

SAFETY DATA SHEET



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

Date of issue/Date of revision 14 May 2025

Version 1

Section 1. Identification

Product name : PHENGUARD 965 HARDENER

Product code : 000001196852

Other means of identification : 00470790

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 : PPG Canada Inc.
5676 Timberlea Blvd
Mississauga ON L4W 4M6
Canada
+1 905-629-7999

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 : FLAMMABLE LIQUIDS - Category 3
ACUTE TOXICITY (oral) - Category 4
ACUTE TOXICITY (inhalation) - Category 4
SKIN CORROSION - Category 1C
SERIOUS EYE DAMAGE - Category 1
SKIN SENSITIZATION - Category 1B
CARCINOGENICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
Health Hazards Not Otherwise Classified - Category 1

GHS label elements

Section 2. Hazard identification

Hazard pictograms

:

**Signal word**

: Danger

Hazard statements

: Flammable liquid and vapor.
Harmful if swallowed or if inhaled.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
May cause respiratory irritation.
Suspected of causing cancer.
May cause damage to organs through prolonged or repeated exposure. (hearing organs)
Prolonged or repeated contact may dry skin and cause irritation.

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. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. 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. Store in a well-ventilated place. Keep container tightly closed.

Disposal

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

Supplemental label elements

: 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.
Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity: 28.3% (oral), 36.8% (dermal), 45.7% (inhalation)

Section 3. Composition/information on ingredients

Substance/mixture : Mixture
Product name : PHENGUARD 965 HARDENER
Other means of identification : 00470790

CAS number/other identifiers

Ingredient name	Synonyms	% (w/w)	CAS number
benzyl alcohol	Benzenemethanol; .alpha.-Hydroxytoluene; Phenylcarbinol; Phenylmethanol; E 1519; α-hydroxytoluene; Phenylmethyl alcohol; toluenol, alpha-; (hydroxymethyl)benzene; BENZENECARBINOL; alpha-Hydroxytoluene	10 - 30*	100-51-6
xylene	Benzene, dimethyl-; Xylol; Benzene, dimethyl-, mixed isomers; xylene, mixed isomers, pure; xylene, crude; Benzene, dimethyl-; Xylene (mixed); xylene (total); Xylenes; Dimethylbenzene; XYLENES (Isomer Mixture)	10 - 30*	1330-20-7
Formaldehyde, polymer with N,N-dimethyl-1,3-propanediamine and phenol	Formaldehyde, polymer with N1,N1-dimethyl-1,3-propanediamine and phenol; Formaldehyde polymer with N,N-dimethyl-1,3-propanediamine and phenol	5 - 10*	445498-00-0
2-methylpropan-1-ol	iso-butanol; 1-Propanol, 2-methyl-; Isobutyl alcohol; Isobutanol; 2-Methyl-1-propanol; Isopropylcarbinol; IBA; i-Butyl alcohol; isobutanol; iso-butanol; Isobutyl alcohol (I,T); 1-Propanol, 2-methyl- (I,T)	3 - 7*	78-83-1
2,4,6-tris(dimethylaminomethyl)phenol	Phenol, 2,4,6-tris[(dimethylamino)methyl]-; Phenol, 2,4,6-tris(dimethylaminomethyl)-; 2,4,6-tris((dimethylamino)methyl)phenol; Phenol, 2,4,6-tris{(dimethylamino)methyl}-; 2,4,6-Tris[(dimethylamino)methyl]phenol; 2,4,6-Tri(dimethylaminomethyl)phenol; 2,4,6-Tris(N,N-dimethylaminomethyl)phenol; 2,4,6-Tridimethylaminomethylphenol; TRIS (2,4,6-DIMETHYLAMINOMONOMETHYL) PHENOL; TRIS (2,4,6-DIMETHYLAMINOMETHYL) PHENOL; TRIS[(DIMETHYLAMINO) METHYL]PHENOL, 2,4,6-	1 - 5*	90-72-2
N-(3-(trimethoxysilyl)propyl)ethylenediamine	1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]-; 1,2-Ethanediamine, N-[3-(trimethoxysilyl)propyl]-; [3-[(2-Aminoethyl) amino; 3-(2-aminoethylamino)propyltrimethoxysilane; 2-aminoethyl (3-trimethoxysilylpropyl)amine;	1 - 5*	1760-24-3

