

# SAFETY DATA SHEET



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Version 12.01

## Section 1. Identification

**Product name** : PR 2225 B 1 Part A  
**Product code** : PR 2225 B 1 Part A  
**Other means of identification** : Not available.  
**Product type** : Liquid.

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

**Product use** : Industrial applications.  
**Use of the substance/mixture** : Sealants  
**Uses advised against** : Not applicable.

**Manufacturer** : PPG Aerospace PRC-DeSoto  
12780 San Fernando Road  
Sylmar, CA 91342  
Phone: 818 362 6711

**Emergency telephone number** : (412) 434-4515 (U.S.)  
(514) 645-1320 (Canada)  
01-800-00-21-400 (Mexico)

## 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** : SKIN CORROSION - Category 1B  
SERIOUS EYE DAMAGE - Category 1  
SKIN SENSITIZATION - Category 1  
TOXIC TO REPRODUCTION - Category 1B  
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2  
Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity: 38.2% (oral), 43.6% (dermal), 69.9% (inhalation)

### GHS label elements

**Hazard pictograms** :



**Signal word** : Danger

## Section 2. Hazards identification

<b>Hazard statements</b>	: Causes severe skin burns and eye damage. May cause an allergic skin reaction. May damage fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure. (bladder)
<b>Precautionary statements</b>	
<b>Prevention</b>	: 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. Do not breathe vapor. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.
<b>Response</b>	: 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: 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.
<b>Storage</b>	: Store locked up.
<b>Disposal</b>	: Dispose of contents and container in accordance with all local, regional, national and international regulations.
<b>Supplemental label elements</b>	: Do not taste or swallow. 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.
<b>Hazards not otherwise classified</b>	: Causes digestive tract burns. Prolonged or repeated contact may dry skin and cause irritation.

## Section 3. Composition/information on ingredients

<b>Substance/mixture</b>	: Mixture
<b>Product name</b>	: PR 2225 B 1 Part A

Ingredient name	%	CAS number
triethoxy(phenyl)silane	≥20 - ≤50	780-69-8
Proprietary silane	≥20 - ≤45	Proprietary
calcium carbonate	≥20 - ≤42	471-34-1
ethanol	≥1.0 - ≤5.0	64-17-5
dibutyltin di(acetate)	<1.0	1067-33-0

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.**

## Section 3. Composition/information on ingredients

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** : No known significant effects or critical hazards.
- Skin contact** : Causes severe burns. Defatting to the skin. May cause an allergic skin reaction.
- Ingestion** : 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  
dryness  
cracking  
blistering may occur  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
stomach pains  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

### Indication of immediate medical attention and special treatment needed, if necessary

## Section 4. First aid measures

- 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 an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None known.

**Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon oxides  
nitrogen oxides  
halogenated compounds  
metal oxide/oxides  
Formaldehyde.

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through 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).

## Section 6. Accidental release measures

### Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- 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. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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** : 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.
- Conditions for safe storage, including any incompatibilities** : Do not store below the following temperature: 5°C (41°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
triethoxy(phenyl)silane	None.
Proprietary silane	None.
calcium carbonate	<b>ACGIH TLV (United States).</b> TWA: 3 mg/m <sup>3</sup> Form: Respirable TWA: 10 mg/m <sup>3</sup> Form: Total dust
	<b>OSHA PEL (United States).</b> TWA: 5 mg/m <sup>3</sup> Form: Respirable TWA: 15 mg/m <sup>3</sup>
ethanol	<b>ACGIH TLV (United States, 1/2021).</b> STEL: 1000 ppm 15 minutes. <b>OSHA PEL (United States, 5/2018).</b> TWA: 1900 mg/m <sup>3</sup> 8 hours. TWA: 1000 ppm 8 hours.
dibutyltin di(acetate)	<b>ACGIH TLV (United States, 1/2021).</b> <b>Absorbed through skin.</b> STEL: 0.2 mg/m <sup>3</sup> , (as Sn) 15 minutes. TWA: 0.1 mg/m <sup>3</sup> , (as Sn) 8 hours. <b>OSHA PEL (United States, 5/2018).</b> TWA: 0.1 mg/m <sup>3</sup> , (as Sn) 8 hours. <b>OSHA PEL (United States).</b> TWA: 0.1 mg/m <sup>3</sup> , (as Sn)

#### Key to abbreviations

A	= Acceptable Maximum Peak	S	= Potential skin absorption
ACGIH	= American Conference of Governmental Industrial Hygienists.	SR	= Respiratory sensitization
C	= Ceiling Limit	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		

### Consult local authorities for acceptable exposure limits.

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. 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** : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

## Section 8. Exposure controls/personal protection

<b>Hygiene measures</b>	: 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.
<b>Eye/face protection</b>	: Chemical splash goggles and face shield.
<b>Skin protection</b>	
<b>Hand protection</b>	: 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.
<b>Gloves</b>	: nitrile neoprene
<b>Body protection</b>	: 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.
<b>Other skin protection</b>	: 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.
<b>Respiratory protection</b>	: 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

