

# SAFETY DATA SHEET



The information in this Safety Data Sheet is required pursuant to Hazardous Product Regulations 2023.

Date of issue/Date of revision 13 February 2025

Version 3

## Section 1. Identification

**Product name** : NOVAGUARD 5090 FC - B  
**Product code** : 00462819  
**Other means of identification** : Not available.  
**Product type** : Liquid.

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

**Product use** : Industrial applications, Professional applications, Used by spraying.  
**Use of the substance/mixture** : Coating.; Hardener.  
**Uses advised against** : Not applicable.

**Supplier** : PPG Architectural Coatings Canada, Inc.  
1550, rue Ampère, bureau 500  
Boucherville (Québec) J4B 7L4  
Canada  
+1 450-655-3121

PPG Industries, Inc.  
One PPG Place  
Pittsburgh, PA 15272

**Emergency telephone number** : (412) 434-4515 (U.S.)  
(514) 645-1320 (Canada)  
SETIQ Interior de la República: 800-00-214-00 (México)  
SETIQ Ciudad de México: (55) 5559-1588 (México)

**Technical Phone Number** : 888-977-4762

## Section 2. Hazard identification

**Classification of the substance or mixture** : **ACUTE TOXICITY (dermal) - Category 3**  
**ACUTE TOXICITY (inhalation) - Category 4**  
**SKIN CORROSION - Category 1**  
**SERIOUS EYE DAMAGE - Category 1**  
**SKIN SENSITIZATION - Category 1B**  
**TOXIC TO REPRODUCTION - Category 1B**  
**SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1**

### GHS label elements

**Hazard pictograms** :



## Section 2. Hazard identification

**Signal word** : Danger

**Hazard statements** : Toxic in contact with skin.  
Causes severe skin burns and eye damage.  
May cause an allergic skin reaction.  
Harmful if inhaled.  
May damage fertility or the unborn child.  
Causes damage to organs through prolonged or repeated exposure. (respiratory tract)

### Precautionary statements

**Prevention** : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye or face protection. Use only outdoors or in a well-ventilated area. 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** : **IF** exposed or concerned: Get medical advice or attention. **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.

**Storage** : Store locked up.

**Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Supplemental label elements** : Emits toxic fumes when heated.

Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 12.3%

**Other hazards which do not result in classification** : None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture  
**Product name** : NOVAGUARD 5090 FC - B  
**Other means of identification** : Not available.

### CAS number/other identifiers

Ingredient name	Synonyms	% (w/w)	CAS number
2-piperazin-1-ylethylamine	1-Piperazineethanamine; 1-(2-Aminoethyl) piperazine; N-(Aminoethyl)piperazine; 2-(1-Piperazinyl) ethylamine; Piperazine, 1-(2-aminoethyl)-; 1-(2-AMINOETHYL)-PIPERAZINE; N-AMINOETHYLPIPERAZINE; 1-(2-AMINOETHYL)PIPERAZIN; 2-(Piperazin-1-yl)ethan-1-amine; 2-(Piperazin-1-yl)ethylamine;	65 - 85*	140-31-8

## Section 3. Composition/information on ingredients

Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)-	1-Aminoethylpiperazine  Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(2-aminomethylethyl)-.omega.-(2-aminomethylethoxy)-; Poly[oxy(methyl-1,2-ethanediyl)], alpha-(2-aminomethylethyl)-.omega.-(2-aminomethylethoxy)-; .alpha.,.omega.-Diaminopolypropylene glycol; Jeffamine 400; Jeffamine D 600; polyoxypropylenediamine; Diaminopolypropylene glycol; Poly(oxy(methyl-1,2-ethanediyl)), alpha-(2-aminomethylethyl)-omega-(2-aminomethylethoxy)-; poly(oxypropylene)diamine; Poly(oxy(methyl-1,2-ethanediyl)), .alpha.-(2-aminomethylethyl)-.omega.-(2-aminomethylethoxy)-; JEFFAMINE D-2000	7 - 13*	9046-10-0 (n = 2-6)
2,2'-iminodiethylamine	diethylenetriamine; 2,2'-iminodi(ethylamine); 1,2-Ethanediamine, N1-(2-aminoethyl)-; DETA; 1,2-Ethanediamine, N-(2-aminoethyl)-; N-(2-Aminoethyl)-1,2-ethanediamine; 2,2'-Diaminodiethylamine; bis(2-Aminoethyl)amine; 1,4,7-Tri-(aza)-heptane; di(2-aminoethyl)amine; 1,5-DIAMINO-3-AZAPENTANE	1 - 5*	111-40-0
2-(2-aminoethylamino)ethanol	(AEEA); Ethanol, 2-[(2-aminoethyl)amino]-; N-(Aminoethyl)ethanolamine; N-2-hydroxyethylethylenediamine; N-(2-aminoethyl)ethanolamine; Ethanol, 2-(2-aminoethyl)amino)-; N-2-hydroxyethylethylenediamine; (2-AMINOETHYL) ETHANOLAMINE; AMINOETHYLETHANOLAMINE; 2-(2-AMINOETHYL)AMINO)ETHANOL; N-(2-Hydroxyethyl)ethylenediamine	0.1 - 1*	111-41-1

