

SAFETY DATA SHEET



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

Date of issue/Date of revision 10 August 2025

Version 1.12

Section 1. Chemical product and company identification

Product code : 000001099231
Product name : NOVAGUARD 840/890 HARDENER GREEN
Product name : NOVAGUARD 840/890 HARDENER GREEN
Other means of identification : 00187929
Product type : Liquid.

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

Product use : Professional applications, Used by spraying.
Use of the substance/mixture : Hardener.
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 30000.1-2024 and GB 30000-2013

Emergency overview

Liquid.
Green.
Amine-like. [Strong]
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 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.

Section 2. Hazards 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 SENSITISATION - Category 1
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
- Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 5.3%
- 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

- : 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.

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 vapour. 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. If skin irritation or rash occurs: Get medical advice or attention. Wash contaminated clothing before reuse. 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.

Physical and chemical hazards

- : No known significant effects or critical hazards.

Section 2. Hazards identification

Health hazards : 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.

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 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.

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

Other means of identification : 00187929

CAS number/other identifiers

CAS number : Not applicable.

Ingredient name	%	CAS number
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	70 - 100	6864-37-5
benzyl alcohol	10 - <25	100-51-6
N-(3-(trimethoxysilyl)propyl)ethylenediamine	1 - <10	1760-24-3
2,4,6-tris(dimethylaminomethyl)phenol	1 - <10	90-72-2

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

Section 3. Composition/information on ingredients

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 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.

Most important symptoms/effects, acute and delayed

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.

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

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.
- 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.

See toxicological information (Section 11)

Section 5. Firefighting 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, 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".

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.

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.

Section 6. Accidental release measures

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 (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt 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). 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. 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, 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.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

Recommended monitoring procedures

: 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.

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 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.
- 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.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Liquid.
- Colour** : Green.
- Odour** : Amine-like. [Strong]
- Boiling point** : >37.78°C (>100°F)
- Flash point** : Closed cup: 105°C (221°F)
- Lower and upper explosive (flammable) limits** : Not available.
- Relative density** : 0.97

Solubility(ies)

Media	Result
cold water	Not soluble

- Auto-ignition temperature** : 275°C (527°F)
- Viscosity** : Dynamic (room temperature): Not available.
Kinematic (room temperature): Not available.
Kinematic (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: oxidising 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	Dose
2,2'-dimethyl-4,4'-methylenebis (cyclohexylamine)	Rat - Oral - LD50	>0.32 g/kg
-	Rabbit - Dermal - LD50	>0.2 g/kg
-	Rat - Inhalation - LC50 Dusts and mists	420 mg/m ³ [4 hours]
benzyl alcohol	Rabbit - Dermal - LD50	>2000 mg/kg
-	Rat - Oral - LD50	1200 mg/kg
-	Rat - Inhalation - LC50 Dusts and mists	>5 mg/l [4 hours]
N-(3-(trimethoxysilyl)propyl)ethylenediamine	Rat - Oral - LD50	2413 mg/kg
-	Rabbit - Dermal - LD50	>2000 mg/kg
2,4,6-tris(dimethylaminomethyl)phenol	Rat - Dermal - LD50	1280 mg/kg
-	Rat - Oral - LD50	1200 mg/kg

Product Conclusion : There are no data available on the mixture itself.

Skin corrosion/irritation

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

Serious eye damage/eye irritation

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

Respiratory corrosion/irritation

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

Sensitisation

Skin

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

Respiratory

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

Mutagenicity

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

Section 11. Toxicological information

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.

Specific target organ toxicity (single exposure)

Product/ingredient name	Result
N-(3-(trimethoxysilyl)propyl)ethylenediamine	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Result
2,2'-dimethyl-4,4'-methylenebis (cyclohexylamine)	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2

Aspiration hazard

Product/ingredient name	Result
benzyl alcohol	ASPIRATION HAZARD - Category 2

Information on likely routes of exposure : Not available.

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

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.

Section 11. Toxicological information

Potential delayed effects : Not available.