<b>Physical state</b>	: Liquid.
<b>Color</b>	: White.
<b>Odor</b>	: Not available.
<b>Odor threshold</b>	: Not available.
<b>pH</b>	: Not applicable.
<b>Melting point</b>	: Not available.
<b>Boiling point</b>	: >37.78°C (>100°F)
<b>Flash point</b>	: Closed cup: Not applicable.
<b>Auto-ignition temperature</b>	: Not available.
<b>Decomposition temperature</b>	: Not available.
<b>Flammability (solid, gas)</b>	: Not available.
<b>Lower and upper explosive (flammable) limits</b>	: Not available.
<b>Evaporation rate</b>	: Not available.
<b>Vapor pressure</b>	: Not available.

## Section 9. Physical and chemical properties

Vapor density	: Not available.
Relative density	: 1.19
Density ( lbs / gal )	: 9.93
Solubility	: Insoluble in the following materials: cold water.
Partition coefficient: n-octanol/water	: Not applicable.
Viscosity	: Kinematic (40°C (104°F)): >21 mm <sup>2</sup> /s (>21 cSt)
VOC	: 322 g/l
% Solid. (w/w)	: 73

## Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8.
Incompatible materials	: Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.
Hazardous decomposition products	: Depending on conditions, decomposition products may include the following materials: carbon oxides nitrogen oxides halogenated compounds Formaldehyde. metal oxide/oxides

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Proprietary silane	LC50 Inhalation Dusts and mists	Rat	>7.35 mg/l	4 hours
	LD50 Dermal	Rabbit	4 g/kg	-
	LD50 Oral	Rat	1.57 g/kg	-
calcium carbonate	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	6450 mg/kg	-
ethanol	LC50 Inhalation Vapor	Rat	124700 mg/m <sup>3</sup>	4 hours
	LD50 Dermal	Rat	17100 mg/kg	-
	LD50 Oral	Rat	7 g/kg	-
dibutyltin di(acetate)	LD50 Dermal	Rabbit	2318 mg/kg	-

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

#### Irritation/Corrosion

#### Conclusion/Summary



## Section 11. Toxicological information

**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
Proprietary silane	skin	Guinea pig	Sensitizing

### Conclusion/Summary

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

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

### Mutagenicity

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

### Carcinogenicity

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

### Reproductive toxicity

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

### 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
dibutyltin di(acetate)	Category 1	oral	thymus

### Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
triethoxy(phenyl)silane	Category 2	oral	bladder
dibutyltin di(acetate)	Category 1	oral	thymus

**Target organs** : Contains material which causes damage to the following organs: bladder, brain.  
Contains material which may cause damage to the following organs: blood, the reproductive system, liver, 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** : No known significant effects or critical hazards.

**Skin contact** : Causes severe burns. Defatting to the skin. May cause an allergic skin reaction.

**Ingestion** : Corrosive to the digestive tract. Causes burns.

#### Over-exposure signs/symptoms

## Section 11. Toxicological information

- 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  
dryness  
cracking  
blistering may occur  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
stomach pains  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

### Delayed and immediate effects and also chronic effects from short and long term exposure

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

### Short term exposure

- Potential immediate effects** : There are no data available on the mixture itself.
- Potential delayed effects** : There are no data available on the mixture itself.

### Long term exposure

- Potential immediate effects** : There are no data available on the mixture itself.
- Potential delayed effects** : There are no data available on the mixture itself.

### Potential chronic health effects

## Section 11. Toxicological information

- 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** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Reproductive toxicity** : May damage fertility or the unborn child.

### Numerical measures of toxicity

#### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
PR 2225 B 1 Part A	3461.8	3218.8	N/A	N/A	N/A
Proprietary silane	1570	4000	N/A	N/A	N/A
calcium carbonate	6450	2500	N/A	N/A	N/A
ethanol	7000	17100	N/A	124.7	N/A
dibutyltin di(acetate)	N/A	2318	N/A	N/A	N/A

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
triethoxy(phenyl)silane	Acute EC50 37 mg/l	Daphnia	48 hours
Proprietary silane	Acute LC50 >934 mg/l	Fish	96 hours
calcium carbonate	Acute EC10 >14 mg/l	Algae	72 hours
ethanol	Acute EC50 7640 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
dibutyltin di(acetate)	Acute EC10 3.1 mg/l	Fish	72 hours
	Acute EC50 0.5 mg/l	Algae	72 hours

### Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
triethoxy(phenyl)silane	OECD 310	1 % - Not readily - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
triethoxy(phenyl)silane	-	-	Not readily
ethanol	-	-	Readily
dibutyltin di(acetate)	-	-	Not readily

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
triethoxy(phenyl)silane	2.99	-	low
Proprietary silane	1.7	3.4	low
ethanol	-0.35	-	low

## Section 12. Ecological information

### Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>) : 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

## 14. Transport information

	DOT	IMDG	IATA
<b>UN number</b>	UN1760	UN1760	UN1760
<b>UN proper shipping name</b>	CORROSIVE LIQUID, N.O.S. (Proprietary silane)	CORROSIVE LIQUID, N.O.S. (3-aminopropyltriethoxysilane)	CORROSIVE LIQUID, N.O.S. (3-aminopropyltriethoxysilane)
<b>Transport hazard class (es)</b>	8	8	8
<b>Packing group</b>	II	II	II
<b>Environmental hazards</b>	No.	No.	No.
<b>Marine pollutant substances</b>	Not applicable.	Not applicable.	Not applicable.

