

Safety Data Sheet
ZC 120 NON FLAMMABLE CURING AGENT**Revision nr. 6**
Dated 21/11/2023**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Mixture identification:

Product Name: ZC 120 NON FLAMMABLE CURING AGENT

Code: DT00676, DT00677, DT00678, DT00679

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

For industrial/ professional use only. Catalyst for condensation silicone.

Avoid use: in article for supply to, or use by, the general public.

1.3. Details of the supplier of the safety data sheet

Name

Zhermack S.p.a

Via Bovazecchino 100

45021 Badia Polesine (RO)

Italy

tel. +39 0425-597611

fax +39 0425-597689

Competent person responsible for the safety data sheet:

msds@zhermack.com

1.4. Emergency telephone number

UK Emergency number: 999 (24 hours)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture**

EC regulation criteria 1272/2008 (CLP)

Repr. 1B, H360D May damage the unborn child.

STOT SE 2, H371 May cause damage to organs.

STOT RE 2, H373 May cause damage to organs through prolonged or repeated exposure.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

Hazard pictograms:



Danger

Hazard statements:

H360D May damage the unborn child.

H371 May cause damage to organs.

H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements:

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/clothing and eye/face protection.

P308+P311 IF exposed or concerned: Call a doctor.

Special Provisions:

None

Contains

dioctyltin dilaurate

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Bis(neodecanoyloxy)dioctylstannane

Special provisions according to Annex XVII of REACH and subsequent amendments:
Restricted to professional users.

2.3. Other hazards

No PBT, vPvB or endocrine disruptor substances present in concentration $\geq 0.1\%$

Other Hazards:

No other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances

Not Applicable

3.2. Mixtures

Hazardous components within the meaning of the CLP regulation and related classification:

Qty	Name	Ident. Number	Classification
$\geq 20\%$ - < 25%	Bis(neodecanoyloxy)di octylstannane	CAS: 68299-15-0 EC: 269-595-4 REACH No.: 01-21207708 90-48-0002	STOT SE 2 H371 May cause damage to organs (immune system) if swallowed.
$\geq 8\%$ - < 10%	Triethoxyoctylsilane	CAS: 2943-75-1 EC: 220-941-2 REACH No.: 01-21199723 13-39-XXXX	Skin Irrit. 2 H315 Causes skin irritation.
$\geq 3\%$ - < 5%	dioctyltin dilaurate	Index number: 050-031-00-9 CAS: 3648-18-8 EC: 222-883-3 REACH No.: 01-21199795 27-19-XXXX	Repr. 1B H360D May damage the unborn child. STOT RE 1 H372 Causes damage to organs (immune system) through prolonged or repeated exposure.
$\geq 3\%$ - < 5%	tetraethyl silicate; ethyl silicate	Index number: 014-005-00-0 CAS: 78-10-4 EC: 201-083-8 REACH No.: 01-21194961 95-28-XXXX	STOT SE 3 H335 May cause respiratory irritation. Flam. Liq. 3 H226 Flammable liquid and vapour. Acute Tox. 4 H332 Harmful if inhaled. Eye Irrit. 2 H319 Causes serious eye irritation. Acute Toxicity Estimate: ATE - Inhalation (Dust/mist) 10 mg/l

SVHC, PBT, vPvB, endocrine disruptor substances:

$\geq 3\%$ - < 5% dioctyltin dilaurate

REACH No.: 01-2119979527-19-XXXX, Index number: 050-031-00-9, CAS: 3648-18-8, EC: 222-883-3

SVHC

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap.

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Wash with plenty of water and soap.

Wash thoroughly the body (shower or bath).

Remove contaminated clothing immediately and dispose off safely.

In case of eyes contact:

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

In case of Ingestion:

Do not under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

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

None

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

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

Treatment:

None

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO₂).

Extinguishing media which must not be used for safety reasons:

None in particular.

5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

5.3. Advice for firefighters

Use suitable breathing apparatus .

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non emergency personnel:

Wear personal protection equipment.

Remove persons to safety.

See protective measures under point 7 and 8.

