



**Date of issue**                    16 January 2020  
**Version** 5.01

## Section 1. Product and company identification

**Product name**                    : NOVAGUARD 260 HARDENER  
**Product code**                    : 00241814  
**Other means of identification** : Not available.  
**Product type**                    : Liquid.

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

<b>Identified uses</b> Coating. Paints. Painting-related materials.	
<b>Uses advised against</b>	<b>Reason</b>
Not applicable.	

### Supplier's details:

**Supplier**                            : PPG Industrial do Brasil – Tintas e Vernizes Ltda  
     Via Anhanguera KM 106, Bairro Sao Judas Tadeu  
     Sumare / SP, Brasil  
     55 19 2103-6000 (Recepção e Portaria)

**e-mail address of person responsible for this SDS**                    : fispq@ppg.com

**Emergency telephone number**   : 0800 707 1767 / 0800 707 7022 – Empresa Suatrans Cotec  
     0800 14 8110 – CEATOX - Centro de Assistência Toxicológica

## Section 2. Hazards identification

**Classification of the substance or mixture**                    : FLAMMABLE LIQUIDS - Category 3  
     ACUTE TOXICITY (oral) - Category 4  
     ACUTE TOXICITY (dermal) - Category 4  
     ACUTE TOXICITY (inhalation) - Category 4  
     SKIN CORROSION - Category 1C  
     SERIOUS EYE DAMAGE - Category 1  
     SKIN SENSITIZATION - Category 1  
     CARCINOGENICITY - Category 2  
     TOXIC TO REPRODUCTION (Fertility) - Category 1B  
     TOXIC TO REPRODUCTION (Unborn child) - Category 2  
     SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3  
     SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (hearing organs) - Category 2  
     ASPIRATION HAZARD - Category 1  
     AQUATIC HAZARD (ACUTE) - Category 2  
     AQUATIC HAZARD (LONG-TERM) - Category 2

## Section 2. Hazards identification

**Target organs** : Contains material which causes damage to the following organs: blood, kidneys, liver, heart, brain, central nervous system (CNS).  
Contains material which may cause damage to the following organs: lungs, the nervous system, gastrointestinal tract, upper respiratory tract, skin, ears, eye, lens or cornea.

Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity: 26.3% (Oral), 39.6% (Dermal), 42.8% (Inhalation)

Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 66.3%

### GHS label elements

#### Hazard pictograms



#### Signal word

: Danger

#### Hazard statements

: Flammable liquid and vapor.  
Harmful if swallowed, in contact with skin or if inhaled.  
Causes severe skin burns and eye damage.  
May cause an allergic skin reaction.  
May damage fertility.  
Suspected of damaging the unborn child.  
Suspected of causing cancer.  
May be fatal if swallowed and enters airways.  
May cause respiratory irritation.  
May cause damage to organs through prolonged or repeated exposure. (hearing organs)  
Toxic to aquatic life with long lasting effects.

### Precautionary statements

#### Prevention

: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

#### Response

: Collect spillage. Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician. IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or physician if you feel unwell. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

## Section 2. Hazards identification

- Continue rinsing. Immediately call a POISON CENTER or physician.
- Storage** : Store locked up. Store in a well-ventilated place. Keep cool.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- 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.

### CAS number/other identifiers

- CAS number** : Not applicable.

Ingredient name	%	CAS number
Benzyl alcohol	20 - <30	100-51-6
xylene	15 - <20	1330-20-7
Formaldehyde, polymer with N,N-dimethyl-1,3-propanediamine and phenol	7 - <10	445498-00-0
2-methylpropan-1-ol	5 - <7	78-83-1
2,4,6-tris(dimethylaminomethyl)phenol	5 - <7	90-72-2
N-(3-(trimethoxysilyl)propyl)ethylenediamine	3 - <5	1760-24-3
ethylbenzene	3 - <5	100-41-4
m-phenylenebis(methylamine)	2 - <3	1477-55-0
bisphenol A	1 - <2	80-05-7
salicylic acid	1 - <2	69-72-7

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.

SUB codes represent substances without registered CAS Numbers.

## Section 4. First aid measures

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

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

- 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.

