do not breathe vapour or mist. Avoid contact with skin, eyes and clothing. Do not use open fire and keep away all sources of ignition.

6.1.2. For emergency responders

Use personal protective equipment.

6.2. Environmental precautions

Do not allow product to reach water/drains/sewage systems or permeable soil. If accidental large entry into water or ground occurs, inform responsible authorities.

6.3. Methods and material for containment and cleaning up

6.3.1. For containment

Stem the spill if this does not pose risks.

6.3.2. For cleaning up

Prevent release into the sewer, water, basements or confined areas. Absorb product (with inert material), collect it in special container and dispose it to a licensed hazardous-waste disposal contractor. Use spark-proof tools. Make sure the leakage site is well aired. Clean residue from spill site. Dispose in accordance with applicable regulations (see Section 13).

6.3.3. Other information

See Section 7: safe handling.

6.4. Reference to other sections

See also Sections 8 and 13.

SECTION 7. HANDLING AND STORAGE

7.1. Precautions for safe handling

7.1.1. Protective measures

Measures to prevent fire

Ensure adequate ventilation. Keep away from sources of ignition - no smoking. Use spark-proof tools. Take precautionary measures against static discharges. Vapours are heavier than air and spread along the floor. They form explosive mixtures with air.

Measures to prevent aerosol and dust generation

Use general or local exhaust ventilation to prevent inhaling vapours and aerosols.

Measures to protect the environment

Do not discharge into drains, surface water and soil. After use immediately close container tightly.

7.1.2. Advice on general occupational hygiene

Use good personal hygiene practices – wash hands at breaks and when done working with material. Do not eat, drink or smoke while working. Do not breathe vapours/mist. Avoid contact with skin, eyes and clothes. Remove contaminated clothes and wash them before reuse. Wear suitable protective equipment; see Section 8. Refer to instructions on label and regulations for safety and health at work.

7.2. Conditions for safe storage, including any incompatibilities

7.2.1. Technical measures and storage conditions

Store in accordance with local regulations. Keep in well closed containers. Keep in a cool, dry and well ventilated place. Keep away from food, drink and animal feeding stuffs. Protect from open fire, heat and direct sunlight. Keep away from oxidising substances. Keep away from sources of ignition - no smoking. Keep away from incompatible products (see section 10). Keep away from moisture and water.

7.2.2. Packaging materials

Store only in original container.

7.2.3. Requirements for storage rooms and vessels

Close opened containers after use. Put the containers upright to prevent from leaking. Do not store in unlabelled containers.

7.2.4. Storage class

-

7.2.5. Further information on storage conditions

-

7.3. Specific end use(s)

Recommendations

-

Industrial sector specific solutions

-

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

8.1.1. Occupational exposure limit values

Name (CAS)	Limit values		Short-term exposure limit		Remarks	Biological Tolerance Values
	ml/m³ (ppm)	mg/m³	ml/m³ (ppm)	mg/m³		
Butyl acetate (123-86-4)	150	724	200	966		
2-Butoxyethyl acetate (112-07-2)	20	133	50	332	Sk	

8.1.2. Information on monitoring procedures

BS EN 14042:2003 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. BS EN 482:2012+A1:2015 Workplace exposure. General requirements for the performance of procedures for the measurement of chemical agents. BS EN 689:2018 Workplace exposure. Measurement of exposure by inhalation to chemical agents. Strategy for testing compliance with occupational exposure limit values.