For emergency responders:

Wear personal protection equipment.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Retain contaminated washing water and dispose it.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

Suitable material for taking up: absorbing material, organic, sand

6.3. Methods and material for containment and cleaning up

Wash with plenty of water.

6.4. Reference to other sections

See also section 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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Avoid contact with skin and eyes, inhalation of vapours and mists.
 Don't use empty container before they have been cleaned.
 Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.
 See also section 8 for recommended protective equipment.
 Advice on general occupational hygiene:
 Contaminated clothing should be changed before entering eating areas.
 Do not eat or drink while working.

7.2. Conditions for safe storage, including any incompatibilities

Keep away from food, drink and feed.
 Incompatible materials:
 See section 10.5.
 Instructions as regards storage premises:
 Adequately ventilated premises.

7.3. Specific end use(s)

See section 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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 Bis(neodecanoyloxy)dioctylstannane - CAS: 68299-15-0

OEL Type	TWA		Duration	STEL		Duration	Notes	Country
No data available								

Triethoxyoctylsilane - CAS: 2943-75-1

OEL Type	TWA		Duration	STEL		Duration	Notes	Country
No data available								

dioctyltin dilaurate - CAS: 3648-18-8

OEL Type	TWA		Duration	STEL		Duration	Notes	Country
No data available								

tetraethyl silicate; ethyl silicate - CAS: 78-10-4

OEL Type	TWA		Duration	STEL		Duration	Notes	Country
VME/VLE	85 mg/m ³	10 ppm	8h	85 mg/m ³	10 ppm	15min		SWITZERLAND
AK	44 mg/m ³		8h					HUNGARY
GVI/KGVI	44 mg/m ³	5 ppm	8h					CROATIA
HTP	43 mg/m ³	5 ppm	8h	86 mg/m ³	10 ppm	15min		FINLAND
MAK	44 mg/m ³	5 ppm	8h	88 mg/m ³	10 ppm	15min		AUSTRIA
NDS/NDSch	44 mg/m ³		8h					POLAND
NPEL	44	5 ppm	8h					SLOVAKIA

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	mg/m ³							(Slovak Republic)
EU	44 mg/m ³	5 ppm	8h					
OELV	44 mg/m ³	5 ppm	8h					IRELAND
RD	44 mg/m ³	5 ppm	8h					LITHUANIA
RV	44 mg/m ³	5 ppm	8h					LATVIA
TGG	44 mg/m ³		8h					NETHERLANDS
TLV	44 mg/m ³	5 ppm	8h					MALTA
TLV	44 mg/m ³	5 ppm	8h					NORWAY
TLV	44 mg/m ³	5 ppm	8h					ROMANIA
TLV	50 mg/m ³	5.85 ppm	8h	200 mg/m ³	23.4 ppm	15min		CZECH REPUBLIC
TLV	85 mg/m ³	10 ppm	8h					DENMARK
TLV	44 mg/m ³	5 ppm	8h					CYPRUS
TLV	44 mg/m ³	5 ppm	8h					BULGARIA
TLV	44 mg/m ³	5 ppm	8h					GREECE
TLV-ACGIH	85 mg/m ³	10 ppm	8h					
VL	44 mg/m ³	5 ppm	8h					LUXEMBOURG
VLE	44 mg/m ³	5 ppm	8h					PORTUGAL
VLEP	85 mg/m ³	10 ppm	8h					FRANCE
VLEP	44 mg/m ³	5 ppm	8h	0 mg/m ³	0 ppm			ITALY
VLEP	44 mg/m ³	5 ppm	8h					BELGIUM
WEL	44 mg/m ³	5 ppm	8h					UNITED KINGDOM
MAK	86 mg/m ³	10 ppm	8h	86 mg/m ³	10 ppm	15min		GERMANY
AGW	12 mg/m ³	1.4 ppm	8h	12 mg/m ³	1.4 ppm	15min		GERMANY
MV	170 mg/m ³	20 ppm	8h	170 mg/m ³	20 ppm	15min		SLOVENIA
MAK	85 mg/m ³	10 ppm	8h	85 mg/m ³	10 ppm	15min		SWITZERLAND
ACGIH		10 ppm	8h				URT and eye irr, kidney dam	

