SAFETY DATA SHEET



The information in this Safety Data Sheet is required pursuant to Hazardous Product Regulations 2015.

Date of issue/Date of revision2 September 2023Version 6

Section 1. Identification		
Product name	: SIGMALINE 2500 HARDENER	
Product code	: 00319119	
Other means of identification	: Not available.	
Product type	: Liquid.	
Relevant identified uses of	f the substance or mixture and uses advised against	
Product use	: Professional applications, Used by spraying.	
Use of the substance/ mixture	: Coating.	
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	: ACUTE TOXICITY (oral) - Category 4
substance or mixture	ACUTE TOXICITY (inhalation) - Category 4
	SKIN CORROSION - Category 1
	SERIOUS EYE DAMAGE - Category 1
	SKIN SENSITIZATION - Category 1B
	TOXIC TO REPRODUCTION - Category 2
	Health Hazards Not Otherwise Classified - Category 1
GHS label elements	
Hazard pictograms	
······································	
	\mathbf{v} \mathbf{v} \mathbf{v}

Product name SIGMALINE 2500 HARDENER

Section 2. Hazard identification

Signal word		Danger
		-
Hazard statements	- 1	Harmful if swallowed or if inhaled. Causes severe skin burns and eye damage.
		May cause an allergic skin reaction.
		Suspected of damaging fertility or the unborn child.
		Causes digestive tract burns.
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. Avoid breathing 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	:	F 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. Wash contaminated clothing before reuse. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
Storage	:	Store locked up.
Disposal	:	Dispose of contents and container in accordance with all local, regional, national and international regulations.
Supplemental label elements	:	Do not taste or swallow. 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. Wash thoroughly after handling. Emits toxic fumes when heated. Fercentage of the mixture consisting of ingredient(s) of unknown acute toxicity: 61.3% (dermal), 66.7% (inhalation)

Section 3. Composition/information on ingredients

Substance/mixture Product name	- C.	Mixture SIGMALINE 2500 HARDENER
Other means of identification	:	Not available.

