

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH) Article 31, Annex II as amended.

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

1.1 Product identifier:

Product name: Dirko™ HT Black 70ml

Product No.: 006.553

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

Identified uses: Used for making joints, sealing and gluing.

Uses advised against: None known.

1.3 Details of the supplier of the safety data sheet:

Supplier:

ElringKlinger AG
Max-Eyth-Str. 2
72581 Dettingen/Erms
Germany

E-mail: det.iam.sdb@elringklinger.com

1.4 Emergency telephone number: Giftinformationszentrum (GIZ-Nord) Zentrum Pharmakologie und Toxikologie der Universität Göttingen, Robert-Koch Strasse 40, 37075 Göttingen: +(49)-551-19240 (German/English)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture:

The product has been classified according to the legislation in force.

Classification according to Regulation (EC) No 1272/2008 as amended.

Health Hazards:

Specific Target Organ Toxicity - Repeated Exposure	Category 1	H372: Causes damage to organs through prolonged or repeated exposure.
---	------------	--

2.2 Label Elements:

Supplemental label information:

EUH210: Safety data sheet available on request.
EUH208: Contains (3-aminopropyltriethoxysilane). May produce an allergic
reaction.

2.3 Other hazards:

Physical Hazards:

In presence of water or moist air, the product hydrolyses to form hazardous
substance(s). For further information, refer to section 10: "Stability and
Reactivity".

Health Hazards:

Inhalation:

Quartz/cristobalite : When encapsulated in a polymer, is not expected to pose a health hazard when processed under normal conditions of use. Although classified according to EC criteria, this product is exempt from labelling according to article 23 and Annex 1 (section 1.3.4.1) of regulation (CE) n°1272/2008.

Eye contact:

No specific symptoms noted.

Skin Contact:

The product contains a small amount of sensitizing substance which may provoke an allergic reaction among sensitive individuals in contact with skin.

Ingestion:

No specific symptoms noted.

Other Health Effects:

No other information noted.

Environmental Hazards:

No hazard identified as the maximum bioavailable concentration of Octamethylcyclotetrasiloxane (D4) is lower than the classification cut-off value (see Section 12 of this SDS).

Results of PBT and vPvB assessment:

This substance/mixture contains components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB).

Endocrine Disruption - Health:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Endocrine Disruption - Environment:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Other hazards:

No other information noted.

Substance(s) formed under the conditions of use:

Chemical name	Concentration*	CAS-No.	EC No.	Classification
2-Pentanone, oxime	<=5%	623-40-5	-	Acute Tox. 4 H302; Eye Irrit. 2 H319; STOT RE 2 H373; Aquatic Chronic 3 H412;
Ethanol	<=1%	64-17-5	200-578-6	Flam. Liq. 2 H225; Eye Dam. 2 H319;

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

The full text for all H-statements is displayed in section 16.

SECTION 3: Composition/information on ingredients

3.2 Mixtures:

General information:

Mixture of polydimethylsiloxanes, silica and curing agents.

Hazardous Component(s):

Chemical name	Concentration*	Type	CAS-No.	EC No.	REACH Registration No.	Notes

Quartz (SiO ₂)	20 - <50%	Component	14808-60-7	238-878-4	Exempt	#
2-Pentanone, O,O',O"- (ethenylsilylidyne)trioxime	1 - <5%	Component	58190-62-8	-	01-2120006148- 66-XXXX	
2-Pentandione, O,O',O"- (methylsilylidyne)trioxime	1 - <5%	Component	37859-55-5	484-460-1	01-2120004323- 76-XXXX	
3-aminopropyltriethoxysilane	0,1 - <1%	Component	919-30-2	213-048-4	01-2119480479- 24-XXXX	
octamethylcyclotetrasiloxane; [D4]	0,01 - <0,079%	Impurities	556-67-2	209-136-7	Not relevant.	# ## PBT, vPvB

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

This substance has workplace exposure limit(s).

This substance is listed as SVHC.

PBT: persistent, bioaccumulative and toxic substance.

vPvB: very persistent and very bioaccumulative substance.

ED: Endocrine Disruptor

Classification:

Chemical name	Classification	Specific concentration limit: / ATE / M-Factor:	Notes
Quartz (SiO ₂)	STOT RE 1 H372;		
2-Pentanone, O,O',O"- (ethenylsilylidyne)trioxime	Acute Tox. 4 H302; Eye Irrit. 2 H319;		
2-Pentandione, O,O',O"- (methylsilylidyne)trioxime	Acute Tox. 4 H302; Eye Irrit. 2 H319;		
3-aminopropyltriethoxysilane	Acute Tox. 4 H302; Skin Corr. 1B H314; Skin Sens. 1 H317;		
octamethylcyclotetrasiloxane; [D4]	Flam. Liq. 3 H226; Repr. 2 H361f; Aquatic Chronic 1 H410;	Aquatic Toxicity (Chronic): 10	

The full text for all H-statements is displayed in section 16.