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TLV-ACGIH		10 ppm	8h				URT & eye irr, kidney dam	
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DNEL Exposure Limit Values

Bis(neodecanoyloxy)dioctylstannane - CAS: 68299-15-0

Consumer: 0.0109 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

Worker Professional: 0.0617 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

Consumer: 0.00625 mg/kg bw/d - Exposure: Human Dermal - Frequency: Long Term, systemic effects

Worker Professional: 0.0175 mg/kg bw/d - Exposure: Human Dermal - Frequency: Long Term, systemic effects

Triethoxyoctylsilane - CAS: 2943-75-1

Worker Professional: 9 mg/kg bw/d - Exposure: Human Dermal - Frequency: Long Term, systemic effects

Worker Professional: 9 mg/kg bw/d - Exposure: Human Dermal - Frequency: Short Term, systemic effects

Worker Professional: 16 mg/m³ - Exposure: Human Inhalation - Frequency: Short Term, systemic effects

Worker Professional: 16 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

Consumer: 6.2 mg/kg bw/d - Exposure: Human Oral - Frequency: Short Term, systemic effects

Consumer: 6.2 mg/kg bw/d - Exposure: Human Oral - Frequency: Long Term, systemic effects

Consumer: 5.4 mg/m³ - Exposure: Human Inhalation - Frequency: Short Term, systemic effects

Consumer: 5.4 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

Consumer: 6.2 mg/kg bw/d - Exposure: Human Dermal - Frequency: Short Term, systemic effects

Consumer: 6.2 mg/kg bw/d - Exposure: Human Dermal - Frequency: Long Term, systemic effects

dioctyltin dilaurate - CAS: 3648-18-8

Consumer: 0.001 mg/kg bw/d - Exposure: Human Oral - Frequency: Long Term, systemic effects

Consumer: 0.001 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

Worker Professional: 0.004 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

tetraethyl silicate; ethyl silicate - CAS: 78-10-4

Consumer: 14 mg/m³ - Exposure: Human Inhalation - Frequency: Short Term, local effects

Consumer: 14 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, local effects

Worker Professional: 85 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, local effects

Consumer: 3 mg/kg/d - Exposure: Human Dermal - Frequency: Short Term, systemic effects

Consumer: 14 mg/m³ - Exposure: Human Inhalation - Frequency: Short Term, systemic effects

Consumer: 3 mg/kg/d - Exposure: Human Dermal - Frequency: Long Term, systemic effects

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Consumer: 14 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

Worker Professional: 56 mg/kg/d - Exposure: Human Dermal - Frequency: Short Term, systemic effects

Worker Professional: 56 mg/kg/d - Exposure: Human Dermal - Frequency: Long Term, systemic effects

Worker Professional: 85 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

PNEC Exposure Limit Values

Triethoxyoctylsilane - CAS: 2943-75-1

Target: Fresh Water - Value: 0.006 mg/l

Target: Marine water - Value: 0.001 mg/l

Target: Freshwater sediments - Value: 2.34 mg/kg

Target: Marine water sediments - Value: 0.23 mg/kg

Target: Microorganisms in sewage treatments - Value: 100 mg/l

Target: Food chain - Value: 10 mg/kg

Target: Soil (agricultural) - Value: 0.09 mg/kg

dioctyltin dilaurate - CAS: 3648-18-8

Target: Fresh Water - Value: 2E-6 mg/l

Target: Marine water - Value: 0 mg/l

Target: Freshwater sediments - Value: 0.028 mg/kg

Target: Marine water sediments - Value: 0.003 mg/kg

Target: intermittent release - Value: 1.8E-5 mg/l

Target: Microorganisms in sewage treatments - Value: 100 mg/l

Target: Food chain - Value: 0.02 mg/kg

Target: Soil (agricultural) - Value: 0.006 mg/kg

tetraethyl silicate; ethyl silicate - CAS: 78-10-4

Target: Soil (agricultural) - Value: 0.05 mg/kg

Target: Fresh Water - Value: 0.19 mg/l

Target: intermittent release - Value: 10 mg/l

Target: Marine water - Value: 0.019 mg/l

Target: Freshwater sediments - Value: 0.83 mg/kg

Target: Marine water sediments - Value: 0.083 mg/kg

Target: Microorganisms in sewage treatments - Value: 4000 mg/l

8.2. Exposure controls

Precautionary measures:

Give adequate ventilation to the premises where the product is stored and/or handled.