## Section 4. First aid measures

- Specific treatments** : No specific treatment.
- 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.
- Potential acute health effects**
- Eye contact** : Causes serious eye damage.
- Inhalation** : Harmful if inhaled. May cause respiratory irritation.
- Skin contact** : Causes severe burns. Harmful in contact with skin. Defatting to the skin. May cause an allergic skin reaction.
- Ingestion** : Harmful if swallowed. May be fatal if swallowed and enters airways.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

**Specific hazards arising from the chemical** : Flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. 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 thermal decomposition products** : Decomposition products may include the following materials:  
carbon oxides  
nitrogen oxides  
metal oxide/oxides  
Formaldehyde.

**Special protective actions 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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**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 spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

## Section 6. Accidental release measures

**For emergency responders** : If specialized 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 spilled 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.

### Methods and materials for containment and cleaning up

**Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. 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. Use spark-proof tools and explosion-proof equipment. Approach 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 (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

**Precautions for safe handling** : 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 ingest. Avoid breathing vapor or mist. Avoid release to the environment. Refer to special instructions/safety data sheet. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

## Section 7. Handling and storage

**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 a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidizing materials. 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 unlabeled 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

Ingredient name	Exposure limits
xylene	<b>Minsitry of Labor and Employment (Brazil, 11/2001).</b> TWA: 340 mg/m <sup>3</sup> 8 hours. TWA: 78 ppm 8 hours.
2-methylpropan-1-ol	<b>Minsitry of Labor and Employment (Brazil, 11/2001).</b> TWA: 115 mg/m <sup>3</sup> 8 hours. TWA: 40 ppm 8 hours.
ethylbenzene	<b>Minsitry of Labor and Employment (Brazil, 11/2001).</b> TWA: 340 mg/m <sup>3</sup> 8 hours. TWA: 78 ppm 8 hours.
m-phenylenebis(methylamine)	<b>ACGIH TLV (United States, 3/2019).</b> <b>Absorbed through skin.</b> C: 0.018 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 appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**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. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**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

## Section 8. Exposure controls/personal protection

<b>Hygiene measures</b>	: 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.
<b>Eye protection</b>	: Chemical splash goggles and face shield.
<b>Skin protection</b>	
<b>Hand protection</b>	: 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.
<b>Gloves</b>	: nitrile neoprene
<b>Body protection</b>	: 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. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
<b>Other skin protection</b>	: 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.
<b>Respiratory protection</b>	: 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.

## Section 9. Physical and chemical properties

<b>Appearance</b>	
<b>Physical state</b>	: Liquid.
<b>Color</b>	: Not available.
<b>Odor</b>	: Amine-like. [Strong]
<b>pH</b>	: Not available.
<b>Melting point</b>	: Not available.
<b>Boiling point</b>	: >37.78°C (>100°F)
<b>Flash point</b>	: Closed cup: 40°C (104°F)
<b>Evaporation rate</b>	: Not available.
<b>Flammability (solid, gas)</b>	: Not available.
<b>Lower and upper explosive (flammable) limits</b>	: Not available.
<b>Vapor pressure</b>	: Not available.
<b>Vapor density</b>	: Not available.
<b>Relative density</b>	: 1
<b>Bulk density (g/cm<sup>3</sup>)</b>	: 1
<b>Solubility</b>	: Insoluble in the following materials: cold water.



## Section 9. Physical and chemical properties

- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Viscosity** : Kinematic (40°C (104°F)): <0.14 cm<sup>2</sup>/s (<14 cSt)

## 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** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : When exposed to high temperatures may produce hazardous decomposition products.
- Incompatible materials** : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.
- Hazardous decomposition products** : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Benzyl alcohol	LC50 Inhalation Dusts and mists	Rat	>4178 mg/m <sup>3</sup>	4 hours
	LD50 Dermal	Rabbit	2000 mg/kg	-
	LD50 Oral	Rat	1.23 g/kg	-
xylene	LD50 Dermal	Rabbit	>1.7 g/kg	-
	LD50 Oral	Rat	4.3 g/kg	-
2-methylpropan-1-ol	LC50 Inhalation Vapor	Rat	24.6 mg/l	4 hours
	LD50 Dermal	Rabbit	2460 mg/kg	-
	LD50 Oral	Rat	2830 mg/kg	-
2,4,6-tris (dimethylaminomethyl) phenol	LD50 Dermal	Rabbit	1.28 g/kg	-
	LD50 Dermal	Rat	1280 mg/kg	-
	LD50 Oral	Rat	1200 mg/kg	-
N-(3-(trimethoxysilyl)propyl) ethylenediamine	LD50 Oral	Rat	2413 mg/kg	-
	LC50 Inhalation Vapor	Rat	17.8 mg/l	4 hours
	LD50 Dermal	Rabbit	17.8 g/kg	-
ethylbenzene	LD50 Oral	Rat	3.5 g/kg	-
	LC50 Inhalation Gas.	Rat	700 ppm	1 hours
	LD50 Dermal	Rat - Male, Female	>3100 mg/kg	-
m-phenylenebis (methylamine)	LD50 Oral	Rat	930 mg/kg	-