SECTION 4: First aid measures

General information:

Move into fresh air and keep at rest. Take off contaminated clothing and wash it before reuse. Get medical attention if symptoms occur.

4.1 Description of first aid measures:

Inhalation:

Under normal conditions of intended use, this material is not expected to be an inhalation hazard. In case of inhalation: Move person into fresh air and keep at rest. Get medical attention if symptoms occur.

Skin Contact:

Remove contaminated clothing and shoes. Wash skin with soap and water. Get medical attention if symptoms occur. Wash contaminated clothing before reuse.

Eye contact:

In the event of contact with the eyes, rinse thoroughly with clean water for at least 15 minutes. Get medical attention if symptoms occur.

Ingestion:

Do not induce vomiting. Rinse mouth thoroughly with water. Get medical attention if symptoms occur.

Personal Protection for First-aid Responders:

First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). Refer to sections 5 and 8 for information on emergency procedures and protective equipment.



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

Any important symptoms and effects are described in Section 11 (Toxicological information) of this SDS.

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

Notes to the physician:

No specific recommendations.

Show this Safety Data Sheet to the attending physician.

SECTION 5: Firefighting measures

5.1 Extinguishing media:

Suitable extinguishing media:

Water spray, foam, dry powder or carbon dioxide.

Unsuitable extinguishing media:

Do not use water jet as an extinguisher, as this will spread the fire. For further information, refer to section 10: "Stability and Reactivity".

5.2 Special hazards arising from the substance or mixture:

Product will burn under fire conditions. Thermal decomposition or combustion may liberate carbon oxides, silicon oxides and other toxic gases or vapors.

5.3 Advice for firefighters:

Special fire fighting procedures:

Use standard firefighting procedures and consider the hazards of other involved materials. Remove undamaged containers from fire area if it is safe to do so. Evacuate to a safe location and contact the emergency services.

Water spray should be used to cool containers.

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Special protective equipment for fire-fighters:

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

Use personal protective equipment. See Section 8 of the SDS for Personal Protective Equipment.

6.2 Environmental Precautions:

Collect spillage. Do not discharge into drains, water courses or onto the ground.

6.3 Methods and material for containment and cleaning up:

Containers with collected spillage must be properly labelled with correct contents and hazard symbol.

Container must be kept tightly closed. Absorb with sand or other inert absorbent. To clean the floor and all objects contaminated by this material, use an appropriate solvent (see § 9). Flush area with plenty of water.

Incinerate in suitable combustion chamber.

6.4 Reference to other sections:

Caution: Contaminated surfaces may be slippery. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage



7.1 Precautions for safe handling:

Precautions:

Avoid inhalation of vapors/aerosols/dusts and contact with skin and eyes. Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded. If ventilation is insufficient, suitable respiratory protection must be provided. See Section 8 of the SDS for Personal Protective Equipment. Provide eyewash station and safety shower and ensure that their location are labelled conspicuously. Limit the quantities of product in the work area to those which are necessary for the work in hand. Handle in accordance with good industrial hygiene and safety practices. Handle and open container with care. Protect from contamination. Do not mix with incompatible materials. For further information, refer to section 10: "Stability and Reactivity". Take care to prevent spills, waste and minimize release to the environment. In case of spills, beware of slippery floors and surfaces.

Hygiene measures:

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

7.2 Conditions for safe storage, including any incompatibilities:

Store in accordance with local/regional/national regulations. Avoid discharge into drains, water courses or onto the ground. Provide impermeable soil. Store in a dry place. Store in a well-ventilated place. Keep container tightly closed. Keep in properly labelled containers. Keep above the chemical's freezing point. Protect against physical damage and/or friction. Store away from incompatible materials. For further information, refer to section 10: "Stability and Reactivity".

7.3 Specific end use(s):

No specific recommendations. See the technical data sheet on this product for further information.

SECTION 8: Exposure controls/personal protection

8.1 Control Parameters:

Occupational Exposure Limits:

Fillers: When encapsulated in a polymer, is not expected to pose a health hazard when processed under normal conditions of use.

Additional exposure limits under the conditions of use:

ethanol

Type	Exposure Limit Values	Source	Date	Remarks
TWA	1 000 ppm 1 920 mg/m3	EH40 WEL	2007	

Monitoring methods:

Ensure workers' exposure monitoring in accordance with national and European regulations in force, in particular Directives 98/24/EC and 2004/37/EC.

8.2 Exposure controls:

Appropriate Engineering Controls:

Use engineering controls to reduce air contamination to permissible exposure level. The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Engineering controls are always preferable to personal protective equipment. Control measures to consider: Provide adequate ventilation. In case of inadequate ventilation: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station and safety shower.

Individual protection measures, such as personal protective equipment:

Avoid inhalation of vapors/aerosols/dusts and contact with skin and eyes. Personal protective equipment should be chosen according to applicable standards, adapted to the conditions of use of the product and in discussion with the supplier of the personal protective equipment.