8.1.3. DNEL/DMEL values

For components

Name	Type	Exposure route	Exposure frequency	Value	Remark
2-butoxyethyl acetate (112-07-2)	Worker	inhalation	long term (systemic effects)	133 mg/m³	
2-butoxyethyl acetate (112-07-2)	Worker	inhalation	short term (local effects)	333 mg/m³	
2-butoxyethyl acetate (112-07-2)	Worker	dermal	long term (systemic effects)	169 mg/kg bw/day	
2-butoxyethyl acetate (112-07-2)	Worker	dermal	short term (systemic effects)	120 mg/kg bw/day	
2-butoxyethyl acetate (112-07-2)	Consumer	inhalation	long term (systemic effects)	80 mg/m³	

2-butoxyethyl acetate (112-07-2)	Consumer	inhalation	short term (local effects)	200 mg/m^3	
2-butoxyethyl acetate (112-07-2)	Consumer	dermal	long term (systemic effects)	102 mg/kg bw/day	
2-butoxyethyl acetate (112-07-2)	Consumer	dermal	short term (systemic effects)	72 mg/kg bw/day	
2-butoxyethyl acetate (112-07-2)	Consumer	oral	long term (systemic effects)	8,6 mg/kg bw/day	
2-butoxyethyl acetate (112-07-2)	Consumer	oral	short term (systemic effects)	36 mg/kg bw/day	
n-butyl acetate (123-86-4)	Worker	inhalation	long term (systemic effects)	300 mg/m^3	
n-butyl acetate (123-86-4)	Worker	inhalation	short term (systemic effects)	600 mg/m^3	
n-butyl acetate (123-86-4)	Worker	inhalation	long term (local effects)	300 mg/m^3	
n-butyl acetate (123-86-4)	Worker	inhalation	long term (local effects)	600 mg/m^3	
n-butyl acetate (123-86-4)	Worker	dermal	long term (systemic effects)	11 mg/kg bw/day	
n-butyl acetate (123-86-4)	Worker	dermal	short term (systemic effects)	11 mg/kg bw/day	
n-butyl acetate (123-86-4)	Consumer	inhalation	long term (systemic effects)	35,7 mg/m^3	
n-butyl acetate (123-86-4)	Consumer	inhalation	short term (systemic effects)	300 mg/m^3	
n-butyl acetate (123-86-4)	Consumer	inhalation	long term (local effects)	35,7 mg/m^3	
n-butyl acetate (123-86-4)	Consumer	inhalation	short term (local effects)	300 mg/m^3	
n-butyl acetate (123-86-4)	Consumer	dermal	long term (systemic effects)	6 mg/kg bw/day	
n-butyl acetate (123-86-4)	Consumer	dermal	short term (systemic effects)	6 mg/kg bw/day	
n-butyl acetate (123-86-4)	Consumer	oral	long term (systemic effects)	2 mg/kg bw/day	
n-butyl acetate (123-86-4)	Consumer	oral	short term (systemic effects)	2 mg/kg bw/day	
decamethylpentasiloxane (541-02-6)	Worker	inhalation	long term (systemic effects)	97,3 mg/m^3	
decamethylpentasiloxane (541-02-6)	Worker	inhalation	long term (local effects)	24,2 mg/m^3	
decamethylpentasiloxane (541-02-6)	Consumer	inhalation	long term (systemic effects)	17,3 mg/m^3	
decamethylpentasiloxane (541-02-6)	Consumer	inhalation	long term (local effects)	4,3 mg/m^3	
decamethylpentasiloxane (541-02-6)	Consumer	oral	long term (systemic effects)	5 mg/kg bw/day	
dodecamethylcyclohexasiloxane (540-97-6)	Worker	inhalation	long term (systemic effects)	11 mg/m^3	
dodecamethylcyclohexasiloxane (540-97-6)	Worker	inhalation	long term (local effects)	1,22 mg/m^3	
dodecamethylcyclohexasiloxane (540-97-6)	Worker	inhalation	short term (local effects)	6,1 mg/m^3	
dodecamethylcyclohexasiloxane (540-97-6)	Consumer	inhalation	long term (systemic effects)	2,7 mg/m^3	
dodecamethylcyclohexasiloxane (540-97-6)	Consumer	inhalation	long term (local effects)	0,3 mg/m^3	

dodecamethylcyclohexasiloxane (540-97-6)	Consumer	inhalation	short term (local effects)	1,5 mg/m^3	
dodecamethylcyclohexasiloxane (540-97-6)	Consumer	oral	long term (systemic effects)	1,7 mg/kg bw/day	

