

# ARDINAL SAFETY DATA SHEET

**ISSUED:** 8/23/2018 **REFERENCE:** GR305-C241

# C241-GR305 BAY GRAY

### 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** C241-GR305 BAY GRAY **PRODUCT USE:** Industrial Powder Coating

**MANUFACTURER** 

24 HR. EMERGENCY TELEPHONE NUMBER

Cardinal Paint and Powder 1329 Potrero Ave S. El Monte, CA, 91733 626 444-9274 **CHEMTREC (US Transportation)**: (800)424-9300 **CHEMTREC (International Transportation)**: (202)483-7616

WEB: WWW.CARDINALPAINT.COM

### 2. HAZARDS IDENTIFICATION

#### **PICTOGRAMS:**



**SIGNAL WORD: WARNING** 

### **HAZARD STATEMENTS:**

H351 Suspected of causing cancer.

H372 Causes damage to organs through prolonged or repeated exposure.

H317 May cause an allergic skin reaction.

# **PRECAUTIONARY STATEMENTS:**

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe dust.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

# 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Weight %	CAS Number
Hydrated magnesium silicate	5% - 10%	14807-96-6
Titanium Dioxide	1% - 5%	13463-67-7
Carbon Black	0.10% - 0.50%	1333-86-4
Aluminum Oxide	<1%	1344-28-1
Crystalline Silica	0.10% - 0.50%	14808-60-7

## 4. FIRST AID MEASURES

#### Description of first aid measures.

**EYE CONTACT:** 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/physician.



SKIN CONTACT: Remove affected clothing and wash all exposed area with mild soap and water, followed by warm water rinse. Wash with plenty of soap and water. If skin irritation or rash occurs: Wash with plenty of soap and water. Get medical advice/attention. Wash contaminated clothing before reuse. Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.

INGESTION: Rinse mouth, Do NOT induce vomiting, Obtain emergency medical attention, Call a Poison Center or doctor/physician of you feel unwell.

**INHALATION:** Allow victim to breathe fresh air. Allow victim to rest, Remove to fresh air and keep at rest in a position comfortable to breath. Call a Poison Center or doctor/physician if you feel unwell.

Most important symptoms and effect, both acute and delayed: Symptoms/Injuries: May cause genetic defects. Causes damage to organs. - After Inhalation: Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled. May cause an allergic skin reaction. May cause cancer by inhalation. - After Eye Contact: Causes serious eye damage. - After Ingestion: Swallowing a small quantity of this material may result in serious health hazard. Indication of any immediate medical attention and special treatment needed: No additional information available.

#### 5. FIRE FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA: Foam, alcohol foam, dry chemical, carbon dioxide, water fog or sand.

UNSUITABLE EXTINGUISHING MEDIA: Do not use heavy water stream.

FIRE FIGHTING PROCEDURE: Firefighting instructions: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering the environment.

Protection during firefighting: Firefighters should wear full protective gear. Do not enter fire area without proper protective equipment, including self-contained breathing apparatus with full face piece operated in pressure demand or other positive pressure modes.

UNUSUAL FIRE AND EXPLOSION HAZARD: This product is stable at normal handling and storage conditions.

### **6. ACCIDENTAL RELEASE MEASURES**

PERSONAL PRECAUTIONS, PROTECTIVE EOUIPMENT AND EMERGENCY PROCEDURES: General measures: Remove ignition sources. Use special care to avoid static electric charges. No smoking.

FOR NON-EMERGENCY PERSONNEL: For non-Emergency procedures: Evacuate unnecessary personnel.

FOR EMERGENCY RESPONDERS: Protective equipment: Equip cleanup crew with proper protection. - Emergency procedures : Ventilate area.

ENVIRONMENTAL PRECAUTIONS: Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public water. Avoid release to the environment.

METHODS AND MATERIAL FOR CONTAINMENT AND CLEAN UP: On land, sweep or shovel into suitable containers,. Minimize generation of dust.

### 7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when you are leaving work. Provide good ventilation in process area. Use only in well ventilated areas. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Eliminate all ignition sources if safe to do so. Avoid breathing dust, fumes and/or vapors.

Hygiene measures: Wash Skin thoroughly after handling.

CONDITIONS FOR SAFE STORAGE, INCLUDING INCOMPATIBILITIES: Avoid heat sources and direct sunlight. Store in a dry place. Protect from moisture. Keep container closed when not in use. Keep only in the original container in a cool well ventilated place away from heat, ignition sources and direct sunlight.

Incompatible products: Strong bases. Strong acids.

Incompatible materials: Source of ignition. Direct sunlight.



