

# SAFETY DATA SHEET



Date of issue/Date of revision : 6 January 2019 Version : 1

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

### 1.1 Product identifier

**Product name** : NOVAGUARD 890 CONDUCTIVE HARDENER BLACK  
**Product code** : 00358540  
**Product type** : Liquid.  
**Other means of identification** : Not available.

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

**Product use** : Industrial applications.  
**Use of the substance/mixture** : Coating.

### 1.3 Details of the supplier of the safety data sheet

Sigma Paint Saudi Arabia Ltd.  
PO Box 7509  
Dammam 31472  
Saudi Arabia  
Tel: 00966 138 47 31 00  
Fax: 00966 138 47 17 34

**e-mail address of person responsible for this SDS** : ndpic@sfga.gov.sa

**1.4 Emergency telephone number** : 00966 138473100 extn 1001

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : Mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Acute Tox. 4, H302  
Acute Tox. 3, H311  
Acute Tox. 4, H332  
Skin Corr. 1A, H314  
Eye Dam. 1, H318  
Skin Sens. 1, H317  
Aquatic Chronic 2, H411

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

**SECTION 2: Hazards identification****Hazard pictograms**

:

**Signal word**

: Danger

**Hazard statements**

: Toxic in contact with skin.  
 Harmful if swallowed or if inhaled.  
 Causes severe skin burns and eye damage.  
 May cause an allergic skin reaction.  
 Toxic to aquatic life with long lasting effects.

**Precautionary statements****Prevention**

: Wear protective gloves. Wear protective clothing. Wear eye or face protection.  
 Avoid breathing vapour.

**Response**

: IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF SWALLOWED: Immediately call a POISON CENTER or physician. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**Storage**

: Store locked up.

**Disposal**

: Not applicable.

**Hazardous ingredients**

: 2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)  
 N-(3-(trimethoxysilyl)propyl)ethylenediamine  
 2,4,6-tris(dimethylaminomethyl)phenol  
 Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine

**Supplemental label elements**

: Not applicable.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles**

: Not applicable.

**Special packaging requirements****Containers to be fitted with child-resistant fastenings**

: Not applicable.

**Tactile warning of danger**

: Not applicable.

**2.3 Other hazards****Other hazards which do not result in classification**

: None known.

**SECTION 3: Composition/information on ingredients****3.2 Mixtures**

: Mixture

**SECTION 3: Composition/information on ingredients**

Product/ingredient name	Identifiers	% by weight	Classification Regulation (EC) No. 1272/2008 [CLP]	Type
2,2'-dimethyl-4,4'-methylenebis (cyclohexylamine)	EC: 229-962-1 CAS: 6864-37-5 Index: 612-110-00-1	≥25 - ≤40	Acute Tox. 4, H302 Acute Tox. 3, H311 Acute Tox. 3, H331 Skin Corr. 1A, H314 Eye Dam. 1, H318 Aquatic Chronic 2, H411	[1]
benzyl alcohol	REACH #: 01-2119492630-38 EC: 202-859-9 CAS: 100-51-6 Index: 603-057-00-5	≥10 - ≤24	Acute Tox. 4, H302 Acute Tox. 4, H332 Eye Irrit. 2, H319	[1] [2]
N-(3-(trimethoxysilyl)propyl) ethylenediamine	EC: 217-164-6 CAS: 1760-24-3	≥1.0 - ≤5.0	Acute Tox. 4, H332 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 3, H412	[1]
2,4,6-tris(dimethylaminomethyl) phenol	REACH #: 01-2119560597-27 EC: 202-013-9 CAS: 90-72-2 Index: 603-069-00-0	<1.0	Acute Tox. 4, H302 Acute Tox. 4, H312 Skin Corr. 1C, H314 Eye Dam. 1, H318 Skin Sens. 1B, H317	[1]
Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine proprietary 2-methyl-4, 4'methylenebis(cyclohexylamine)	REACH #: 01-2119979085-27 EC: 309-629-8 CAS: 100545-48-0 CAS: SUB132924	<1.0  ≤0.12	Acute Tox. 4, H302 Acute Tox. 3, H311 Acute Tox. 2, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT RE 2, H373 (adrenal, blood, heart, kidneys, liver) Aquatic Chronic 2, H411	[1]  [1]

See Section 16 for the full text of the H statements declared above.