### Additional information

DOT : None identified.

IMDG : None identified.

IATA : None identified.

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

## 14. Transport information

Transport in bulk according to IMO instruments : Not applicable.

## Section 15. Regulatory information

### United States

United States inventory (TSCA 8b) : All components are active or exempted.

#### SARA 302/304

SARA 304 RQ : Not applicable.

#### Composition/information on ingredients

No products were found.

#### SARA 311/312

Classification : SKIN CORROSION - Category 1B  
 SERIOUS EYE DAMAGE - Category 1  
 SKIN SENSITIZATION - Category 1  
 TOXIC TO REPRODUCTION - Category 1B  
 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2  
 HNOC - Corrosive to digestive tract  
 HNOC - Defatting irritant

#### Composition/information on ingredients

Name	%	Classification
triethoxy(phenyl)silane	≥20 - ≤50	FLAMMABLE LIQUIDS - Category 2 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
Proprietary silane	Proprietary	FLAMMABLE LIQUIDS - Category 4 ACUTE TOXICITY (oral) - Category 4 SKIN CORROSION - Category 1B SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1B HNOC - Corrosive to digestive tract
ethanol	≥1.0 - ≤5.0	FLAMMABLE LIQUIDS - Category 2 EYE IRRITATION - Category 2A HNOC - Defatting irritant
dibutyltin di(acetate)	<1.0	SKIN CORROSION - Category 1 SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1B GERM CELL MUTAGENICITY - Category 2 TOXIC TO REPRODUCTION - Category 1B SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1

## Section 16. Other information

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

Health : 3 \* Flammability : 0 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 : 0 Instability : 0

Date of previous issue : 6/19/2021

Organization that prepared the SDS : EHS

### Key to abbreviations

: ATE = Acute Toxicity Estimate  
BCF = Bioconcentration Factor  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IBC = Intermediate Bulk Container  
IMDG = International Maritime Dangerous Goods  
LogPow = logarithm of the octanol/water partition coefficient  
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
N/A = Not available  
SGG = Segregation Group  
UN = United Nations

✔ Indicates information that has changed from previously issued version.

### Disclaimer

*The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.*

# SAFETY DATA SHEET



Date of issue/Date of revision 9 November 2021

Version 17

## Section 1. Identification

**Product name** : PR 2225 B 1 Part B  
**Product code** : PR 2225 B 1 Part B  
**Other means of identification** : Not available.  
**Product type** : Solid.

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

**Product use** : Industrial applications.  
**Use of the substance/mixture** : Sealants  
**Uses advised against** : Not applicable.

**Manufacturer** : PPG Aerospace PRC-DeSoto  
12780 San Fernando Road  
Sylmar, CA 91342  
Phone: 818 362 6711

**Emergency telephone number** : (412) 434-4515 (U.S.)  
(514) 645-1320 (Canada)  
01-800-00-21-400 (Mexico)


## 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 (inhalation) - Category 1  
EYE IRRITATION - Category 2A  
RESPIRATORY SENSITIZATION - Category 1  
SKIN SENSITIZATION - Category 1  
GERM CELL MUTAGENICITY - Category 1  
CARCINOGENICITY - Category 1B  
TOXIC TO REPRODUCTION - Category 1B  
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1  
Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity: 68.6% (oral), 93.2% (dermal), 93.2% (inhalation)

### GHS label elements

## Section 2. Hazards identification

<b>Hazard pictograms</b>	:	
<b>Signal word</b>	:	Danger
<b>Hazard statements</b>	:	Harmful if swallowed. May cause an allergic skin reaction. Causes serious eye irritation. Fatal if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause genetic defects. May cause cancer. May damage fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure.
<b><u>Precautionary statements</u></b>		
<b>Prevention</b>	:	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. Wear respiratory protection. Use only outdoors or in a well-ventilated area. Do not breathe dust. 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.
<b>Response</b>	:	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 experiencing respiratory symptoms: Call a POISON CENTER or doctor. IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth. 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. If eye irritation persists: Get medical advice or attention.
<b>Storage</b>	:	Store locked up.
<b>Disposal</b>	:	Dispose of contents and container in accordance with all local, regional, national and international regulations.
<b>Supplemental label elements</b>	:	Sanding and grinding dusts may be harmful if inhaled. Avoid contact with skin and clothing. Wash thoroughly after handling. Emits toxic fumes when heated.
<b>Hazards not otherwise classified</b>	:	Prolonged or repeated contact may dry skin and cause irritation.