# 8. EXPOSURE CONTROLS\PERSONAL PROTECTION

Aluminum Oxide(1344-28-1)			
USA OSHA	(OEL) Table Z-1, TWA	15 mg/m3	
USA ACGIH	(TLV) TWA	1 mg/m3	
Amorphous Pyrogenic Silica(112945-52-5)			
USA OSHA	USA OSHA TWA (OEL Table Z-3)	80 mg/m3 3/%SiO2	
USA NIOSH			
		6 mg/m3	
Amorphous Silica(112926-00-8)	LICA OCUA TIMA (T. L.L. 7.4)	6	
USA OSHA	USA OSHA TWA (Table Z-1)	6 mg/m3	
USA OSHA	USA OSHA TWA (Tabla Z-3)	20 Million particals per cubic foot.	
USA NIOSH	USA NIOSH TWA (REL)	6 mg/m3	
Carbon Black(1333-86-4)			
ACGIH TLV (Threshold Limit Value)	TWA (Time Weighted Average)	3 mg/m3 8 hours	
OSHA PEL (Permissible Exposure Limit)	TWA (Time Weighted Average)	3.5 mg/m3 8 hours	
NIOSH REL (Recommended Exposure	TWA (Time Weighted Average)	3.5 mg/m3 8 hours	
Limit)			
NIOSH REL (Recommended Exposure	TWA (Time Weighted Average)	0.1mg of PAHs/cm3 10 hours	
Limit )			
Crystalline Silica(14808-60-7)			
ACGIH TLV (Threshold Limit Value)	TWA (Time Weighted Average)	0.025 mg/m3 8 hours	
Diethanolamine(111-42-2)			
ACGIH TLV (Threshold Limit Value)	TWA (Time Weighted Average)	1.0 mg/m3 8 hours	
NIOSH REL (Recommended Exposure	TWA (Time Weighted Average)	15 mg/m3 8 hours	
Limit)		3,	
NIOSH REL (Recommended Exposure	TWA (Time Weighted Average)	3 ppm 8 hours	
Limit)	, , ,	''	
Hydrated magnesium silicate(14807-96-	6)	·	
ACGIH TLV (Threshold Limit Value)	TWA (Time Weighted Average)	2 mg/m3 (Respirable Fraction) 8	
(	( 1 1 3 11 1 1 3 1,	hours	
NIOSH REL(Recommended Exposure	TWA (Time Weighted Average)	2 mg/m3 (Respirable Fraction) 10	
Limit)	Time (time transmission transmission)	hours	
Iron Oxide(1309-37-1)			
USA ACGIH	USA ACGIG (TLV) TWA	5 mg/m3	
USA OSHA	USA OSHA (OEL) TWA Table Z-1	15 mg/m3	
USA NIOSH	USA NIOSH (REL) TWA	5 mg/m3	
Limestone(1317-65-3)	CS/CNICSIT (NEE) TW/C	5 mg/m3	
ACGIH	Not Applicable	Not Applicable	
OSHA PEL (Permissible Exposure Limit)	TWA (Time Weighted Average)	15 mg/m3 (Total Dust) 8 hours	
OSHA PEL (Permissible Exposure Limit)  OSHA PEL (Permissible Exposure Limit)	TWA (Time Weighted Average)  TWA (Time Weighted Average)	5 mg/m3 (Respirable Fraction) 8	
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NIOSH REL (Recommende Exposure	TWA (Time Weighted Average)	5 mg/m3 (Respirable Fraction) 8	
LImit)		hours	
Titanium Dioxide(13463-67-7)	TMA (T)	10 / 2 01	
ACGIH TLV (Threshold Limit Value)	TWA (Time Weighted Average)	10 mg/m3 8 hours	
OSHA PEL (Permissible Exposure Limit)	TWA (Time Weighted Average)	15 mg/m3 8 hours	

# PERSONAL PROTECTIVE EQUIPMENT

**RESPIRATORY PROTECTION:** Wear approved dust mask.

**HAND PROTECTION:** Wear protective gloves.

**EYE PROTECTION:** Chemical goggles or safety glasses.

**SKIN AND BODY PROTECTION:** Wear suitable protective clothing.

WORK HYGIENIC PRACTICES: When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.



# 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	Solid
Melting point	:	55 - 90 deg C
Flash point	:	No data available.
Lower explosion limit	:	10 g/m <sup>3</sup>
Upper explosion limit	:	70 g/m <sup>3</sup>
Density	:	1.6570
Solubility	:	No data available.
Autoignition temperature	:	No data available.
Decomposition temperature	:	No data available.

# **10. STABILITY AND REACTIVITY**

**REACTIVITY:** This product is stable at normal handling and storage conditions.

**CHEMICAL STABILITY:** Stable under normal conditions.

**CONDITIONS TO AVOID:** Direct sunlight. Extremely high or low temperatures.

**INCOMPATIBLE MATERIALS:** Strong acids. Strong bases.

HAZARDOUS DECOMPOSITION PRODUCTS: Fume. Carbon monoxide. Carbon dioxide.

# 11. TOXICOLOGICAL INFORMATION

Acute toxicity - LD50 - oral - rat	Aluminum Oxide(1344-28-1)	
Acute toxicity - dermal  Skin irritation - rabbit  No skin irritation  Respiratory or skin sensitisation - maximisation test - guinea pig  Germ cell mutagenicity  Carcinogenicity  This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification  No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible or confirmed human carcinogen by IARC  No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP  No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP  OSHA  No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP  No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA  Reproductive toxicity  No data available  Specific target organ toxicity - single exposure  Specific target organ toxicity - repeated exposure  Aspiration hazard  No data available  Acquet toxicity - Inhalation  Cough, chest pain, difficulty in breathing, gastrointestinal disturbance  Liver irregularities based on human evidence  Amorphous Pyrogenic Silica(112945-52-5)  Acute toxicity - Inhalation  No data available  Acute toxicity - Dermal  No data available  Respiratory or skin sensation  No data available  Germ cell mutagenicity - rat - lungs  Germ cell mutagenicity - rat  Unscheduled DNA synthesis  Carcinogenicity resent at levels greater than or equal to  Not classifiable as to its carcinogenicity to human  Not component of this product present at levels greater than or equal to	Acute toxicity - LD50 - oral - rat	> 10,000 mg/kg
Skin irritation - rabbit Eye irritation - rabbit No eye irritation DId not cause sensitisation on laboratory animals  Bespiratory or skin sensitisation - maximisation test - guinea pig Germ cell mutagenicity No data available This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification  IARC No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible or confirmed human carcinogen by IARC NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP OSHA No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP OSHA No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA Reproductive toxicity No data available No data available No data available Respiration hazard No data available Additional information Additional information Cough, chest pain, difficulty in breathing, gastrointestinal disturbance Liver irregularities based on human evidence Amorphous Pyrogenic Silica(112945-52-5) Acute toxicity - Inhalation No data available Skin irritation No data available Skin irritation No data available Germ cell mutagenicity - rat - lungs Body fluid assay Germ cell mutagenicity - rat - lungs Germ cell mutagenicity - rat - lungs Germ cell mutagenicity - rat - lungs Tanc No component of this product present at levels greater than or equal to No component of this product present at levels greater than or equal to No calcasifiable as to its carcinogenicity to human No component of this product present at levels greater than or equal to	Acute toxicity - LC50 - inhalation - rat	> 2.6 mg/L / 4 h
Eye irritation - rabbit Respiratory or skin sensitisation - maximisation test - guinea pig Germ cell mutagenicity No data available This product is or contains a component that is not classifiable as to its carcinogenicity some of this product present at levels greater than or equal to 0.1% is identified as a probable, possible or confirmed human carcinogen by IARC  No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible or confirmed human carcinogen by IARC  No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP  OSHA No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by NTP  OSHA No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA  Reproductive toxicity No data available  Reproductive toxicity - single exposure  Specific target organ toxicity - repeated exposure  Aspiration hazard No data available  Additional information Cough, chest pain, difficulty in breathing, gastrointestinal disturbance  Additional information Liver irregularities based on human evidence  Amorphous Pyrogenic Silica(112945-52-5)  Acute toxicity - Inhalation No data available  Acute toxicity - Dermal No data available  Acute toxicity - Dermal No data available  Skin irritation No data available  Germ cell mutagenicity - rat - lungs Body fluid assay  Germ cell mutagenicity - rat Unscheduled DNA synthesis  Carcinogenicity to human Not calassifiable as to its carcinogenicity to human Not calassifiable as to its carcinogenicity to human Not component of this product present at levels greater than or equal to	Acute toxicity - dermal	No data available
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Maximisation test - guinea pig   Germ cell mutagenicity   No data available	Respiratory or skin sensitisation -	DId not cause sensitisation on laboratory animals
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ACGIH No component of this product present at levels greater than or equal to		
	ACGIH	



