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

1.1 Product Identifier:

Trade Name: **BISICO Flüssighärter A (various packaging sizes)**

Commercial item number: **00810, 00811**

1.2 Relevant identified uses of the substance or mixture and uses that are discouraged:
No other relevant information available.

Use of the substance/mixture:
Hardener for C-silicones

1.3 Details of the supplier providing the safety data sheet:
Manufacturer/Supplier:
BISICO Bielefelder Dentalsilicone GmbH & Co. KG
Johanneswerkstraße 3
D-33611 Bielefeld
Phone: +49 521 8016800
Fax: +49 521 8016801
Email: info@Bisico.de

Enquiry area:
BISICO Bielefelder Dentalsilicone GmbH & Co. KG
Phone: +49 521 8016800 (8am-4:00pm)

1.4 Emergency number:
BISICO Bielefelder Dentalsilicone GmbH & Co. KG
S. Zimmermann
Phone: +49 521 8016800 (8am-4:00pm)

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

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

Classification	H-code
Specific target organ toxicity - single exposure, Category 3	H335
Specific target organ toxicity - repeated exposure, Category 1 (thymus)	H372
Long-term (chronic) aquatic toxicity, Category 4	H413
Serious eye damage/irritation, Category 2	H319
Acute toxicity, Category 4, inhalation / vapour	H332
Flammable liquids, Category 3	H226
Reproductive toxicity, Category 2	H361d

2.2 Identification elements

Marking according to Regulation (EC) No 1272/2008:

Pictogram(s):

Signal Word: Danger

H-Code	Warnings
H226	Flammable liquid and vapour.
H319	Causes severe eye irritation.
H332	Harmful if inhaled.
H335	May irritate the respiratory tract.
H361d	Can probably harm the child in the womb.
H372	Damages organs with prolonged or repeated exposure.
H413	May be harmful to aquatic organisms, with long-term effects.

P-Code	Sicherheitshinweise
P201	Vor Gebrauch besondere Anweisungen einholen.
P210	Von Hitze, heißen Oberflächen, Funken, offenen Flammen und anderen Zündquellen fernhalten. Nicht rauchen.
P233	Behälter dicht verschlossen halten.
P243	Maßnahmen gegen elektrostatische Entladungen treffen.
P260	Staub /Rauch/ Gas/ Nebel/ Dampf/ Aerosol nicht einatmen.
P273	Freisetzung in die Umwelt vermeiden.
P280	Schutzhandschuhe/Schutzkleidung/Augenschutz tragen.
P304 + P340	BEI EINATMEN: Die Person an die frische Luft bringen und für ungehinderte Atmung sorgen.
P312	Bei Unwohlsein GIFTINFORMATIONSZENTRUM/ Arzt anrufen.
P305 + P351 + P338	BEI KONTAKT MIT DEN AUGEN: Einige Minuten lang behutsam mit Wasser spülen. Eventuell vorhandene Kontaktlinsen nach Möglichkeit entfernen. Weiter spülen.
P405	Unter Verschluss aufbewahren.

P-Code	Safety instructions
P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Do not smoke.
P233	Keep container tightly closed.
P243.	Take precautionary measures against electrostatic discharge.
P260	Do not breathe dust / fume / gas / mist / vapour / aerosol.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	If you feel unwell, call a POISON CENTER/doctor.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove any contact lenses if possible. Continue rinsing.
P405	Keep locked up.

Hazardous ingredients (labelling):
Tetraethyl silicate
Silica (H4SiO4), tetraethyl ester, reaction products with bis(acetyloxy)dioctylstannan

The following percentage of the mixture consists of one component(s) with unknown risks to water: 35 %.

2.3 Other hazards

No information is available.

Endocrine disrupting properties - human health: The substance/mixture does not contain any constituents that have endocrine disrupting properties in amounts of 0.1% or more in accordance with REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605.
Endocrine-disrupting properties - Environment: The substance/mixture does not contain any constituents that have endocrine-disrupting properties in amounts of 0.1% or more in accordance with REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

not applicable

3.2 Mixtures

3.2.1 Chemical characterization

Organo-Tin Compound + Silica Ester

3.2.2 Hazardous Ingredients

Tetraethyl silicate			>60 % - <=70%
CAS No.: 78-10-4		EC-No.: 201-083-8	Index No.: 014-005-00-0
INHA	[1], [2]	REACH No.: 01-2119496195-28	
Classification according to Regulation (EC) No 1272/2008*		Flam. Liq. 3 / H226; Acute Tox. 4, inhaled / H332; Eye Irrit. 2 / H319; STOT SE 3 / H335	