Eye/face protection:

Safety glasses with side shields

Hand Protection:

This recommendation is valid only for the product named in this safety data sheet supplied by us, and only for the indicated intended use purposes. In case this product will be mixed with other substances, you need to contact a supplier of CE approved protective gloves in order to determine the appropriate gloves.

Prolonged or repeated contact:

Material: Nitrile.

Glove thickness: 1,25 mm

Guideline: EN374-3

Additional Information: Gloves

Short contact:

Material: Nitrile / Neoprene

Glove thickness: 0,198 mm

Guideline: EN374-3

Additional Information: Gloves

Skin and Body Protection:

Wear appropriate clothing to prevent any possibility of skin contact. Isolate contaminated clothing and wash before reuse. In case of splashes: Wear apron or special protective clothing.

Respiratory Protection:

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Use the following CE approved air-purifying respirator: Breathing apparatus with combined filter type ABEK. Wear respiratory protection with combination filter (dust and gas filter) during operations leading to the formation of dust/aerosols.

Environmental Controls:

See sections 7 and 13 of the Safety Data Sheet.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties:****Appearance:****Physical state:**

Solid

Form:

Paste

Color:

Black

Odor:

No data available.

pH:

No data available.

Melting point/freezing point:

No data available.

Boiling Point:

No data available.

Flash Point:

Not applicable

Flammability:

No data available.

Flammability Limit - Upper (%):

No data available.

Flammability Limit - Lower (%):

No data available.

Vapor pressure:

No data available.



Relative vapor density:	No data available.
Evaporation Rate:	No data available.
Density:	Approximate 1,19 kg/dm ³ (20 °C)
Solubility(ies):	
Solubility in Water:	Practically Insoluble
Solubility (other):	Acetone: Very slightly soluble Alcohol: Very slightly soluble Aliphatic hydrocarbons: Dispersible Aromatic hydrocarbons: Dispersible Chlorinated solvents: Dispersible
Partition coefficient (n-octanol/water):	No data available.
Self Ignition Temperature:	No data available.
Decomposition Temperature:	No data available.
Kinematic viscosity:	No data available.
Particle characteristics:	
Particle Size:	No data available.

9.2 Other information:

Oxidizing properties:	According to the data on the components Not considered as oxidizing. (evaluation by structure-activity relationship)
------------------------------	--

SECTION 10: Stability and reactivity

10.1 Reactivity:

Vulcanizes at room temperature on contact with moisture in the air. Reacts slowly on contact with water or humidity.

10.2 Chemical Stability:

Stable

10.3 Possibility of hazardous reactions:

During use or in contact with water, may generate hazardous substances.

10.4 Conditions to avoid:

Avoid contact with water or moist air. In presence of water or moist air, the product hydrolyses to form hazardous substance(s).

10.5 Incompatible Materials:

Strong oxidizing agents.

10.6 Hazardous Decomposition Products:

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors. Amorphous silica.

SECTION 11: Toxicological information

Information on likely routes of exposure:

Inhalation: No data available.

Ingestion: No data available.

Skin Contact: No data available.

Eye contact: No data available.

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

Acute toxicity:

Oral:

Not classified for acute toxicity based on available data.

Dermal:

Not classified for acute toxicity based on available data.

Inhalation:

Not classified for acute toxicity based on available data.

Repeated dose toxicity:

Based on our knowledge of the composition information:

2-PENTANONE, O,O',O''-(ETHENYLSILYLIDYNE)TRIOXIME (58190-62-8):

NOAEL: 18 mg/kg ; (Rat ; Female, Male ; Oral) ; Method: OECD 422 ; Subacute exposure. Results obtained on a similar product.

NOAEL: 13 mg/kg ; (Rat ; Female, Male ; Oral) ; Method: OECD 408 ; Subchronic exposure. Results obtained on a similar product.

2-PENTANDIONE, O,O',O''-(METHYLSILYLIDYNE)TRIOXIME (37859-55-5):

NOAEL: 17 mg/kg ; (Rat ; Female, Male ; Oral) ; Method: OECD 422 ; Subacute exposure. Results obtained on a similar product.

NOAEL: 13 mg/kg ; (Rat ; Female, Male ; Oral) ; Method: OECD 408 ; Subchronic exposure. Results obtained on a similar product.

3-AMINOPROPYLTRIETHOXYSILANE (919-30-2):

NOAEL: 200 mg/kg ; LOAEL: 600 mg/kg ; (Rat ; Female, Male ; Oral) ; Method: OECD 408 ; Subchronic exposure.

OCTAMETHYLCYCLOTETRASILOXANE; [D4] (556-67-2):

NOAEL: 1,82 mg/l ; LOAEL: 8,5 mg/l ; (Rat ; Female, Male ; Inhalation - vapour) ; Target Organ(s): Kidney ; Method: Similar to OECD 453 ; Chronic exposure.

NOAEL: 960 mg/kg ; (Rabbit ; Female, Male ; Dermal) ; No treatment-related adverse effects observed ; Method: Similar to OECD 410 ; Subacute exposure.