NTP	No component of this product present at levels greater than or equal to
	0.1% is identified as as known or anticipated carcinogen
OSHA	No component of this product present at levels greater than or equal to
OSHA	
Barrier to the term	0.1% is identified as a carcinogen or potential carcinogen by OSHA
Reproductive toxicity	No data available
Specific target organ toxicity - single	No data available
exposure	
Specific target organ toxicity - repeated	No data available
exposure	
Aspiration hazard	No data available
Additional information	To the best of our knowledge, the chemical, physical, and toxicological
Additional information	
	properties have not been thoroughly investigated
Additional information	Stomach irregularities based on human evidence
Amorphous Silica(112926-00-8)	
Acute toxicity	no data available
Acute toxicity: Inhalation	no data available
Acute toxicity: Dermal	no data available
Skin irritation	no data available
Eye irritation	no data available
Respiratory or skin sensation	no data available
Germ cell mutagenicity	no data available
Carcinogenicity: IARC: Group 3:	not classifiable as to its carcinogenicity to humans
ACGIH	no component of this product present at levels greater than or equal to
ACOIT	0.1% is identified as a carcinogen or potential carcinogen by ACGIH
NTD	va component of this product propert at least a secretary than an
NTP	no component of this product present at levels greater than or equal to
	0.1% is identified as a known or anticipated carcinogen by NTP
OSHA	no component of this product present at levels greater than or equal to
	0.1% is identified as a carcinogen or potential carcinogen by OSHA
Reproductive toxicity	no data available
Specific target organ toxicity - single	no data available
exposure	110 data available
Specific target organ toxicity - repeated	no data available
exposure	
Aspiration hazard	no data available
Additional information	Amorphous silica is not classified as to its carcinogenicity to humans,
	I however, crystalline silica inhaled in the form of quartz or cristobalite from
	however, crystalline silica inhaled in the form of quartz or cristobalite from
	occupational sources is carcinogenic to humans (Group 1, IARC).
	occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same
	occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same hazards as the crystalline form. To the best of our knowledge, the
	occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same hazards as the crystalline form. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly
	occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same hazards as the crystalline form. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Additional information	occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same hazards as the crystalline form. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly
	occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same hazards as the crystalline form. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Barium Sulfate(7727-43-7)	occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same hazards as the crystalline form. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.  Stomach - irregularities - based on human evidence
Barium Sulfate(7727-43-7) Acute toxicity - inhalation	occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same hazards as the crystalline form. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.  Stomach - irregularities - based on human evidence  No data available
Barium Sulfate(7727-43-7) Acute toxicity - inhalation Acute toxicity - Dermal	occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same hazards as the crystalline form. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.  Stomach - irregularities - based on human evidence  No data available No data available
Barium Sulfate(7727-43-7) Acute toxicity - inhalation Acute toxicity - Dermal Skin irritation	occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same hazards as the crystalline form. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.  Stomach - irregularities - based on human evidence  No data available No data available No data available
Barium Sulfate(7727-43-7) Acute toxicity - inhalation Acute toxicity - Dermal Skin irritation Eye irritation	occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same hazards as the crystalline form. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.  Stomach - irregularities - based on human evidence  No data available
Barium Sulfate(7727-43-7) Acute toxicity - inhalation Acute toxicity - Dermal Skin irritation Eye irritation Respiratory or skin sensation	occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same hazards as the crystalline form. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.  Stomach - irregularities - based on human evidence  No data available
Barium Sulfate(7727-43-7) Acute toxicity - inhalation Acute toxicity - Dermal Skin irritation Eye irritation Respiratory or skin sensation	occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same hazards as the crystalline form. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.  Stomach - irregularities - based on human evidence  No data available
Barium Sulfate(7727-43-7) Acute toxicity - inhalation Acute toxicity - Dermal Skin irritation Eye irritation Respiratory or skin sensation Germ cell mutagenicity - mouse -	occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same hazards as the crystalline form. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.  Stomach - irregularities - based on human evidence  No data available
Barium Sulfate(7727-43-7) Acute toxicity - inhalation Acute toxicity - Dermal Skin irritation Eye irritation Respiratory or skin sensation Germ cell mutagenicity - mouse - micronucleus test	occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same hazards as the crystalline form. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.  Stomach - irregularities - based on human evidence  No data available No reported data
Barium Sulfate(7727-43-7) Acute toxicity - inhalation Acute toxicity - Dermal Skin irritation Eye irritation Respiratory or skin sensation Germ cell mutagenicity - mouse - micronucleus test Carcinogenicity - rat - intrapleural -	occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same hazards as the crystalline form. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.  Stomach - irregularities - based on human evidence  No data available No reported data  Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or
Barium Sulfate(7727-43-7) Acute toxicity - inhalation Acute toxicity - Dermal Skin irritation Eye irritation Respiratory or skin sensation Germ cell mutagenicity - mouse - micronucleus test Carcinogenicity - rat - intrapleural - tumorigenic	occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same hazards as the crystalline form. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.  Stomach - irregularities - based on human evidence  No data available No reported data  Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or Respiration: Tumors
Barium Sulfate(7727-43-7) Acute toxicity - inhalation Acute toxicity - Dermal Skin irritation Eye irritation Respiratory or skin sensation Germ cell mutagenicity - mouse - micronucleus test Carcinogenicity - rat - intrapleural -	occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same hazards as the crystalline form. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.  Stomach - irregularities - based on human evidence  No data available No data available No data available No data available No reported data  Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or Respiration: Tumors No component of this product present at levels greater than or equal to
Barium Sulfate(7727-43-7) Acute toxicity - inhalation Acute toxicity - Dermal Skin irritation Eye irritation Respiratory or skin sensation Germ cell mutagenicity - mouse - micronucleus test Carcinogenicity - rat - intrapleural - tumorigenic	occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same hazards as the crystalline form. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.  Stomach - irregularities - based on human evidence  No data available No reported data  Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or Respiration: Tumors No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible, or confirmed human carcinogen
Barium Sulfate(7727-43-7) Acute toxicity - inhalation Acute toxicity - Dermal Skin irritation Eye irritation Respiratory or skin sensation Germ cell mutagenicity - mouse - micronucleus test Carcinogenicity - rat - intrapleural - tumorigenic IARC	occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same hazards as the crystalline form. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.  Stomach - irregularities - based on human evidence  No data available No data available No data available No data available No reported data  Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or Respiration: Tumors No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible, or confirmed human carcinogen by IARC
Barium Sulfate(7727-43-7) Acute toxicity - inhalation Acute toxicity - Dermal Skin irritation Eye irritation Respiratory or skin sensation Germ cell mutagenicity - mouse - micronucleus test Carcinogenicity - rat - intrapleural - tumorigenic	occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same hazards as the crystalline form. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.  Stomach - irregularities - based on human evidence  No data available No reported data  Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or Respiration: Tumors No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible, or confirmed human carcinogen
Barium Sulfate(7727-43-7) Acute toxicity - inhalation Acute toxicity - Dermal Skin irritation Eye irritation Respiratory or skin sensation Germ cell mutagenicity - mouse - micronucleus test Carcinogenicity - rat - intrapleural - tumorigenic IARC	occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same hazards as the crystalline form. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.  Stomach - irregularities - based on human evidence  No data available No data available No data available No data available No reported data  Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or Respiration: Tumors No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible, or confirmed human carcinogen by IARC No component of this product present at levels greater than or equal to
Barium Sulfate(7727-43-7) Acute toxicity - inhalation Acute toxicity - Dermal Skin irritation Eye irritation Respiratory or skin sensation Germ cell mutagenicity - mouse - micronucleus test Carcinogenicity - rat - intrapleural - tumorigenic IARC  ACGIH	occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same hazards as the crystalline form. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.  Stomach - irregularities - based on human evidence  No data available No data available No data available No data available No reported data  Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or Respiration: Tumors No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible, or confirmed human carcinogen by IARC No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH
Barium Sulfate(7727-43-7) Acute toxicity - inhalation Acute toxicity - Dermal Skin irritation Eye irritation Respiratory or skin sensation Germ cell mutagenicity - mouse - micronucleus test Carcinogenicity - rat - intrapleural - tumorigenic IARC	occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same hazards as the crystalline form. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.  Stomach - irregularities - based on human evidence  No data available No data available No data available No data available No reported data  Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or Respiration: Tumors No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible, or confirmed human carcinogen by IARC  No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH No component of this product present at levels greater than or equal to
Barium Sulfate(7727-43-7) Acute toxicity - inhalation Acute toxicity - Dermal Skin irritation Eye irritation Respiratory or skin sensation Germ cell mutagenicity - mouse - micronucleus test Carcinogenicity - rat - intrapleural - tumorigenic IARC  ACGIH	occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same hazards as the crystalline form. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.  Stomach - irregularities - based on human evidence  No data available  No data available  No data available  No data available  No reported data  Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or Respiration: Tumors  No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible, or confirmed human carcinogen by IARC  No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH  No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP
Barium Sulfate(7727-43-7) Acute toxicity - inhalation Acute toxicity - Dermal Skin irritation Eye irritation Respiratory or skin sensation Germ cell mutagenicity - mouse - micronucleus test Carcinogenicity - rat - intrapleural - tumorigenic IARC  ACGIH	occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same hazards as the crystalline form. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.  Stomach - irregularities - based on human evidence  No data available  No data available  No data available  No data available  No reported data  Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or Respiration: Tumors  No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible, or confirmed human carcinogen by IARC  No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH  No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP  No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP
Barium Sulfate(7727-43-7) Acute toxicity - inhalation Acute toxicity - Dermal Skin irritation Eye irritation Respiratory or skin sensation Germ cell mutagenicity - mouse - micronucleus test Carcinogenicity - rat - intrapleural - tumorigenic IARC  ACGIH NTP OSHA	occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same hazards as the crystalline form. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.  Stomach - irregularities - based on human evidence  No data available No data available No data available No data available No reported data  Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or Respiration: Tumors No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible, or confirmed human carcinogen by IARC No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by NTP
Barium Sulfate(7727-43-7) Acute toxicity - inhalation Acute toxicity - Dermal Skin irritation Eye irritation Respiratory or skin sensation Germ cell mutagenicity - mouse - micronucleus test Carcinogenicity - rat - intrapleural - tumorigenic IARC  ACGIH  NTP  OSHA  Reproductive toxicity	occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same hazards as the crystalline form. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.  Stomach - irregularities - based on human evidence  No data available  No data available  No data available  No data available  No reported data  Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or Respiration: Tumors  No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible, or confirmed human carcinogen by IARC  No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH  No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP  No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP
Barium Sulfate(7727-43-7) Acute toxicity - inhalation Acute toxicity - Dermal Skin irritation Eye irritation Respiratory or skin sensation Germ cell mutagenicity - mouse - micronucleus test Carcinogenicity - rat - intrapleural - tumorigenic IARC  ACGIH NTP OSHA	occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same hazards as the crystalline form. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.  Stomach - irregularities - based on human evidence  No data available No data available No data available No data available No reported data  Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or Respiration: Tumors No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible, or confirmed human carcinogen by IARC No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by NTP
Barium Sulfate(7727-43-7) Acute toxicity - inhalation Acute toxicity - Dermal Skin irritation Eye irritation Respiratory or skin sensation Germ cell mutagenicity - mouse - micronucleus test Carcinogenicity - rat - intrapleural - tumorigenic IARC  ACGIH NTP OSHA Reproductive toxicity Specific target organ toxicity - single	occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same hazards as the crystalline form. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.  Stomach - irregularities - based on human evidence  No data available No data available No data available No data available No reported data  Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or Respiration: Tumors No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible, or confirmed human carcinogen by IARC No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA No data available
Barium Sulfate(7727-43-7) Acute toxicity - inhalation Acute toxicity - Dermal Skin irritation Eye irritation Respiratory or skin sensation Germ cell mutagenicity - mouse - micronucleus test Carcinogenicity - rat - intrapleural - tumorigenic IARC  ACGIH  NTP  OSHA  Reproductive toxicity Specific target organ toxicity - single exposure	occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same hazards as the crystalline form. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.  Stomach - irregularities - based on human evidence  No data available  No data available  No data available  No data available  No reported data  Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or Respiration: Tumors  No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible, or confirmed human carcinogen by IARC  No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH  No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP  No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP  No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA  No data available
Barium Sulfate(7727-43-7) Acute toxicity - inhalation Acute toxicity - Dermal Skin irritation Eye irritation Respiratory or skin sensation Germ cell mutagenicity - mouse - micronucleus test Carcinogenicity - rat - intrapleural - tumorigenic IARC  ACGIH NTP OSHA Reproductive toxicity Specific target organ toxicity - single exposure Specific target organ toxicity - repeated	occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same hazards as the crystalline form. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.  Stomach - irregularities - based on human evidence  No data available No data available No data available No data available No reported data  Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or Respiration: Tumors No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible, or confirmed human carcinogen by IARC No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA No data available
Barium Sulfate(7727-43-7) Acute toxicity - inhalation Acute toxicity - Dermal Skin irritation Eye irritation Respiratory or skin sensation Germ cell mutagenicity - mouse - micronucleus test Carcinogenicity - rat - intrapleural - tumorigenic IARC  ACGIH  NTP  OSHA  Reproductive toxicity Specific target organ toxicity - single exposure	occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same hazards as the crystalline form. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.  Stomach - irregularities - based on human evidence  No data available  No data available  No data available  No data available  No reported data  Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or Respiration: Tumors  No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible, or confirmed human carcinogen by IARC  No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH  No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP  No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP  No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA  No data available