Section 3. Composition/information on ingredients

	Ethylenediamine, N-(3-(trimethoxysilyl)propyl)-; (trimethoxysilylpropyl)ethylenediamine; 1,2-Ethanediamine, N-{3-(trimethoxysilyl)propyl}-; N-[3-(Trimethoxysilyl)propyl]ethane-1,2-diamine; 3-(2-Aminoethylamino)propyltrimethoxysilane; 1,2-Ethanediamine, N-(3-(trimethoxysilyl)propyl)-; Dehydrochlorination reaction products of 3-[(2-aminoethyl)amino]propyltrimethoxysilane and 3-chloropropyltrimethoxysilane		
ethylbenzene	Benzene, ethyl-; Phenylethane; Ethylbenzol; photosensitive emulsion consisting of cyclized polyisoprene containing: — 55 % or more but not more than 75 % by weight of xylene (CAS RN 1330-20-7) and — 12 % or more but not more than 18 % by weight of ethylbenzene (CAS RN 100-41-4); EB; Mono-(or di-) methyl (ethyl,bromoallyl, bromopropoxyxycarbonyl or chloropropoxyxycarbonyl) benzene	1 - 5*	100-41-4
m-phenylenebis(methylamine)	1,3-Benzenedimethanamine; m-Xylylendiamine; m-Xylene-alpha,alpha'-diamine; m-Xylene alpha, alpha'-diamine; m-Xylene α,α'-diamine; m-xylene-α, α'-diamine; m-Xylylenediamine; 1,3-bis (Aminomethyl)benzene; MXDA; m-Xylene α,α'-diamine; m-Xylene-a, a'diamine	1 - 5*	1477-55-0
bis[(dimethylamino)methyl]phenol	Phenol, bis[(dimethylamino)methyl]-; bis-[(Dimethylamino)-methyl]-phenol; Bis (dimethylaminomethyl) phenol	0.5 - 1.5*	71074-89-0

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.

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.

Section 4. First-aid measures

- 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. May cause respiratory irritation.
- Skin contact** : Causes severe burns. Defatting to the 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** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
- Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
dryness
cracking
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. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO₂, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

Section 5. Fire-fighting measures

- 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.
- 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.
- 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. 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

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. 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. 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 only non-sparking tools. Take precautionary measures against electrostatic discharges. 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

: 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.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
benzyl alcohol xylene	None. CA Alberta Provincial (Canada, 3/2023) [Dimethylbenzene] OEL 8 hours: 100 ppm. OEL 15 minutes: 651 mg/m ³ . OEL 15 minutes: 150 ppm. OEL 8 hours: 434 mg/m ³ . CA British Columbia Provincial (Canada, 4/2024) [xylene (o, m & p isomers)] TWA 8 hours: 100 ppm. STEL 15 minutes: 150 ppm. CA Ontario Provincial (Canada, 6/2019)

Section 8. Exposure controls/personal protection

Formaldehyde, polymer with N,N-dimethyl-1,3-propanediamine and phenol
2-methylpropan-1-ol

[Xylene (o-, m-, p-isomers)]

STEL 15 minutes: 150 ppm.

TWA 8 hours: 100 ppm.

CA Quebec Provincial (Canada, 2/2024)**[Xylene]**

TWA EV 8 hours: 100 ppm.

TWA EV 8 hours: 434 mg/m³.

STEL 15 minutes: 150 ppm.

STEL 15 minutes: 651 mg/m³.**CA Saskatchewan Provincial (Canada, 4/2021) [Xylene]**

STEL 15 minutes: 150 ppm.

TWA 8 hours: 100 ppm.

None.

CA Alberta Provincial (Canada, 3/2023)

OEL 8 hours: 50 ppm.