Skin Corrosion/Irritation:

Based on our knowledge of the composition information:

2-PENTANONE, O,O',O''-(ETHENYLSILYLIDYNE)TRIOXIME (58190-62-8):

Not irritating (Rabbit) ; Method: OECD 404 ; Results obtained on a similar product.

2-PENTANDIONE, O,O',O''-(METHYLSILYLIDYNE)TRIOXIME (37859-55-5):

Not irritating (Rabbit) ; Method: OECD 404

3-AMINOPROPYLTRIETHOXYSILANE (919-30-2):

Corrosive. (Rabbit ; 1 h) ; Method: OECD 404

OCTAMETHYLCYCLOTETRASILOXANE; [D4] (556-67-2):

An Expert Judgment stated that no classification is necessary based on present knowledge. Not irritating (Rabbit) ; Method: Similar to OECD 404

Serious Eye Damage/Eye Irritation:

Based on our knowledge of the composition information:

2-PENTANONE, O,O',O''-(ETHENYLSILYLIDYNE)TRIOXIME (58190-62-8):
Irritant. (Rabbit) ; Method: OECD 405 ; Results obtained on a similar product.

2-PENTANDIONE, O,O',O''-(METHYLSILYLIDYNE)TRIOXIME (37859-55-5):
Causes serious eye irritation. (Rabbit) ; Method: OECD 405 ; Results obtained on a similar product.

3-AMINOPROPYLTRIETHOXYSILANE (919-30-2):
Causes serious eye damage. (Rabbit) ; Method: OECD 405

OCTAMETHYLCYCLOTETRASILOXANE; [D4] (556-67-2):
An Expert Judgment stated that no classification is necessary based on present knowledge. Not irritating (Rabbit) ; Method: OECD 405

Respiratory or Skin Sensitization:

Based on our knowledge of the composition information:

2-PENTANONE, O,O',O''-(ETHENYLSILYLIDYNE)TRIOXIME (58190-62-8):
Skin sensitization: Not a skin sensitizer. (Guinea Pig) ; Method: OECD 406 ; Results obtained on a similar product.

2-PENTANDIONE, O,O',O''-(METHYLSILYLIDYNE)TRIOXIME (37859-55-5):
Skin sensitization: Not a skin sensitizer. (Guinea Pig) ; Method: OECD 406 ; Results obtained on a similar product.

3-AMINOPROPYLTRIETHOXYSILANE (919-30-2):
Skin sensitization: May cause an allergic skin reaction. (Guinea Pig) ; Method: OECD 406

OCTAMETHYLCYCLOTETRASILOXANE; [D4] (556-67-2):
Skin sensitization: Not a skin sensitizer. (Guinea Pig) ; Method: OECD 406

Germ Cell Mutagenicity:

In vitro: Based on our knowledge of the composition information:

2-PENTANONE, O,O',O''-(ETHENYLSILYLIDYNE)TRIOXIME (58190-62-8):
Bacterial reverse mutation test: No mutagenic effect. (Salmonella typhimurium and Escherichia coli ; with and without metabolic activation) ; Method: OECD 471
In vitro gene mutations test on mammalian cells: No mutagenic effect. (Mouse lymphoma cells ; with and without metabolic activation) ; Method: OECD 476 ; Results obtained on a similar product.
Chromosomal aberration: Positive with metabolic activation., Negative without metabolic activation. (Human lymphocytes ; with and without metabolic activation) ; Method: OECD 473 ; Results obtained on a similar product.

2-PENTANDIONE, O,O',O''-(METHYLSILYLIDYNE)TRIOXIME (37859-55-5):
Bacterial reverse mutation test: No mutagenic effect. (Salmonella typhimurium and Escherichia coli ; with and without metabolic activation) ; Method: OECD 471
Chromosomal aberration: Positive with metabolic activation., Negative without metabolic activation. (Human lymphocytes ; with and without metabolic activation) ; Method: OECD 473
In vitro gene mutations test on mammalian cells: No mutagenic effect. (Mouse lymphoma cells ; with and without metabolic activation) ; Method: OECD 476

3-AMINOPROPYLTRIETHOXYSILANE (919-30-2):
Bacteria: No mutagenic effect. (Salmonella typhimurium ; with and without metabolic activation) ; Method: OECD 471
Chromosomal aberration: No clastogenic effect. (Chinese hamster lung cells ; with and without metabolic activation) ; Method: OECD 473
In vitro gene mutations test on mammalian cells: No mutagenic effect. (Chinese hamster ovary cells ; with and without metabolic activation) ; Method: OECD 476

OCTAMETHYLCYCLOTETRASILOXANE; [D4] (556-67-2):

Bacterial reverse mutation test: No mutagenic effect. (Salmonella typhimurium ; with and without metabolic activation) ; Method: OECD 471

In vitro gene mutations test on mammalian cells: No mutagenic effect. (Mouse lymphoma cells ; with and without metabolic activation) ; Method: Similar to OECD 476

In vitro mammalian chromosomal aberration test: No clastogenic effect. (Chinese hamster ovary cells ; with and without metabolic activation) ; Method: Similar to OECD 473

In vivo: Based on our knowledge of the composition information:**2-PENTANONE, O,O',O''-(ETHENYLSILYLIDYNE)TRIOXIME (58190-62-8):**

Mammalian erythrocyte micronucleus test: negative (Rat ; Oral) ; Method: OECD 474 ; Results obtained on a similar product.