8.1.4. PNEC values

For components

Name	Exposure route	Value	Remark
2-butoxyethyl acetate (112-07-2)	fresh water	0,304 mg/L	
2-butoxyethyl acetate (112-07-2)	water, intermittent release	0,56 mg/L	
2-butoxyethyl acetate (112-07-2)	marine water	0,03 mg/L	
2-butoxyethyl acetate (112-07-2)	water treatment plant	90 mg/L	
2-butoxyethyl acetate (112-07-2)	fresh water sediment	2,03 mg/kg	dry weight
2-butoxyethyl acetate (112-07-2)	marine water sediment	0,203 mg/kg	dry weight
2-butoxyethyl acetate (112-07-2)	soil	0,415 mg/kg	dry weight
2-butoxyethyl acetate (112-07-2)	food chain	60 mg/kg	oral
n-butyl acetate (123-86-4)	fresh water	0,18 mg/L	
n-butyl acetate (123-86-4)	water, intermittent release	0,36 mg/L	
n-butyl acetate (123-86-4)	marine water	0,018 mg/L	
n-butyl acetate (123-86-4)	water treatment plant	35,6 mg/L	
n-butyl acetate (123-86-4)	fresh water sediment	0,981 mg/kg	dry weight
n-butyl acetate (123-86-4)	marine water sediment	0,098 mg/kg	dry weight
n-butyl acetate (123-86-4)	soil	0,09 mg/kg	dry weight
decamethylpentasiloxane (541-02-6)	fresh water	1,2 µg/L	
decamethylpentasiloxane (541-02-6)	marine water	0,12 µg/l	
decamethylpentasiloxane (541-02-6)	water treatment plant	10 mg/L	
decamethylpentasiloxane (541-02-6)	fresh water sediment	11 mg/kg	dry weight
decamethylpentasiloxane (541-02-6)	marine water sediment	0,11 mg/kg	dry weight
decamethylpentasiloxane (541-02-6)	soil	2,54 mg/kg	dry weight
decamethylpentasiloxane (541-02-6)	food chain	16 mg/kg feed	oral
dodecamethylcyclohexasiloxane (540-97-6)	water treatment plant	1 mg/L	
dodecamethylcyclohexasiloxane (540-97-6)	fresh water sediment	13 mg/kg	dry weight
dodecamethylcyclohexasiloxane (540-97-6)	marine water sediment	13 mg/kg	dry weight
dodecamethylcyclohexasiloxane (540-97-6)	soil	3,77 mg/kg	dry weight
dodecamethylcyclohexasiloxane (540-97-6)	soil	66,7 mg/kg	dry weight

8.2. Exposure controls

8.2.1. Appropriate engineering control

Substance/mixture related measures to prevent exposure during identified uses

Handle in accordance with good industrial hygiene and safety practice. Use good personal hygiene practices – wash hands at breaks and when done working with material. Do not breathe vapours/aerosols. Do not eat, drink or smoke while working. Avoid contact with skin, eyes and clothes.

Organisational measures to prevent exposure

Remove all contaminated clothes immediately and wash them before reuse.

Technical measures to prevent exposure

Provide good ventilation and local exhaust in areas with increased concentration. Keep away from food, drink and animal feeding stuffs.

8.2.2. Personal protective equipment

Eye and face protection

Safety glasses with side protection (EN 166).

Hand protection

Protective gloves (EN 374). The penetration time is determined by the protective glove manufacturer and must be observed. Observe the manufacturer's instructions regarding the use, storage, maintenance and replacement of gloves. In case of damage or at the first signs of wear and tear, change the gloves immediately. The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Skin protection

Choose body protection according to the activity and possible exposure. Protective antistatic clothing EN 1149 (1:2006, 2:1998 and 3:2004, 5:2008), protective antistatic shoes (EN 20345:2012). Cotton protective clothing and shoes that cover the entire foot (EN ISO 20345).