Eye protection:

Wear airtight protective goggles (EN 166).

Protection for skin:

Wear professional overalls and safety footwear (EN 14605).

Protection for hands:

Protect hands with work gloves (EN 374).

The following should be considered when choosing work glove material (EN 374): 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.

Respiratory protection:

Use respiratory protection where ventilation is insufficient or exposure is prolonged.

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 (e.g.

TLV-TWA).

Thermal Hazards:

None

Environmental exposure controls:

None

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Appropriate engineering controls:
None

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Method:	Notes
Physical state:	Liquid	--	--
Colour:	Transparent	--	--
Odour:	Pungent	--	--
Melting point/freezing point:	Not available	--	--
Boiling point or initial boiling point and boiling range:	Not available	--	--
Flammability:	Non-flammable	--	--
Lower and upper explosion limit:	Not available	--	--
Flash point:	63.5 ° C	EN ISO 3679	--
Auto-ignition temperature:	Not available	--	--
Decomposition temperature:	Not available	--	--
pH:	Not Relevant	--	--
Kinematic viscosity:	Not available	--	--
Solubility in water:	Insoluble	--	--
Solubility in oil:	Not available	--	--
Partition coefficient n-octanol/water (log value):	Not available	--	--
Vapour pressure:	Not available	--	--
Density and/or relative density:	1.24 g/cm ³ @23°C	--	--
Relative vapour density:	Not available	--	--
Particle characteristics:			
Particle size:	Not available	--	--

9.2. Other information

Properties	Value	Method:	Notes
Viscosity:	200 cP	Brookfield (ULA; 23°C)	--

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions

10.2. Chemical stability

Stable under normal conditions

10.3. Possibility of hazardous reactions

The vapours may also form explosive mixtures with the air.

10.4. Conditions to avoid

Avoid all sources of ignition.

Avoid bunching of electrostatic charges.

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Avoid moisture and high temperature.

10.5. Incompatible materials

Avoid contact with strong oxidizing materials.

Water

10.6. Hazardous decomposition products

Alcohols are released in contact with water.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Toxicological information of the product:

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a) acute toxicity

Not classified

b) skin corrosion/irritation

Not classified

c) serious eye damage/irritation

Not classified

d) respiratory or skin sensitisation

Not classified

e) germ cell mutagenicity

Not classified

f) carcinogenicity

Not classified

g) reproductive toxicity

The product is classified: Repr. 1B H360D

h) STOT-single exposure

The product is classified: STOT SE 2 H371

i) STOT-repeated exposure

The product is classified: STOT RE 2 H373

j) aspiration hazard

Not classified

Toxicological information of the main substances found in the product:

Bis(neodecanoyloxy)dioctylstannane - CAS: 68299-15-0

a) acute toxicity:

Test: LD50 - Route: Skin - Species: Rat > 2000 mg/kg - Source: (OECD 402, ECHA dossier).

Test: LD50 - Route: Oral - Species: Rat > 2000 mg/kg - Source: (OECD 423, ECHA dossier).

b) skin corrosion/irritation:

Based on available data, the classification criteria are not met - Source: (OECD 431, ECHA dossier).

c) serious eye damage/irritation:

Based on available data, the classification criteria are not met - Source: (OECD 437, ECHA dossier).

d) respiratory or skin sensitisation:

Test: Skin Sensitization - Species: Mouse - Based on available data, the classification criteria are not met - Source: (read-across, OECD 429, ECHA dossier).