## Section 3. Composition/information on ingredients

<b>Substance/mixture</b>	:	Mixture
<b>Product name</b>	:	PR 2225 B 1 Part B



### Section 3. Composition/information on ingredients

Ingredient name	%	CAS number
Nickel	≥20 - ≤50	7440-02-0
Siloxanes and Silicones, di-Me, hydroxy-terminated	≥20 - ≤50	70131-67-8
Natural graphite	≥10 - ≤20	7782-42-5
toluene	≥1.0 - ≤5.0	108-88-3
magnesium chromate	≥1.0 - <3.0	13423-61-5
cobalt	<1.0	7440-48-4
N-methyl-2-pyrrolidone	<1.0	872-50-4

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** : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.
- 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 irritation.
- Inhalation** : Fatal if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin contact** : Defatting to the skin. May cause skin dryness and irritation. May cause an allergic skin reaction.
- Ingestion** : Harmful if swallowed.

##### Over-exposure signs/symptoms

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

## Section 4. First aid measures

- Inhalation** : Adverse symptoms may include the following:  
wheezing and breathing difficulties  
asthma  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness  
dryness  
cracking  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- 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 an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.
- Specific hazards arising from the chemical** : No specific fire or explosion hazard.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon 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.

## Section 5. Fire-fighting measures

**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. 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** : Move containers from spill area. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. 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 or asthma, allergies or chronic or recurrent respiratory disease 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 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** : Ingestion of product or cured coating may be harmful. 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** : Do not store below the following temperature: 5°C (41°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
Nickel  Siloxanes and Silicones, di-Me, hydroxy-terminated Natural graphite  toluene  magnesium chromate	<p><b>ACGIH TLV (United States, 1/2021).</b> TWA: 1.5 mg/m<sup>3</sup> 8 hours. Form: Inhalable fraction</p> <p><b>OSHA PEL (United States, 5/2018).</b> TWA: 1 mg/m<sup>3</sup>, (as Ni) 8 hours.</p> <p>None.</p> <p><b>OSHA PEL (United States).</b> TWA: 5 mg/m<sup>3</sup> Form: Respirable TWA: 10 mg/m<sup>3</sup></p> <p><b>ACGIH TLV (United States, 1/2021).</b> TWA: 2 mg/m<sup>3</sup> 8 hours. Form: Respirable fraction</p> <p><b>OSHA PEL (United States, 5/2018).</b> TWA: 5 mg/m<sup>3</sup> 8 hours. Form: Respirable fraction TWA: 15 mg/m<sup>3</sup> 8 hours. Form: Total dust</p> <p><b>OSHA PEL Z3 (United States, 6/2016).</b> TWA: 15 mppcf 8 hours.</p> <p><b>OSHA PEL Z2 (United States, 2/2013).</b> AMP: 500 ppm 10 minutes. CEIL: 300 ppm TWA: 200 ppm 8 hours.</p> <p><b>ACGIH TLV (United States, 1/2021).</b> <b>Ototoxicant.</b> TWA: 20 ppm 8 hours.</p> <p><b>ACGIH TLV (United States, 1/2021).</b> TWA: 0.0002 mg/m<sup>3</sup>, (measured as Cr) 8 hours. Form: Inhalable fraction STEL: 0.0005 mg/m<sup>3</sup>, (measured as Cr) 15 minutes. Form: Inhalable fraction</p> <p><b>OSHA PEL Z2 (United States, 2/2013).</b> CEIL: 1 mg/10m<sup>3</sup></p>

## Section 8. Exposure controls/personal protection

cobalt

**OSHA PEL (United States, 5/2018).**TWA: 0.005 mg/m<sup>3</sup>, (as Cr) 8 hours.**ACGIH TLV (United States, 1/2021). Skin sensitizer. Inhalation sensitizer.**TWA: 0.02 mg/m<sup>3</sup>, (as Co) 8 hours. Form: InorganicTWA: 0.005 mg/m<sup>3</sup> 8 hours. Form: Thoracic fraction**OSHA PEL (United States, 5/2018).**TWA: 0.1 mg/m<sup>3</sup>, (as Co) 8 hours.**IPEL (-). Absorbed through skin.**

TWA: 10 ppm

STEL: 20 ppm

N-methyl-2-pyrrolidone

### Key to abbreviations

A	= Acceptable Maximum Peak	S	= Potential skin absorption
ACGIH	= American Conference of Governmental Industrial Hygienists.	SR	= Respiratory sensitization
C	= Ceiling Limit	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		

### Consult local authorities for acceptable exposure limits.

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

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

**Eye/face protection** : Chemical splash goggles.

**Skin protection**

## Section 8. Exposure controls/personal protection

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Gloves** : butyl rubber
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Use an air-fed respirator unless a site-specific assessment determines that an air-fed respirator is not necessary, in which case the results of the risk assessment should be utilized to determine whether respiratory protection is necessary and what type of protection is appropriate. 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.
- The respiratory protection shall be in accordance to 29 CFR 1910.134.

