SAFETY DATA SHEET



Date of issue/Date of revision 31 October 2023 Version 2

Section 1. Identification		
Product name	: SIGMASHIELD 880XS HARDENER	
Product code	: 00446069	
Other means of identification	: Not available.	
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	: Coating.	
Uses advised against	: Not applicable.	
Manufacturer	: 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. Hazards identification

OSHA/HCS status	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture	: ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SKIN CORROSION - Category 1B SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1 CARCINOGENICITY - Category 1A TOXIC TO REPRODUCTION - Category 1B
	Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity: 54% (oral), 60.4% (dermal), 80.8% (inhalation)
GHS label elements	

Product name SIGMASHIELD 880XS HARDENER

Section 2. Hazards identification

Hazard pictograms	
Signal word	: Danger
Hazard statements	 Harmful if swallowed, in contact with skin or if inhaled. Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause cancer. May damage fertility or the unborn child.
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 must 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. Wash contaminated clothing before reuse. IF ON SKIN: Call a POISON CENTER or doctor if you feel unwell. Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
Storage	: Store locked up.
Disposal	: Dispose of contents and container in accordance with all local, regional, national and international regulations.
Supplemental label elements	: Sanding and grinding dusts may be harmful if inhaled. This product contains crystalline silica which can cause lung cancer or silicosis. The risk of cancer depends on the duration and level of exposure to dust from sanding surfaces or mist from spray applications. 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. Emits toxic fumes when heated.
Hazards not otherwise classified	: None known.
Section 3. Compo	sition/information on ingredients

- Substance/mixture Product name
- : Mixture : SIGMASHIELD 880XS HARDENER

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Section 3. Composition/information on ingredients

Ingredient name	%	CAS number
vystalline silica, respirable powder (>10 microns)	≥20 - ≤50	14808-60-7
Epoxy Amine Resin	≥20 - ≤50	Not available.
Propylidynetrimethanol, propoxylated, reaction products with ammonia	≥10 - ≤20	39423-51-3
benzyl alcohol	≥10 - ≤17	100-51-6
m-phenylenebis(methylamine)	≥5.0 - ≤10	1477-55-0
Talc , not containing asbestiform fibres	≥5.0 - ≤10	14807-96-6
bisphenol A	≥1.0 - ≤5.0	80-05-7
2,4,6-tris(dimethylaminomethyl)phenol	≥1.0 - ≤3.5	90-72-2

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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. Harmful in contact with skin. May cause an allergic skin reaction.
Ingestion	Harmful if swallowed.
Over-exposure signs/sympton	<u>ns</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

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Section 4. First aid measures

Skin contact Ingestion	 Adverse symptoms may include the following: pain or irritation redness blistering may occur reduced fetal weight increase in fetal deaths skeletal malformations Adverse symptoms may include the following: stomach pains reduced fetal weight increase in fetal deaths
Indication of immediate me Notes to physician	 skeletal malformations dical attention and special treatment needed, if necessary : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
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

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. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.
Hazardous thermal decomposition products	: Decomposition products may include the following materials: carbon oxides nitrogen oxides metal oxide/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 co	ainment and cleaning up
Small spill	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
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	<u>ng</u>	
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	: 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.	
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Section 7. Handling and storage

Conditions for safe storage,	: Store between the following temperatures: 0 to 35°C (32 to 95°F). Store in accordance		
including any	with local regulations. Store in original container protected from direct sunlight in a dry,		
incompatibilities	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	
rystalline silica, respirable powder (>10 microns)	OSHA PEL Z3 (United States, 6/2016). TWA: 10 mg/m ³ / (%SiO2+2) 8 hours. Form: Respirable TWA: 250 mppcf / (%SiO2+5) 8 hours. Form: Respirable	
	OSHA PEL (United States, 5/2018). [Silica,	
	crystalline] TWA: 50 μg/m ³ 8 hours. Form: Respirable	
	dust ACGIH TLV (United States, 1/2022). [Silica,	
	crystalline]	
	TWA: 0.025 mg/m³ 8 hours. Form: Respirable fraction	
Epoxy Amine Resin	None.	
Propylidynetrimethanol, propoxylated, reaction products with ammonia	None.	
benzyl alcohol	IPEL (-). TWA: 5 ppm	
	STEL: 10 ppm	
m-phenylenebis(methylamine)	ACGIH TLV (United States, 1/2022).	
······································	Absorbed through skin.	
	C: 0.018 ppm	
Talc , not containing asbestiform fibres	ACGIH TLV (United States, 1/2022).	
	TWA: 2 mg/m ³ 8 hours. Form: Respirable	
	OSHA PEL Z3 (United States).	
bisphenol A	TWA: 2 mg/m ³	
bispiterior A	IPEL (-). STEL: 5 mg/m³	
2,4,6-tris(dimethylaminomethyl)phenol	None.	
Key to abbreviations		
A = Acceptable Maximum Peak	S = Potential skin absorption	
ACGIH = American Conference of Governmental Industrial Hygienists. C = Ceiling Limit	SR = Respiratory sensitization SS = Skin sensitization	
F = Fume	STEL = Short term Exposure limit values	
IPEL = Internal Permissible Exposure Limit	TD = Total dust	
OSHA = Occupational Safety and Health Administration.	TLV = Threshold Limit Value	
R = Respirable	TWA = Time Weighted Average	
Z = OSHA 29 CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances		

