

SAFETY DATA SHEET

REPLISET-F1, -F5, -T1, -T3, -GF1, -GT1 - Part B



Section 1. Identification

Product name : REPLISET-F1, -F5, -T1, -T3, -GF1, -GT1 - Part B
Cat. No. : 40900046, 40900047, 40900048, 40900049, 40900050, 40900051, 40900052, 40900053, 40900068, 40900069, 40900070, 40900071, 40900076, 40900077, 40900078, 40900079
Container size : 50 ml
Other means of identification : Not available.
Product type : Liquid.

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

Product use : Replication system for materialographic surfaces.
Area of application : Professional applications.

Supplier's details : Struers Australia
27 Mayneview Street
Milton QLD 4064, Australia

Telephone: +61 7 3512 9600

e-mail address of person responsible for this SDS : sdsquestions@struers.dk
Emergency telephone number (with hours of operation) : National Poisons Centre: 0800 764 766 (24/7)

Section 2. Hazards identification

HSNO Classification : H360 REPRODUCTIVE TOXICITY - Category 1
H373 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
H412 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 9.9%

This material is classified as hazardous according to criteria in the Hazardous Substances (Hazard Classification) Notice 2020.

 This material is not classified as DANGEROUS GOODS according to criteria in New Zealand Standard 5433:2020 Transport of Dangerous Goods on Land.

GHS label elements

Signal word : Danger

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Section 2. Hazards identification

Hazard statements	: H360 - May damage fertility or the unborn child. H373 - May cause damage to organs through prolonged or repeated exposure. (lungs) H412 - Harmful to aquatic life with long lasting effects.
<u>Precautionary statements</u>	
General	: Do not apply directly into or onto water. Take all reasonable steps to ensure that the substance does not cause any significant adverse effects to the environment beyond the application area.
Prevention	: P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P280 - Wear protective gloves, protective clothing, eye protection, face protection, or hearing protection. P273 - Avoid release to the environment. P260 - Do not breathe vapour.
Response	: P308 + P313 - IF exposed or concerned: Get medical advice or attention.
Storage	: P405 - Store locked up.
Disposal	: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Symbol	:



Other hazards which do not result in classification : Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture	: Mixture
Other means of identification	: Not available.

Ingredient name	% (w/w)	Identifiers
Silaneamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	≥5 - <10	CAS: 68909-20-6
Platinum, 1,3-diethenyl-1,1,3,3-tetramethyldisiloxane complexes	≥1 - <3	-
1,1,3,3-tetramethyl-1,3-divinyldisiloxane	≥0.1 - <1	CAS: 2627-95-4
2,4,6,8-tetramethyl-2,4,6,8-tetravinylcyclotetrasiloxane	≥0.1 - <0.3	CAS: 2554-06-5
octamethylcyclotetrasiloxane	≥0.01 - <0.1	CAS: 556-67-2

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

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Section 4. First aid measures

Description of necessary first aid measures

- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Wash skin thoroughly with soap and water or use recognised skin cleanser. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Inhalation** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.
- Skin contact** : Defatting to the skin. May cause skin dryness and irritation.
- Eye contact** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Inhalation** : Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations



Section 4. First aid measures

- Skin** : Adverse symptoms may include the following:
 irritation
 dryness
 cracking
 reduced foetal weight
 increase in foetal deaths
 skeletal malformations
- Eyes** : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

- Specific treatments** : No specific treatment.
- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media

- Suitable** : In case of fire, use water spray (fog), foam, dry chemical or CO₂.
- Not suitable** : Do not use water jet.

- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
 carbon dioxide
 carbon monoxide
 nitrogen oxides
 metal oxide/oxides

- Hazchem code** : Not available.

- Special precautions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.



Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and material for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dispose of via a licensed waste disposal contractor. Absorb spill with inert material (e.g. dry sand or earth) and place in a chemical waste container.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.



Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

Biological exposure indices

No exposure indices known.

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. Recommended: Nitrile gloves. (thickness: 1.25 mm), Neoprene gloves. (thickness: 0.198 mm). It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers.