CAS number/other identifiers

Section 3. Composition/information on ingredients

Ficyclo[2.2.1]heptanebis(methylamine)Bicyclo[2.2.1]heptane and 2,9-bis(aminomethyl)bicyclo [2.2.1]heptane and 2,9-bis(aminomethyl) bicyclo[2.2.1]heptane and 2,9-bis(aminomethyl) bicyclo[2.2.1]heptane bicyclo[2.2	Ingredient name	Synonyms	% (w/w)	CAS number
Y ydroxytoluene; Phenyltacthinol; Phenylmethanol; E 1519; a- hydroxytoluene; Phenylmethyl alcohol; toluenol, alpha-; (hydroxymethyl)benzene; BENZENECARBINOL; alpha- Hydroxytoluene1 - 5*Formaldehyde, polymer with N,N- dimethyl-1,3-propanediamine and phenol phenolFormaldehyde polymer with N1,N1- dimethyl-1,3-propanediamine and phenol1 - 5*Salicylic acidBenzoic acid; 2-hydroxy-; 2-hydroxybenzoic acid; 2-hydroxy-; 2-hydroxybenzoic acid; 2-hydroxy- BENZOIC ACID; SALICYCLIC ACID1 - 5*N-(3-(trimethoxysilyl)propyl) ethylenediamine1 - 5*69-72-7N-(3-(trimethoxysilyl)propyl) thylenediamine, N-(3- (trimethoxysilyl)propyl); 1, 2-Ethanediamine, N-(3- (trimethoxysilyl)propyl); 3- (2-aminoethylamino) propyl); 1, 2-Ethanediamine, N-(3- (trimethoxysilyl)propyl); 3- (2-aminoethylamino) propyl); 3- (2-aminoethylamino) propyl); chrimethoxysilylpropyl); 3- (2-aminoethylamino) propyl); chrimethoxysilylpropyl); 3- (2-aminoethylamino) propyl); chrimethoxysilylpropyl); 3- (2-aminoethylamino) propyl); chrimethoxysilylpropyl); 3- (2-aminoethylamino) propyly: (trimethoxysilylpropyl); 3- (2-aminoethylamino) propyly: (2-aminoethylamino) propyly: (trimethoxysilane; Dehydrochlorination reaction products of 3-(1/2-aminoethylamino) propyly: (trimethoxysilane; Dehydrochlorination reaction products of 3-(1/2-aminoethylamino) propyly: (2-adimine N-1(3- (trimethoxysilylpropyl); 3- (2-aminoethylamino) propyltimethoxysilane; Dehydrochlorination reaction products of 3-(1/2-adimine 1,2-diamine1 - 5*90-72-22,4,6-tris((dimethylamino)methyl)=non(;Phenol; 2,4,6-tris((dimethylamino)methyl)=; 1,2-diamine1 - 5*90-72-2	picyclo[2.2.1]heptanebis(methylamine)	Mixture of 2,5-bis(aminomethyl)bicyclo [2.2.1]heptane and 2,6-bis(aminomethyl) bicyclo[2.2.1]heptane; Bicyclo[2.2.1] heptanediyldimethanamine; 2,5(2,6)-Bis (aminomethyl)bicyclo[2.2.1]heptane; Bicyclo[2.2.1]heptane- 2,3-diyldimethanamine; Modified	30 - 60*	56602-77-8
dimethyl-1,3-propanediamine and phenoldimethyl-1,3-propanediamine and phenol; Formaldehyde polymer with N,N-dimethyl- 1,3-propanediamine and phenol; Salicylic acid1 - 5*69-72-7salicylic acidBenzoic acid, 2-hydroxy-; 2-hydroxybenzenecarboxylic acid; 2-hydroxybenzoic acid; 2-Carboxyphenol; 2-hydroxybenzoic acid; 2-Carboxyphenol; 2-hydroxybenzoic acid; 0-Salicylic acid (8CA); o-Hydroxybenzoic acid; HYDROXYBENZOIC ACID, O-; Salicylic acid (8CA); o-Hydroxybenzoic acid; Hydroxybenzoic acid; ORTHOHYDROXY BENZOIC ACID; SALICYCLIC ACID1 - 5*1760-24-3N-(3-(trimethoxysilyl)propyl) ethylenediamine1.2-Ethanediamine, N1-[3-(trimethoxysilyl) propyl]-; 13-[(2-Aminoethyl) amino; 1, 2-Ethanediamine, N-(3- (trimethoxysilyl)propyl)-; 3- (2-aminoethylamino) 	benzyl alcohol	Hydroxytoluene; Phenylcarbinol; Phenylmethanol; E 1519; α- hydroxytoluene; Phenylmethyl alcohol; toluenol, alpha-; (hydroxymethyl)benzene; BENZENECARBINOL; alpha-	15 - 40	100-51-6