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Section 8. Exposure controls/personal protection

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 measured	es
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.
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. The respiratory protection shall be in accordance to 29 CFR 1910.134.

Section 9. Physical and chemical properties

Appearance

Physical state	1	Liquid.	
Color	1	Not available.	
Odor	1	Characteristic.	
Odor threshold	1	Not available.	
рН	4	Not applicable.	
Melting point	4	Not available.	
Boiling point	4	>37.78°C (>100°F)	
Flash point	1	Closed cup: 195°C (383°F)	
Auto-ignition temperature	1	Not available.	
Decomposition temperature	1	Not available.	
Flammability	1	Not available.	
Lower and upper explosive (flammable) limits	:	Not available.	
Evaporation rate	1	Not available.	
Vapor pressure	1	Not available.	
Vapor density	1	Not available.	
Relative density	1	1.3	
Density(lbs / gal)	1	10.85	
		Media	Result
Solubility(ies)	:	old water	Not soluble
Partition coefficient: n- octanol/water	:	Not applicable.	
Viscosity	:	Kinematic (40°C (104°F)): >	>21 mm²/s (>21 cSt)
Volatility	1	16% (v/v), 14.331% (w/w)	
% Solid. (w/w)	:	85.669	

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.

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Section 10. Stability and reactivity

Hazardous decomposition products

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

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Fropylidynetrimethanol, propoxylated, reaction products with ammonia	LD50 Dermal	Rabbit	0.4 g/kg	-
•	LD50 Oral	Rat	0.22 g/kg	-
benzyl alcohol	LC50 Inhalation Dusts and mists	Rat	>4178 mg/m ³	4 hours
5	LD50 Dermal	Rabbit	2000 mg/kg	-
	LD50 Oral	Rat	1.23 g/kg	-
m-phenylenebis (methylamine)	LC50 Inhalation Gas.	Rat	700 ppm	1 hours
	LD50 Dermal	Rat - Male, Female	>3100 mg/kg	-
	LD50 Oral	Rat	930 mg/kg	-
bisphenol A	LD50 Dermal	Rabbit	3600 mg/kg	-
	LD50 Oral	Rat	3.25 g/kg	-
2,4,6-tris (dimethylaminomethyl)phenol	LD50 Dermal	Rabbit	1.28 g/kg	-
	LD50 Dermal	Rat	1280 mg/kg	-
	LD50 Oral	Rat	1200 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
n-phenylenebis (methylamine)	Skin - Severe irritant	Rat	-	4 hours	4 hours
2,4,6-tris (dimethylaminomethyl)phenol	Skin - Visible necrosis	Rabbit	-	4 hours	7 days

Conclusion/Summarv

Skin	: There are no data available on the mixture itself.
Eyes	: There are no data available on the mixture itself.
Respiratory	: There are no data available on the mixture itself.

Sensitization

Product/ingredient name	Route of exposure	Species	Result
n-phenylenebis (methylamine)	skin	Mouse	Sensitizing
Conclusion/Summary			

: There are no data available on the mixture itself. Skin : There are no data available on the mixture itself. Respiratory

Mutagenicity

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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.

Classification

Product/ingredient name	OSHA	IARC	NTP
crystalline silica, respirable powder (>10 microns)	-	1	Known to be a human carcinogen.

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.

Teratogenicity

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

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
	Category 3	-	Respiratory tract irritation
bisphenol A	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, spleen, brain, bone marrow.

Contains material which may cause damage to the following organs: kidneys, lungs, gastrointestinal tract, cardiovascular system, upper respiratory tract, immune system, skin, central nervous system (CNS), eye, lens or cornea.

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 Ingestion
- : Causes severe burns. Harmful in contact with skin. May cause an allergic skin reaction. : Harmful if swallowed.