2-PENTANDIONE, O,O',O''-(METHYLSILYLIDYNE)TRIOXIME (37859-55-5):

Mammalian erythrocyte micronucleus test: negative (Rat ; Oral) ; Method: OECD 474

3-AMINOPROPYLTRIETHOXYSILANE (919-30-2):

Mammalian erythrocyte micronucleus test: No mutagenic effect. (Mouse ; Female, Male ; Intraperitoneal) ; Method: OECD 474

OCTAMETHYLCYCLOTETRASILOXANE; [D4] (556-67-2):

Mammalian bone marrow chromosomal aberration test: negative (Rat ; Female, Male ; Inhalation) ; Method: Similar to OECD 475

Rodent dominant Lethal test: negative (Rat ; Female, Male ; Gavage (Oral)) ; Method: Similar to OECD 478

Carcinogenicity:**Based on our knowledge of the composition information:****OCTAMETHYLCYCLOTETRASILOXANE; [D4] (556-67-2):**

Not classified

No effects expected. NOAEC: \geq 8,492 mg/l (Rat ; Female, Male ; Inhalation - vapor) ; Method: Similar to OECD 453 ; Chronic exposure.

Reproductive toxicity:**Fertility: Based on our knowledge of the composition information:****2-PENTANONE, O,O',O''-(ETHENYLSILYLIDYNE)TRIOXIME (58190-62-8):**

Not classified

Fertility study 1 generation: NOAEL (parent): $>$ 103 mg/kg ; NOAEL (F1): None. ; NOAEL (F2): None. (Rat ; Female, Male ; Ingestion) ; Method: OECD 415 ; Results obtained on a similar product.

NOAEL (parent): $>$ 45 mg/kg NOAEL (F1): None. ; NOAEL (F2): None. (Rat ; Female, Male ; Ingestion) ; Method: According to a standardised method. ; Results obtained on a similar product.

2-PENTANDIONE, O,O',O''-(METHYLSILYLIDYNE)TRIOXIME (37859-55-5):

Not classified

Fertility study 1 generation: NOAEL (parent): $>$ 99 mg/kg ; NOAEL (F1): None. ; NOAEL (F2): None. (Rat ; Female, Male ; Ingestion) ; Method: OECD 415 ; Results obtained on a similar product. The product is not considered to affect fertility.

NOAEL (parent): $>$ 43 mg/kg NOAEL (F1): None. ; NOAEL (F2): None. (Rat ; Female, Male ; Ingestion) ; Method: According to a standardised method. ; Results obtained on a similar product. The product is not considered to affect fertility.

OCTAMETHYLCYCLOTETRASILOXANE; [D4] (556-67-2):

Suspected of damaging fertility.

Fertility study 2 generations: NOAEL (parent): 3,64 mg/l ; NOAEL (F1): 3,64 mg/l ; NOAEL (F2): None. (Rat ; Female, Male ; Inhalation) ; Method: Similar to OECD 416 ; Effects on fertility

Teratogenicity: Based on our knowledge of the composition information:

2-PENTANONE, O,O',O''-(ETHENYLSILYLIDYNE)TRIOXIME (58190-62-8):

Not classified

NOAEL (terato): > 103 mg/kg ; NOAEL (mater): > 103 mg/kg (Rat ; Ingestion) ; Method: According to a standardised method. ; Results obtained on a similar product.

2-PENTANDIONE, O,O',O''-(METHYLSILYLIDYNE)TRIOXIME (37859-55-5):

Not classified

NOAEL (terato): > 99 mg/kg ; NOAEL (mater): > 99 mg/kg (Rat) ; Method: According to a standardised method. ; Results obtained on a similar product.

3-AMINOPROPYLTRIETHOXYSILANE (919-30-2):

NOAEL (terato): 100 mg/kg ; NOAEL (mater): 100 mg/kg (Rat ; Ingestion) ; Method: OECD 414 ; The product is not considered to be toxic for development.

OCTAMETHYLCYCLOTETRASILOXANE; [D4] (556-67-2):

NOAEL (terato): > 8,492 mg/l ; NOAEL (mater): 3,64 mg/l (Rat ; Inhalation - vapor) ; Method: Similar to OECD 414 ; The product is not considered to be toxic for development.

NOAEL (terato): > 6,066 mg/l ; NOAEL (mater): 3,64 mg/l (Rabbit ; Inhalation - vapor) ; Method: Similar to OECD 414 ; The product is not considered to be toxic for development.