Section 8. Exposure controls/personal protection

- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

- Physical state** : Liquid. [Viscous.]
- Colour** : Translucent.
- Odour** : Slight.
- Odour threshold** : Not available.
- pH** : Not applicable.
- Melting point/freezing point** : Not available.
- Boiling point or initial boiling point and boiling range** : Not available.
- Flash point** : Closed cup: >150°C (>302°F) [Afnor T 60103]
- Evaporation rate** : Not available.
- Flammability** : Not considered to be flammable .
- Lower and upper explosion limit/flammability limit** : Not available.
- Vapour pressure** : Not available.
- Relative vapour density** : Not available.
- Relative density** : 1.12 [at 20°C]
- Solubility(ies)** :
- | Media | Result |
|-------|-------------|
| water | Not soluble |
- Solubility in water** : Not available.
- Miscible with water** : No.
- Partition coefficient: n-octanol/water** : Not applicable.
- Auto-ignition temperature** : 400°C (752°F)
- Decomposition temperature** : >200°C (>392°F)



Section 9. Physical and chemical properties and safety characteristics

Viscosity : Dynamic (room temperature): Not available.
Kinematic (room temperature): 18000 mm²/s (18000 cSt)
Kinematic (40°C (104°F)): Not available.

Flow time (ISO 2431) : Not available.

Particle characteristics

Median particle size : Not applicable.

Other information

Physical/chemical properties comments : No additional information.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Hazardous reactions or instability may occur under certain conditions of storage or use.
Hazardous polymerization may occur under certain conditions of storage or use.
Product may release hydrogen gas – increased storage temperatures will accelerate this process. (<4 l/kg - Product).

Conditions to avoid : Avoid high temperatures. Keep away from open flames.

Incompatible materials : Reactive or incompatible with the following materials: oxidising materials and alkalis.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on likely routes of exposure

Inhalation : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.
Skin contact : Defatting to the skin. May cause skin dryness and irritation.
Eye contact : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation : Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations



Section 11. Toxicological information

Ingestion	: Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
Skin contact	: Adverse symptoms may include the following: irritation dryness cracking reduced foetal weight increase in foetal deaths skeletal malformations
Eye contact	: No specific data.

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

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	
1,1,3,3-tetramethyl-1,3-divinyldisiloxane	Rat - Oral - LD50 >10 g/kg	<u>Toxic effects:</u> Olfaction - Other changes Behavioral - Somnolence (general depressed activity) Other - Hair
2,4,6,8-tetramethyl-2,4,6,8-tetravinylcyclotetrasiloxane	Rat - Oral - LD50 >15 g/kg Rabbit - Male, Female - Dermal - LD50 >2000 mg/kg	OECD 402 [Acute Dermal Toxicity]
octamethylcyclotetrasiloxane	Rat - Inhalation - LC50 Vapour >36 mg/l [4 hours]	

Conclusion/Summary[Product] : Not available.

Skin corrosion/irritation

Product/ingredient name	Result	
1,1,3,3-tetramethyl-1,3-divinyldisiloxane	Rabbit - Skin - Not irritant	OECD 404 [Acute Dermal Irritation/Corrosion]
2,4,6,8-tetramethyl-2,4,6,8-tetravinylcyclotetrasiloxane	Rabbit - Skin - Not irritant Amount/concentration applied: similar material	OECD 404 [Acute Dermal Irritation/Corrosion]
octamethylcyclotetrasiloxane	Rabbit - Skin - Mild irritant Duration of treatment/exposure: 24 hours Amount/concentration applied: 500 mg	

Conclusion/Summary[Product] : Not available.

Serious eye damage/eye irritation

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Product/ingredient name	Result	
1,1,3,3-tetramethyl-1,3-divinyldisiloxane	Rabbit - Eyes - Not irritant Amount/concentration applied: similar material	OECD 405 [Acute Eye Irritation/Corrosion]
2,4,6,8-tetramethyl-2,4,6,8-tetravinylcyclotetrasiloxane	Rabbit - Eyes - Not irritant Amount/concentration applied: similar material	OECD 405 [Acute Eye Irritation/Corrosion]

Conclusion/Summary[Product] : Not available.

Respiratory corrosion/irritation

Conclusion/Summary[Product] : Not available.

Respiratory or skin sensitization

Product/ingredient name	Result	
1,1,3,3-tetramethyl-1,3-divinyldisiloxane	Guinea pig - skin <u>Result:</u> Not sensitizing	OECD 406 [Skin Sensitization]
2,4,6,8-tetramethyl-2,4,6,8-tetravinylcyclotetrasiloxane	Guinea pig - skin <u>Result:</u> Not sensitizing	
octamethylcyclotetrasiloxane	Guinea pig - skin <u>Result:</u> Not sensitizing	OECD 406 [Skin Sensitization]

Skin

Conclusion/Summary[Product] : Not available.