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.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII

[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

[5] Substance of equivalent concern

[6] Additional disclosure due to company policy

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

**SUB codes represent substances without registered CAS Numbers.**

**SECTION 4: First aid measures****4.1 Description of first aid measures****Eye contact**

: Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

**Inhalation**

: Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

**SECTION 4: First aid measures**

- Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.
- Ingestion** : If swallowed, seek medical advice immediately and show the container or label. Keep person warm and at rest. Do NOT induce vomiting.
- 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.

**4.2 Most important symptoms and effects, both acute and delayed****Potential acute health effects**

- Eye contact** : Causes serious eye damage.
- Inhalation** : Harmful if inhaled.
- Skin contact** : Causes severe burns. Toxic in contact with skin. May cause an allergic skin reaction.
- Ingestion** : Harmful if swallowed.

**Over-exposure signs/symptoms**

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur
- Ingestion** : Adverse symptoms may include the following:  
stomach pains

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

- 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.
- Specific treatments** : No specific treatment.

**SECTION 5: Firefighting measures****5.1 Extinguishing media**

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

**5.2 Special hazards arising from the substance or mixture**

- Hazards from the substance or mixture** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic 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 combustion products** : Decomposition products may include the following materials:  
carbon oxides  
nitrogen oxides  
metal oxide/oxides  
Formaldehyde.

**SECTION 5: Firefighting measures****5.3 Advice for firefighters**

- 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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

**SECTION 6: Accidental release measures****6.1 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. Do not breathe 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".

**6.2 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. Collect spillage.

**6.3 Methods and material for containment and cleaning up**

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- 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. 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. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

**6.4 Reference to other sections**

- : See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

**SECTION 7: Handling and storage**

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

**7.1 Precautions for safe handling**

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). 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. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. Refer to special instructions/safety data sheet. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the

Code : 00358540

Date of issue/Date of revision : 6 January 2019

NOVAGUARD 890 CONDUCTIVE HARDENER BLACK

**SECTION 7: Handling and storage**

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.

**7.2 Conditions for safe storage, including any incompatibilities**

- : Store between the following temperatures: 0 to 35°C (32 to 95°F). 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.

**7.3 Specific end use(s)**

See Section 1.2 for Identified uses.

**Recommendations** : Not available.

**Industrial sector specific solutions** : Not available.

**SECTION 8: Exposure controls/personal protection**

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

**8.1 Control parameters****Occupational exposure limits**

benzyl alcohol

**IPEL (PPG).**

TWA: 10 ppm

STEL: 50 ppm

**Recommended monitoring procedures**

- : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**8.2 Exposure controls****Appropriate engineering controls**

- : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Individual protection measures**

**SECTION 8: Exposure controls/personal protection**

- 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. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Chemical splash goggles and face shield.
- 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. When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time greater than 480 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 2 or higher (breakthrough time greater than 30 minutes according to EN 374) is recommended. The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.
- Gloves** : nitrile neoprene
- 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** : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.
- 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.

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

- Physical state** : Liquid.
- Colour** : Black.
- Odour** : Amine-like.
- Odour threshold** : Not available.
- pH** : insoluble in water.
- Melting point/freezing point** : May start to solidify at the following temperature: -7.1°C (19.2°F) This is based on data for the following ingredient: 2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine). Weighted average: -10.2°C (13.6°F)
- Initial boiling point and boiling range** : >37.78°C
- Flash point** : Closed cup: 100°C