OEL 8 hours: 152 mg/m³.**CA British Columbia Provincial (Canada, 4/2024)**

TWA 8 hours: 50 ppm.

CA Ontario Provincial (Canada, 6/2019)

TWA 8 hours: 50 ppm.

CA Quebec Provincial (Canada, 2/2024)

TWA EV 8 hours: 50 ppm.

TWA EV 8 hours: 152 mg/m³.**CA Saskatchewan Provincial (Canada, 4/2021)**

STEL 15 minutes: 60 ppm.

TWA 8 hours: 50 ppm.

None.

None.

CA Alberta Provincial (Canada, 3/2023)

OEL 8 hours: 100 ppm.

OEL 8 hours: 434 mg/m³.OEL 15 minutes: 543 mg/m³.

OEL 15 minutes: 125 ppm.

CA British Columbia Provincial (Canada, 4/2024)

TWA 8 hours: 20 ppm.

CA Ontario Provincial (Canada, 6/2019)

TWA 8 hours: 20 ppm.

CA Quebec Provincial (Canada, 2/2024)

TWA EV 8 hours: 20 ppm.

CA Saskatchewan Provincial (Canada, 4/2021)

STEL 15 minutes: 125 ppm.

TWA 8 hours: 100 ppm.

CA Alberta Provincial (Canada, 3/2023)

Absorbed through skin.

C: 0.1 mg/m³.**CA British Columbia Provincial (Canada, 4/2024) Absorbed through skin.**C: 0.1 mg/m³.**CA Ontario Provincial (Canada, 6/2019)**

2,4,6-tris(dimethylaminomethyl)phenol
N-(3-(trimethoxysilyl)propyl)ethylenediamine
ethylbenzene

m-phenylenebis(methylamine)

Section 8. Exposure controls/personal protection

bis[(dimethylamino)methyl]phenol	Absorbed through skin. Ceiling Limit: 0.1 mg/m³. CA Quebec Provincial (Canada, 2/2024) Absorbed through skin. C: 0.1 mg/m³. CA Saskatchewan Provincial (Canada, 4/2021) Absorbed through skin. CEIL: 0.1 mg/m³. None.
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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. 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

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Chemical splash goggles and face shield.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

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. 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.

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.

Section 8. Exposure controls/personal protection

- 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** : Various
- Odor** : Aromatic. [Slight]
- pH** : Not applicable.
- Melting point** : Not available.
- Boiling point** : >37.78°C (>100°F)
- Flash point** : Closed cup: 37°C (98.6°F)
- 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** : 0.99
- Density (lbs / gal)** : 8.26
- | Media | Result |
|------------|-------------|
| cold water | Not soluble |
- Solubility(ies)** : Not applicable.
- Partition coefficient: n-octanol/water** : Not applicable.
- Viscosity** : Dynamic (room temperature): Not available.
Kinematic (room temperature): Not available.
Kinematic (40°C (104°F)): >21 mm²/s (>21 cSt)
- % Solid. (w/w)** : 71.503

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.

Section 10. Stability and reactivity

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 Formaldehyde. metal oxide/oxides

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Dose
benzyl alcohol	Rabbit - Dermal - LD50 Rat - Oral - LD50 Rat - Inhalation - LC50 Dusts and mists	>2000 mg/kg 1200 mg/kg >5 mg/l [4 hours]
xylene	Rat - Oral - LD50 Rabbit - Dermal - LD50	4.3 g/kg 1.7 g/kg
2-methylpropan-1-ol	Rat - Oral - LD50 Rabbit - Dermal - LD50	2830 mg/kg 2460 mg/kg
2,4,6-tris(dimethylaminomethyl)phenol	Rat - Inhalation - LC50 Vapor Rat - Dermal - LD50	24.6 mg/l [4 hours] 1280 mg/kg
N-(3-(trimethoxysilyl)propyl)ethylenediamine	Rat - Oral - LD50 Rabbit - Dermal - LD50	1200 mg/kg 2413 mg/kg
ethylbenzene	Rat - Oral - LD50 Rabbit - Dermal - LD50	>2000 mg/kg 3.5 g/kg
m-phenylenebis(methylamine)	Rat - Inhalation - LC50 Vapor Rat - Oral - LD50 Rat - Male, Female - Dermal - LD50 Rat - Inhalation - LC50 Gas.	17.8 g/kg 17.8 mg/l [4 hours] 930 mg/kg >3100 mg/kg 700 ppm [1 hours]