Silica (H4SiO4), tetraethyl ester, reaction products with bis(acetyloxy)dioctylstannan			>=20 – <30%
CAS No.: 93925-43-0		EC-No.: 300-346-5	
INHA	[1]	REACH No.: 01-2120753666-44	
Classification according to Regulation (EC) No 1272/2008*		Aquatic Chronic 4 / H413; Flam. Liq. 3 / H226; Repr. 2/H361D; Eye Irrit. 2 / H319; Acute Tox. 4, oral/H302; STOT RE 1 / H372 (Thymus)	

Bis(neodecanoyloxy)dioctylstannan			>=5 – <6%
CAS No.: 68299-15-0		EC-No.: 269-595-4	
INHA	[1]		
Classification according to Regulation (EC) No 1272/2008*		Aquatic Chronic 4 / H413; STOT RE 2 / H373	

Type: INHA: Ingredient, VERU: Impurity

REACH-registered substances may be present as contaminants. As a rule, these do not lead to the indication of identified uses and exposure scenarios in the safety data sheet.

[1] = substance hazardous to health or the environment; [2] = substance subject to a Community limit value for occupational exposure; [3] = PBT fabric; [4] = vPvB substance; [5] = endocrine-disrupting properties

*Classification information is explained in Chapter 16.

This product does not contain substances of very high concern (REACH Regulation (EC) No 1907/2006, Article 57) above ≥ 0.1%.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General:
Bring people to safety. Observe the self-protection of the first aider. After exposure of pregnant women, consult a doctor.

After eye contact:
Rinse immediately for 10-15 minutes with plenty of water. Keep eyelids well open to rinse the entire surface of the eye, including the eyelids, with water. If irritation persists, seek medical advice.

After skin contact:
Remove the product mechanically with a cloth or paper. Take off soiled or soaked clothes. Wash off immediately with plenty of soap and water. In case of large quantities, immediately go under the emergency shower. In case of visible skin change or discomfort, seek medical advice (show label or SDS if possible).

After inhalation:
Store quietly. In case of unconsciousness, position in a stable lateral position. Protect from cooling. Consult a doctor and name the substance exactly.

If swallowed:
Drink plenty of water in small portions, but only if the person is conscious. Do not induce vomiting. Consult a doctor and name the substance exactly.

4.2 Main acute and delayed symptoms and effects

Relevant information can be found in other parts of this section.

4.3 Indications of immediate medical assistance or special treatment

After inhalation: Treat with cortisone spray as soon as possible. After exposure, specialist consultation (e.g. gynaecology/obstetrics or, if necessary, toxicology/human genetics) is recommended. Product may be toxic to reproduction (harmful to the fetus, or impairment of female or male reproductive function).

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing agents

Suitable extinguishing agents: alcohol-resistant foam, carbon dioxide, water mist, sprinkler system, sand, extinguishing powder.

Unsuitable extinguishing agent for safety reasons: water jet.

5.2 Specific hazards posed by the substance or mixture

In the event of a fire, dangerous fire gases or vapours may be produced. Exposure to combustion products can be a health hazard! Dangerous fire products: toxic and very toxic fumes.

5.3 Instructions for firefighting

Special protective equipment for firefighting:
Use an ambient air-independent respirator. Keep unprotected people away.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and procedures to be followed in case of emergencies area

Wear personal protective equipment (see section 8). Keep unprotected people away. Avoid contact with eyes and skin. Do not inhale gases/vapours/aerosols. If material has been released, there is a risk of slipping call attention. Do not walk through spilled material.

6.2 Environmental protection measures

Do not allow to get into water, sewage or soil. Close the leak if it is possible to do so without hazard.
Contain spilled liquid with suitable material (e.g. soil). Retain contaminated water/extinguishing water.
Disposal in properly labelled containers. In case of leakage into water, sewer or underground, notify the competent authority.