Additional information	Prolonged inhalation of dust may cause baritosis, a benign
	pneumoconiosis. If ingested, the presence of soluble barium salts as
	impurities may cause toxic reactions due to bioaccumulation., Damage to
	the lungs., To the best of our knowledge, the chemical, physical, and
	toxicological properties have not been thoroughly investigated.
Additional information	Stomach irregularities - based on human evidence
Carbon Black(1333-86-4)	
LD50 Oral - Rat	> 8,000 mg/kg, male and female, (OECD Test Guideline 401)
LD50 Inhalation - Rat	No data available
LD50 Dermal - Rabbit	> 3,000 mg/kg
Skin corrosion/irritation	No skin irritation - 24 h, (OECD Test Guideline 404)
	No eye irritation, (OECD Test Guideline 405)
Eye damage/irritation - Rabbit	
Respiratory/skin sensitization - Guinea pig	Did not cause sensitization on laboratory animals, (OECD Test Guideline
	406)
Germ cell mutagenicity	Ames test, S. typhimurium, negative
Hamster - Ovary	Negative
DNA repair - Rat - Female	Negative
Carcinogenicity - Rat - Inhalation	Tumorigenic: Carcinogenic by RTECS criteria. Lungs, Thorax, or
	Respiration: Tumors. This product is or contains a component that has
	been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP,
	or EPA classification. Limited evidence of carcinogenicity in animal studies.
IARC	2B - Group 2B: Possibly carcinogenic to humans (carbon black)
NTP	No component of this product present at levels greater than or equal
	to0.1% is identified as a known or anticipated carcinogen by NTP
OSHA	No component of this product present at levels greater than 0.1% is
55.111	identified as a carcinogen or potential carcinogen by OSHA
Reproductive toxicity	No data available
Organ toxicity	Specific target organ toxicity - single exposure: No data available
Organ toxicity	Specific target organ toxicity - repeated exposure: No data available
Aspiration hazard	No data available
Additional Information	RTECS: FF5800000 To the best of our knowledge, the chemical , physical,
	and toxicological properties have not been throughly investigated.
Crystalline Silica(14808-60-7)	
Acute Inhalation toxicity	no data available
Acute Dermal toxicity	no data available
Skin irritation	no data available
eye irritation	no data available
Respiratory or skin sensation	no data available
Germ cell mutagenicity	no data available
Carcinogenicity	Limited evidence of carcinogenicity in human studies
IARC	Group 1: Carcinogenic to humans (Quartz)
ACGIH	No component of this product present at levels greater than or equal to
ACGIT	0.1% is identified as a carcinogen or potential carcinogen by ACGIH
	0.176 is identified as a carcinogen of potential carcinogen by ACGIT
NTD	Vnountababuman carcinogen (Quartz)
NTP	Known to be human carcinogen (Quartz)
NTP OSHA	No component of this product present at levels greater than or equal to
OSHA	No component of this product present at levels greater than or equal to $0.1\%$ is identified as a carcinogen or potential carcinogen by OSHA
OSHA  Reproductive toxicity	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA no data available
OSHA  Reproductive toxicity  Specific target organ toxicity - single	No component of this product present at levels greater than or equal to $0.1\%$ is identified as a carcinogen or potential carcinogen by OSHA
OSHA  Reproductive toxicity Specific target organ toxicity - single exposure	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA no data available no data available
OSHA  Reproductive toxicity Specific target organ toxicity - single exposure Specific target organ toxicity - repeated	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA no data available
OSHA  Reproductive toxicity Specific target organ toxicity - single exposure Specific target organ toxicity - repeated exposure - inhalation	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA  no data available  no data available  may cause damage to organs through prolonged or repeated exposure
OSHA  Reproductive toxicity Specific target organ toxicity - single exposure Specific target organ toxicity - repeated	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA  no data available  no data available  may cause damage to organs through prolonged or repeated exposure  no data available
OSHA  Reproductive toxicity Specific target organ toxicity - single exposure Specific target organ toxicity - repeated exposure - inhalation	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA  no data available  no data available  may cause damage to organs through prolonged or repeated exposure  no data available
OSHA  Reproductive toxicity Specific target organ toxicity - single exposure Specific target organ toxicity - repeated exposure - inhalation Aspiration hazard	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA  no data available  no data available  may cause damage to organs through prolonged or repeated exposure
OSHA  Reproductive toxicity Specific target organ toxicity - single exposure Specific target organ toxicity - repeated exposure - inhalation Aspiration hazard	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA  no data available  no data available  may cause damage to organs through prolonged or repeated exposure  no data available  Prolonged inhalation of crystalline silica may result in silicosis, a disabling pulmonary fibrosis characterized by fibrotic changes and miliary nodules
OSHA  Reproductive toxicity Specific target organ toxicity - single exposure Specific target organ toxicity - repeated exposure - inhalation Aspiration hazard	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA  no data available  no data available  may cause damage to organs through prolonged or repeated exposure  no data available  Prolonged inhalation of crystalline silica may result in silicosis, a disabling pulmonary fibrosis characterized by fibrotic changes and miliary nodules in the lungs, a dry cough, shortness of breath, emphysema, decreased
OSHA  Reproductive toxicity Specific target organ toxicity - single exposure Specific target organ toxicity - repeated exposure - inhalation Aspiration hazard	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA  no data available  no data available  may cause damage to organs through prolonged or repeated exposure  no data available  Prolonged inhalation of crystalline silica may result in silicosis, a disabling pulmonary fibrosis characterized by fibrotic changes and miliary nodules in the lungs, a dry cough, shortness of breath, emphysema, decreased chest expansion, and increased susceptibility to tuberculosis. In advanced
OSHA  Reproductive toxicity Specific target organ toxicity - single exposure Specific target organ toxicity - repeated exposure - inhalation Aspiration hazard	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA  no data available  no data available  may cause damage to organs through prolonged or repeated exposure  no data available  Prolonged inhalation of crystalline silica may result in silicosis, a disabling pulmonary fibrosis characterized by fibrotic changes and miliary nodules in the lungs, a dry cough, shortness of breath, emphysema, decreased chest expansion, and increased susceptibility to tuberculosis. In advanced stage, loss of appetite, pleuric pain, and total incapacity to work.
OSHA  Reproductive toxicity Specific target organ toxicity - single exposure Specific target organ toxicity - repeated exposure - inhalation Aspiration hazard	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA  no data available  no data available  may cause damage to organs through prolonged or repeated exposure  no data available  Prolonged inhalation of crystalline silica may result in silicosis, a disabling pulmonary fibrosis characterized by fibrotic changes and miliary nodules in the lungs, a dry cough, shortness of breath, emphysema, decreased chest expansion, and increased susceptibility to tuberculosis. In advanced stage, loss of appetite, pleuric pain, and total incapacity to work.  Advanced silicosis may result in death due to cardiac failure or destruction