Respiratory protection

At elevated concentrations of vapours/ aerosols wear mask (EN 136) with filter ABEK-P (EN 14387). 'High/elevated concentrations' means that the occupational exposure limit values have been exceeded.

Thermal hazards

-

8.2.3. Environmental exposure controls

Technical measures to prevent exposure

Do not allow product to reach drains, sewage systems or ground water.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

-	**Physical state:**	liquid
-	**Colour:**	according to specification
-	**Odour:**	

Important health, safety and environmental information

-	**pH**	No information.
-	**Melting point/freezing point**	No information.
-	**Initial boiling point/boiling range**	No information.
-	**Flash point**	No information.
-	**Evaporation rate**	No information.
-	**Flammability (solid, gas)**	No information.
-	**Explosion limits (vol%)**	No information.
-	**Vapour pressure**	No information.
-	**Vapour density**	No information.
-	**Density**	No information.
-	**Solubility**	No information.
-	**Partition coefficient**	No information.
-	**Auto-ignition temperature**	No information.
-	**Decomposition temperature**	No information.
-	**Viscosity**	No information.
-	**Explosive properties**	No information.
-	**Oxidising properties**	No information.

9.2. Other information

-	**Remarks:**	

SECTION 10. STABILITY AND REACTIVITY

10.1. Reactivity

Vapours may form explosive mixture with air. In contact with water releases flammable gases.

10.2. Chemical stability

Product is stable under normal conditions of use, recommended handling and storage conditions.

10.3. Possibility of hazardous reactions

Vapours and air can form flammable or explosive mixtures.

10.4. Conditions to avoid

Protect from heat, direct sunlight, open fire, sparks. Protect from moisture and water - keep in dry place.

10.5. Incompatible materials

Attacks many plastics and rubbers. Strong oxidising agents.
Acids. Bases.
Amines.
Alcohols. Halogenated compounds.
Water.

10.6. Hazardous decomposition products

Under normal use conditions no hazardous decomposition products are expected. In case of fire/explosion vapours/gases that pose a health hazard are released. Carbon dioxide; Carbon monoxide. Silicon oxides.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

(a) Acute toxicity

Name	Exposure route	Type	Species	Time	Value	Method	Remark
2-butoxyethyl acetate (112-07-2)	dermal	LD_{50}	rabbit		1480 mg/kg		
n-butyl acetate (123-86-4)	inhalation (vapours)	LC_{50}	rat	4 h	23,4 mg/l		
n-butyl acetate (123-86-4)	oral	LD_{50}	rat		10760 mg/kg		
n-butyl acetate (123-86-4)	dermal	LD_{50}	rabbit		> 14112 mg/kg		
decamethylpentasiloxane (541-02-6)	inhalation (dusts/mists)	LC_{50}	rat	4 h	8,67 mg/l		
Additional information: Harmful if swallowed. Harmful if inhaled.							

(b) Skin corrosion/irritation

Additional information: Causes severe burns and skin damage.

(c) Serious eye damage/irritation

Additional information: Causes serious eye damage.

(d) Respiratory or skin sensitisation

Additional information: The product is not classified as sensitising. It contains at least one ingredient that can cause sensitisation. Can cause allergic reaction.

(e) (Germ cell) mutagenicity

No information.

(f) Carcinogenicity

Name	Exposure route	Type	Species	Time	Value	Result	Method	Remark
decamethylpentasiloxane (541-02-6)	inhalation	-	rat (female)	2 years	160 ppm	indicate effects (uterine endometrial tumors). Studies to date have not demonstrated if this effect occurs through a pathway that is relevant to humans.		

(g) Reproductive toxicity

No information.

Summary of evaluation of the CMR properties

No information.

(h) STOT-single exposure

No information.

(i) STOT-repeated exposure

No information.