Ranges if listed above for hazardous ingredient(s) are prescribed ranges. The actual concentration(s) or actual concentration range(s) are being withheld as a trade secret.

SUB codes represent substances without registered CAS Numbers.

**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.**

## Section 4. First-aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

### 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.

### Most important symptoms/effects, 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** : No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

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

### 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.

## Section 4. First-aid measures

- 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. Fire-fighting 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.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon oxides  
nitrogen oxides

- 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 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).

### Methods and materials 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 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

- Protective measures** : 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. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. 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.
- Special precautions** : Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Vapors are heavier than air and may spread along floors. If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.
- Advice on general occupational hygiene** : Wash hands thoroughly after handling.
- 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.
- Conditions for safe storage, including any incompatibilities** : Do not store above the following temperature: 50°C (122°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 unlabeled containers. Use appropriate containment to avoid environmental contamination.

## Section 8. Exposure controls/personal protection

### Control parameters

### Occupational exposure limits

## Section 8. Exposure controls/personal protection

Ingredient name	Exposure limits
<p>2-piperazin-1-ylethylamine Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)-2,2'-iminodiethylamine</p>	<p>None. None.</p> <p><b>CA Alberta Provincial (Canada, 3/2023)</b> Absorbed through skin. OEL 8 hours: 4.2 mg/m<sup>3</sup>. OEL 8 hours: 1 ppm.</p> <p><b>CA British Columbia Provincial (Canada, 4/2024)</b> Absorbed through skin. TWA 8 hours: 1 ppm.</p> <p><b>CA Ontario Provincial (Canada, 6/2019)</b> Absorbed through skin. TWA 8 hours: 1 ppm.</p> <p><b>CA Quebec Provincial (Canada, 2/2024)</b> Absorbed through skin. TWAEV 8 hours: 1 ppm. TWAEV 8 hours: 4.2 mg/m<sup>3</sup>.</p> <p><b>CA Saskatchewan Provincial (Canada, 4/2021)</b> Absorbed through skin. STEL 15 minutes: 2 ppm. TWA 8 hours: 1 ppm.</p>
2-(2-aminoethylamino)ethanol	None.

### Consult local authorities for acceptable exposure limits.

**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

**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

## Section 8. Exposure controls/personal 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** : butyl rubber
- 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.
- Color** : Clear.
- Odor** : Amine-like.
- pH** : Not applicable.
- Melting point** : Not available.
- Boiling point** : >37.78°C (>100°F)
- Flash point** : Closed cup: 93.33°C (200°F) [Product does not sustain combustion.]
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Flammability** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Relative density** : 0.98
- Density ( lbs / gal )** : 8.18
- |                          | Media      | Result      |
|--------------------------|------------|-------------|
| <b>Solubility(ies)</b> : | cold water | Not soluble |
- Partition coefficient: n-octanol/water** : Not applicable.
- Viscosity** :  Dynamic (room temperature): Not available.  
Kinematic (room temperature): Not available.  
Kinematic (40°C (104°F)): >21 mm<sup>2</sup>/s (>21 cSt)
- % Solid. (w/w)** : 100

## Section 9. Physical and chemical properties

### Particle characteristics

Median particle size : Not applicable.