OSHA  Reproductive toxicity Specific target organ toxicity - single exposure Specific target organ toxicity - repeated exposure - inhalation Aspiration hazard	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA  no data available  no data available  may cause damage to organs through prolonged or repeated exposure  no data available  Prolonged inhalation of crystalline silica may result in silicosis, a disabling pulmonary fibrosis characterized by fibrotic changes and miliary nodules in the lungs, a dry cough, shortness of breath, emphysema, decreased chest expansion, and increased susceptibility to tuberculosis. In advanced stage, loss of appetite, pleuric pain, and total incapacity to work.  Advanced silicosis may result in death due to cardiac failure or destruction of lung tissue. Crystalline silica is classified as group 1 "known to be
OSHA  Reproductive toxicity Specific target organ toxicity - single exposure Specific target organ toxicity - repeated exposure - inhalation Aspiration hazard	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA  no data available  no data available  may cause damage to organs through prolonged or repeated exposure  no data available  Prolonged inhalation of crystalline silica may result in silicosis, a disabling pulmonary fibrosis characterized by fibrotic changes and miliary nodules in the lungs, a dry cough, shortness of breath, emphysema, decreased chest expansion, and increased susceptibility to tuberculosis. In advanced stage, loss of appetite, pleuric pain, and total incapacity to work.  Advanced silicosis may result in death due to cardiac failure or destruction of lung tissue. Crystalline silica is classified as group 1 "known to be carcinogenic to humans" by IARC and "sufficient evidence" of
OSHA  Reproductive toxicity Specific target organ toxicity - single exposure Specific target organ toxicity - repeated exposure - inhalation Aspiration hazard	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA  no data available  no data available  may cause damage to organs through prolonged or repeated exposure  no data available  Prolonged inhalation of crystalline silica may result in silicosis, a disabling pulmonary fibrosis characterized by fibrotic changes and miliary nodules in the lungs, a dry cough, shortness of breath, emphysema, decreased chest expansion, and increased susceptibility to tuberculosis. In advanced stage, loss of appetite, pleuric pain, and total incapacity to work.  Advanced silicosis may result in death due to cardiac failure or destruction of lung tissue. Crystalline silica is classified as group 1 "known to be carcinogenic to humans" by IARC and "sufficient evidence" of carcinogenicity by the NTP., The chronic health risks are associated with
OSHA  Reproductive toxicity Specific target organ toxicity - single exposure Specific target organ toxicity - repeated exposure - inhalation Aspiration hazard	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA  no data available  no data available  may cause damage to organs through prolonged or repeated exposure  no data available  Prolonged inhalation of crystalline silica may result in silicosis, a disabling pulmonary fibrosis characterized by fibrotic changes and miliary nodules in the lungs, a dry cough, shortness of breath, emphysema, decreased chest expansion, and increased susceptibility to tuberculosis. In advanced stage, loss of appetite, pleuric pain, and total incapacity to work. Advanced silicosis may result in death due to cardiac failure or destruction of lung tissue. Crystalline silica is classified as group 1 "known to be carcinogenic to humans" by IARC and "sufficient evidence" of carcinogenicity by the NTP., The chronic health risks are associated with respirable particles of 3-4 um over protracted periods of time. Currently,
OSHA  Reproductive toxicity Specific target organ toxicity - single exposure Specific target organ toxicity - repeated exposure - inhalation Aspiration hazard	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA  no data available  no data available  may cause damage to organs through prolonged or repeated exposure  no data available  Prolonged inhalation of crystalline silica may result in silicosis, a disabling pulmonary fibrosis characterized by fibrotic changes and miliary nodules in the lungs, a dry cough, shortness of breath, emphysema, decreased chest expansion, and increased susceptibility to tuberculosis. In advanced stage, loss of appetite, pleuric pain, and total incapacity to work. Advanced silicosis may result in death due to cardiac failure or destruction of lung tissue. Crystalline silica is classified as group 1 "known to be carcinogenic to humans" by IARC and "sufficient evidence" of carcinogenicity by the NTP., The chronic health risks are associated with respirable particles of 3-4 um over protracted periods of time. Currently, there is a limited understanding of the mechanisms of quartz toxicity,
OSHA  Reproductive toxicity Specific target organ toxicity - single exposure Specific target organ toxicity - repeated exposure - inhalation Aspiration hazard	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA  no data available  no data available  may cause damage to organs through prolonged or repeated exposure  no data available  Prolonged inhalation of crystalline silica may result in silicosis, a disabling pulmonary fibrosis characterized by fibrotic changes and miliary nodules in the lungs, a dry cough, shortness of breath, emphysema, decreased chest expansion, and increased susceptibility to tuberculosis. In advanced stage, loss of appetite, pleuric pain, and total incapacity to work. Advanced silicosis may result in death due to cardiac failure or destruction of lung tissue. Crystalline silica is classified as group 1 "known to be carcinogenic to humans" by IARC and "sufficient evidence" of carcinogenicity by the NTP., The chronic health risks are associated with respirable particles of 3-4 um over protracted periods of time. Currently, there is a limited understanding of the mechanisms of quartz toxicity, including its mechanisms for lung carcinogenicity. Additional studies are
OSHA  Reproductive toxicity Specific target organ toxicity - single exposure Specific target organ toxicity - repeated exposure - inhalation Aspiration hazard	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA  no data available  no data available  may cause damage to organs through prolonged or repeated exposure  no data available  Prolonged inhalation of crystalline silica may result in silicosis, a disabling pulmonary fibrosis characterized by fibrotic changes and miliary nodules in the lungs, a dry cough, shortness of breath, emphysema, decreased chest expansion, and increased susceptibility to tuberculosis. In advanced stage, loss of appetite, pleuric pain, and total incapacity to work. Advanced silicosis may result in death due to cardiac failure or destruction of lung tissue. Crystalline silica is classified as group 1 "known to be carcinogenic to humans" by IARC and "sufficient evidence" of carcinogenicity by the NTP., The chronic health risks are associated with respirable particles of 3-4 um over protracted periods of time. Currently, there is a limited understanding of the mechanisms of quartz toxicity, including its mechanisms for lung carcinogenicity. Additional studies are needed to determine whether the cell transforming activity of quartz is
OSHA  Reproductive toxicity Specific target organ toxicity - single exposure Specific target organ toxicity - repeated exposure - inhalation Aspiration hazard	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA  no data available  no data available  may cause damage to organs through prolonged or repeated exposure  no data available  Prolonged inhalation of crystalline silica may result in silicosis, a disabling pulmonary fibrosis characterized by fibrotic changes and miliary nodules in the lungs, a dry cough, shortness of breath, emphysema, decreased chest expansion, and increased susceptibility to tuberculosis. In advanced stage, loss of appetite, pleuric pain, and total incapacity to work. Advanced silicosis may result in death due to cardiac failure or destruction of lung tissue. Crystalline silica is classified as group 1 "known to be carcinogenic to humans" by IARC and "sufficient evidence" of carcinogenicity by the NTP., The chronic health risks are associated with respirable particles of 3-4 um over protracted periods of time. Currently, there is a limited understanding of the mechanisms of quartz toxicity, including its mechanisms for lung carcinogenicity. Additional studies are