(j) Aspiration hazard

No information.

SECTION 12. ECOLOGICAL INFORMATION

12.1. Toxicity

12.1.1. Acute (short-term) toxicity

For components

Substance (CAS Nr.)	Type	Value	Exposure time	Species	Organism	Method	Remark
2-butoxyethyl acetate (112-07-2)	EC_{50}	37 mg/L	48 h	crustacea	*Daphnia magna*		
	LC_{50}	28,3 mg/L	96 h	fish	*Oncorhynchus mykiss*		
	ErC_{50}	1570 mg/L	72 h	algae			
n-butyl acetate (123-86-4)	LC_{50}	18 mg/L	96 h	fish			
	ErC_{50}	335 mg/L	24 h	algae			
decamethylpentasiloxane (541-02-6)	LC_{50}	> 16 µg/l	96 h	fish	*Oncorhynchus mykiss*	OECD 204	
	EC_{50}	> 2,9 mg/L	48 h	crustacea	*Daphnia magna*	OECD 202	
	ErC_{50}	> 0,012 mg/L	96 h	algae	*Pseudokirchneriella subcapitata*		
	NOEC	0,012 mg/L	96 h	algae	*Pseudokirchneriella subcapitata*		
	NOEC	≥ 76 mg/kg		Soil macroorganisms	*Eisenia fetida*		
dodecamethylcyclohexasiloxane (540-97-6)	ErC_{50}	> 0,002 mg/L	72 h	algae	*Pseudokirchneriella subcapitata*		

12.1.2. Chronic (long-term) toxicity

For components

Substance (CAS Nr.)	Type	Value	Exposure time	Species	Organism	Method	Remark
2-butoxyethyl acetate (112-07-2)	EC50	145 mg/l	24 h	aquatic invertebrates			
	EbC10	30,4 mg/l	7 days	aquatic invertebrates			
n-butyl acetate (123-86-4)	EC50	34,2 mg/l	21 days	aquatic invertebrates			
	LC_{50}	43,5 mg/l	21 days	aquatic invertebrates			
	NOEC	23,2 mg/l	21 days	aquatic invertebrates			
	LOEC	47,6 mg/l	21 days	aquatic invertebrates			
decamethylpentasiloxane (541-02-6)	LC_{50}	> 16 mg/l	14 days	fish	*Oncorhynchus mykiss*		
	NOEC	≥ 0,017 mg/l	45 days	fish	*Oncorhynchus mykiss*		
	NOEC	≥ 0,014 mg/l	90 days	fish	*Oncorhynchus mykiss*		
dodecamethylcyclohexasiloxane (540-97-6)	NOEC	0,0046 mg/l	21 days	crustacea	*Daphnia magna*		

12.2. Persistence and degradability

12.2.1. Abiotic degradation, physical- and photo-chemical elimination

No information.

12.2.2. Biodegradation

For components

Substance (CAS Nr.)	Type	Rate	Time	Evaluation	Method	Remark
2-butoxyethyl acetate (112-07-2)	ThOD	2,097 mg/mg				
2-butoxyethyl acetate (112-07-2)	ThCO2	2,198 mg/mg				
2-butoxyethyl acetate (112-07-2)	biodegradability	88 %	28 days			Oxygen consumption
n-butyl acetate (123-86-4)	ThOD	2,204 mg/mg				
n-butyl acetate (123-86-4)	ThCO2	2,273 mg/mg				
n-butyl acetate (123-86-4)	biodegradability	83 %	28 days			
n-butyl acetate (123-86-4)	biodegradability	80 %	5 days			Oxygen consumption
decamethylpentasiloxane (541-02-6)	biodegradability	0,14 %	28 days	not readily biodegradable	OECD 310	
dodecamethylcyclohexasiloxane (540-97-6)	biodegradability	57 %	28 days		OECD 301 B	