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- e) germ cell mutagenicity:
Test: In vitro - Species: Salmonella Typhimurium - Negative - Source: (OECD 471, ECHA dossier).
- h) STOT-single exposure:
Route: Oral - Notes: Target organ: immune system - Positive - Source: (MSDS supplier).
- Triethoxyoctylsilane - CAS: 2943-75-1
- a) acute toxicity:
Test: LD50 - Route: Skin - Species: Rabbit 6730 mg/kg - Source: (OECD 402, MSDS supplier).
Test: LD50 - Route: Oral - Species: Rat > 5110 mg/kg - Source: (OECD 401, MSDS supplier).
- b) skin corrosion/irritation:
Species: Rabbit - Skin Irritant - Source: (OECD 404, MSDS supplier).
- c) serious eye damage/irritation:
Species: Rabbit - Based on available data, the classification criteria are not met - Source: (OECD 405, MSDS supplier).
- d) respiratory or skin sensitisation:
Test: Skin Sensitization - Species: Guinea pig - Based on available data, the classification criteria are not met - Source: (OECD 406, MSDS supplier).
- e) germ cell mutagenicity:
Test: In vitro - Negative - Source: (OECD 471, 473, 476, MSDS supplier).
- g) reproductive toxicity:
Test: NOAEL - Species: Rat 300 mg/kg - Based on available data, the classification criteria are not met - Source: (OECD 422, MSDS supplier).
- i) STOT-repeated exposure:
Test: NOAEL - Species: Rat 300 mg/kg - Based on available data, the classification criteria are not met - Source: (OECD 422, MSDS supplier).
- dioctyltin dilaurate - CAS: 3648-18-8
- a) acute toxicity:
Test: LD50 - Route: Skin - Species: Rat > 2000 mg/kg - Source: (OECD 402, GLP, ECHA dossier).
Test: LD50 - Route: Oral - Species: Rat > 2000 mg/kg - Source: (OECD 423, GLP, ECHA dossier).
- b) skin corrosion/irritation:
Based on available data, the classification criteria are not met - Source: (OECD 439, GLP, ECHA dossier).
- c) serious eye damage/irritation:
Species: Rabbit - Based on available data, the classification criteria are not met - Source: (OECD 405, GLP, ECHA dossier).
- d) respiratory or skin sensitisation:
Test: Skin Sensitization - Species: Mouse - Based on available data, the classification criteria are not met - Source: (read-across, OECD 429, ECHA dossier).
- h) STOT-single exposure:
Route: Oral - Species: Rat - Notes: Target organ: immune system - Positive - Source: (read-across, ECHA dossier).
- tetraethyl silicate; ethyl silicate - CAS: 78-10-4
- a) acute toxicity
ATE - Inhalation (Dust/mist) 10 mg/l
Test: LC50 - Route: Inhalation - Species: Rat 10 mg/l - Duration: 4h - Source: (OECD 403, MSDS supplier).
Test: LD50 - Route: Oral - Species: Rat > 2500 mg/kg - Source: (OECD 423, MSDS supplier).
- b) skin corrosion/irritation:
Species: Rabbit - Based on available data, the classification criteria are not met - Source: (OECD 404, MSDS supplier).

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- c) serious eye damage/irritation:
Species: Rabbit - Based on available data, the classification criteria are not met - Source: (OECD 405, MSDS supplier).
- d) respiratory or skin sensitisation:
Test: Skin Sensitization - Species: Guinea pig - Based on available data, the classification criteria are not met - Source: (OECD 406, MSDS supplier).
- i) STOT-repeated exposure:
Test: NOAEL - Route: Oral - Species: Rat 10 mg/kg - Based on available data, the classification criteria are not met - Source: (OECD 422, MSDS supplier).
Test: LOAEL - Route: Inhalation - Species: Mouse 0.43 mg/l - Based on available data, the classification criteria are not met - Source: (OECD 412, MSDS supplier).

11.2. Information on other hazards

Endocrine disrupting properties:

No endocrine disruptor substances present in concentration $\geq 0.1\%$

SECTION 12: Ecological information

12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

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Not classified for environmental hazards

Based on available data, the classification criteria are not met

Bis(neodecanoyloxy)dioctylstannane - CAS: 68299-15-0

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish 24.8 mg/l - Duration h: 96h (ECHA dossier).

Endpoint: EC50 - Species: Algae 100 mg/l - Duration h: 72h (OECD 201, Pseudokirchneriella subcapitata, ECHA dossier).