2-hydroxybenzoic acid; 2-Carboxyphenol; 2-Hydroxybenzenecarboxylic acid; HYDROXYBENZOIC ACID, O-; Salicylic acid (8CA); o-Hydroxybenzoic acid; Hydroxybenzoic acid; ORTHOHYDROXY BENZOIC ACID; SALICYCLIC ACID 1,2-Ethanediamine, N1-[3-(trimethoxysilyl) propyl]-; 1,2-Ethanediamine, N-[3- (trimethoxysilyl)propyl]; [3-[(2-Aminoethyl) amino; 1,2-Ethanediamine, N-(3- (trimethoxysilyl)propyl); 3- (2-aminoethylamino) propyltrimethoxysilylpropyl); 3- (2-aminoethylamino) propyl); (trimethoxysilylpropyl); 3- (2-Aminoethylamino) propyltrimethoxysilylpropyl); 3- (2-Aminoethylamino) propyltrimethoxysilylpropyl); 3- (2-Aminoethylamino) propyltrimethoxysilylpropyl); 3- (2-Aminoethylamino) propyltrimethoxysilylpropyl); 3- (2-Aminoethylamino) propyltrimethoxysilylpropyl); 3- (2-Aminoethylamino) propyltrimethoxysilylpropyl); 3- (2-Aminoethylamino) propyltrimethoxysilylpropyl]; 3- (2-Amino	dimethyl-1,3-propanediamine and	dimethyl-1,3-propanediamine and phenol; Formaldehyde polymer with N,N-dimethyl-	1 - 5*	445498-00-0
ethylenediamine propyl]-; 1,2-Ethanediamine, N-[3- (trimethoxysilyl)propyl]-; [3-[(2-Aminoethyl)) amino; 1,2-Ethanediamine, N-(3- (trimethoxysilyl)propyl)-; 3- (2-aminoethylamino) propyltrimethoxysilane; 2-aminoethyl (3-trimethoxysilylpropyl)amine; Ethylenediamine, N-(3-(trimethoxysilyl) propyl)-; (trimethoxysilylpropyl) ethylenediamine; 1,2-Ethanediamine, N- {3-(trimethoxysilylpropyl)-; 3- (2-Aminoethylamino) propyltrimethoxysilane; Dehydrochlorination reaction products of 3-[(2-aminoethylamino] propyltrimethoxysilane; N1-[3- (Trimethoxysilyl)prop-1-yl]ethane- 1,2-diamine 90-72-2 2,4,6-tris(dimethylamino)methyl)-; 2,4,6-tris((dimethylamino)methyl)-; 2,4,6-tris((dimethylamino)methyl)-; 1 - 5* 90-72-2	salicylic acid	2-hydroxybenzoic acid; 2-Carboxyphenol; 2-Hydroxybenzenecarboxylic acid; HYDROXYBENZOIC ACID, O-; Salicylic acid (8CA); o-Hydroxybenzoic acid; Hydroxybenzoic acid; ORTHOHYDROXY	1 - 5*	69-72-7
Phenol, 2,4,6-tris(dimethylaminomethyl)-; 2,4,6-tris((dimethylamino)methyl)phenol;		propyl]-; 1,2-Ethanediamine, N-[3- (trimethoxysilyl)propyl]-; [3-[(2-Aminoethyl) amino; 1,2-Ethanediamine, N-(3- (trimethoxysilyl)propyl)-; 3- (2-aminoethylamino) propyltrimethoxysilane; 2-aminoethyl (3-trimethoxysilylpropyl)amine; Ethylenediamine, N-(3-(trimethoxysilyl) propyl)-; (trimethoxysilylpropyl) ethylenediamine; 1,2-Ethanediamine, N- {3-(trimethoxysilyl)propyl}-; 3- (2-Aminoethylamino) propyltrimethoxysilane; Dehydrochlorination reaction products of 3-[(2-aminoethyl)amino] propyltrimethoxysilane and 3-chloropropyltrimethoxysilane; N1-[3- (Trimethoxysilyl)prop-1-yl]ethane-	1 - 5*	1760-24-3
	2,4,6-tris(dimethylaminomethyl)phenol	Phenol, 2,4,6-tris(dimethylaminomethyl)-; 2,4,6-tris((dimethylamino)methyl)phenol;		90-72-2