Respiratory

Conclusion/Summary[Product] : Not available.

Potential chronic health effects

General	: May cause damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
Inhalation	: No known significant effects or critical hazards.
Ingestion	: No known significant effects or critical hazards.
Skin contact	: No known significant effects or critical hazards.
Eye contact	: No known significant effects or critical hazards.
Carcinogenicity	: No known significant effects or critical hazards.
Mutagenicity	: No known significant effects or critical hazards.
Developmental effects	: No known significant effects or critical hazards.
Fertility effects	: May damage fertility.

Chronic toxicity

Product/ingredient name	Result
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Section 11. Toxicological information

Platinum, 1,3-diethenyl- 1,1,3,3-tetramethyldisiloxane complexes	Chronic - Rat - Oral - NOAEL 125 mg/kg	OECD 422 [Combined Repeated Dose Toxicity Study with the Reproduction/Developmental Toxicity Screening Test] <u>Toxic effects:</u> liver, kidney
1,1,3,3-tetramethyl- 1,3-divinyldisiloxane	Chronic - Rat - Oral - LOAEL 150 mg/kg [28 days]	OECD 422 [Combined Repeated Dose Toxicity Study with the Reproduction/Developmental Toxicity Screening Test] <u>Toxic effects:</u> liver, kidney
	Chronic - Rat - Oral - NOAEL 50 mg/kg [28 days]	OECD 422 [Combined Repeated Dose Toxicity Study with the Reproduction/Developmental Toxicity Screening Test] <u>Toxic effects:</u> liver, kidney
	Chronic - Rat - Oral - LOAEL 300 mg/kg [90 days]	OECD 408 [Repeated Dose 90-Day Oral Toxicity Study in Rodents] <u>Toxic effects:</u> liver, kidney
	Chronic - Rat - Oral - NOAEL 65 mg/kg [90 days]	OECD 408 [Repeated Dose 90-Day Oral Toxicity Study in Rodents] <u>Toxic effects:</u> liver, kidney
	Chronic - Rat - Male, Female - Inhalation - NOAEL Vapour 250 ppm [14 days]	OECD 412 [Repeated Dose Inhalation Toxicity: 28-day or 14-day Study]
2,4,6,8-tetramethyl- 2,4,6,8-tetravinylcyclotetrasiloxane	Chronic - Rat - Male, Female - Oral - NOAEL 15 mg/kg [13 weeks]	<u>Toxic effects:</u> ovary OECD 408 [Repeated Dose 90-Day Oral Toxicity Study in Rodents]
	Chronic - Rat - Male, Female - Oral - LOAEL 150 mg/kg [13 weeks]	<u>Toxic effects:</u> ovary OECD 408 [Repeated Dose 90-Day Oral Toxicity Study in Rodents]
octamethylcyclotetrasiloxane	Sub-acute - Rabbit - Dermal - NOAEL 960 mg/kg	OECD 410 [Repeated Dose Dermal Toxicity: 21/28-day Study]

Conclusion/Summary[Product] : Not available.

Carcinogenicity

Conclusion/Summary[Product] : Not available.

Germ cell mutagenicity

Product/ingredient name	Result	
1,1,3,3-tetramethyl- 1,3-divinyldisiloxane	In vitro - Bacteria <u>Result:</u> Negative In vivo - Mammalian-Animal <u>Result:</u> Negative	OECD 471 [Bacterial Reverse Mutation Test] OECD 476 [In vitro Mammalian Cell Gene Mutation Test]
2,4,6,8-tetramethyl- 2,4,6,8-tetravinylcyclotetrasiloxane	In vitro - Bacteria <u>Result:</u> Negative In vitro - Mammalian-Animal <u>Result:</u> Positive	OECD 471 [Bacterial Reverse Mutation Test] <u>Metabolic activation:</u> Metabolic activation



Section 11. Toxicological information

octamethylcyclotetrasiloxane	In vitro - Mammalian-Animal	OECD 476 [In vitro Mammalian Cell Gene Mutation Test]
	<u>Result:</u> Negative	OECD 476 [In vitro Mammalian Cell Gene Mutation Test]
	In vivo - Mammalian-Animal	OECD 474 [Mammalian Erythrocyte Micronucleus Test]
	<u>Result:</u> Negative	OECD 471 [Bacterial Reverse Mutation Test]
	In vitro - Bacteria	OECD 473 [In vitro Mammalian Chromosomal Aberration Test]
	<u>Result:</u> Negative	OECD 475 [Mammalian Bone Marrow Chromosomal Aberration Test]
	In vitro - Mammalian-Animal	OECD 478 [Genetic Toxicology: Rodent Dominant Lethal Test]
	<u>Result:</u> Negative	OECD 476 [In vitro Mammalian Cell Gene Mutation Test]
	In vivo - Mammalian-Animal	
	<u>Result:</u> Negative	

Conclusion/Summary[Product] : Not available.

