

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/25/2023

Reviewed on 08/25/2023

1 Identification

- **Product identifier**
- **Trade name:** Novagard 500-1xx Series
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Novagard Solutions Inc
5109 Hamilton Avenue
CLEVELAND, OH 44114
USA
- **Information department:** R&D Department
- **Emergency telephone number:**
CHEMTREC 1-800-424-9300 (USA)
+1 703-741-5970 (International)

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

Carcinogenicity 1A H350 May cause cancer. Route of exposure: Inhalation.
Toxic to Reproduction 2 H361 Suspected of damaging fertility or the unborn child.



GHS09 Environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

Skin Irritation 2 H315 Causes skin irritation.
Eye Irritation 2A H319 Causes serious eye irritation.
Sensitization - Skin 1 H317 May cause an allergic skin reaction.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS07



GHS08



GHS09

- **Signal word** Danger

- **Hazard-determining components of labeling:**

N-(3-(trimethoxysilyl)propyl)ethylenediamine
titanium dioxide
octamethylcyclotetrasiloxane

(Contd. on page 2)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2023

Reviewed on 08/25/2023

Trade name: Novagard 500-1xx Series

(Contd. of page 1)

Quartz (SiO₂)

- **Hazard statements**

Causes skin irritation.
 Causes serious eye irritation.
 May cause an allergic skin reaction.
 May cause cancer. Route of exposure: Inhalation.
 Suspected of damaging fertility or the unborn child.
 Toxic to aquatic life with long lasting effects.

- **Precautionary statements**

Obtain special instructions before use.
 Do not handle until all safety precautions have been read and understood.
 Avoid breathing dust/fume/gas/mist/vapors/spray
 Wash thoroughly after handling.
 Contaminated work clothing must not be allowed out of the workplace.
 Avoid release to the environment.
 Wear protective gloves/protective clothing/eye protection/face protection.
 If on skin: Wash with plenty of water.
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 IF exposed or concerned: Get medical advice/attention.
 Specific treatment (see on this label).
 Take off contaminated clothing and wash it before reuse.
 If skin irritation or rash occurs: Get medical advice/attention.
 If eye irritation persists: Get medical advice/attention.
 Wash contaminated clothing before reuse.
 Collect spillage.
 Store locked up.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



Health = 2
 Fire = 0
 Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = *2
 Fire = 0
 Reactivity = 0

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:**

556-67-2	octamethylcyclotetrasiloxane
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- **vPvB:**

556-67-2	octamethylcyclotetrasiloxane
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3 Composition/information on ingredients

- **Chemical characterization: Mixture**

- **Description:** Mixture of the substances listed below with nonhazardous additions.

(Contd. on page 3)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2023

Reviewed on 08/25/2023

Trade name: Novagard 500-1xx Series

(Contd. of page 2)

· Dangerous components:		
1760-24-3	N-(3-(trimethoxysilyl)propyl)ethylenediamine	0.9–2.99%
57-11-4	stearic acid, pure	1–2%
13463-67-7	titanium dioxide	0.49–1.99%
1185-55-3	trimethoxy(methyl)silane	0.99–1.49%
14808-60-7	Quartz (SiO ₂)	0–0.65%
556-67-2	octamethylcyclotetrasiloxane	0–0.39%

4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.

(Contd. on page 4)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2023

Reviewed on 08/25/2023

Trade name: Novagard 500-1xx Series

See Section 13 for disposal information.

(Contd. of page 3)

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the other constituents have no known exposure limits.

57-11-4 stearic acid, pure

TLV	Long-term value: 10* 3** mg/m ³ *inhalable, **respirable particulate matter, *A4
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14808-60-7 Quartz (SiO₂)

PEL	Long-term value: 0.05* mg/m ³ *resp. dust; 30mg/m ³ /%SiO ₂ +2
REL	Long-term value: 0.05* mg/m ³ *respirable dust; See Pocket Guide App. A
TLV	Long-term value: 0.025* mg/m ³ *respirable particulate matter, A2

556-67-2 octamethylcyclotetrasiloxane

WEEL	Long-term value: 10* ppm *OARS WEEL
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- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes and skin.