Product name SIGMALINE 2500 HARDENER

Section 3. Composition/information on ingredients

	_
2,4,6-Tris[(dir	nethylamino)methyl]phenol;
2,4,6-Tri(dim	ethylaminomethyl)phenol;
2,4,6-Tris(N,1	N-dimethylaminomethyl)
phenol;	
2,4,6-Tridime	thylaminomethylphenol;
TRIS	
(2,4,6-DIMET	HYLAMINOMONOMETHYL)
PHENOL; TR	IS
(2,4,6-DIMET	HYLAMINOMETHYL)
	IS[(DIMETHYLAMINÓ)
METHYLJPH	,

*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 e	effects
Eye contact	: Causes serious eye damage.
Inhalation	: Harmful if inhaled.
Skin contact	: 🖉 auses severe burns. May cause an allergic skin reaction.
Ingestion	: Harmful if swallowed. Corrosive to the digestive tract. Causes burns.
Over-exposure signs/sy	<u>ymptoms</u>
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

Product name SIGMALINE 2500 HARDENER

Section 4. First-aid measures

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 med	lical 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: Use an extinguishing agent suitable for the surrounding fire.Suitable 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 mitrogen 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.		
mediaUnsuitable 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 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	Extinguishing media	
mediaSpecific 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 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		: Use an extinguishing agent suitable for the surrounding fire.
from the chemicalHazardous thermal decomposition products: Decomposition products: Decomposition products: 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.: Fire-fighters: Fire-fighters: Fire-fighters: Fire-fighters: Fire-fighters: Fire-fighters: Special protective equipment for fire-fighters		: None known.
decomposition productscarbon 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	•	: In a fire or if heated, a pressure increase will occur and the container may burst.
for fire-fightersthere is a fire. No action shall be taken involving any personal risk or without suitable training.Special protective equipment for fire-fightersFire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure		carbon oxides nitrogen oxides metal oxide/oxides
equipment for fire-fighters breathing apparatus (SCBA) with a full face-piece operated in positive pressure		there is a fire. No action shall be taken involving any personal risk or without
		breathing apparatus (SCBA) with a full face-piece operated in positive pressure

Section 6. Accidental release measures

Personal precautions, protec	tive 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 co	ntainment 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.
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.

Section 7. Handling and storage

Advice on general occupational hygiene	: 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 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

Ingredient name	Exposure limits	
wcyclo[2.2.1]heptanebis(methylamine)	None.	
benzyl alcohol	IPEL (-).	
	TWA: 5 ppm	
	STEL: 10 ppm	
Formaldehyde, polymer with N,N-dimethyl-1,3-propanediamine and phenol	None.	
salicylic acid	None.	
N-(3-(trimethoxysilyl)propyl)ethylenediamine	None.	
2,4,6-tris(dimethylaminomethyl)phenol	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 measur	<u>es</u>	
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		

Product name SIGMALINE 2500 HARDENER

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

			Canada	Page: 8/14
Volatility	4	90% (v/v), 88.718% (w/w)		
Viscosity	:	Kinematic (40°C (104°F)): >21 mm²/s (>21 cSt)		
Partition coefficient: n- octanol/water	:	Not applicable.		
conduinty(103)	1	old water Not soluble		
Solubility(ies)		Media Result		
Density(lbs / gal)	1	8.6		
Relative density	1	1.03		
Vapor density	1	Not available.		
Vapor pressure	:	Not available.		
Evaporation rate	:	Not available.		
Lower and upper explosive (flammable) limits	:	Not available.		
Flammability		Not available.		
Decomposition temperature	4	Not available.		
Auto-ignition temperature	:	430°C (806°F)		
Flash point	1	Closed cup: 118°C (244.4°F)		
Boiling point	1	>37.78°C (>100°F)		
Melting point	:	Not available.		
рН	÷	Not applicable.		
Odor threshold	-	Not available.		
Odor	1	Amine-like. [Strong]		
Physical state Color	÷	Liquid. Various		
Appearance				

Product name SIGMALINE 2500 HARDENER

Section 9. Physical and chemical properties

% Solid. (w/w) : 11.282

Section 10. Stabi	lity 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 Formaldehyde. metal oxide/oxides

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Mutagenicity

Product/ingredient name	Result	Species	Dose	Exposure
picyclo[2.2.1]heptanebis	LD50 Oral	Rat	961 to 1400 mg/	-
(methylamine)			kg	
benzyl alcohol	LC50 Inhalation Dusts and mists	Rat	>4178 mg/m³	4 hours
	LD50 Dermal	Rabbit	2000 mg/kg	-
	LD50 Oral	Rat	1.23 g/kg	-
salicylic acid	LD50 Oral	Rat	0.891 g/kg	-
N-(3-(trimethoxysilyl)propyl) ethylenediamine	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	2413 mg/kg	-
2,4,6-tris (dimethylaminomethyl) phenol	LD50 Dermal	Rabbit	1.28 g/kg	-
priorier	LD50 Dermal	Rat	1280 mg/kg	-
	LD50 Oral	Rat	1200 mg/kg	-
Conclusion/Summary	: There are no data available on	the mixture itse	elf.	
rritation/Corrosion				
Conclusion/Summary				
Skin	: There are no data available on	the mixture itse	elf.	
Eyes	: There are no data available on	the mixture itse	elf.	
Respiratory	: There are no data available on	the mixture itse	elf.	
<u>Sensitization</u>				
Skin	: There are no data available on	the mixture itse	elf.	
Respiratory	: There are no data available on	the mixture itse	elf.	