Reproductive toxicity

Product/ingredient name	Result	
2,4,6,8-tetramethyl- 2,4,6,8-tetravinylcyclotetrasiloxane	Rat - Oral 15 mg/kg - NOAEL <u>Fertility effects:</u> Positive	OECD 421 [Reproduction/ Developmental Toxicity Screening Test]
octamethylcyclotetrasiloxane	Rat - Inhalation 3.64 mg/kg - NOAEL <u>Fertility effects:</u> Positive <u>Developmental:</u> Negative	OECD 416 [Two-Generation Reproduction Toxicity Study]

Conclusion/Summary[Product] : Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Result
Silamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE (lungs) (inhalation) - Category 2

Aspiration hazard

Not available.

Numerical measures of toxicity

Acute toxicity estimates

Section 11. Toxicological information

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
octamethylcyclotetrasiloxane	500	1100	N/A	N/A	N/A

Section 12. Ecological information

Ecotoxicity : This material is harmful to aquatic life with long lasting effects.

Aquatic and terrestrial toxicity

Product/ingredient name

Platinum, 1,3-diethenyl-
1,1,3,3-tetramethyldisiloxane
complexes

Result

Acute - NOEC

Fish - *Danio rerio*
≥10 mg/l [96 hours]

Acute - NOEC

Daphnia - *Daphnia magna*
≥10 mg/l [48 hours]

Acute - IC50

Algae - *Selenastrum capricornutum*
≥10 mg/l [72 hours]

Acute - NOEC

Algae - *Selenastrum capricornutum*
≥10 mg/l [72 hours]

EC10

Micro-organism
20 mg/l [3 minutes]

Acute - LC50

Fish - *Oncorhynchus mykiss*
>0.13 mg/l - No toxicity at the limit of
water solubility. [96 hours]

Acute - EC50

Daphnia - *Daphnia magna*
>0.1 mg/l - No toxicity at the limit of
water solubility. [48 hours]

Acute - ErC50

Algae - *Pseudokirchneriella*
subcapitata
>0.12 mg/l - No toxicity at the limit of
water solubility. [72 hours]

Acute - NOEC

Algae - *Pseudokirchneriella*
subcapitata
≥0.12 mg/l [72 hours]

Chronic - EC50

Daphnia - *Daphnia magna*
≥0.12 mg/l - No toxicity at the limit of
water solubility. [21 days]

Acute - LL50

OECD 209 [Activated Sludge,
Respiration Inhibition Test]

OECD 203 [Fish, Acute Toxicity Test]

OECD 202 [Daphnia sp. Acute
Immobilization Test and Reproduction
Test]

OECD 201 [Alga, Growth Inhibition
Test]

OECD 201 [Alga, Growth Inhibition
Test]

OECD 211 [Daphnia Magna
Reproduction Test]

OECD 203 [Fish, Acute Toxicity Test]