Potential chronic health effects

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

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 (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
NOVAGUARD 840/890 HARDENER GREEN	577.6	365.3	N/A	N/A	0.63
2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	500	300	N/A	N/A	0.5
benzyl alcohol	1200	2500	N/A	N/A	N/A
N-(3-(trimethoxysilyl)propyl)ethylenediamine	2413	2500	N/A	N/A	N/A
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 vapour/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. Exposure to amine vapor has been reported to cause transient corneal edema described as blue haze, halo effect, foggy or blurred vision for several hours. This condition is typically temporary and does not cause permanent visual effects. When the proper eye protection specified in Section 8 is worn, exposure is significantly reduced and the condition has not been observed.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Dose / Exposure
N-(3-(trimethoxysilyl)propyl)ethylenediamine	EC50	Fish	597 mg/l [96 hours]
2,4,6-tris(dimethylaminomethyl)phenol	Acute - LC50	Daphnia	>100 mg/l [48 hours]
	Acute - LC50	Fish	>100 mg/l [96 hours]

Conclusion/Summary : Not available.

Persistence/degradability

Section 12. Ecological information

Product/ingredient name	Test	Result	Dose / Inoculum
2,4,6-tris (dimethylaminomethyl)phenol	OECD [Ready Biodegradability - Closed Bottle Test]	4% [28 days] - Not readily	

Conclusion/Summary : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
benzyl alcohol	-	-	Readily
2,4,6-tris (dimethylaminomethyl) phenol	-	-	Not readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
2,2'-dimethyl-4,4'- methylenebis (cyclohexylamine)	1.8	-	Low
benzyl alcohol	0.87	-	Low
2,4,6-tris (dimethylaminomethyl)phenol	0.219	-	Low

Mobility in soil

**Soil/water partition
coefficient** : Not available.

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

Section 13. Disposal considerations

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

Section 14. Transport information

	China	UN	IMDG	IATA
UN number	UN2922	UN2922	UN2922	UN2922
UN proper shipping name	CORROSIVE LIQUID, TOXIC, N.O.S. (2,2'-dimethyl-4,4'-methylenebis (cyclohexylamine), 2,4,6-tris (dimethylaminomethyl) phenol)	CORROSIVE LIQUID, TOXIC, N.O.S. (2,2'-dimethyl-4,4'-methylenebis (cyclohexylamine), 2,4,6-tris (dimethylaminomethyl) phenol)	CORROSIVE LIQUID, TOXIC, N.O.S. (2,2'-dimethyl-4,4'-methylenebis (cyclohexylamine), 2,4,6-tris (dimethylaminomethyl) phenol)	Corrosive liquid, toxic, n.o.s. (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	II
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.
Marine pollutant substances	Not applicable.	Not applicable.	(2,2'-dimethyl-4,4'-methylenebis (cyclohexylamine))	Not applicable.

Additional information

CN : None identified.

UN : None identified.

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.

Transport in bulk according to IMO instruments : Not applicable.

Section 15. Regulatory information

China inventory (IECSC) : All components are listed or exempted.

References :

- Production Safety Law of the People's Republic of China
- Code of Occupational Disease Prevention of the People's Republic of China
- Environmental Protection Law of the People's Republic of China
- Fire Control Law of the People's Republic of China
- Regulations on the Control over Safety of Dangerous Chemicals
- Occupational exposure limits for hazardous agents in the workplace chemical hazardous agents (GBZ2.1)
- Specification for classification and labelling of chemicals according to Part 1: General rules (GB 30000.1-2024)
- Safety data sheet for chemical products - Content and order of sections (GB/

Section 15. Regulatory information

T16483)

Guidance on the compilation of safety data sheet for chemical products (GB/T17519)

General rule for preparation of precautionary label for chemicals (GB15258)

Safety rules for classification, precautionary labeling and precautionary statements of chemicals (GB30000.2-29)

Section 16. Other information

History

Date of issue/Date of revision : 10 August 2025

Version : 1.12

Date of previous issue : 8/8/2025

First issue date : 8/23/2022

Prepared by : 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



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.