SAFETY DATA SHEET

pPG

Safety Data Sheet according to GB/T 16483-2008 and GB/T 17519-2013

Date of issue/Date of revision 8 November 2021

Version 8

 • • • • •	••••••	

Section 1. Chemical product and company identification		
Product code	: 1055660	
Product name	: NOVAGUARD 200/840 HRD	
Product name	: NOVAGUARD 200/840 HRD	
Product type	: Liquid.	
Relevant identified uses o	f the substance or mixture and uses advised against	
Product use	: Industrial applications.	
Use of the substance/ mixture	: Coating. Paints. Painting-related materials.	
Uses advised against	: Not applicable.	
Supplier's details	: PPG Coatings (Kunshan) Co., Ltd 53 Jinyang Road, Lujia Town, 215331 Kunshan City, Jiangsu Province, P.R. China Tel: 86 512 57678859 Fax: 86 512 57678857	
Emergency telephone number (with hours of operation)	: 00 86 532 83889090	

Section 2. Hazards identification

Classification of the substance or mixture according to GB 13690-2009 and GB 30000-2013

Emergency overview

Liquid.

Harmful if swallowed.

Toxic in contact with skin or if inhaled.

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

Causes serious eye damage.

May cause damage to organs through prolonged or repeated exposure.

Toxic to aquatic life with long lasting effects.

IF INHALED: Immediately call a POISON CENTER or doctor. IF SWALLOWED: Immediately call a POISON CENTER or doctor. IF ON SKIN (or hair): Immediately call a POISON CENTER or doctor. IF ON SKIN: Call a POISON CENTER or doctor if you feel unwell. If skin irritation or rash occurs: Get medical advice or attention. IF IN EYES: Immediately call a POISON CENTER or doctor.

See Section 12 for environmental precautions.

Product name NOVAGUARD 200/840 HRD

Section 2. Hazar	ds identification
Classification of the substance or mixture	 ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 3 ACUTE TOXICITY (inhalation) - Category 3 SKIN CORROSION/IRRITATION - Category 1A SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1 SKIN SENSITIZATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 AQUATIC HAZARD (LONG-TERM) - Category 2 Fercentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 2.8% Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 1.9% Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 12.8%
GHS label elements	
Hazard pictograms	
Signal word	: Danger
Hazard statements	 Farmful if swallowed. Toxic in contact with skin or if inhaled. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage. May cause damage to organs through prolonged or repeated exposure. Toxic to aquatic life with long lasting effects.
Precautionary statements	
Prevention	: Wear protective gloves, protective clothing and eye or face protection. 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 thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.
Response	: Collect spillage. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. Wash contaminated clothing before reuse. IF ON SKIN: Call a POISON CENTER or doctor if you feel unwell. Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
Suitable extinguishing media	: Use an extinguishing agent suitable for the surrounding fire.
Storage	: Store locked up.
Disposal	: Dispose of contents and container in accordance with all local, regional, national and international regulations.

Product name NOVAGUARD 200/840 HRD

Section 2. Hazards identification

Physical and chemical hazards	: No known significant effects or critical hazards.

Health hazards : Farmful if swallowed. Toxic in contact with skin or if inhaled. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage.

Symptoms related to the physical, chemical and toxicological characteristics

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

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

<u>Short term exposure</u>	
Potential immediate effects	: Not available.
Potential delayed effects	: Not available.
Long term exposure	
Potential immediate effects	: Not available.
Potential delayed effects	: Not available.
Environmental hazards	: Toxic to aquatic life with long lasting effects.
Other hazards which do not result in classification	: None known.

Section 3. Composition/information on ingredients

Substance/mixture

: Mixture

CAS number/other identifiers

CAS number : Not applicable.		
Ingredient name	%	CAS number
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine) benzyl alcohol N-(3-(trimethoxysilyl)propyl)ethylenediamine 2,4,6-tris(dimethylaminomethyl)phenol	70 - 100 10 - <25 1 - <10 1 - <10	6864-37-5 100-51-6 1760-24-3 90-72-2

China Pa	age:	3/13
----------	------	------

Product name NOVAGUARD 200/840 HRD

Section 3. Composition/information on ingredients

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 necess	ary 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.