Over-exposure signs/symptoms

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Section 11. Toxicological information

Inhalation 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 inflation redness Distering may occur Bistering may occur reduced fetal weight increase in fetal deaths skeletal malformations Skin contact 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 Conclusion/Summary There are no data available on the mixture itself. This product contains crystalline silica which can cause lung cancer or silicosis. The risk of cancer depends on the duration and level of exposure to dust from sanding surfaces or mist from spray applications. Exposure to component solvent vapor concentrations in excess loss of consciousness. Exposure to component solvent vapor sub system vapor in combination with constant levous system. Symptoms and signs include headache, dizines, fatigue, muscular weakness, drowsiness and, in extreme case, loss of consciousness. Solvents may cause anasea, diarrea and vornitig the situe and your in solven in the pays in combination with constant loud noise can cause greater hearing loss than expected from exposure to none salor may cause inflation and deverse idention and eversible damage. Ingestion may cause nausea, diarrhea and vornitig. This takes into account, where know, delayed and immediate effects and also chronic effects of components from short-em and long-term exposure	Eye contact	: Adverse symptoms may include the following: pain
Inhalation: Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformationsSkin contact: Adverse symptoms may include the following: 		
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 Ingestion : Adverse symptoms may include the following: stomach pains reduced fetal weight increase in fetal deaths skeletal malformations Delayed and immediate effects : There are no data available on the mixture itself. This product contains crystalline silica which can cause lung cancer or silicosis. The risk of cancer depends on the duration and level of exposure to dust from sanding surfaces or mist from spray applications. 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, dizzines, 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 yanic solvent vapor is consciousness. Solvents may cause source to granic solvent vapor abeen reported to cause translend on the eyes the liquid may cause inritation and reversible damage. Ingestion may cause nausea, diarrhea and aborne effects of components from short-term and long-term exposure to yanic solvent vapor is consciousnes. Solvents may cause ansee, diarrhea and also chronic effects of components from short-term and long-term exposure by oral, inh		redness
Skin contact increase in fetal deaths skeletal malformations Skin contact : Adverse symptoms may include the following: pain or irritation redness bilstering 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 Data and immediate effects and also chronic effects from short and long term exposure Conclusion/Summary : There are no data available on the mixture itself. This product contains crystalline silica which can cause lung cancer or silicosis. The risk of cancer depends on the duration and level of exposure to dust from sanding surfaces or misk from spray applications. 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 inritation and derval evision for sevposure 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, e	Inhalation	
Skin contact k-keletal malformations k-keletal malformations pain or irritation redness bilistering may occur reduced fetal weight increase in fetal deaths skeletal malformations stomach pains 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 Jelayed and immediate effects and also chronic effects from short and long term exposure There are no data available on the mixture itself. This product contains crystalline silica which can cause lung cancer or silicosis. The risk of cancer depends on the duration and level of exposure to dust from sanding surfaces or mist from spray applicatons. Exposure to component solvent vapor concentrations in excess of the stated occupational exposure binit may result in adverse effects on the kidneys, liver and certral nervous system. Symptoms and signs include headched, 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 again convert vapor shored signs value effects. Wreater and long-term exposure by oral, inhalation and deverse effects of components from short-term and long-term exposure to yant from specified from exposure to value effects. Wreater and described as blue haze, halo effect, of conseps transient cor		•
Skin contact : Adverse symptoms may include the following: pain or irritation redness blistering may occur reduced fetal weight increase in fetal deaths skeletal maiformations Ingestion : Adverse symptoms may include the following: stomach pains reduced fetal weight increase in fetal deaths skeletal maiformations 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. This product contains crystalline silica which can cause lung cancer or silicosis. The risk of cancer depends on the duration and level of exposure to dust from short and long term exposure occupational exposure to dust from snaing surfaces or mist from spray applications. Exposure to component solvent vapor concentrations in excess of the stated occupational exposure by system inritation and adverse effects such as mucous omembrane and respiratory system inritation and adverse 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 moise alone. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhe and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components significantly reduced and the condition has not been observed. Short term exposure to noise alone. If splashed in the eyes, the liquid may cause permanent visual effects. When the proper eye protection specified in Section 78 is wom, exposure to severa		
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Product name SIGMASHIELD 880XS HARDENER

Section 11. Toxicological information

General	: Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Carcinogenicity	: May cause cancer. Risk of cancer depends on duration and level of exposure.
Mutagenicity	: No known significant effects or critical hazards.
Reproductive toxicity	: May damage fertility or the unborn child.