6.3 Methods and materials for retention and cleaning

Pick up mechanically and dispose of properly. Do not rinse away with water. For small quantities: Absorb with neutral (non-alkaline / non-acidic), liquid-binding material such as diatomaceous earth and dispose of properly. For large quantities: Liquids can be absorbed with suction devices or pumps. If flammable, use only air-operated or properly adjusted electrical appliances. Remove any remaining slippery coating with detergent / soap solution or other biodegradable cleaner. Silicone oils are slippery, so spills are a safety hazard. To improve grip, apply sand or other inert, granular material.

Additional Notes:
Extract vapours. Eliminate ignition sources. Pay attention to explosion protection. Please note the information under point 7.

6.4 Reference to Other Sections

Relevant information in other sections must be observed. This applies in particular to information on personal protective equipment (section 8) and disposal (section 13).

SECTION 7: HANDLING AND STORAGE

7.1 Protective measures for safe handling

General:
Avoid exposure through technical measures or personal protective equipment.

Notes on safe handling:
Ensure good room and workplace ventilation. Extraction required on the object. Spilled substance causes an increased risk of slipping. Avoid aerosol formation. In the event of aerosol formation, special protective measures (suction, respiratory protection) are required. Refer to the information in section 8. Keep away from incompatible substances in accordance with point 10.

Notes on fire and explosion protection:
Vapors can form mixtures with air in enclosed spaces, which lead to an explosion in the presence of ignition sources, even in empty, uncleaned containers. Keep away from sources of ignition and do not smoke. Take measures against electrostatic charge. Cool vulnerable containers with water.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and Containers: Observe local official regulations

Storage Notes: Observe local official regulations

Further information on storage conditions:
Store in a cool, dry place. Protect from moisture. Store container in a well-ventilated place.

Storage class (TRGS 510): 3

7.3 Specific end uses:
No information is available.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Parameters to be monitored

Air limit values at the workplace (TRGS 900):

Fabric	Type	mg/m³	Ppm	Dust fractured.	Fibers/m³
Tetraethyl silicate	AGW	12,0	1,4		
Tetraethyl silicate	EU	44,0	5,0		
Tin Compounds (Organic)	AGW	0,009	0,0018		
Ethanol	AGW	380,0	200,0		
Aerosol - inhalable fraction		10,0			
Ethyl acetate	AGW	730,0	200,0		
Ethyl acetate	EU	734,0	200,0		

-
Tetraethyl silicate: exceedance factor 1(I); Note AGS (as of May 2010).
n-butyltin compounds: exceedance factor 1 (I); Remarks H, 10, 11, AGS and Z (di- and tri-n-butyl) and Y (mono- and tetra-n-butyl-).
Ethanol: exceedance factor 4(II); Notes DFG and Y (= there is no need to fear a risk of fruit damage if the occupational exposure limit value and the biological limit value (BGW) are observed) (as of June 2018).
The specified aerosol limit value is a recommendation for aerosol formation in the processing process.
Ethyl acetate: exceedance factor 2(I); Notes DFG and Y (= there is no need to fear a risk of fetal damage if the occupational exposure limit and the biological limit value (BGW) are observed) (as of January 2006).

Derived No-Effect Level (DNEL):

Tetraethyl silicate

Scope of application:	Value:
Worker; dermal; systemic (acute)	12.1 mg/kg/day
Worker; dermal; systemic (long-term)	12.1 mg/kg/day
Worker; inhalation; systemic (acute)	85 mg/m³
Worker; inhalation; local (acute)	85 mg/m³
Worker; inhalation; systemic (long-term)	85 mg/m³
Worker; inhalation; local (long-term)	85 mg/m³
Consumer; dermal; systemic (acute)	8.4 mg/kg/day
Consumer; dermal; systemic (long-term)	8.4 mg/kg/day
Consumer; inhalation; systemic (acute)	25 mg/m³
Consumer; inhalation; local (acute)	25 mg/m³
Consumer; inhalation; systemic (long-term)	25 mg/m³
Consumer; inhalation; local (long-term)	25 mg/m³

Predicted No Effect Concentration (PNEC):

Tetraethyl silicate

Scope of application:	Value:
Fresh water	0.192 mg/l This value was determined for the following hydrolysis product: Ethanol
Seawater	0.0192 mg/l This value was determined for the following hydrolysis product: Ethanol
Sediment (fresh water)	0.18 mg/kg wet weight This value was determined for the following hydrolysis product: Ethanol
Sediment (seawater)	0.018 mg/kg wet weight This value was determined for the following hydrolysis product: Ethanol
Soil	0.05 mg/kg wet weight This value was determined for the following hydrolysis product: Ethanol
Purification plant	4000 mg/l This value was determined for the following hydrolysis product: Ethanol
Intermittent Introduction	10 mg/l This value was determined for the following hydrolysis product: Ethanol