Most important symptoms/effects, acute and delayed

<u>s</u>
: Causes serious eye damage.
: Toxic if inhaled.
: Causes severe burns. Toxic in contact with skin. May cause an allergic skin reaction.
: Harmful if swallowed.
<u>oms</u>
: Adverse symptoms may include the following: pain watering redness
: No specific data.
: Adverse symptoms may include the following: pain or irritation redness blistering may occur
: Adverse symptoms may include the following: stomach pains
cal attention and special treatment needed, if necessary
: 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.
: No specific treatment.
: No action shall be taken involving any personal risk or without suitable training. If i 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.

Product name NOVAGUARD 200/840 HRD

Section 4. First aid measures

See toxicological information (Section 11)

Section 5. Fire-fig	hting measures
Extinguishing media	
Suitable extinguishing media	: Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: None known.
Specific hazards arising from the chemical	: In a fire or if heated, a pressure increase will occur and the container may burst. This material is 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.
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, protect	tiv	e 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. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
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 co	nta	ainment 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.

Product name NOVAGUARD 200/840 HRD

Section 6. Accidental release measures

Large spill

: Stop leak if without risk. Move containers from spill area. 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.

contamination. See Section 10 for incompatible materials before handling or use.

Section 7. Handling and storage

Precautions for safe : Put on appropriate personal protective equipment (see Section 8). Persons with a handling 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 vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. **Conditions for safe storage**, : 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 including any materials (see Section 10) and food and drink. Store locked up. Keep container incompatibilities 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

Section 8. Exposure controls/personal protection

Control parameters	
Occupational exposure limits	
None.	
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.
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.

Product name NOVAGUARD 200/840 HRD

Section 8. Exposure controls/personal protection

Individual protection measures

Hygiene measures	Vash hands, forearms and face thoroughly after handling che eating, smoking and using the lavatory and at the end of the v Appropriate techniques should be used to remove potentially Contaminated work clothing should not be allowed out of the contaminated clothing before reusing. Ensure that eyewash s showers are close to the workstation location.	working period. contaminated clothing. workplace. Wash
Eye protection	Chemical splash goggles and face shield.	
Skin protection		
Hand protection	Chemical-resistant, impervious gloves complying with an app be worn at all times when handling chemical products if a risk his is necessary. Considering the parameters specified by the check during use that the gloves are still retaining their protect should be noted that the time to breakthrough for any glove m lifferent for different glove manufacturers. In the case of mix several substances, the protection time of the gloves cannot l estimated.	assessment indicates ne glove manufacturer, ctive properties. It naterial may be tures, consisting of
Gloves	itrile neoprene	
Body protection	Personal protective equipment for the body should be selecte being performed and the risks involved and should be approv before handling this product.	
Other skin protection	Appropriate footwear and any additional skin protection meas selected based on the task being performed and the risks inv approved by a specialist before handling this product.	
Respiratory protection	Respirator selection must be based on known or anticipated en azards of the product and the safe working limits of the sele- vorkers are exposed to concentrations above the exposure li appropriate, certified respirators. Use a properly fitted, air-pu espirator complying with an approved standard if a risk asses necessary.	cted respirator. If mit, they must use rifying or air-fed

Section 9. Physical and chemical properties

<u>Appearance</u>	
Physical state	: Liquid.
Boiling point	: >37.78°C (>100°F)
Flash point	: Closed cup: 106°C (222.8°F)
Lower and upper explosive (flammable) limits	: Greatest known range: Lower: 1.3% Upper: 13% (benzyl alcohol)
Relative density	: 0.96
Solubility	: Insoluble in the following materials: cold water.
Viscosity	: K inematic (40°C): >21 mm²/s

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	: Depending on conditions, decomposition products may include the following materials: carbon oxides nitrogen oxides Formaldehyde. metal oxide/oxides

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2,2'-dimethyl-4,4'-methylenebis (cyclohexylamine)	LC50 Inhalation Dusts and mists	Rat	420 mg/m ³	4 hours
	LD50 Dermal	Rabbit	>0.2 g/kg	-
	LD50 Oral	Rat	>0.32 g/kg	-
benzyl alcohol	LC50 Inhalation Dusts and mists	Rat	>4178 mg/m ³	4 hours
	LD50 Dermal	Rabbit	2000 mg/kg	-
	LD50 Oral	Rat	1.23 g/kg	-
N-(3-(trimethoxysilyl)propyl) ethylenediamine	LD50 Oral	Rat	2413 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	-

Irritation/Corrosion

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

Sensitization

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

Mutagenicity

Not available.