Endpoint: EC50 - Species: Daphnia 24.12 mg/l - Duration h: 48h (ECHA dossier).

Triethoxyoctylsilane - CAS: 2943-75-1

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish > 0.055 mg/l - Duration h: 96h (Oncorhynchus mykiss, ECHA dossier).

Endpoint: EC50 - Species: Daphnia > 0.049 mg/l - Duration h: 48h (Daphnia magna, ECHA dossier).

Endpoint: EC50 - Species: Algae > 0.13 mg/l - Duration h: 72h (Pseudokirchnerella subcapitata, ECHA dossier),

Endpoint: NOEC - Species: Algae > 0.013 mg/l (Pseudokirchnerella subcapitata, ECHA dossier),

tetraethyl silicate; ethyl silicate - CAS: 78-10-4

a) Aquatic acute toxicity:

Endpoint: EC50 - Species: Daphnia > 75 mg/l - Duration h: 48h (OECD 202, Daphnia magna, MSDS supplier).

Endpoint: EC50 - Species: Algae > 100 mg/l - Duration h: 72h (OECD 201, Pseudokirchnerella subcapitata, MSDS supplier).

Endpoint: LC50 - Species: Fish > 245 mg/l - Duration h: 96h (OECD 203, Brachydanio rerio, MSDS supplier).

Endpoint: NOEC - Species: Algae > 100 mg/l (OECD 201, Pseudokirchnerella subcapitata, MSDS supplier).

Endpoint: NOEC - Species: Daphnia > 75 mg/l (OECD 202, Daphnia magna, MSDS supplier).

Endpoint: NOEC - Species: Fish > 245 mg/l (OECD 203, Brachydanio rerio, MSDS supplier).

12.2. Persistence and degradability

Bis(neodecanoyloxy)dioctylstannane - CAS: 68299-15-0

Biodegradability: Non-readily biodegradable

Triethoxyoctylsilane - CAS: 2943-75-1

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Biodegradability: Non-readily biodegradable
dioctyltin dilaurate - CAS: 3648-18-8

Biodegradability: Non-readily biodegradable
tetraethyl silicate; ethyl silicate - CAS: 78-10-4

Biodegradability: Readily biodegradable

12.3. Bioaccumulative potential

tetraethyl silicate; ethyl silicate - CAS: 78-10-4

Test: BCF - Bioconcentration factor 3.16

Test: Kow - Partition coefficient 3.18

12.4. Mobility in soil

Not available

12.5. Results of PBT and vPvB assessment

vPvB Substances: None - PBT Substances: None

12.6. Endocrine disrupting properties

No endocrine disruptor substances present in concentration \geq 0.1%

12.7. Other adverse effects

None

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

SECTION 14: Transport information

14.1. UN number or ID number

Not classified as dangerous in the meaning of transport regulations.

14.2. UN proper shipping name

Not available

14.3. Transport hazard class(es)

Not available

14.4. Packing group

Not available

14.5. Environmental hazards

ADR-Environmental Pollutant: No

IMDG-Marine pollutant: No

14.6. Special precautions for user

Not available

14.7. Maritime transport in bulk according to IMO instruments

Not Applicable

SECTION 15: Regulatory information

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

Dir. 98/24/EC (Risks related to chemical agents at work)

Dir. 2000/39/EC (Occupational exposure limit values)

Regulation (EC) n. 1907/2006 (REACH)

Regulation (EC) n. 1272/2008 (CLP)

Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013

Regulation (EU) n. 2020/878

Regulation (EU) n. 286/2011 (ATP 2 CLP)

Regulation (EU) n. 618/2012 (ATP 3 CLP)

Regulation (EU) n. 487/2013 (ATP 4 CLP)

Regulation (EU) n. 944/2013 (ATP 5 CLP)

Regulation (EU) n. 605/2014 (ATP 6 CLP)