8.2 Exposure limitation and monitoring

8.2.1 Limitation and monitoring of occupational exposure

General protection and hygiene measures:
Avoid exposure - seek special instructions before use. Avoid exposure in pregnant women at all costs. Avoid contact with eyes and skin. Do not inhale gases/vapours/aerosols. Use with adequate ventilation. Preventive skin protection is recommended. Remove soiled, soaked clothes immediately. Clean work areas regularly. Wash your hands at the end of work and before eating. Showers and eye showers are provided. Store work clothes separately. Do not eat, drink, smoke at work. Keep away from food, beverages and feed.

Additional information on the design of technical systems
Refer to the information in section 7. Comply with national government regulations.

Personal Protective Equipment:

Respiratory
If inhalation exposure above the occupational exposure limit cannot be excluded, appropriate respiratory protective equipment shall be used. Suitable respirator: Respirator with full face mask, in accordance with recognized standards such as EN 136.
Recommended filter type: ABEK gas filter (certain inorganic, organic and acidic gases and vapours; ammonia/amines), in accordance with recognised standards such as EN 14387

In case of exposure by spray mist or aerosol, wear suitable respirators and protective clothing. Suitable respirator: Respirator with full face mask, in accordance with recognized standards such as EN 136.
Recommended filter type: ABEK-P2 combination filter (certain inorganic, organic and acidic gases and vapours; ammonia/amines; particles), in accordance with recognised standards such as EN 14387

In case of prolonged or heavy exposure, respirators should be used. Suitable respirator: Ambient air-independent respirator, in accordance with recognized standards such as EN 137.

The wearing time limit for respiratory protection as well as instructions from the device manufacturer must be observed.

Eye protection
Tight-fitting safety goggles, in accordance with recognized standards such as EN 166.

Guard
Protective gloves must be worn at all times when handling the product, in accordance with recognised standards such as EN374.

Recommended glove material: Protective gloves made of nitrile rubber
Material thickness: > 0.4 mm
Breakthrough time: > 480 min

Recommended glove material: Protective gloves made of butyl rubber
Material thickness: > 0.3 mm
Breaktime: > 480 min

Please refer to the information provided by the glove supplier regarding permeability and breakthrough time. Also consider the specific, local conditions under which the product will be used, such as risk of cuts, abrasion and contact time. It should be noted that the daily service life of a chemical protective glove can be significantly shorter in practice than the permeation time determined by tests due to the many influencing factors (e.g. temperature).

Body armor
In case of open handling, chemical protective clothing, in accordance with recognized standards such as EN 13034, possibly liquid-tight full protective suit required, in accordance with recognized standards such as EN 14605. Please note the supplier's information regarding permeability.

8.2.2 Limitation and monitoring of environmental exposure
Do not allow to get into water, sewage or soil. Local wastewater regulations for organotin and tin compounds must be observed. Do not introduce larger quantities into sewage treatment plants.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Apperance:	**Value:**	**Method:**
Physical state	.	
Colour	: yellowish	
Odour	: faint	
Odour threshold	: no data available	
Melting point	: not applicable	
Boiling point/boiling range	: > 100 °C at 1013 hPa	
Lower explosion limit	: 1,3 Vol-%	
Upper explosion limit	: 23 Vol-%	
Flash point	: 34 °C	(DIN 51755)
Ignition temperature	: 215 °C	(DIN 51794)
Thermal decomposition	: no data available	
pH	: Not applicable. Insoluble in water.	
Viscosity, kinematic	: 1.6 mm²/s at 25 °C (DIN 51562)	

Water solubility ..... : practically insoluble
Partition coefficient: n-octanol/water..... : not applicable
Vapour pressure ..... : 12.5 hPa at 20 °C
Density ..... : 1.02 g/cm³ (23 °C) (not specified)
Relative density ..... : no data available
Particle size distribution ..... : Not applicable.

9.2 Other particulars
Hydrolysis products lower the flash point.

Feature:	**Value:**	**Method:**
Evaporation velocity	: no data available	
Molecular weight	: not applicable	

SECTION 10: STABILITY AND REACTIVITY

10.1 – 10.3 Reactivity; Chemical stability; Possibility of dangerous reactions
10.210.3
No known dangerous reactions when stored and handled properly.
Relevant information may be provided in other parts of this section.