Diethanolamine(111-42-2)	
LD50 Oral - Rat - male and female	1,600 mg/kg (OECD Test Guideline 401)
LD50 Dermal - Rabbit	12,200 mg/kg
LD50 Intraperitoneal - Rat	120 mg/kg
LD50 Intravenous - Rat	778 mg/kg
Skin Corrosion/irritation	No data available
Serious eye damage/eye irritation	Rabbit - Risk of serious damage to eyes (OECD Test Guideline 405)
Respiratory or skin sensitization	Guinea pig - Did not cause sensitization on laboratory animals
Germ cell mutagenicity	Micronucleus test lymphocyte - Result Negative
Mutagenicity (micronucleus test) Mouse	Result: Negative
male and female	Result: Negative
Carcinogenicity - IARC	2B - Group 2B Possibly carcinogenic to humans
Carcinogenicity - NTP	No component of this product present at levels greater than or equal to
Carcinogenicity - NTP	0.1% is identified as a known or anticipated carcinogen by NTP
Carcinogenicity - OSHA	No component of this product present at levels greater than or equal to
Carcinogenicity - OSTA	0.1% is identified as a carcinogen or potential carcinogen by OSHA
Donroductive toxicity	
Reproductive toxicity	No data available
Specific target organ toxicity - single	No data available
exposure	No. 1 of the state
Specific target organ toxicity - repeated	No data available
exposure	No. 1 to 2 to 1 to 2
Aspiration hazard	No data available
Additional information	Repeated dose toxicity - rat - male and female - oral Lowest observed
	adverse effect level - 25 mg/kg RTECS: KL297500
Additional information	To the best of our knowledge, the chemical, physical, and toxicological
	properties have not been thoroughly investigated
Additional information	Liver - Irregularities - Based on Human Evidence
Hydrated magnesium silicate(14807-96-6)	
Acute toxicity - inhalation	No data available
Acute toxicity - dermal	No data available
Skin irritation - human	Mild skin irritation 3 h
Eye irritation	No data available
Respiratory or skin sensitisation	No ata available
Germ cell mutagenicity	No data available
Carcinogenicity - rat - inhalation	Equivocal tumorigenic agent by RTECS criteria. Lungs, thorax, or
Caremogement, rat initiation	respiration: Tumors
IARC	Group 3: Not classifiable as to its carcinogenicity to humans
NTP	No component of this product present at levels greater than or equal to
IVII	0.1% is identified as a known or anticipated carcinogen by NTP
OSHA	No component of this product present at levels greater than or equal to
OSITA	0.1% is identified as a carcinogen or potential carcinogen by OSHA
Reproductive toxicity	No data available
Specific target organ toxicity - single	No data available
,	NO data available
exposure	No data available
Specific target organ toxicity - repeated	INO Uata available
exposure	No data available
Aspiration hazard	No data available
Additional information	To the best of our knowledge, the chemical, physical, and toxicological
Additional information	properties have not been thoroughly investigated
Additional information	Stomach irregularities based on human evidence
Iron Oxide(1309-37-1)	I. 1
Acute toxicity	No data available
Acute toxicity - dermal	`No data available
Skin irritation - human	Skin irritation
Eye irritation - human	Moderate eye irritation
Respiratory or skin sensitization	No data available
Germ cell mutagenicity	No data available
Carcinogenicity - rat - subcutaneous	Equivocal tumorogenic agent by RTECS criteria. Tumors at site of appilcation.
Carcinogenicity	This product is or contains a component that is not classifiable as to its
IADC	carcinogenicity based on its IARC, ACGIH, NTP or EPA classification.
IARC	Group 3: not classifiable as to its carcinogenicity to humans (diiron
	trioxide).
	No component of this product present at levels greater than or equal to
NTP	0.1% is identified as a kown or anticpated carcinogen by NTP.
NTP OSHA	