Specific Target Organ Toxicity - Single Exposure:**Based on our knowledge of the composition information:****2-PENTANONE, O,O',O''-(ETHENYLSILYLIDYNE)TRIOXIME (58190-62-8):**

Based on available data, the classification criteria are not met.

2-PENTANDIONE, O,O',O''-(METHYLSILYLIDYNE)TRIOXIME (37859-55-5):

Based on available data, the classification criteria are not met.

3-AMINOPROPYLTRIETHOXYSILANE (919-30-2):

Based on available data, the classification criteria are not met.

OCTAMETHYLCYCLOTETRASILOXANE; [D4] (556-67-2):

Based on available data, the classification criteria are not met.

Specific Target Organ Toxicity - Repeated Exposure:**Based on our knowledge of the composition information: Causes damage to organs through prolonged or repeated exposure.****QUARTZ (SiO₂) (14808-60-7):**

Causes damage to organs through prolonged or repeated exposure if inhaled.

2-PENTANONE, O,O',O''-(ETHENYLSILYLIDYNE)TRIOXIME (58190-62-8):

Based on available data, the classification criteria are not met.

2-PENTANDIONE, O,O',O''-(METHYLSILYLIDYNE)TRIOXIME (37859-55-5):

Based on available data, the classification criteria are not met.

3-AMINOPROPYLTRIETHOXYSILANE (919-30-2):

Based on available data, the classification criteria are not met.

OCTAMETHYLCYCLOTETRASILOXANE; [D4] (556-67-2):

Based on available data, the classification criteria are not met.

Aspiration Hazard:**Based on our knowledge of the composition information:****2-PENTANONE, O,O',O''-(ETHENYLSILYLIDYNE)TRIOXIME (58190-62-8):**

Based on available data, the classification criteria are not met.



2-PENTANDIONE, O,O',O''-(METHYLSILYLIDYNE)TRIOXIME (37859-55-5):
Based on available data, the classification criteria are not met.

3-AMINOPROPYLTRIETHOXYSILANE (919-30-2):
Based on available data, the classification criteria are not met.

OCTAMETHYLCYCLOTETRASILOXANE; [D4] (556-67-2):
Based on available data, the classification criteria are not met.

11.2 Information on other hazards:

Endocrine disrupting properties:

No data available.

SECTION 12: Ecological information

General information:

The maximum concentration of Octamethylcyclotetrasiloxane (D4) leachable from the product is below the established no-effect threshold (<0.0079 mg/l) for aquatic organisms.

12.1 Toxicity:

Acute toxicity:

Fish: Based on our knowledge of the composition information:

2-PENTANONE, O,O',O''-(ETHENYLSILYLIDYNE)TRIOXIME (58190-62-8):
LC 50 (Oncorhynchus mykiss; 96 h) : > 117 mg/l ; Method: OECD 203 ; Results obtained on a similar product.

2-PENTANDIONE, O,O',O''-(METHYLSILYLIDYNE)TRIOXIME (37859-55-5):
LC 50 (Oncorhynchus mykiss; 96 h) : > 113 mg/l ; Method: OECD 203 ; Results obtained on a similar product.

3-AMINOPROPYLTRIETHOXYSILANE (919-30-2):
LC 50 (Danio rerio; 96 h ; semi-static) : > 934 mg/l ; Method: OECD 203

OCTAMETHYLCYCLOTETRASILOXANE; [D4] (556-67-2):
LC 50 (Oncorhynchus mykiss; 96 h ; Flow through) : > 0,022 mg/l ; Method: According to a standardised method.

Aquatic Invertebrates: Based on our knowledge of the composition information:

2-PENTANONE, O,O',O''-(ETHENYLSILYLIDYNE)TRIOXIME (58190-62-8):
EC 50 (Water flea (Daphnia magna); 48 h) : > 117 mg/l ; Method: OECD 202 ; Results obtained on a similar product.

2-PENTANDIONE, O,O',O''-(METHYLSILYLIDYNE)TRIOXIME (37859-55-5):
EC 50 (Water flea (Daphnia magna); 48 h) : > 113 mg/l ; Method: OECD 202 ; Results obtained on a similar product.

3-AMINOPROPYLTRIETHOXYSILANE (919-30-2):
EC 50 (Water flea (Daphnia magna); 48 h ; Static) : 331 mg/l

OCTAMETHYLCYCLOTETRASILOXANE; [D4] (556-67-2):
EC 50 (Water flea (Daphnia magna); 48 h ; Flow through) : > 0,015 mg/l ; Method: According to a standardised method.

Aquatic plants: Based on our knowledge of the composition information:

2-PENTANONE, O,O',O''-(ETHENYLSILYLIDYNE)TRIOXIME (58190-62-8):

ErC50 (Algae (*Pseudokirchneriella subcapitata*); 72 h) : 103 mg/l ; Method: OECD 201 ; Results obtained on a similar product.

NOEC (Algae (*Pseudokirchneriella subcapitata*); 72 h) : 37 mg/l ; Method: OECD 201 ; Results obtained on a similar product.