10.4 Conditions to avoid
Moisture, heat, open flames and other sources of ignition.

10.5 Incompatible materials
Reacts with water, alkaline substances and acids. The reaction occurs with the formation of alcohols.

10.6 Hazardous Decomposition Products
In case of proper storage and handling: none known. Alcohols by humidity, water and protic agents.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on hazard classes within the meaning of Regulation (EC) No 1272/2008
11.1.1 Acute Toxicity

Assessment:
No toxicological test data are available for the entire product for this endpoint.

Acute Toxicity Estimate (ATE):
ATE_{mix} (Oral): > 2000 mg/kg
ATEmix (inhalative / vapour): 10.3 mg/l/4 h

11.1.2 Corrosive/irritating effect on the skin
Assessment:
No toxicological test data are available for the entire product for this endpoint.

11.1.3 Severe eye damage/irritation
Assessment:

No toxicological test data are available for the entire product for this endpoint.

11.1.4 Respiratory/skin sensitization
Assessment:

No toxicological test data are available for the entire product for this endpoint.

11.1.5 Germ cell mutagenicity
Assessment:
No toxicological test data are available for the entire product for this endpoint.

11.1.6 Carcinogenicity
Assessment:
No toxicological test data are available for the entire product for this endpoint.

11.1.7 Reproductive toxicity
Assessment:
No toxicological test data are available for the entire product for this endpoint.

11.1.8 Specific Target Organ Toxicity - Single Exposure
Assessment:
No toxicological test data are available for the entire product for this endpoint.

11.1.9 Specific Target Organ Toxicity - Repeated Exposure
Assessment:
No toxicological test data are available for the entire product for this endpoint.

11.1.10 Danger of aspiration
Assessment:
No toxicological test data are available for the entire product for this endpoint.

11.2 Information on other hazards
11.2.1 Endocrine-disrupting properties
The substance/mixture does not contain any constituents that have endocrine disrupting properties in amounts of 0.1 % or more in accordance with REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605.

11.2.2 Additional toxicological indications
None known.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity
Assessment:
No data known.

12.2 Persistence and degradability
Assessment:
Reacts with water to form ethanol and silica.

12.3 Bioaccumulation potential
Grant:
No data known.

12.4 Mobility in the ground
Assessment:
No data known.

12.5 Results of PBT and vPvB assessment
No information is available.

12.6 Endocrine-disrupting properties
The substance/mixture does not contain any constituents that have endocrine disrupting properties in amounts of 0.1 % or more in accordance with REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605.

12.7 Other Adverse Effects
None known

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment process
13.1.1 Product
Recommendation:
Material that cannot be reused, processed or recycled should be disposed of in an approved facility in accordance with national, state and local regulations. Depending on the regulations, waste treatment methods may include, for example, landfilling in a landfill or incineration.

13.1.2 Uncleaned Packaging
Recommendation:
Packaging must be completely emptied (drip-free, free-flowing, filler-clean). Packaging must be preferably reused or recycled, in compliance with the applicable local/national regulations. Packaging that cannot be cleaned must be disposed of in the same way as the substance.

13.1.3 Waste code number (EC)
It is not possible to define a waste code number for this product in accordance with the European Waste Catalogue (AVV), as only the intended use by the consumer allows an assignment. The waste code number must be determined within the EU in consultation with the disposal company.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number or ID number

ADR ..... : UN1292
RID ..... : UN1292
IMDG ..... : UN1292
ICAO/IATA ..... : UN1292

14.2 Proper UN Shipment Designation

ADR ..... : Tetraethyl silicate, solution
RID ..... : Tetraethyl silicate, solution
IMDG ..... : Tetraethyl silicate solution
ICAO/IATA ..... : Tetraethyl silicate solution

14.3 Transport hazard classes

ADR ..... : 3
(Limited quantity (LQ): 5 L)
RID ..... : 3
IMDG ..... : 3
ICAO/IATA ..... : 3

14.4 Packaging group

ADR ..... : III
RID ..... : III
IMDG ..... : III
ICAO/IATA ..... : III

14.5 Environmental hazards
Hazardous to the environment: no

Marine Pollutant (IMDG): no

14.6 Special precautions for the user
Relevant information in other sections must be observed.

14.7 Carriage of bulk cargo by sea in accordance with IMO instruments
No bulk cargo transport in tankers is intended.

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/specific legislation for the substance or mixture
National and local regulations must be observed.
Information on labelling can be found in Chapter 2 of this document.

Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances (Seveso III):

Listing in Policy	Running number in the list	Quantity threshold 1	Quantity threshold 2
FLAMMABLE LIQUIDS	P5c	5,000 t	50,000 t

Notes on employment restrictions:
Observe employment restrictions for young people in accordance with § 22 JArbSchG.

Observe employment restrictions for expectant and breastfeeding mothers in accordance with §§ 11 and 12 MuSchG.

Technical instructions for keeping the air clean:

Fabric	Salary [%]	Number / Class	Remark
Organic matter	74,40	5.2.5 / without	
Silica (H4SiO4), tetraethyl ester, reaction products with bis(acetyloxy)dioctylstannan	26,41	5.2.5 / I	

Water hazard class:
Highly hazardous to water (classification according to AwSV, Annex 1 (5.2))

Other Regulations, Restrictions and Prohibitions:

Chemicals Prohibition Ordinance (ChemVerbotsV): This product is subject to the Chemicals Prohibition Ordinance when placed on the market in Germany.

REACh Annex XVII: This product contains dioctyltin compounds above 0.1% by weight. Annex XVII, entry 20 to Regulation 1907/2006, as amended, must be taken into account.

Regulation (EC) No 649/2012 of the European Parliament and of the Council on the export and import of hazardous chemicals:
Prohibited and/or restricted

Regulation (EU) 2019/1148 on the marketing and use of explosives precursors - ANNEX I. RESTRICTED EXPLOSIVES PRECURSORS: Not applicable

Regulation (EU) No 2019/1148 on the marketing and use of explosives precursors - ANNEX II.
NOTIFIABLE EXPLOSIVES PRECURSORS: Not applicable

International Registration Status Information

If relevant information is available on individual substance inventories, these are listed below.

Japan ..... : **ENCS** (Handbook of Existing and New Chemical Substances):
This product is listed or in line with the fabric inventory.

Australia ..... : **AIIC** (Australian Inventory of Industrial Chemicals):
This product is listed or in line with the fabric inventory.

Canada ..... : **DSL** (Domestic Substance List):
This product is not listed or not in line with the fabric inventory.

Philippines..... : **PICCS** (Philippine Inventory of Chemicals and Chemical Substances):
This product is not listed or not in line with the fabric inventory.

Taiwan ..... : **TCSI** (Taiwan Chemical Substance Inventory):
This product is listed or in line with the fabric inventory. General Note: Chemicals legislation in Taiwan requires Phase 1 registration for TCSI-listed or TCSI-compliant substances if the quantity threshold of 100 kg/year is exceeded when imported into or manufactured in Taiwan (for mixtures, this is to be calculated for each ingredient). The responsibility for this lies with the importer or manufacturer.

European Economic Area (EEA) ..... : **REACH** (Regulation (EC) No 1907/2006):
General note: Registration obligations arising from manufacturing in the EEA or importing into the EEA by the supplier referred to in

Section 1 will be fulfilled by the supplier. Registration obligations arising from imports into the EEA by customers or other downstream users are to be fulfilled by them.

South Korea (Republic of Korea) ..... : **AREC** (Law on the Registration and Evaluation of Chemicals; "K-REACH"): Please contact your regular contact person, for more information.

15.2 Chemical safety assessment

No chemical safety assessment has been carried out for this product in accordance with Regulation (EC) 1907/2006 (REACH).

SECTION 16: OTHER INFORMATION

Changes compared with the previous version: 11.1.1 Acute toxicity estimate

16.1 Product

The information is based on the current state of knowledge and experience. The
Information in the safety data sheet does not have the significance of property assurances.

16.2 Additional Notes:

Commas in numerical indications denote the decimal point. Vertical lines on the left edge indicate changes from the previous version. This version replaces all previous ones.