Reproductive toxicity	No data available
Specific target organ toxicity - single	inhalation - may cause respiratory irritation.
exposure	.,
Specific target organ toxicity - repeated	No data available
exposure	
Aspiration hazard	No data available
Additional information	Long term inhalation exposure to iron (oxide fume or dust) can cause
	siderosis. Siderosis is considered to be a benign pneumoconiosis and does
	not normally cause significant physiological impairment. Siderosis can be
	observed on x-rays with the lungs having a mottled appearance., To the
	best of our knowledge, the chemical, physical, and toxicological properties
	have not been thoroughly investigated.
Limestone(1317-65-3)	
Draize test, rabbit, eye	750 ug/24H severe
Draize test, rabbit, skin	500 mg/24H moderate
Oral, rat: LD50	6450 mg/kg
ACGIH, IARC, NTP, CA Prop 65	Not listed
Epidemiology	No information available
Teratogenicity	No information available
Reproductive effects	No information available
Mutagenicity	No information available
Neurotoxicity	No information available
Titanium Dioxide(13463-67-7)	
Acute toxicity - LD50 - oral - rat	> 10000 mg/kg
Acute toxicity - inhalation	No data available
Acute toxicity - LD50 - dermal - rabbit	> 10000 mg/kg
Skin irritation - human	Mild skin irritation - 3 h
Eye irritation - rabbit	No eye irritation
Respiration or skin sensitisation	Will not occur
Germ cell mutagenicity - hamster - ovary -	No results available
micronucleus test	
Germ cell mutagenicity - hamster - lungs	DNA inhibition
Germ cell mutagenicity - hamster - ovary - sister chromatid exchange	No results available
Germ cell mutagenicity - mouse -	No results available
micronucleus test	
IARC	No component of this product present at levels greater than or equal to
	0.1% is identified as a probable, possible or confirmed human carcinogen
	by IARC
NTP	No component of this product present at levels greater than or equal to
	0.1% is identified as a known or anticipated carcinogen
OSHA	No component of this product present at levels greater than or equal to
Daniel de atien traditie	0.1% is identified as a carcinogen or potential carcinogen by OSHA
Reproductive toxicity	No data available
Specific target organ toxicity - single	No data available
exposure	No data available
Specific target organ toxicity - repeated	No data available
Aspiration hazard	No data available
Aspiration hazard Additional information	No data available  To the best of our knowledge, the chemical, physical, and toxicological
Auditional information	
	properties have not been thoroughly investigated