(Contd. on page 5)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2023

Reviewed on 08/25/2023

Trade name: Novagard 500-1xx Series

(Contd. of page 4)

- **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form: Pasty
Color: According to product specification

- **Odor:** Mild

- **Odor threshold:** Not determined.

- **pH-value:** Not determined.

- **Change in condition**

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: Undetermined.

- **Flash point:** Not applicable.

- **Flammability (solid, gaseous):** Not applicable.

- **Decomposition temperature:** Not determined.

- **Ignition temperature:** Product is not selfigniting.

- **Danger of explosion:** Product does not present an explosion hazard.

- **Explosion limits:**

Lower: Not determined.

(Contd. on page 6)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2023

Reviewed on 08/25/2023

Trade name: Novagard 500-1xx Series

(Contd. of page 5)

Upper:	Not determined.
· Vapor pressure:	Not determined.
· Density at 20 °C (68 °F):	1.35–1.4 g/cm ³ (11.26575–11.683 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**
Combustion may yield carbon monoxide, carbon dioxide, silicone dioxide and formaldehyde.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

ATE (Acute Toxicity Estimate)

Inhalative	LC50/4 h	738–1,111 mg/l
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57-11-4 stearic acid, pure

Dermal	LD50	>5,000 mg/kg (rabbit)
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13463-67-7 titanium dioxide

Oral	LD50	>20,000 mg/kg (rat)
Dermal	LD50	>10,000 mg/kg (rabbit)
Inhalative	LC50/4 h	>6.82 mg/l (rat)

1185-55-3 trimethoxy(methyl)silane

Oral	LD50	12,500 mg/kg (rat)
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- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** Sensitization possible through skin contact.

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2023

Reviewed on 08/25/2023

Trade name: Novagard 500-1xx Series

(Contd. of page 6)

- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

13463-67-7	titanium dioxide	2B
14808-60-7	Quartz (SiO ₂)	1

- **NTP (National Toxicology Program)**

14808-60-7	Quartz (SiO ₂)	K
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- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:** No further relevant information available.

- **Persistence and degradability** No further relevant information available.

- **Behavior in environmental systems:**

- **Bioaccumulative potential** No further relevant information available.

- **Mobility in soil** No further relevant information available.

- **Ecotoxicological effects:**

- **Remark:** Toxic for fish

- **Additional ecological information:**

- **General notes:**

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

- **Results of PBT and vPvB assessment**

- **PBT:**

556-67-2	octamethylcyclotetrasiloxane
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- **vPvB:**

556-67-2	octamethylcyclotetrasiloxane
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- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- **Uncleaned packagings:**

- **Recommendation:** Disposal must be made according to official regulations.

US

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS


Printing date 08/25/2023

Reviewed on 08/25/2023

Trade name: Novagard 500-1xx Series

(Contd. of page 7)

14 Transport information

<ul style="list-style-type: none"> · UN-Number · DOT · IMDG, IATA 	<p>not regulated UN3082</p>
<ul style="list-style-type: none"> · UN proper shipping name · DOT · IMDG · IATA 	<p>not regulated ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (octamethylcyclotetrasiloxane, dibutyltin dilaurate), MARINE POLLUTANT ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (octamethylcyclotetrasiloxane, dibutyltin dilaurate)</p>
<ul style="list-style-type: none"> · Transport hazard class(es) · DOT · Class 	<p>not regulated</p>
<ul style="list-style-type: none"> · IMDG, IATA <div style="text-align: center;">  </div>	<p>9 Miscellaneous dangerous substances and articles 9</p>
<ul style="list-style-type: none"> · Class · Label 	<p>9 Miscellaneous dangerous substances and articles 9</p>
<ul style="list-style-type: none"> · Packing group · DOT · IMDG, IATA 	<p>not regulated III</p>
<ul style="list-style-type: none"> · Environmental hazards: · Marine pollutant: · Special marking (IATA): 	<p>Symbol (fish and tree) Symbol (fish and tree)</p>
<ul style="list-style-type: none"> · Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Stowage Category 	<p>Warning: Miscellaneous dangerous substances and articles 90 F-A,S-F A</p>
<ul style="list-style-type: none"> · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code 	<p>Not applicable.</p>
<ul style="list-style-type: none"> · Transport/Additional information: 	
<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) 	<p>5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml</p>