## Section 11. Toxicological information

bisphenol A	LD50 Dermal	Rabbit	3600 mg/kg	-
	LD50 Oral	Rat	3.25 g/kg	-
salicylic acid	LD50 Oral	Rat	0.891 g/kg	-

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

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
xylene	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
2,4,6-tris (dimethylaminomethyl) phenol	Skin - Visible necrosis	Rabbit	-	4 hours	7 days
m-phenylenebis (methylamine)	Skin - Severe irritant	Rat	-	4 hours	4 hours

### 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.

### Sensitization

Product/ingredient name	Route of exposure	Species	Result
2,4,6-tris (dimethylaminomethyl) phenol	skin	Guinea pig	Sensitizing
m-phenylenebis (methylamine)	skin	Mouse	Sensitizing

### Conclusion/Summary

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

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

### Mutagenicity

Not available.

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

### Carcinogenicity

Not available.

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

### Classification

Product/ingredient name	OSHA	IARC	NTP
xylene	-	3	-
ethylbenzene	-	2B	-

**Carcinogen Classification code:**

IARC: 1, 2A, 2B, 3, 4

NTP: Known to be a human carcinogen; Reasonably anticipated to be a human carcinogen

OSHA: +

Not listed/not regulated: -

### Reproductive toxicity

## Section 11. Toxicological information

Not available.

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

### Teratogenicity

Not available.

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

### Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
xylene	Category 3	Not applicable.	Respiratory tract irritation
2-methylpropan-1-ol	Category 3 Category 3	Not applicable. Not applicable.	Narcotic effects Respiratory tract irritation
bisphenol A	Category 3	Not applicable.	Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
ethylbenzene	Category 2	Not determined	hearing organs

**Target organs** : Contains material which causes damage to the following organs: blood, kidneys, liver, heart, brain, central nervous system (CNS).  
Contains material which may cause damage to the following organs: lungs, the nervous system, gastrointestinal tract, upper respiratory tract, skin, ears, eye, lens or cornea.

### Aspiration hazard

Name	Result
benzyl alcohol	ASPIRATION HAZARD - Category 2
xylene	ASPIRATION HAZARD - Category 1
2-methylpropan-1-ol	ASPIRATION HAZARD - Category 2
ethylbenzene	ASPIRATION HAZARD - Category 1

**Information on the likely routes of exposure** : Not available.

### Potential acute health effects

**Eye contact** : Causes serious eye damage.

**Inhalation** : Harmful if inhaled. May cause respiratory irritation.

**Skin contact** : Causes severe burns. Harmful in contact with skin. Defatting to the skin. May cause an allergic skin reaction.

**Ingestion** : Harmful if swallowed. May be fatal if swallowed and enters airways.

### Symptoms related to the physical, chemical and toxicological characteristics

## Section 11. Toxicological information

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
dryness  
cracking  
blistering may occur  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
stomach pains  
nausea or vomiting  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

### Delayed and immediate effects and also chronic effects from short and long term exposure

- Conclusion/Summary** : There are no data available on the mixture itself. Trimethoxysilanes are capable of forming methanol if hydrolyzed or ingested. If swallowed, methanol may be harmful or fatal or cause blindness. This product either contains formaldehyde or is capable of releasing formaldehyde above 0.5 ppm under certain conditions. Formaldehyde is a known cancer hazard, a skin sensitizer and a respiratory sensitizer. Exposure to component solvent vapor 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. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. 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.

### Short term exposure

- Potential immediate effects** : There are no data available on the mixture itself.

- Potential delayed effects** : There are no data available on the mixture itself.

### Long term exposure

## Section 11. Toxicological information

**Potential immediate effects** : There are no data available on the mixture itself.

**Potential delayed effects** : There are no data available on the mixture itself.

### Potential chronic health effects

Not available.

**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. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Carcinogenicity** : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : Suspected of damaging the unborn child.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : May damage fertility.