## Section 9. Physical and chemical properties

### Appearance

- Physical state** : Solid.
- Color** : Not available.
- Odor** : Not available.
- Odor threshold** : Not available.
- pH** : Not applicable.
- Melting point** : Not available.
- Boiling point** : 110°C (230°F)
- Flash point** : Closed cup: Not applicable.
- Auto-ignition temperature** : Not applicable.
- Decomposition temperature** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not applicable.
- Evaporation rate** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not applicable.
- Relative density** : 2.21
- Density ( lbs / gal )** : 18.44
- Solubility** : Insoluble in the following materials: cold water.
- Partition coefficient: n-octanol/water** : Not applicable.
- Viscosity** : Kinematic (40°C (104°F)): Not applicable.

## Section 9. Physical and chemical properties

VOC : 110 g/l

% Solid. (w/w) : 95

## Section 10. Stability and reactivity

**Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : The product is stable.

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid** : When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8.

**Incompatible materials** : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

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

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Siloxanes and Silicones, di-Me, hydroxy-terminated toluene	LD50 Oral	Rat	>5000 mg/kg	-
	LC50 Inhalation Vapor	Rat	49 g/m <sup>3</sup>	4 hours
	LD50 Dermal	Rabbit	8.39 g/kg	-
cobalt	LD50 Oral	Rat	5580 mg/kg	-
	LD50 Oral	Rat	550 mg/kg	-
	LC50 Inhalation Dusts and mists	Rat	>5100 mg/m <sup>3</sup>	4 hours
N-methyl-2-pyrrolidone	LD50 Dermal	Rabbit	8 g/kg	-
	LD50 Oral	Rat	3.914 g/kg	-

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

#### Irritation/Corrosion

##### Conclusion/Summary

**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

##### Conclusion/Summary

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

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

#### Mutagenicity

## 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
Nickel	-	2B	Reasonably anticipated to be a human carcinogen.
toluene	-	3	-
magnesium chromate	+	1	Known to be a human carcinogen.
cobalt	-	2B	Reasonably anticipated 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
toluene	Category 3	-	Narcotic effects
magnesium chromate	Category 3	-	Respiratory tract irritation
N-methyl-2-pyrrolidone	Category 3	-	Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Nickel	Category 1	inhalation	-
toluene	Category 2	-	-
cobalt	Category 2	-	-
N-methyl-2-pyrrolidone	Category 2	-	-

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

### Aspiration hazard

Name	Result
toluene	ASPIRATION HAZARD - Category 1

### Information on the likely routes of exposure



## Section 11. Toxicological information

### Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Fatal if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin contact** : Defatting to the skin. May cause skin dryness and irritation. May cause an allergic skin reaction.
- Ingestion** : Harmful if swallowed.

### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
wheezing and breathing difficulties  
asthma  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness  
dryness  
cracking  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
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. 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. 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.

### 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

- General** : Causes 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** : May cause cancer. Risk of cancer depends on duration and level of exposure.
- Mutagenicity** : May cause genetic defects.
- 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/l)
PR 2225 B 1 Part B	1595.3	3798.8	N/A	N/A	0.017
toluene	5580	8390	N/A	49	N/A
magnesium chromate	100	1100	N/A	N/A	0.005
cobalt	550	N/A	N/A	N/A	N/A
N-methyl-2-pyrrolidone	3914	8000	N/A	N/A	N/A

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
Siloxanes and Silicones, di-Me, hydroxy-terminated	Acute LC50 >100 mg/l	Fish	96 hours

### Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
toluene	-	-	Readily
N-methyl-2-pyrrolidone	-	-	Readily

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
toluene	2.73	8.32	low
N-methyl-2-pyrrolidone	-0.46	3.16	low

### Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : 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

## 14. Transport information

	DOT	IMDG	IATA
<b>UN number</b>	UN3077	UN3077	UN3077
<b>UN proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (magnesium chromate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (magnesium chromate)
<b>Transport hazard class (es)</b>	9	9	9
<b>Packing group</b>	III	III	III
<b>Environmental hazards</b>	Yes.	Yes.	Yes.
<b>Marine pollutant substances</b>	Not applicable.	(magnesium chromate)	Not applicable.
<b>Product RQ (lbs)</b>	202.72	Not applicable.	Not applicable.
<b>RQ substances</b>	(Nickel, toluene)	Not applicable.	Not applicable.

### Additional information

- DOT** : Non-bulk packages of this product are not regulated as hazardous materials in package sizes less than the product reportable quantity, unless transported by inland waterway. The marine pollutant mark is not required when transported on inland waterways in sizes of ≤5 L or ≤5 kg.
- IMDG** : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.
- IATA** : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.

**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.

## 14. Transport information

Transport in bulk according to IMO instruments : Not applicable.