1,1,3,3-tetramethyl-
1,3-divinyldisiloxane

2,4,6,8-tetramethyl-

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2,4,6,8-tetravinylcyclotetrasiloxane	Fish - <i>Cyprinodon variegatus</i> >1000 mg/l [96 hours]	
	Acute - LL50 Daphnia - <i>Acartia tonsa</i> ; 272 mg/l [48 hours]	
	Acute - NOELR Daphnia - <i>Acartia tonsa</i> ; 100 mg/l [48 hours]	
	Chronic - NOEC Daphnia - <i>Daphnia magna</i> 0.0079 mg/l - (similar material) [21 days]	OECD 211 [Daphnia Magna Reproduction Test]
	Chronic - NOEC Fish - <i>Oncorhynchus mykiss</i> ≥0.0044 mg/l - (similar material) [93 days]	OECD 210 [Fish, Early-Life Stage Toxicity Test]
	Chronic - NOEC - Fresh water Fish - Rainbow trout, donaldson trout - <i>Oncorhynchus mykiss</i> - Egg <u>Age</u> : 2 hours 4.4 µg/l [90 days]	<u>Effect</u> : Multiple
	Acute - LC50 Fish - <i>Oncorhynchus mykiss</i> >0.022 mg/l [96 hours]	
	Chronic - NOEC Fish - <i>Oncorhynchus mykiss</i> ≥0.0044 mg/l [93 days]	
	Chronic - NOEC Daphnia - <i>Daphnia magna</i> 0.015 mg/l [21 days]	
	Acute - EC50 Algae - <i>Selenastrum capricornutum</i> >0.022 mg/l [96 hours]	
octamethylcyclotetrasiloxane	Chronic - NOEC - Fresh water Daphnia - Water flea - <i>Daphnia magna</i> <u>Age</u> : <24 hours 7.9 µg/l [21 days]	<u>Effect</u> : Mortality
	Acute - EC50 - Fresh water Daphnia - <i>Daphnia magna</i> >0.015 mg/l [48 hours]	
	Chronic - NOEC Algae - Green algae - <i>Selenastrum capricornutum</i> 1 to 29 µg/l [96 hours]	<u>Effect</u> : Population STDMETH

Conclusion/Summary[Product] : Not available.

Product/ingredient name	Result
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Section 12. Ecological information

1,1,3,3-tetramethyl-1,3-divinyldisiloxane	Aerobic - 2 mg/l 0.9% [28 days] - Not readily	OECD 301 D [Ready Biodegradability - Closed Bottle Test]
2,4,6,8-tetramethyl-2,4,6,8-tetravinylcyclotetrasiloxane	Aerobic 3.7% [29 days] - Not readily	OECD 310 [Ready Biodegradability - CO2 in Sealed Vessels (Headspace Test)]
octamethylcyclotetrasiloxane	Aerobic - 10 mg/l 3.7% [28 days] - Not readily	OECD [Ready Biodegradability - CO2 in Sealed Vessels (Headspace Test)]

Conclusion/Summary[Product] : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Platinum, 1,3-diethenyl-1,1,3,3-tetramethyldisiloxane complexes	-	-	Not readily
1,1,3,3-tetramethyl-1,3-divinyldisiloxane	-	-	Not readily
octamethylcyclotetrasiloxane	-	-	Not readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Platinum, 1,3-diethenyl-1,1,3,3-tetramethyldisiloxane complexes	5.96	-	High
1,1,3,3-tetramethyl-1,3-divinyldisiloxane	-	1971	High
2,4,6,8-tetramethyl-2,4,6,8-tetravinylcyclotetrasiloxane	-	12400	High
octamethylcyclotetrasiloxane	6.488	13400 [EPA OTS 797.1520]	High

Mobility in soil

Soil/water partition coefficient : Not available.

Other adverse effects

No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods	: The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may
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Section 13. Disposal considerations

retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	New Zealand	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

HSNO Approval Number : HSR002596
HSNO Group Standard : Laboratory Chemicals and Reagent Kits
HSNO Classification : H360 REPRODUCTIVE TOXICITY - Category 1
 H373 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
 H412 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3

New Zealand Inventory of Chemicals (NZIoC) : All components are listed or exempted.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

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Section 15. Regulatory information

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Section 16. Other information

History

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Sphera Solutions

Key to abbreviations :

- ADG = Australian Dangerous Goods
- ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- IMO = International Maritime Organization
- LogPow = logarithm of the octanol/water partition coefficient
- MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
- SGG = Segregation Group
- UN = United Nations

References :

- Environmental Protection Authority - Inventory of Chemicals (NZIoC)
- Hazardous Substances Regulations 2001 (Classification, Identification, Minimum Degrees of Hazard)
- Hazardous Substances and New Organisms Act (HSNO) 1996 – Hazardous Substances List
- Health and Safety in Employment Act 1992 - Workplace Exposure Standards and Biological Exposure Indices
- Code of Practice for the Preparation of Safety Data Sheets (SDS)
- Transport of Dangerous Goods on Land (NZS 5433:2020)
- User Guide to the Thresholds and Classifications under the Hazardous Substances and New Organisms Act 1996 (GHS)
- GHS - Globally Harmonised System of Classification and Labelling of Chemicals
- International transport regulations

🔹 Indicates information that has changed from previously issued version.

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Section 16. Other information

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