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Regulation (EU) n. 2015/1221 (ATP 7 CLP)
Regulation (EU) n. 2016/918 (ATP 8 CLP)
Regulation (EU) n. 2016/1179 (ATP 9 CLP)
Regulation (EU) n. 2017/776 (ATP 10 CLP)
Regulation (EU) n. 2018/669 (ATP 11 CLP)
Regulation (EU) n. 2018/1480 (ATP 13 CLP)
Regulation (EU) n. 2019/521 (ATP 12 CLP)
Regulation (EU) n. 2020/217 (ATP 14 CLP)
Regulation (EU) n. 2020/1182 (ATP 15 CLP)
Regulation (EU) n. 2021/643 (ATP 16 CLP)

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

Restrictions related to the product:

Restriction 3
Restriction 40

Restrictions related to the substances contained:

Restriction 20
Restriction 30
Restriction 75

SVHC Substances:

Substances in candidate list (Art. 59 Reg. 1907/2006, REACH):

dioctyltin dilaurate
Toxic to reproduction

Provisions related to directive EU 2012/18 (Seveso III):

Seveso III category according to Annex 1, part 1
None

WGK Classification (Water hazard class - Verwaltungsvorschrift wassergefährdende Stoffe)
WGK3 - Highly hazardous for water

Lagerklasse according to TRGS 510:

LGK 6.1C: Combustible substances of acute toxicity, category 3/hazardous substances that are toxic or produce chronic effects

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

Bis(neodecanoyloxy)dioctylstannane
dioctyltin dilaurate.

California Proposition 65

Substance(s) listed under California Proposition 65:
None.

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture.

Substances for which a Chemical Safety Assessment has been carried out:

Bis(neodecanoyloxy)dioctylstannane
Triethoxyoctylsilane
dioctyltin dilaurate
tetraethyl silicate; ethyl silicate

SECTION 16: Other information

Full text of phrases referred to in Section 3:

H360D May damage the unborn child.

H372 Causes damage to organs (immune system) through prolonged or repeated exposure.

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Hazard class and hazard category	Code	Description
Flam. Liq. 3	2.6/3	Flammable liquid, Category 3
Acute Tox. 4	3.1/4/Inhal	Acute toxicity (inhalation), Category 4
Skin Irrit. 2	3.2/2	Skin irritation, Category 2
Eye Irrit. 2	3.3/2	Eye irritation, Category 2
Repr. 1B	3.7/1B	Reproductive toxicity, Category 1B
STOT SE 2	3.8/2	Specific target organ toxicity - single exposure, Category 2
STOT SE 3	3.8/3	Specific target organ toxicity - single exposure, Category 3
STOT RE 1	3.9/1	Specific target organ toxicity - repeated exposure, Category 1
STOT RE 2	3.9/2	Specific target organ toxicity - repeated exposure, Category 2

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification according to Regulation (EC) Nr. 1272/2008	Classification procedure
Repr. 1B, H360D	Calculation method
STOT SE 2, H371	Calculation method
STOT RE 2, H373	Calculation method

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECHA – European Chemical Agency

GESTIS - Information system on hazardous substances of the German Social Accident Insurance

IARC – International Agency for Research on Cancer

IPCS INCHEM – International Programme on Chemical Safety

ISS – Istituto Superiore di Sanità

PubChem - open chemistry database at the National Institutes of Health (NIH)

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road.
ATE:	Acute Toxicity Estimate
ATEmix:	Acute toxicity Estimate (Mixtures)
CAS:	Chemical Abstracts Service (division of the American Chemical Society).
CLP:	Classification, Labeling, Packaging.
DNEL:	Derived No Effect Level.
EINECS:	European Inventory of Existing Commercial Chemical Substances.
GefStoffVO:	Ordinance on Hazardous Substances, Germany.
GHS:	Globally Harmonized System of Classification and Labeling of Chemicals.

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IATA:	International Air Transport Association.
IATA-DGR:	Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
ICAO:	International Civil Aviation Organization.
ICAO-TI:	Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG:	International Maritime Code for Dangerous Goods.
INCI:	International Nomenclature of Cosmetic Ingredients.
KSt:	Explosion coefficient.
LC50:	Lethal concentration, for 50 percent of test population.
LD50:	Lethal dose, for 50 percent of test population.
PNEC:	Predicted No Effect Concentration.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limiting Value.
TWA:	Time-weighted average
WGK:	German Water Hazard Class.