## Section 15. Regulatory information

### United States

United States inventory (TSCA 8b) : All components are active or exempted.

#### United States - TSCA 12(b) - Chemical export notification:

Magnesium chromate Annual notification

#### United States - TSCA 5(e) - Substances consent order:

carbon Listed

#### United States - TSCA 5(a)2 - Proposed significant new use rules:

N-methyl-2-pyrrolidone 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 (inhalation) - Category 1  
 EYE IRRITATION - Category 2A  
 RESPIRATORY SENSITIZATION - Category 1  
 SKIN SENSITIZATION - Category 1  
 GERM CELL MUTAGENICITY - Category 1  
 CARCINOGENICITY - Category 1B  
 TOXIC TO REPRODUCTION - Category 1B  
 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1  
 HNOC - Defatting irritant

#### Composition/information on ingredients

Name	%	Classification
Nickel	≥20 - ≤50	SKIN SENSITIZATION - Category 1B CARCINOGENICITY - Category 1B SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1
Siloxanes and Silicones, di-Me, hydroxy-terminated toluene	≥20 - ≤50 ≥1.0 - ≤5.0	HNOC - Defatting irritant FLAMMABLE LIQUIDS - Category 2 SKIN IRRITATION - Category 2 TOXIC TO REPRODUCTION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 ASPIRATION HAZARD - Category 1
magnesium chromate	≥1.0 - <3.0	HNOC - Defatting irritant ACUTE TOXICITY (oral) - Category 3 ACUTE TOXICITY (dermal) - Category 4

## Section 15. Regulatory information

cobalt	<1.0	ACUTE TOXICITY (inhalation) - Category 1 SKIN IRRITATION - Category 2 SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1B GERM CELL MUTAGENICITY - Category 1B CARCINOGENICITY - Category 1B SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 ACUTE TOXICITY (oral) - Category 4 RESPIRATORY SENSITIZATION - Category 1A SKIN SENSITIZATION - Category 1B GERM CELL MUTAGENICITY - Category 2 CARCINOGENICITY - Category 1B TOXIC TO REPRODUCTION - Category 1B SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
N-methyl-2-pyrrolidone	<1.0	SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A TOXIC TO REPRODUCTION - Category 1B SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 HNOC - Defatting irritant

### SARA 313

Supplier notification	Chemical name	CAS number	Concentration
	Nickel	7440-02-0	30 - 60
	toluene	108-88-3	1 - 5
	magnesium chromate	13423-61-5	1 - 5
	cobalt	7440-48-4	0.1 - 1

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.

### California Prop. 65

 **WARNING:** Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

## Section 16. Other information

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

Health : 2 \* Flammability : 0 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 : 2 Flammability : 0 Instability : 0

Date of previous issue : 6/19/2021

## Section 16. Other information

Organization that prepared the SDS : EHS

### Key to abbreviations

: ATE = Acute Toxicity Estimate  
BCF = Bioconcentration Factor  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IBC = Intermediate Bulk Container  
IMDG = International Maritime Dangerous Goods  
LogPow = logarithm of the octanol/water partition coefficient  
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
N/A = Not available  
SGG = Segregation Group  
UN = United Nations

✔ Indicates information that has changed from previously issued version.

### Disclaimer

*The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.*

# SAFETY DATA SHEET



Date of issue/Date of revision 17 November 2021

Version 11

## Section 1. Identification

**Product name** : PR 2225 ADHESION PROMOTER  
**Product code** : PR 2225 ADHESION PROMOTER  
**Other means of identification** : Not available.  
**Product type** : Liquid.

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

**Product use** : Industrial applications.  
**Use of the substance/mixture** :  Adhesive.  
**Uses advised against** : Not applicable.

**Manufacturer** : PPG Aerospace PRC-DeSoto  
12780 San Fernando Road  
Sylmar, CA 91342  
Phone: 818 362 6711

**Emergency telephone number** : (412) 434-4515 (U.S.)  
(514) 645-1320 (Canada)  
01-800-00-21-400 (Mexico)


## 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** :  FLAMMABLE LIQUIDS - Category 3  
ACUTE TOXICITY (oral) - Category 4  
ACUTE TOXICITY (inhalation) - Category 4  
SKIN IRRITATION - Category 2  
EYE IRRITATION - Category 2A  
SKIN SENSITIZATION - Category 1  
TOXIC TO REPRODUCTION - Category 2  
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2  
Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity: 6.7% (oral), 51.1% (dermal), 54.6% (inhalation)