### Numerical measures of toxicity

#### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
NOVAGUARD 260 HARDENER	1386.9	1680	88686.2	26.6	1.8
benzyl alcohol	1230	2000	N/A	N/A	1.5
xylene	4300	1100	N/A	11	1.5
Formaldehyde, polymer with N,N-dimethyl-1,3-propanediamine and phenol	500	N/A	N/A	N/A	N/A
2-methylpropan-1-ol	2830	2460	N/A	24.6	N/A
2,4,6-tris(dimethylaminomethyl)phenol	1200	1280	N/A	N/A	N/A
N-(3-(trimethoxysilyl)propyl)ethylenediamine	2413	N/A	N/A	11	1.5
ethylbenzene	3500	17800	N/A	17.8	1.5
m-phenylenebis(methylamine)	930	2500	4500	N/A	N/A
bisphenol A	3250	3600	N/A	N/A	N/A
salicylic acid	891	N/A	N/A	N/A	N/A

### Other information :

Trimethoxysilanes are capable of forming methanol if hydrolyzed or ingested. If swallowed, methanol may be harmful or fatal or cause blindness. Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. This product either contains formaldehyde or is capable of releasing formaldehyde above 0.5 ppm under certain conditions. Formaldehyde is a known cancer hazard, a skin sensitizer and a respiratory sensitizer. Avoid contact with skin and clothing. Wash thoroughly after handling. Emits toxic fumes when heated.

## Section 12. Ecological information

### Ecotoxicity

Product/ingredient name	Result	Species	Exposure
2-methylpropan-1-ol 2,4,6-tris (dimethylaminomethyl)phenol ethylbenzene	Acute EC50 1100 mg/l	Daphnia	48 hours
	Acute LC50 175 mg/l	Fish	96 hours
bisphenol A	Acute LC50 150 to 200 mg/l Fresh water	Fish	96 hours
	Chronic EC10 3.47 mg/l Marine water	Algae - Cochlodinium polykrikoides - Exponential growth phase	72 hours
salicylic acid	Chronic NOEC 0.86 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	21 days
	Acute EC50 1147.57 mg/l Fresh water	Daphnia - Daphnia longispina - Neonate	48 hours
	Chronic NOEC 5.6 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	21 days

### Persistence/degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
benzyl alcohol	-	-	Readily
xylene	-	-	Readily
ethylbenzene	-	-	Readily

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
benzyl alcohol	1.1	-	low
xylene	3.16	7.4 to 18.5	low
2-methylpropan-1-ol	0.76	-	low
ethylbenzene	3.15	79.43	low
m-phenylenebis (methylamine)	0.18	2.69	low
bisphenol A	3.32	43.65	low
salicylic acid	2.26	-	low

### Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : 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 minimized 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

## Section 13. Disposal considerations

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. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

	UN	Brazil (ANTT)	IMDG	IATA
<b>UN number</b>	UN3469	UN3469	UN3469	UN3469
<b>UN proper shipping name</b>	PAINT, FLAMMABLE, CORROSIVE	PAINT, FLAMMABLE, CORROSIVE	PAINT, FLAMMABLE, CORROSIVE	PAINT, FLAMMABLE, CORROSIVE
<b>Transport hazard class(es)</b>	3 (8)	3 (8)	3 (8)	3 (8)
<b>Packing group</b>	III	III	III	III
<b>Environmental hazards</b>	Yes. The environmentally hazardous substance mark is not required.	Yes. The environmentally hazardous substance mark is not required.	Yes.	Yes. The environmentally hazardous substance mark is not required.
<b>Marine pollutant substances</b>	Not applicable.	Not applicable.	(Formaldehyde, polymer with N,N-dimethyl-1,3-propanediamine and phenol, bisphenol A)	Not applicable.

### Additional information

- UN** : None identified.
- Brazil** : None identified.
- Risk number** : 38
- 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.

**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.

## Section 15. Regulatory information

**Safety, health and environmental regulations specific for the product** : No known specific national and/or regional regulations applicable to this product (including its ingredients).

## Section 16. Other information

### History

**Date of previous issue** : 10/24/2019

**Version** : 5.01  
EHS

**Key to abbreviations** : ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway  
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  
IMDG = International Maritime Dangerous Goods  
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  
UN = United Nations

**References** : ABNT NBR 14725-4: 2014  
ANTT - National Land Transportation Agency

 Indicates information that has changed from previously issued version.

### Disclaimer

***The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.***