Section 11. Toxicological information

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.
Teratogenicity	
Conclusion/Summary	: There are no data available on the mixture itself.
	the defendence and a

Specific target organ toxicity (single exposure)

Name		Route of exposure	Target organs
₩-(3-(trimethoxysilyl)propyl)ethylenediamine	Category 3		Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

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, gastrointestinal tract, upper respiratory tract, skin, eyes, central nervous system (CNS).

Aspiration hazard

Not available.

Information on the likely routes of exposure

Potential acute health effects

Eye contact	: Causes serious eye damage.
Inhalation	: Harmful if inhaled.
Skin contact	: 尾auses severe burns. May cause an allergic skin reaction.
Ingestion	: Harmful if swallowed. Corrosive to the digestive tract. Causes burns.

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

Product name SIGMALINE 2500 HARDENER

Section 11. Toxicological information

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. 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 to anine 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 eff	ect	<u>S</u>
General	:	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 : Suspected of damaging 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)
GMALINE 2500 HARDENER bicyclo[2.2.1]heptanebis(methylamine) benzyl alcohol Formaldehyde, polymer with N,N-dimethyl- 1,3-propanediamine and phenol	675.2 500 1230 500	2038.5 N/A 2000 N/A	N/A 0 N/A	N/A N/A N/A 1.5	1.5 N/A 1.5 N/A
salicylic acid N-(3-(trimethoxysilyl)propyl)ethylenediamine 2,4,6-tris(dimethylaminomethyl)phenol	891 2413 1200	N/A 2500 1280	N/A N/A N/A	N/A N/A N/A	N/A N/A N/A

Section 12. Ecological information

<u>Toxicity</u>			
Product/ingredient name	Result	Species	Exposure
salicylic acid	Acute EC50 1147.57 mg/l Fresh water	Daphnia - <i>Daphnia longispina -</i> Neonate	48 hours
	Chronic NOEC 5.6 mg/l Fresh water	Daphnia - <i>Daphnia magna</i> - Neonate	21 days
N-(3-(trimethoxysilyl)propyl) ethylenediamine	EC50 597 mg/l	Fish	96 hours
2,4,6-tris (dimethylaminomethyl)phenol	Acute LC50 175 mg/l	Fish	96 hours

Persistence and degradability

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

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
▶enzyl alcohol	0.87	-	Low
salicylic acid	2.21 to 2.26	-	Low
2,4,6-tris	0.219	-	Low
(dimethylaminomethyl)phenol			

Mobility in soil

Soil/water partition coefficient (Koc)

: Not available.

Product name SIGMALINE 2500 HARDENER

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 nonrecyclable 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	ΙΑΤΑ
UN number	UN3066	UN3066	UN3066
UN proper shipping name	PAINT	PAINT	PAINT
Transport hazard class (es)	8	8	8
Packing group	II	II	II
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 inform	ation			
TDG	: The marine pollutant mark is not required when transported by road or rail.			
IMDG	: The mari	The marine pollutant mark is not required when transported in sizes of ≤ 5 L or ≤ 5 kg.		
ΙΑΤΑ	: The environmentally hazardous substance mark may appear if required by other transportation regulations.			
Special precaution	ns 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 to IMO instrument		:	Not applicable.	
Proof of classifica statement	ation	:	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.40-2.42 (Class 8), 2.7 (Marine pollutant mark).	
			Canada Page: 13/14	

Product name SIGMALINE 2500 HARDENER

Section 15. Regulatory information

National Inventory List

Canada inventory (DSL)

: At least one component is not listed.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 3 * Flammability : 1 Physical hazards : 0

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on MSDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Ass	ociation (U.S.A.)
Health : 3 Flamma	bility : 1 Instability : 0
Date of issue/Date of revision	2 September 2023
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 = Internediate 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.