Code : 00358540

Date of issue/Date of revision : 6 January 2019

NOVAGUARD 890 CONDUCTIVE HARDENER BLACK

**SECTION 9: Physical and chemical properties**

<b>Evaporation rate</b>	: 0.007 (benzyl alcohol) compared with butyl acetate
<b>Material supports combustion.</b>	: Yes.
<b>Flammability (solid, gas)</b>	: liquid
<b>Upper/lower flammability or explosive limits</b>	: Greatest known range: Lower: 1.3% Upper: 13% (benzyl alcohol)
<b>Vapour pressure</b>	: Highest known value: 0.04 kPa (0.3 mm Hg) (at 20°C) (N-(3-(trimethoxysilyl)propyl)ethylenediamine). Weighted average: 0.004 kPa (0.03 mm Hg) (at 20°C)
<b>Vapour density</b>	: Highest known value: 3.7 (Air = 1) (benzyl alcohol).
<b>Relative density</b>	: 1.22
<b>Solubility(ies)</b>	: Insoluble in the following materials: cold water.
<b>Partition coefficient: n-octanol/ water</b>	: Not applicable.
<b>Auto-ignition temperature</b>	: Lowest known value: 275°C (527°F) (2,2'-dimethyl-4,4'-methylenebis (cyclohexylamine)).
<b>Decomposition temperature</b>	: Stable under recommended storage and handling conditions (see Section 7).
<b>Viscosity</b>	: Kinematic (40°C): >0.21 cm <sup>2</sup> /s
<b>Explosive properties</b>	: Product does not present an explosion hazard.
<b>Oxidising properties</b>	: Product does not present an oxidizing hazard.

**9.2 Other information**

No additional information.

**SECTION 10: Stability and reactivity**

<b>10.1 Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	: The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>10.4 Conditions to avoid</b>	: When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8.
<b>10.5 Incompatible materials</b>	: Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids.
<b>10.6 Hazardous decomposition products</b>	: Depending on conditions, decomposition products may include the following materials: carbon oxides nitrogen oxides Formaldehyde. metal oxide/oxides

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity**



## SECTION 11: Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
2,2'-dimethyl-4,4'-methylenebis (cyclohexylamine)	LC50 Inhalation Dusts and mists	Rat	420 mg/m <sup>3</sup>	4 hours
benzyl alcohol	LD50 Dermal	Rabbit	>0.2 g/kg	-
	LD50 Oral	Rat	>0.32 g/kg	-
N-(3-(trimethoxysilyl)propyl) ethylenediamine	LC50 Inhalation Dusts and mists	Rat	>4178 mg/m <sup>3</sup>	4 hours
	LD50 Dermal	Rabbit	2000 mg/kg	-
2,4,6-tris(dimethylaminomethyl)phenol	LD50 Oral	Rat	1.23 g/kg	-
	LD50 Oral	Rat	2413 mg/kg	-
Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine	LD50 Dermal	Rabbit	1.28 g/kg	-
	LD50 Dermal	Rat	1280 mg/kg	-
	LD50 Oral	Rat	1200 mg/kg	-
	LC50 Inhalation Dusts and mists	Rat	5.05 mg/l	4 hours
	LD50 Oral	Rat	>2000 mg/kg	-

**Conclusion/Summary** : There are no data available on the mixture itself.

### Acute toxicity estimates

Route	ATE value
Oral	1043.4 mg/kg
Dermal	775.4 mg/kg
Inhalation (vapours)	646 mg/l
Inhalation (dusts and mists)	1.055 mg/l

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
2,4,6-tris(dimethylaminomethyl)phenol	Skin - Visible necrosis	Rabbit	-	4 hours	7 days

### Conclusion/Summary

**Skin** : There are no data available on the mixture itself.

**Eyes** : There are no data available on the mixture itself.

**Respiratory** : There are no data available on the mixture itself.

### Sensitisation

Product/ingredient name	Route of exposure	Species	Result
2,4,6-tris(dimethylaminomethyl)phenol	skin	Guinea pig	Sensitising