2-PENTANDIONE, O,O',O''-(METHYLSILYLIDYNE)TRIOXIME (37859-55-5):

ErC50 (Algae (*Pseudokirchneriella subcapitata*); 72 h) : 100 mg/l ; Method: OECD 201 ; Results obtained on a similar product.

NOEC (growth rate) (Algae (*Pseudokirchneriella subcapitata*); 72 h) : 36 mg/l ; Method: OECD 201 ; Results obtained on a similar product.

3-AMINOPROPYLTRIETHOXYSILANE (919-30-2):

EC 50 (Green algae (*Scenedesmus subspicatus*); 72 h ; Static) : > 1 000 mg/l ; Method: According to a standardised method.

NOEC (growth rate) (Green algae (*Scenedesmus subspicatus*); 72 h ; Static) : 1,3 mg/l ; Method: According to a standardised method.

OCTAMETHYLCYCLOTETRASILOXANE; [D4] (556-67-2):

ErC50 (Algae (*Pseudokirchneriella subcapitata*); 96 h) : > 0,022 mg/l ; Method: According to a standardised method.

ErC10 (Algae (*Pseudokirchneriella subcapitata*); 96 h) : >= 0,022 mg/l ; Method: According to a standardised method.

Toxicity to microorganisms: Based on our knowledge of the composition information:

OCTAMETHYLCYCLOTETRASILOXANE; [D4] (556-67-2):

EC 50 (3 h) : > 10 000 mg/l

Chronic Toxicity:

Fish: Based on our knowledge of the composition information:

OCTAMETHYLCYCLOTETRASILOXANE; [D4] (556-67-2):

NOEC (*Oncorhynchus mykiss*; 93 d ; Flow through) : >= 0,0044 mg/l ; Method: According to a standardised method.

Aquatic Invertebrates: Based on our knowledge of the composition information:

OCTAMETHYLCYCLOTETRASILOXANE; [D4] (556-67-2):

NOEC (Water flea (*Daphnia magna*); 21 d ; Flow through) : >= 0,015 mg/l ; Method: According to a standardised method.

12.2 Persistence and Degradability:

Biodegradation: Based on our knowledge of the composition information:

2-PENTANONE, O,O',O''-(ETHENYLSILYLIDYNE)TRIOXIME (58190-62-8):

1 % (28 d) ; Method: OECD 301 B ; Not readily degradable. Results obtained on a similar product.

2-PENTANDIONE, O,O',O''-(METHYLSILYLIDYNE)TRIOXIME (37859-55-5):

1 % (28 d) ; Method: OECD 301 B ; The product is not readily biodegradable.

3-AMINOPROPYLTRIETHOXYSILANE (919-30-2):

67 % (sewage, domestic (adaptation not specified) ; 28 d ; Dissolved organic carbon (DOC)) ; Method: According to a standardised method. ; The product is not readily biodegradable.

OCTAMETHYLCYCLOTETRASILOXANE; [D4] (556-67-2):

3,7 % (activated sludge and sewage, soil ; 28 d) ; Method: OECD 310 ; The product is not considered to be readily biodegradable.

BOD/COD Ratio: No data available.

12.3 Bioaccumulative potential:

Bioconcentration Factor (BCF): Based on our knowledge of the composition information:

2-PENTANONE, O,O',O''-(ETHENYLSILYLIDYNE)TRIOXIME (58190-62-8):

Bioconcentration Factor (BCF): 69,21 ; The product is not considered to have a bioaccumulative potential.

Structure-activity relationship (SAR)

2-PENTANDIONE, O,O',O''-(METHYLSILYLIDYNE)TRIOXIME (37859-55-5):

Bioconcentration Factor (BCF): 103,3 ; The product is not considered to have a bioaccumulative potential.

Structure-activity relationship (SAR)

3-AMINOPROPYLTRIETHOXYSILANE (919-30-2):

Bioconcentration Factor (BCF): 3,4 (Common Carp) ; Method: OECD 305

OCTAMETHYLCYCLOTETRASILOXANE; [D4] (556-67-2):

Bioconcentration Factor (BCF): 14 900 (Fathead Minnow) ; Method: OECD 305 ; Not bioaccumulable based on the depuration rate constant

Partition coefficient (n-octanol/water): Based on our knowledge of the composition information:

2-PENTANONE, O,O',O''-(ETHENYLSILYLIDYNE)TRIOXIME (58190-62-8):

Log Kow: 1,25 (22 °C) ; Method: OECD 117

2-PENTANDIONE, O,O',O''-(METHYLSILYLIDYNE)TRIOXIME (37859-55-5):

Log Kow: 1,25 (22 °C) ; Method: OECD 107 ; Results obtained on a similar product.

3-AMINOPROPYLTRIETHOXYSILANE (919-30-2):

Log Kow: -2,9 ; Method: estimated ; Results obtained on a similar product.