(Contd. on page 9)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2023

Reviewed on 08/25/2023

Trade name: Novagard 500-1xx Series

(Contd. of page 8)

· **UN "Model Regulation":** UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (OCTAMETHYLCYCLOTETRASILOXANE, DIBUTYLTIN DILAURATE), 9, III

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
 · **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

64-18-6 formic acid

· **TSCA (Toxic Substances Control Act):**

1317-65-3	calcium carbonate	ACTIVE
70131-67-8	Poly(dimethylsiloxane), hydroxy terminated	ACTIVE
63148-62-9	Dimethylpolysiloxane	ACTIVE
1760-24-3	N-(3-(trimethoxysilyl)propyl)ethylenediamine	ACTIVE
57-11-4	stearic acid, pure	ACTIVE
13463-67-7	titanium dioxide	ACTIVE
1185-55-3	trimethoxy(methyl)silane	ACTIVE
14808-60-7	Quartz (SiO ₂)	ACTIVE
556-67-2	octamethylcyclotetrasiloxane	ACTIVE
546-68-9	tetraisopropoxytitanium	ACTIVE
111-92-2	di-n-butylamine	ACTIVE
64-18-6	formic acid	ACTIVE
77-58-7	dibutyltin dilaurate	ACTIVE

· **Hazardous Air Pollutants**

None of the ingredients is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

13463-67-7	titanium dioxide
14808-60-7	Quartz (SiO ₂)

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

(Contd. on page 10)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2023

Reviewed on 08/25/2023

Trade name: Novagard 500-1xx Series

(Contd. of page 9)

· TLV (Threshold Limit Value)		
13463-67-7	titanium dioxide	A4
14808-60-7	Quartz (SiO ₂)	A2
77-58-7	dibutyltin dilaurate	A4

· NIOSH-Ca (National Institute for Occupational Safety and Health)		
13463-67-7	titanium dioxide	
14808-60-7	Quartz (SiO ₂)	

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS07 GHS08 GHS09

· **Signal word** Danger

· **Hazard-determining components of labeling:**

N-(3-(trimethoxysilyl)propyl)ethylenediamine
titanium dioxide
octamethylcyclotetrasiloxane
Quartz (SiO₂)

· **Hazard statements**

Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
May cause cancer. Route of exposure: Inhalation.
Suspected of damaging fertility or the unborn child.
Toxic to aquatic life with long lasting effects.

· **Precautionary statements**

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing dust/fume/gas/mist/vapors/spray
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.
If on skin: Wash with plenty of water.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/attention.
Specific treatment (see on this label).
Take off contaminated clothing and wash it before reuse.
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Wash contaminated clothing before reuse.
Collect spillage.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 11)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/25/2023

Reviewed on 08/25/2023

Trade name: Novagard 500-1xx Series

(Contd. of page 10)

- **National regulations:**
- **Information about limitation of use:**
Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Regulatory Compliance Department
- **Contact:** novagard@novagard.net
- **Date of preparation / last revision** 08/25/2023
- **Abbreviations and acronyms:**
 IMDG: International Maritime Code for Dangerous Goods
 DOT: US Department of Transportation
 IATA: International Air Transport Association
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 NFPA: National Fire Protection Association (USA)
 HMIS: Hazardous Materials Identification System (USA)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 vPvB: very Persistent and very Bioaccumulative
 NIOSH: National Institute for Occupational Safety
 OSHA: Occupational Safety & Health
 TLV: Threshold Limit Value
 PEL: Permissible Exposure Limit
 REL: Recommended Exposure Limit
 Skin Irritation 2: Skin corrosion/irritation – Category 2
 Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A
 Sensitization - Skin 1: Skin sensitisation – Category 1
 Carcinogenicity 1A: Carcinogenicity – Category 1A
 Toxic to Reproduction 2: Reproductive toxicity – Category 2
 Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
- *** Data compared to the previous version altered.**

US