Section 11. Toxicological information

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Name		Route of exposure	Target organs
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	Category 2	-	-

Aspiration hazard

Name	Result
benzyl alcohol	ASPIRATION HAZARD - Category 2

: Not available. Information on the likely

routes of exposure

Potential acute health effects

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

Symptoms related to the physical, chemical and toxicological characteristics

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
Dolayod and immodia	to offects and also chronic offects from short and long form exposure

Delayed and immediate effects and also chronic effects from short and long term exposure Short term exposure **Potential immediate** : Not available. effects

Potential delayed effects : Not available.

Product name NOVAGUARD 200/840 HRD

Section 11. Toxicological information

Long term exposure	
Potential immediate effects	Not available.
Potential delayed effects	: Not available.
Potential chronic health eff	<u>ets</u>
General	: May cause damage to organs through prolonged or repeated exposure. 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.
Reproductive toxicity	: No known significant effects or critical hazards.

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)
OVAGUARD 200/840 HRD	579.3	365.4	N/A	392.9	0.59
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	500	300	N/A	N/A	0.5
benzyl alcohol	1230	2000	N/A	N/A	1.5
N-(3-(trimethoxysilyl)propyl)ethylenediamine	2413	N/A	N/A	11	1.5
2,4,6-tris(dimethylaminomethyl)phenol	1200	1280	N/A	N/A	N/A

Other information

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. Trimethoxysilanes are capable of forming methanol if hydrolyzed or ingested. If swallowed, methanol may be harmful or fatal or cause blindness. Contains a substance that may emit formaldehyde if stored beyond its shelf life and/or during cure at curing temperatures greater than 60C (140F).

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
₽,4,6-tris (dimethylaminomethyl)phenol	Acute LC50 175 mg/l	Fish	96 hours

Persistence/degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
penzyl alcohol	-	-	Readily

Bioaccumulative potential

Product name NOVAGUARD 200/840 HRD

Section 12. Ecological information

Product/ingredient name	LogPow	BCF	Potential
2,2'-dimethyl-4,4'- methylenebis (cyclohexylamine) benzyl alcohol	1.8 0.87	-	low
2,4,6-tris (dimethylaminomethyl)phenol	0.219	-	low

Mobility in soil

Soil/water partition	: Not available.
coefficient (Koc)	

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
	landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty
	containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	China	UN	IMDG	ΙΑΤΑ	
UN number	UN2922	UN2922	UN2922	UN2922	
UN proper shipping name	CORROSIVE LIQUID, TOXIC, N.O.S.	CORROSIVE LIQUID, TOXIC, N.O.S.	CORROSIVE LIQUID, TOXIC, N.O.S.	CORROSIVE LIQUID, TOXIC, N.O.S.	
Transaction	(2,2'-dimethyl-4,4'- methylenebis (cyclohexylamine), 2,4,6-tris (dimethylaminomethyl) phenol)	(2,2'-dimethyl-4,4'- methylenebis (cyclohexylamine), 2,4,6-tris (dimethylaminomethyl) phenol)	(2,2'-dimethyl-4,4'- methylenebis (cyclohexylamine), 2,4,6-tris (dimethylaminomethyl) phenol)	(2,2'-dimethyl-4,4'- methylenebis (cyclohexylamine), 2,4,6-tris (dimethylaminomethyl) phenol)	
Transport hazard class(es)	8 (6.1)	8 (6.1)	8 (6.1)	8 (6.1)	
Packing group	II	II	II	11	
Environmental hazards	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.	
				China Page: 11/13	

Product name NOV	5660 /AGUARD 200/840 HR		Date of issue 8 Novembe	r 2021 Version 8
Section 14. Transport information				
Marine pollutant substances	Not applicable.	Not applicable.	(2,2'-dimethyl-4,4'- methylenebis (cyclohexylamine))	Not applicable.
Additional informa	ition			
CN	: None identified.			
UN	: None identified.			
IMDG	: The marine pollutant	t mark is not required wl	nen transported in sizes of ≤	≤5 L or ≤5 kg.
	•	•	nark may appear if required	•
Transport in bulk to IMO instrument Section 15. China inventory (IE	Regulatory in		empted.	

Section 16. Other information

<u>History</u>	
Date of issue/Date of revision	: 8 November 2021
Date of previous issue	: 4/12/2019
Version	: 8
	EHS

Product name NOVAGUARD 200/840 HRD

Section 16. Other information

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

✓ Indicates information that has changed from previously issued version.

Notice to reader

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.