### Conclusion/Summary

**Skin** : There are no data available on the mixture itself.

**Respiratory** : There are no data available on the mixture itself.

### Mutagenicity

**Conclusion/Summary** : There are no data available on the mixture itself.

### Carcinogenicity

**Conclusion/Summary** : There are no data available on the mixture itself.

### Reproductive toxicity

**Conclusion/Summary** : There are no data available on the mixture itself.

### Teratogenicity

**Conclusion/Summary** : There are no data available on the mixture itself.

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Code : 00358540

Date of issue/Date of revision

: 6 January 2019

NOVAGUARD 890 CONDUCTIVE HARDENER BLACK

**SECTION 11: Toxicological information**

Product/ingredient name	Category	Route of exposure	Target organs
proprietary 2-methyl-4,4'methylenebis(cyclohexylamine)	Category 2	Not determined	adrenal, blood, heart, kidneys and liver

**Aspiration hazard**

Not available.

**Information on likely routes of exposure** : Not available.**Potential acute health effects****Inhalation** : Harmful if inhaled.**Ingestion** : Harmful if swallowed.**Skin contact** : Causes severe burns. Toxic in contact with skin. May cause an allergic skin reaction.**Eye contact** : Causes serious eye damage.**Symptoms related to the physical, chemical and toxicological characteristics****Inhalation** : No specific data.**Ingestion** : Adverse symptoms may include the following:  
stomach pains**Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur**Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness**Delayed and immediate effects as well as chronic effects from short and long-term exposure****Short term exposure****Potential immediate effects** : Not available.**Potential delayed effects** : Not available.**Long term exposure****Potential immediate effects** : Not available.**Potential delayed effects** : Not available.**Potential chronic health effects**

Not available.

**Conclusion/Summary** : Not available.**General** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.**Carcinogenicity** : No known significant effects or critical hazards.**Mutagenicity** : No known significant effects or critical hazards.**Teratogenicity** : No known significant effects or critical hazards.**Developmental effects** : No known significant effects or critical hazards.**Fertility effects** : No known significant effects or critical hazards.**Other information** : Not available.

**SECTION 11: Toxicological information**

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly. See Sections 2 and 3 for details.

Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness.

Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin.

If splashed in the eyes, the liquid may cause irritation and reversible damage.

Ingestion may cause nausea, diarrhea and vomiting.

This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Contains N-(3-(trimethoxysilyl)propyl)ethylenediamine, 2,4,6-tris(dimethylaminomethyl)phenol, Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine. May produce an allergic reaction.

**SECTION 12: Ecological information****12.1 Toxicity**

Product/ingredient name	Result	Species	Exposure
Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine	Acute EC50 >100 mg/l	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 >10 mg/l	Daphnia - Daphnia magna	48 hours
	Acute LC50 >10 mg/l	Fish - Oncorhynchus mykiss	96 hours

**Conclusion/Summary** : There are no data available on the mixture itself.

**12.2 Persistence and degradability**

Product/ingredient name	Test	Result	Dose	Inoculum
Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine	301D Ready Biodegradability - Closed Bottle Test	22 % - 28 days	-	-

**Conclusion/Summary** : There are no data available on the mixture itself.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
benzyl alcohol	-	-	Readily
Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine	-	-	Inherent

**12.3 Bioaccumulative potential**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	2.5	-	low
benzyl alcohol	1.1	-	low
Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine	>5.86	-	high

**12.4 Mobility in soil**

NOVAGUARD 890 CONDUCTIVE HARDENER BLACK

## SECTION 12: Ecological information

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Mobility** : Not available.