12.3. Bioaccumulative potential

12.3.1. Partition coefficient

For components

Substance (CAS Nr.)	Media	Value	Temperature	pH	Concentration	Method
2-butoxyethyl acetate (112-07-2)	Octanol-water (log Pow)	1,51	25 °C	7		
n-butyl acetate (123-86-4)	Octanol-water (log Pow)	2,3	25 °C	7		
decamethylpentasiloxane (541-02-6)	Octanol-water (log Pow)	5,2				
dodecamethylcyclohexasiloxane (540-97-6)	Octanol-water (log Pow)	8,87				

12.3.2. Bioconcentration factor (BCF)

For components

Substance (CAS Nr.)	species	Organism	Value	Duration	Evaluation	Method	Remark
decamethylpentasiloxane (541-02-6)	BCF		100 – 3000				
dodecamethylcyclohexasiloxane (540-97-6)	BCF		< 100				

12.4. Mobility in soil

12.4.1. Known or predicted distribution to environmental compartments

No information.

12.4.2. Surface tension

No information.

12.4.3. Adsorption/Desorption

For components

Substance (CAS Nr.)	Type	Criterion	Value	Evaluation	Method	Remark
n-butyl acetate (123-86-4)	Water	Henry constant (H)	41,6 Pa.m^3 / mol			25 °C
n-butyl acetate (123-86-4)	Soil		1,268 – 1,845			Koc
decamethylpentasiloxane (541-02-6)	Soil		> 5000			Koc
dodecamethylcyclohexasiloxane (540-97-6)	Soil		0 – 50			Koc

12.5. Results of PBT and vPvB assessment

Contains component(s) that meet(s) the criteria of PBT and/or vPvB as listed in Annex XIII of Regulation (EC) No 1907/2006.

12.6. Other adverse effects

No information.

12.7. Additional information

For product

Water hazard class 2 (self-assessment): hazardous for water.
Do not allow to reach ground water, water courses or sewage system.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

13.1.1. Product / Packaging disposal

Waste chemical

Dispose of in accordance with applicable waste disposal regulation. Disposal must be made according to official regulations: deliver it to authorised collector/remover/transformer of hazardous waste. Do not allow product to reach drains/sewage systems.

Packaging

Dispose of in accordance with applicable waste disposal regulation. Uncleaned containers are classified as hazardous waste - they should be handled in the same manner as the contents. Deliver completely emptied containers to approved waste disposal authorities. Empty containers represent a fire hazard as they may contain flammable product residues and vapour. Uncleaned containers should not be perforated, cut or welded.

13.1.2. Waste treatment-relevant information

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13.1.3. Sewage disposal-relevant information

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13.1.4. Other disposal recommendations

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SECTION 14. TRANSPORT INFORMATION

14.1. UN number

UN 3129

14.2. UN proper shipping name

WATER-REACTIVE LIQUID, CORROSIVE, N.O.S. (organic polysilazanes)

14.3. Transport hazard class(es)

4.3

14.4. Packing group

II

14.5. Environmental hazards

NO.

14.6. Special precautions for user

Limited quantities

500 ml

Tunnel restriction code

(D/E)

IMDG EmS

F-G, S-N

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

Goods may not be carried in bulk in bulk containers, containers or vehicles.

SECTION 15. REGULATORY INFORMATION

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

- Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (including last amendment Commission Regulation (EU) 2015/830)

- Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures

15.1.1. Information according 2004/42/EC about limitation of emissions of volatile organic compounds (VOC-guideline)

Not applicable.

15.1.2. Special instructions

Observe the regulations on employment and protection against dangerous substances for young people, pregnant women and nursing mothers.
Seveso P5c: FLAMMABLE LIQUIDS.
Substances on the SVHC candidate list (REACH Article 59): decamethylcyclopentasiloxane (CAS 541-02-6), dodecamethylcyclohexasiloxane (CAS 540-97-6).