Key or legend for abbreviations and acronyms used in the safety data sheet

ABEK - multi-range filters A, B, E, K; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AGS - Committee on Hazardous Substances; OELW - occupational exposure limit; APF - Assigned Protection Factor; AwSV

- Ordinance on Installations for the Handling of Substances Hazardous to Water; CAS No. - Chemical Abstracts Service Registry Number; ChemVerbotsV - Ordinance on Prohibitions and Restrictions on the Marketing and on the Supply of Certain Substances, Mixtures and Products under the Chemicals Act; DFG - German Research Foundation; DIN - German Institute for Standardization; DOC - dissolved organic carbon; d/w - days per week; EC / CE / EC - European Community; EC50 / CE50 - medium effective concentration; ECHA - European Chemicals Agency; ED - endocrine Disruptor; EC Directive - Test method according to Regulation 440/2008; EN - European Standard; ERC - Environmental Release Category; g/cm³
- grams per cubic centimeter; h - hour(s); H-Code - Coding Hazard Statements; hPa - hectopascals; IATA Regs - IATA Dangerous Goods Regulations for the Transport of Dangerous Goods by Air; IBC - International Code for the Construction and

Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 / CI50 - medium inhibitory concentration; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IMDG Code - Regulations for the Carriage of Dangerous Goods by Sea; ISO - International Organization for Standardization; JArbSchG - Law for the Protection of Working Youth; LC50 / CL50 - medium lethal concentration; LD50 / DL50 - medium lethal dose; LOAEC - Lowest Observed Adverse Effect Concentration; LOAEL - Lowest Observed Adverse Effect Level; MARPOL - International Convention for the Prevention of Marine Pollution from Ships; mg/g - milligrams per gram; mg/kg - milligrams per kilogram; mg/l - milligrams per liter; mg/m³ - milligrams per cubic meter; min - minutes; mJ - millijoules; mm - mm; mm²/s -

square millimeters per second; mPa.s - millipascalseconds; MSDS / SDB / SDS - Safety Data Sheet; MuSchG - Act on the

protection of mothers at work, in education and study; No Observed Adverse Effect Concentration; NOAEL - No Observed adverse effect level; NOEC - No Observed Effect Concentration; NOEL - No Observed Effect Level; OECD - Organization for Economic Cooperation and Development; PBT - persistent, bioaccumulative, toxic; PC - Product Category; PCode - Encoding Safety Instructions; ppm - parts per million; PROC - Process Category; RCP - reciprocal calculation-based procedure; RID - Regulations on the International Carriage of Dangerous Goods by Rail; SU - area of use; SVHC - substance of very high concern; TRGS - Technical Rule for Hazardous Substances; Vol% - percent by volume; UN No. - United Nations Dangerous Goods Number; vPvB - very persistent, very bioaccumulative

Explanation of GHS classification information:

Flam. Liq. 3; H226 ..... :	Flammable liquids category 3; Flammable liquid and vapour.
Acute Tox. 4; H332 .... :	Acute toxicity category 4; Harmful if inhaled.
Eye Irrit. 2; H319 ..... :	Severe eye damage/irritation category 2; Causes severe eye irritation.
STOT SE 3; H335 ..... :	Specific target organ toxicity - single exposure category 3; May irritate the respiratory tract.
Aquatic Chronic 4; H413	: Long-term (chronic) water hazard category 4; May be harmful to aquatic organisms, with long-term effects.
Flam. Liq. 3; H226 ..... :	Flammable liquids category 3; Flammable liquid and vapour.
Repr. 2; H361d ..... :	reproductive toxicity category 2; Can probably harm the child in the womb.
Eye Irrit. 2; H319 ..... :	Severe eye damage/irritation category 2; Causes severe eye irritation.
Acute Tox. 4; H302 .... :	Acute toxicity category 4; Harmful if swallowed.
STOT RE 1; H372 ..... :	Specific target organ toxicity - repeated exposure category 1; Damages organs with prolonged or repeated exposure.
Aquatic Chronic 4; H413	: Long-term (chronic) water hazard category 4; May be harmful to aquatic organisms, with long-term effects.
STOT RE 2; H373 ..... :	Specific target organ toxicity - repeated exposure category 2; May damage organs with prolonged or repeated exposure.

Classification	Justification:
Specific target organ toxicity - single exposure, category 3	Calculation method
Specific target organ toxicity - repeated exposure, Category 1	Calculation method
Long-term (chronic) aquatic toxicity, Category 4	Calculation method
Serious eye damage/irritation, Category 2	Calculation method
Acute toxicity, category 4, inhalation / vapour	Calculation method
Flammable liquids, Category 3	Based on test data.
Reproductive toxicity, Category 2	Calculation method

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