### 12.5 Results of PBT and vPvB assessment

**PBT** : Not applicable.

**vPvB** : Not applicable.

**12.6 Other adverse effects** : No known significant effects or critical hazards.

## SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 13.1 Waste treatment methods

#### Product

**Methods of disposal** : 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.

**Hazardous waste** : Yes.

#### European waste catalogue (EWC)

Waste code	Waste designation
08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances

#### Packaging

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Type of packaging	European waste catalogue (EWC)
Container	15 01 06 mixed packaging

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

## SECTION 14: Transport information

	ADR/RID	IMDG	IATA
<b>14.1 UN number</b>	UN2922	UN2922	UN2922
<b>14.2 UN proper shipping name</b>	CORROSIVE LIQUID, TOXIC, N.O.S. (2,2'-dimethyl-4,4'-methylenebis (cyclohexylamine))	CORROSIVE LIQUID, TOXIC, N.O.S.	CORROSIVE LIQUID, TOXIC, N.O.S.
<b>14.3 Transport hazard class(es)</b>	8 (6.1)	8 (6.1)	8 (6.1)
<b>14.4 Packing group</b>	II	II	II

Code : 00358540	Date of issue/Date of revision : 6 January 2019
NOVAGUARD 890 CONDUCTIVE HARDENER BLACK	

**SECTION 14: Transport information**

<b>14.5 Environmental hazards</b>	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.
<b>Marine pollutant substances</b>	Not applicable.	(2,2'-dimethyl-4,4'-methylenebis (cyclohexylamine))	Not applicable.

**Additional information**

- ADR/RID** : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.
- IMDG** : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.
- IATA** : The environmentally hazardous substance mark may appear if required by other transportation regulations.

**14.6 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.

**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** : Not applicable.

**SECTION 15: Regulatory information**

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**  
EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation  
Annex XIV

None of the components are listed.

Substances of very high concern  
 None of the components are listed.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.

Other national and international regulations.  
Ozone depleting substances (1005/2009/EU)  
 Not listed.

**15.2 Chemical safety assessment** : No Chemical Safety Assessment has been carried out.

**SECTION 16: Other information**

✔ Indicates information that has changed from previously issued version.

- Abbreviations and acronyms** :
- ATE = Acute Toxicity Estimate
  - CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
  - DNEL = Derived No Effect Level
  - EUH statement = CLP-specific Hazard statement
  - PNEC = Predicted No Effect Concentration
  - RRN = REACH Registration Number

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**SECTION 16: Other information**

<b>Full text of abbreviated H statements</b>	:	H302	Harmful if swallowed.
		H311	Toxic in contact with skin.
		H312	Harmful in contact with skin.
		H314	Causes severe skin burns and eye damage.
		H317	May cause an allergic skin reaction.
		H318	Causes serious eye damage.
		H319	Causes serious eye irritation.
		H330	Fatal if inhaled.
		H331	Toxic if inhaled.
		H332	Harmful if inhaled.
		H373	May cause damage to organs through prolonged or repeated exposure.
		H411	Toxic to aquatic life with long lasting effects.
		H412	Harmful to aquatic life with long lasting effects.
	<b>Full text of classifications [CLP/GHS]</b>	:	Acute Tox. 2, H330
		Acute Tox. 3, H311	ACUTE TOXICITY (dermal) - Category 3
		Acute Tox. 3, H331	ACUTE TOXICITY (inhalation) - Category 3
		Acute Tox. 4, H302	ACUTE TOXICITY (oral) - Category 4
		Acute Tox. 4, H312	ACUTE TOXICITY (dermal) - Category 4
		Acute Tox. 4, H332	ACUTE TOXICITY (inhalation) - Category 4
		Aquatic Chronic 2, H411	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
		Aquatic Chronic 3, H412	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
		Eye Dam. 1, H318	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
		Eye Irrit. 2, H319	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
		Skin Corr. 1A, H314	SKIN CORROSION/IRRITATION - Category 1A
		Skin Corr. 1B, H314	SKIN CORROSION/IRRITATION - Category 1B
		Skin Corr. 1C, H314	SKIN CORROSION/IRRITATION - Category 1C
		Skin Sens. 1, H317	SKIN SENSITISATION - Category 1
		Skin Sens. 1B, H317	SKIN SENSITISATION - Category 1B
		STOT RE 2, H373	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2

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