15.2. Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16. OTHER INFORMATION

Indication of changes

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Abbreviations and acronyms

ATE - Acute Toxicity Estimate
ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
CEN - European Committee for Standardisation
C&L - Classification and Labelling
CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
CAS# - Chemical Abstracts Service number
CMR - Carcinogen, Mutagen, or Reproductive Toxicant
CSA - Chemical Safety Assessment
CSR - Chemical Safety Report
DMEL - Derived Minimal Effect Level
DNEL - Derived No Effect Level
DPD - Dangerous Preparations Directive 1999/45/EC
DSD - Dangerous Substances Directive 67/548/EEC
DU - Downstream User
EC - European Community
ECHA - European Chemicals Agency
EC-Number - EINECS and ELINCS Number (see also EINECS and ELINCS)
EEA - European Economic Area (EU + Iceland, Liechtenstein and Norway)
EEC - European Economic Community
EINECS - European Inventory of Existing Commercial Substances
ELINCS - European List of notified Chemical Substances
EN - European Standard
EQS - Environmental Quality Standard
EU - European Union
Euphrac - European Phrase Catalogue
EWC - European Waste Catalogue (replaced by LoW – see below)
GES - Generic Exposure Scenario
GHS - Globally Harmonized System
IATA - International Air Transport Association
ICAO-TI - Technical Instructions for the Safe Transport of Dangerous Goods by Air
IMDG - International Maritime Dangerous Goods
IMSBC - International Maritime Solid Bulk Cargoes
IT - Information Technology
IUCLID - International Uniform Chemical Information Database
IUPAC - International Union for Pure Applied Chemistry
JRC - Joint Research Centre
Kow - octanol-water partition coefficient
LC_{50} - Lethal Concentration to 50 % of a test population
LD_{50} - Lethal Dose to 50% of a test population (Median Lethal Dose)
LE - Legal Entity
LoW - List of Wastes (see http://ec.europa.eu/environment/waste/framework/list.htm)
LR - Lead Registrant
M/I - Manufacturer / Importer
MS - Member States

MSDS - Material Safety Data Sheet
OC - Operational Conditions
OECD - Organization for Economic Co-operation and Development
OEL - Occupational Exposure Limit
OJ - Official Journal
OR - Only Representative
OSHA - European Agency for Safety and Health at work
PBT - Persistent, Bioaccumulative and Toxic substance
PEC - Predicted Effect Concentration
PNEC(s) - Predicted No Effect Concentration(s)
PPE - Personal Protection Equipment
(Q)SAR - Qualitative Structure Activity Relationship
REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
RIP - REACH Implementation Project
RMM - Risk Management Measure
SCBA - Self-Contained Breathing Apparatus
SDS - Safety data sheet
SIEF - Substance Information Exchange Forum
SME - Small and Medium sized Enterprises
STOT - Specific Target Organ Toxicity
(STOT) RE - Repeated Exposure
(STOT) SE - Single Exposure
SVHC - Substances of Very High Concern
UN - United Nations
vPvB - Very Persistent and Very Bioaccumulative

Key literature references and sources for data

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List of relevant H phrases

H225 Highly flammable liquid and vapour.
H226 Flammable liquid and vapour.
H261 In contact with water releases flammable gases.
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H332 Harmful if inhaled.
H336 May cause drowsiness or dizziness.
H412 Harmful to aquatic life with long lasting effects.
EUH066 Repeated exposure may cause skin dryness or cracking.

The information of this SDS is based on the present state of our knowledge and meets the requirements of EU and national laws. The user's working conditions however, are beyond our knowledge and control. The product is not to be used for purposes other than those specified under Section 1 without a written permission. It remains the responsibility of the user to ensure that the necessary steps are taken to meet the laws and regulations. Handling of the product may only be done by people above 18 years of age, who are satisfactorily informed of how to do the work, the hazardous properties and necessary safety precautions. The information given in this SDS is to describe the product only in terms of health and safety requirements and should not, therefore, be construed as guaranteeing specific properties.