### GHS label elements

## Section 2. Hazards identification

<b>Hazard pictograms</b>	:	
<b>Signal word</b>	:	Warning
<b>Hazard statements</b>	:	<ul style="list-style-type: none"><li>Flammable liquid and vapor.</li><li>Harmful if swallowed or if inhaled.</li><li>Causes skin irritation.</li><li>May cause an allergic skin reaction.</li><li>Causes serious eye irritation.</li><li>Suspected of damaging fertility or the unborn child.</li><li>May cause damage to organs through prolonged or repeated exposure.</li></ul>
<b><u>Precautionary statements</u></b>		
<b>Prevention</b>	:	<ul style="list-style-type: none"><li>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 explosion-proof electrical, ventilating or lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Keep container tightly closed. 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 must not be allowed out of the workplace.</li></ul>
<b>Response</b>	:	<ul style="list-style-type: none"><li>If exposed or concerned: Get medical advice or attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. 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. If eye irritation persists: Get medical advice or attention.</li></ul>
<b>Storage</b>	:	Store locked up. Store in a well-ventilated place. Keep cool.
<b>Disposal</b>	:	Dispose of contents and container in accordance with all local, regional, national and international regulations.
<b>Supplemental label elements</b>	:	Trimethoxysilanes are capable of forming methanol if hydrolyzed or ingested. If swallowed, methanol may be harmful or fatal or cause blindness. Emits toxic fumes when heated.
<b>Hazards not otherwise classified</b>	:	None known.

## Section 3. Composition/information on ingredients

<b>Substance/mixture</b>	:	Mixture
<b>Product name</b>	:	PR 2225 ADHESION PROMOTER



## Section 3. Composition/information on ingredients

Ingredient name	%	CAS number
Titanium tetrakis(2-ethylhexanoate)	≥20 - ≤36	1070-10-6
octamethyltrisiloxane	≥20 - ≤50	107-51-7
trimethoxyvinylsilane	≥20 - ≤31	2768-02-7
O,O'-(ethenylmethylsilylene)di[(4-methylpentan-2-one)oxime]	≥20 - ≤50	156145-66-3
4-methylpentan-2-one oxime	≥1.0 - ≤3.9	105-44-2

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** : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.
- 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 irritation.
- Inhalation** : Harmful if inhaled.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : Harmful if swallowed.

#### Over-exposure signs/symptoms

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

## Section 4. First aid measures

- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- 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, CO<sub>2</sub>, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

**Specific hazards arising from the chemical** : Flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

**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. 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 flames, smoking or flames in hazard area. Avoid breathing 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. 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. 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.

## Section 7. Handling and storage

- 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.
- Conditions for safe storage, including any incompatibilities** : Do not store above the following temperature: 50°C (122°F). Store in accordance with local regulations. Store in 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
Titanium tetrakis(2-ethylhexanolate)	None.
octamethyltrisiloxane	None.
trimethoxyvinylsilane	None.
O,O'-(ethenylmethylsilylene)di[(4-methylpentan-2-one)oxime]	None.
4-methylpentan-2-one oxime	None.

#### Key to abbreviations

A = Acceptable Maximum Peak	S = Potential skin absorption
ACGIH = American Conference of Governmental Industrial Hygienists.	SR = Respiratory sensitization
C = Ceiling Limit	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	

#### Consult local authorities for acceptable exposure limits.

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. 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.

## Section 8. Exposure controls/personal protection

- 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.
- 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** : 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. 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.
- 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** : Liquid.
- Color** : Yellow.
- Odor** : Not available.
- Odor threshold** : Not available.
- pH** : Not applicable.

## Section 9. Physical and chemical properties

<b>Melting point</b>	: Not available.
<b>Boiling point</b>	: 122.22 to 255°C (252 to 491°F)
<b>Flash point</b>	: Closed cup: 27.78°C (82°F)
<b>Auto-ignition temperature</b>	: Not available.
<b>Decomposition temperature</b>	: Not available.
<b>Flammability (solid, gas)</b>	: Not available.
<b>Lower and upper explosive (flammable) limits</b>	: Not available.
<b>Evaporation rate</b>	: Not available.
<b>Vapor pressure</b>	: Not available.
<b>Vapor density</b>	: Not available.
<b>Relative density</b>	: 0.91
<b>Density ( lbs / gal )</b>	: 7.59
<b>Solubility</b>	: Insoluble in the following materials: cold water.
<b>Partition coefficient: n-octanol/water</b>	: Not applicable.
<b>Viscosity</b>	: Kinematic (40°C (104°F)): >21 mm <sup>2</sup> /s (>21 cSt)
<b>VOC</b>	: 282.8 g/l
<b>% Solid. (w/w)</b>	: 68.74

## Section 10. Stability and reactivity

<b>Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	: The product is stable.
<b>Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	: When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8.
<b>Incompatible materials</b>	: Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.
<b>Hazardous decomposition products</b>	: 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
Titanium tetrakis (2-ethylhexanoate)	LD50 Dermal	Rabbit	>2.6 g/kg	-
	LD50 Oral	Rat	3.73 g/kg	-
octamethyltrisiloxane	LC50 Inhalation Vapor	Rat	>22.6 mg/l	4 hours
	LC50 Inhalation Vapor	Rat	16800 mg/m <sup>3</sup>	4 hours
trimethoxyvinylsilane	LD50 Dermal	Rabbit	3158 mg/kg	-
	LD50 Oral	Rat - Male	6899 mg/kg	-
	LD50 Oral	Rat	1333 mg/kg	-

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

#### Irritation/Corrosion

##### Conclusion/Summary

**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

##### Conclusion/Summary

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

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

#### Mutagenicity

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

#### Carcinogenicity

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

#### Reproductive toxicity

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

#### Teratogenicity

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

#### Specific target organ toxicity (single exposure)

Not available.

#### Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
O,O'-(ethenylmethylsilylene)di[(4-methylpentan-2-one) oxime]	Category 2	oral	-

**Target organs** : Contains material which causes damage to the following organs: gastrointestinal tract, skin, eyes.  
Contains material which may cause damage to the following organs: the reproductive system, bladder, central nervous system (CNS).

#### Aspiration hazard

## Section 11. Toxicological information

Not available.

### Information on the likely routes of exposure

#### Potential acute health effects

- Eye contact** : Causes serious eye irritation.  
**Inhalation** : Harmful if inhaled.  
**Skin contact** :  Causes skin irritation. May cause an allergic skin reaction.  
**Ingestion** : Harmful if swallowed.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
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:  
irritation  
redness  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
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. 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.

#### Short term exposure

- Potential immediate effects** : There are no data available on the mixture itself.  
**Potential delayed effects** : There are no data available on the mixture itself.

#### Long term exposure

- Potential immediate effects** : There are no data available on the mixture itself.  
**Potential delayed effects** : There are no data available on the mixture itself.

#### Potential chronic health effects

- General** :  May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Carcinogenicity** : No known significant effects or critical hazards.  
**Mutagenicity** : No known significant effects or critical hazards.



## Section 11. Toxicological information

**Reproductive toxicity** : Suspected of damaging 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/l)
PR 2225 ADHESION PROMOTER	1059.3	2832.5	N/A	34.7	3.1
titanium tetrakis(2-ethylhexanoate)	3730	2500	N/A	N/A	N/A
octamethyltrisiloxane	500	N/A	N/A	N/A	N/A
trimethoxyvinylsilane	6899	3158	N/A	16.8	1.5
O,O'-(ethenylmethylsilylene)di[(4-methylpentan-2-one) oxime]	500	N/A	N/A	N/A	N/A
4-methylpentan-2-one oxime	1333	N/A	N/A	N/A	N/A

## Section 12. Ecological information

### Toxicity

Not available.

### Persistence and degradability

Not available.

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
octamethyltrisiloxane	6.6	-	high

### Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : 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

## Section 13. Disposal considerations

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

## 14. Transport information

	DOT	IMDG	IATA
UN number	UN1993	UN1993	UN1993
UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (octamethyltrisiloxane, trimethoxyvinylsilane)	FLAMMABLE LIQUID, N.O.S. (octamethyltrisiloxane, trimethoxyvinylsilane)	FLAMMABLE LIQUID, N.O.S. (octamethyltrisiloxane, trimethoxyvinylsilane)
Transport hazard class(es)	3	3	3
Packing group	III	III	III
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.

### Additional information

DOT : None identified.  
 IMDG : None identified.  
 IATA : None identified.

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to IMO instruments** : Not applicable.

## Section 15. Regulatory information

### United States

United States inventory (TSCA 8b) : All components are active or exempted.

### SARA 302/304


SARA 304 RQ : Not applicable.

### Composition/information on ingredients


No products were found.

### SARA 311/312

## Section 15. Regulatory information

**Classification** :  FLAMMABLE LIQUIDS - Category 3  
 ACUTE TOXICITY (oral) - Category 4  
 ACUTE TOXICITY (inhalation) - Category 4  
 SKIN IRRITATION - Category 2  
 EYE IRRITATION - Category 2A  
 SKIN SENSITIZATION - Category 1  
 TOXIC TO REPRODUCTION - Category 2  
 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

### Composition/information on ingredients

Name	%	Classification
 titanium tetrakis (2-ethylhexanolate) octamethyltrisiloxane	≥20 - ≤36	SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A
trimethoxyvinylsilane	≥20 - ≤50	FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (oral) - Category 4
O,O'-(ethenylmethylsilylene)di[ (4-methylpentan-2-one)oxime]	≥20 - ≤31	FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (inhalation) - Category 4 SKIN SENSITIZATION - Category 1B
4-methylpentan-2-one oxime	≥20 - ≤50	ACUTE TOXICITY (oral) - Category 4 TOXIC TO REPRODUCTION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
	≥1.0 - ≤3.9	ACUTE TOXICITY (oral) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A

### California Prop. 65

 **WARNING:** Reproductive Harm - www.P65Warnings.ca.gov.

## Section 16. Other information

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

**Health** :  2 \* **Flammability** : 3 **Physical hazards** : 1

(\* ) - 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** :  2 **Flammability** : 3 **Instability** : 1

**Date of previous issue** : 6/19/2021

**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

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