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

Skin corrosion/irritation

Product/ingredient name	Species	Dose	Score
xylene	Rabbit - Skin - Moderate irritant	Amount/concentration applied: 500 mg Duration of treatment/exposure: 24 hours	-
m-phenylenebis(methylamine)	Rat - Skin - Severe irritant	Duration of treatment/exposure: 4 hours Observation period: 4 hours	-

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
m-phenylenebis(methylamine)	Mouse - skin OECD 429	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.

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

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

Specific target organ toxicity (single exposure)

Product/ingredient name	Result
xylene	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
2-methylpropan-1-ol	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
N-(3-(trimethoxysilyl)propyl)ethylenediamine	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Result
ethylbenzene	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (hearing organs) - Category 2

Target organs

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

Aspiration hazard

Product/ingredient name	Result
xylene	ASPIRATION HAZARD - Category 1
ethylbenzene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure

Potential acute health effects

Eye contact : Causes serious eye damage.

Section 11. Toxicological information

- Inhalation** : Harmful if inhaled. May cause respiratory irritation.
- Skin contact** : Causes severe burns. Defatting to the 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** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
- Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
dryness
cracking
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

- 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. 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.

Section 11. Toxicological information

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 : 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.

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)
PHENGUARD 965 HARDENER	1369.2	2165.9	85662.7	29.5	3.8
benzyl alcohol	1200	2500	N/A	N/A	N/A
xylene	4300	1700	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	2500	N/A	N/A	N/A
ethylbenzene	3500	17800	N/A	17.8	1.5
m-phenylenebis(methylamine)	930	2500	4500	N/A	N/A

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species
2-methylpropan-1-ol	Acute - EC50 1100 mg/l [48 hours]	Daphnia
2,4,6-tris(dimethylaminomethyl)phenol	Acute - LC50 OECD [Daphnia sp. Acute Immobilization Test and Reproduction Test] >100 mg/l [48 hours]	Daphnia
	Acute - LC50 OECD [Fish, Acute Toxicity Test] >100 mg/l [96 hours]	Fish
N-(3-(trimethoxysilyl)propyl)ethylenediamine	EC50 597 mg/l [96 hours]	Fish
ethylbenzene	Acute - EC50 - Fresh water 1.8 mg/l [48 hours] Chronic - NOEC - Fresh water 1 mg/l	Daphnia Daphnia - <i>Ceriodaphnia dubia</i>

Conclusion/Summary : Not available.

Section 12. Ecological information

Persistence and degradability

Product/ingredient name	Result
2,4,6-tris(dimethylaminomethyl)phenol	OECD [Ready Biodegradability - Closed Bottle Test]
ethylbenzene	4% [28 days] - Not readily 79% [10 days] - Readily

Conclusion/Summary : Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
benzyl alcohol	0.87	-	Low
xylene	3.12	7.4 to 18.5	Low
2-methylpropan-1-ol	1	-	Low
2,4,6-tris (dimethylaminomethyl)phenol	0.219	-	Low
ethylbenzene	3.6	79.43	Low
m-phenylenebis (methylamine)	0.18	2.69	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. 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.

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

Product code 000001196852	Date of issue 14 May 2025	Version 1
Product name PHENGUARD 965 HARDENER		

Section 14. Transport information

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

Additional information

- TDG** : The marine pollutant mark is not required when transported by road or rail.
- 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.

Proof of classification statement : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3), 2.40-2.42 (Class 8), 2.7 (Marine pollutant mark).

Section 15. Regulatory information

National Inventory List

Canada inventory (DSL) : At least one component is not listed.

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 14 May 2025

Organization that prepared the SDS : EHS

Section 16. Other information

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.