OCTAMETHYLCYCLOTETRASILOXANE; [D4] (556-67-2):

Log Kow: 6,49 (25 °C) ; Method: OECD 123

12.4 Mobility in soil:

No data available.

12.5 Results of PBT and vPvB assessment:

Based on our knowledge of the composition information:

OCTAMETHYLCYCLOTETRASILOXANE; [D4] (556-67-2):

Meets PBT (persistent/bioaccumulative/toxic) criteria. (REACH (1907/2006) Ax XIII)

Meets vPvB criteria (REACH (1907/2006) Ax XIII)

12.6 Endocrine disrupting properties:

No data available.

12.7 Other adverse effects:

No data available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods:

The user's attention is drawn to the possible existence of local regulations regarding disposal.

Disposal methods:

Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal. Incinerate.

**Contaminated Packaging:**

Contaminated packages should be as empty as possible. Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal. Recycle following cleaning or dispose of at an authorised site.

SECTION 14: Transport information**ADR**

Not regulated.

ADN

Not regulated.

RID

Not regulated.

IMDG / IMO

Not regulated.

IATA

Not regulated.

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:****EU Regulations:**

Regulation 1005/2009/EC on substances that deplete the ozone layer, Annex I, Controlled Substances: None present or none present in regulated quantities.

Regulation 1005/2009/EC on substances that deplete the ozone layer, Annex II, New Substances: None present or none present in regulated quantities.

EU. Regulation 2019/1021/EU on persistent organic pollutants (POPs) (recast), as amended: None present or none present in regulated quantities.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended: None present or none present in regulated quantities.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended: None present or none present in regulated quantities.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended: None present or none present in regulated quantities.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended: None present or none present in regulated quantities.

EU. Directive 2010/75/EU on Industrial Emissions (IPPC), Annex II, L 334/17:

Chemical name	CAS-No.
octamethylcyclotetrasiloxane; [D4]	556-67-2

EU. REACH Annex XIV, Substances Subject to Authorization: None present or none present in regulated quantities.

EU. REACH Candidate List of Substances of Very High Concern for Authorization (SVHC):

Chemical name	CAS-No.	Concentration	Additional Information
octamethylcyclotetrasiloxane; [D4]	556-67-2	0,01 - 0,079%	Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB)

Regulation (EC) No. 1907/2006 Annex XVII Substances subject to restriction on marketing and use:

Chemical name	CAS-No.	Entry No:	Concentration:
octamethylcyclotetrasiloxane; [D4]	556-67-2	70	0,01 - 0,079%

Directive 98/24/EC on the protection of workers from the risks related to chemical agents at work:

Chemical name	CAS-No.	Concentration
3-aminopropyltriethoxysilane	919-30-2	0,1 - 1,0%
octamethylcyclotetrasiloxane; [D4]	556-67-2	0,01 - 0,079%

EU. Regulation No. 166/2006 PRTR (Pollutant Release and Transfer Registry), Annex II: Pollutants: None present or none present in regulated quantities.

EU. Directive 2012/18/EU (SEVESO III) on major accident hazards involving dangerous substances, Annex I: Not applicable

15.2 Chemical safety assessment:

Quartz/cristobalite : When encapsulated in a polymer, is not expected to pose a health hazard when processed under normal conditions of use. For safe use information, please refer to section 8 of this SDS.

Inventory Status:

Australia Industrial Chem. Act (AIC):	Not in compliance with the inventory.
Canada DSL Inventory List:	Not in compliance with the inventory.
Canada NDSL Inventory:	Not in compliance with the inventory.
China Inv. Existing Chemical Substances:	E (special case)
Japan (ENCS) List:	Not in compliance with the inventory.
Korea Existing Chemicals Inv. (KECI):	Not in compliance with the inventory.
New Zealand Inventory of Chemicals:	On or in compliance with the inventory.
Philippines PICCS:	Not in compliance with the inventory.
Taiwan Chemical Substance Inventory:	On or in compliance with the inventory.
US TSCA Inventory:	On or in compliance with the inventory.
EINECS, ELINCS or NLP:	On or in compliance with the inventory.

SECTION 16: Other information

Revision Information:

SECTION 3: Modification: Composition/information on ingredients

Abbreviations and acronyms:

CLP: Regulation No. 1272/2008.
 PBT: persistent, bioaccumulative and toxic substance.
 vPvB: very persistent and very bioaccumulative substance.
 NOAEL - No Observable Adverse Effect Level
 LOAEL - Lowest Observable Adverse Effect Level
 ED: Endocrine Disruptor
 SVHC: Listed on the Candidate List of substances of very high concern (SVHC)



Wording of the H-statements in section 2 and 3:

EUH208	Contains <name of sensitising substance>. May produce an allergic reaction.
EUH210	Safety data sheet available on request.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H361f	Suspected of damaging fertility.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Issue Date: 22.04.2022

Disclaimer:

The information given is based on data available for the material, the components of the material, and similar materials. The information is believed to be correct. It is given in good faith. This information should be used to make an independent determination of the methods to safeguard workers and the environment.