## 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.  
Refer to protective measures listed in sections 7 and 8.

**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

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Dose
2-piperazin-1-ylethylamine	Rat - Oral - LD50 Rabbit - Dermal - LD50 Rat - Inhalation - LC50 Dusts and mists	2140 mg/kg 866 mg/kg >5 mg/l [4 hours]
Poly[oxy(methyl-1,2-ethanediy)], α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)-	Rat - Oral - LD50	2885 mg/kg
2,2'-iminodiethylamine	Rat - Dermal - LD50 Rat - Oral - LD50 Rabbit - Dermal - LD50 Rat - Inhalation - LC50 Dusts and mists	2980 mg/kg 1080 mg/kg 1090 mg/kg 0.07 to 0.3 mg/l [4 hours]
2-(2-aminoethylamino)ethanol	Rat - Oral - LD50 Rat - Dermal - LD50 Rabbit - Dermal - LD50	3 g/kg 2250 mg/kg 2.25 g/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.

#### Sensitization

## Section 11. Toxicological information

Product/ingredient name	Species	Result
2-piperazin-1-ylethylamine	Guinea pig - skin OECD 406	Result: Sensitizing

### 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.

### 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
2,2'-iminodiethylamine	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
2-(2-aminoethylamino)ethanol	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

### Specific target organ toxicity (repeated exposure)

Product/ingredient name	Result
2-piperazin-1-ylethylamine	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (respiratory tract) (inhalation) - Category 1

**Target organs** : Contains material which causes damage to the following organs: upper respiratory tract.  
Contains material which may cause damage to the following organs: skin, eye, lens or cornea.

### Information on the likely routes of exposure

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

#### Over-exposure signs/symptoms

**Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness

**Inhalation** : Adverse symptoms may include the following:  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

## Section 11. Toxicological information

**Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

**Ingestion** : Adverse symptoms may include the following:  
stomach pains  
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. 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. 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.

### 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

**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

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

**General** : Causes 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** : May damage fertility or the unborn child.

### Numerical measures of toxicity

#### Acute toxicity estimates

## Section 11. Toxicological information

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
NOVAGUARD 5090 FC - B	2197.6	965.1	N/A	N/A	2.5
2-piperazin-1-ylethylamine	2140	866	N/A	N/A	N/A
Poly[oxy(methyl-1,2-ethanediyl)], $\alpha$ -(2-aminomethylethyl)- $\omega$ -(2-aminomethylethoxy)-2,2'-iminodiethylamine	2885	2980	N/A	N/A	N/A
2-(2-aminoethylamino)ethanol	1080	1090	N/A	N/A	0.05
	3000	2250	N/A	N/A	N/A

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species
2-piperazin-1-ylethylamine	Acute - EC50 OECD 202 58 mg/l [48 hours]	Daphnia
Poly[oxy(methyl-1,2-ethanediyl)], $\alpha$ -(2-aminomethylethyl)- $\omega$ -(2-aminomethylethoxy)-2,2'-iminodiethylamine	EC50 15 mg/l [72 hours]	Algae
	Acute - LC50 430 mg/l [96 hours]	Fish

**Conclusion/Summary** : Not available.

### Persistence and degradability

Product/ingredient name	Result
2-piperazin-1-ylethylamine	OECD 301F 0% [28 days] - Not readily
2,2'-iminodiethylamine	87% [21 days] - Readily

**Conclusion/Summary** : Not available.

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
2-piperazin-1-ylethylamine	-1.48	-	Low
2,2'-iminodiethylamine	-5.58	4.47	Low
2-(2-aminoethylamino)ethanol	-1.46	2.88	Low

### Mobility in soil

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

## 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 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.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

## Section 14. Transport information

	TDG	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class (es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.

### Additional information

**TDG** : None identified.

**IMDG** : None identified.

**IATA** : None identified.

**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

### National Inventory List

**Canada inventory ( DSL )** : All components are listed or exempted.

## Section 16. Other information

Please refer to Section 2 of this document for GHS hazard classifications.  
The customer is responsible for determining the PPE code for this material.

Date of issue/Date of revision 13 February 2025

Organization that prepared the SDS : EHS

Key to abbreviations : ATE = Acute Toxicity Estimate  
BCF = Bioconcentration Factor  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IBC = Intermediate Bulk Container  
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)  
N/A = Not available  
SGG = Segregation Group  
UN = United Nations

✔ 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.*