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/ I)
GMASHIELD 880XS HARDENER Propylidynetrimethanol, propoxylated, reaction products with ammonia	968.5 500	1666.6 1100	12005.4 N/A	N/A N/A	2.7 N/A
benzyl alcohol	1230	2000	N/A	N/A	1.5
m-phenylenebis(methylamine)	930	2500	4500	N/A	N/A
bisphenol A	3250	3600	N/A	N/A	N/A
2,4,6-tris(dimethylaminomethyl)phenol	1200	1280	N/A	N/A	N/A

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
sphenol A	Acute LC50 0.885 mg/l Fresh water Acute LC50 8.11 mg/l Fresh water	Crustaceans Daphnia - <i>Daphnia magna</i> - Neonate	48 hours 48 hours
	Acute LC50 4.6 mg/l Fresh water Chronic NOEC 0.000174 mg/l Fresh water	Fish Fish	96 hours 5 months
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
bisphenol A	-	-	Readily

Bioaccumulative potential

Product name SIGMASHIELD 880XS HARDENER

Section 12. Ecological information

Product/ingredient name	LogPow	BCF	Potential
Propylidynetrimethanol, propoxylated, reaction products with ammonia	-1.13	-	Low
benzyl alcohol	0.87	-	Low
m-phenylenebis(methylamine)	0.18	2.69	Low
bisphenol A	3.4	43.65	Low
2,4,6-tris (dimethylaminomethyl)phenol	0.219	-	Low

Mobility in soil

Soil/water partition coefficient (Koc) : 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

	DOT	IMDG	IATA
UN number	UN3066	UN3066	UN3066
UN proper shipping name	PAINT	PAINT	PAINT
Transport hazard class (es)	8	8	8
Packing group	11	11	II
Environmental hazards	No.	Yes.	Yes. The environmentally hazardous substance mark is not required.
Marine pollutant substances	Not applicable.	Polyoxy propylene diamine, bisphenol A)	Not applicable.

Product name SIGMASHIELD 880XS HARDENER

14. Transport information

Additional information

DOT	: None identified.
IMDG	: \mathbf{F} he 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 precautions for user : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according : Not applicable. to IMO instruments

Section 15. Regulatory information

United States

United States inventory (TSCA 8b) : At least one component is not listed.

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

No products were found.

SARA 311/312

Classification	: ACUTE TOXICITY (oral) - Category 4
	ACUTE TOXICITY (dermal) - Category 4
	ACUTE TOXICITY (inhalation) - Category 4
	SKIN CORROSION - Category 1B
	SERIOUS EYE DAMAGE - Category 1
	SKIN SENSITIZATION - Category 1
	CARCINOGENICITY - Category 1A
	TOXIC TO REPRODUCTION - Category 1B

Composition/information on ingredients

Name	%	Classification	
rystalline silica, respirable	≥20 - ≤50	CARCINOGENICITY - Category 1A	
powder (>10 microns)			
Epoxy Amine Resin	≥20 - ≤50	EYE IRRITATION - Category 2A	
		SKIN SENSITIZATION - Category 1B	
Propylidynetrimethanol,	≥10 - ≤20	ACUTE TOXICITY (oral) - Category 4	
propoxylated, reaction products		ACUTE TOXICITY (dermal) - Category 4	
with ammonia		SERIOUS EYE DAMAGE - Category 1	
benzyl alcohol	≥10 - ≤17	ACUTE TOXICITY (oral) - Category 4	
,		ACUTE TOXICITY (dermal) - Category 4	
		ACUTE TOXICITY (inhalation) - Category 4	
		EYE IRRITATION - Category 2A	
m-phenylenebis(methylamine)	≥5.0 - ≤10	ACUTE TOXICITY (oral) - Category 4	
		ACUTE TOXICITY (inhalation) - Category 4	
		United States	Page: 14/16

Product name SIGMASHIELD 880XS HARDENER

Section 15. Regulatory information

		SKIN CORROSION - Category 1B
		SERIOUS EYE DAMAGE - Category 1
		SKIN SENSITIZATION - Category 1B
Talc , not containing asbestiform	≥5.0 - ≤10	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)
fibres		(Respiratory tract irritation) - Category 3
bisphenol A	≥1.0 - ≤5.0	COMBUSTIBLE DUSTS
		SERIOUS EYE DAMAGE - Category 1
		SKIN SENSITIZATION - Category 1B
		TOXIC TO REPRODUCTION - Category 1B
		SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)
		(Respiratory tract irritation) - Category 3
2,4,6-tris(dimethylaminomethyl)	≥1.0 - ≤3.5	ACUTE TOXICITY (oral) - Category 4
phenol		ACUTE TOXICITY (dermal) - Category 4
		SKIN CORROSION - Category 1C
		SERIOUS EYE DAMAGE - Category 1

SARA 313

Supplier notification

Chemical name • bisphenol A

CAS number Concentration 80-05-7 1 - 5

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

California Prop. 65

MARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov.

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 Association (U.S.A.) Health : 3 Flammability : 1 Instability : 0 Date of previous issue : 10/5/2021 Organization that prepared : EHS the SDS

Product name SIGMASHIELD 880XS HARDENER

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.