# **12. ECOLOGICAL INFORMATION**

Aluminum Oxide(1344-28-1)	
Toxicity	No toxicity at the limit of solubility
Persisitence and degradability	The methods for determining biodegradability are not applicable to inorganic substances
Bioaccumulative potential	Does not bioaccumulate
Mobility in soil	No data available
PBT and vPvB	Not available/not required
Other adverse effects	No data available.
Amorphous Pyrogenic Silica(112945-52-5)	
Toxicity	No data available
Persistence and degradability	No data available
Bioaccumulative potential	No data available



Mobility in soil	No data available
PBT and vPvB	not available/not required
Amorphous Silica(112926-00-8)	
Toxicity	no data available
Persistence and degradability	no data available
Bioaccumulative potential	no data available
Mobility in soil	no data available
PBT and vPvB	not available/not required
	not available/not required
Barium Sulfate(7727-43-7)	No data available
Toxicity	No data available
Persistence and degradability	The methods for determining biodegradability are not applicable in inorganic substances
Bioaccumulative potential	No data available
Mobility in soil	No data available
PBT and vPvB	not available/not required
Carbon Black(1333-86-4)	
Toxicity to fish LC50	Danio rerio (zebra fish) >1000 mg/l - 96 h
EC50 Toxicity to daphnia and other aquatic invertebrates	Daphnia magna (Water flea) > 5600 mg/l - 24 h (OECD Test Guideline 202)
EC50 Toxicity to algae	Desmodesmus subspicatus (green algae > 10,000 mg/l - 72 h (OECD Test Guideline 201)
Persistence and degradability	No data available
Bioaccumulative potential	No data available
Mobility in soil	No data available  No data available
PBT and vPvB assessment	Not available/not required
Crystalline Silica(14808-60-7)	
Toxicity	no data available
Persistence and degradability	no data available
Bioaccumulative potential	no data available
Mobility in soil	no data available
PBT and vPvB	not available/not required
Diethanolamine(111-42-2)	
Toxicity to fish	LC50 - Pimephales promelas (fathead minnow) - 1,460 mg/l - 96h
Toxicity to daphnia and other aquatic	static test EC50 - Daphnia magna (Water Flea) - 30.1 mg/l - 48h
invertebrates	
Persistence and degradability	Biodegradability - aerobic - Exposure time 28d - Result: 93% Readily biodegradable ( OECD Test Guideline 301F)
Bioaccumulative potential	No data available
Mobility in Soil	No data available
Results of PBT and vPvB assessment	PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
Other adverse effects	An environmental hazard cannot be excluded in the event of
Other adverse effects	unprofessional handling or disposal. Harmful to aquatic life with long
Hydrobod management with the (4.4007-00-0)	lastting effects
Hydrated magnesium silicate(14807-96-6)	No dete escilette
Toxicity	No data available
Persistence and degradability	No data available
Bioaccumulative potential	No data available
Mobility in soil	No data available
PBT and vPvB	Not available/not required
Iron Oxide(1309-37-1)	
Toxicity	No data available
Persisitence and degradability	No data available
Bioaccumulative potential	No data available
Mobility in soil	No data available
PBT and vPvB	Not available/not required
Other adverse effects	No data available
Limestone(1317-65-3)	
Ecotoxicity	No data available
Environmental	No information reported
Physical	No information available
Titanium Dioxide(13463-67-7)	NO INICITIALION AVAIIADIC
	> 1000 mg/L / 06 h
Toxicity to fish - LC50 - other fish	> 1000 mg/L / 96 h
Toxicity to daphnia and other aquatic	> 1000 mg/L / 48 h
invertebrates - EC50 - Dapphnia magna	
(water flea)	



Toxicity to daphnia and other aquatic invertebrates - EC0 - Daphnia magna (water flea)	1000 mg/L / 48 h
Persistence and degradability	No data available
Bioaccumulative potential	No data available
Mobility in soil	No data available
PBT and vPbV	Not available/not required
Other adverse effects	No data available

### 13. DISPOSAL CONSIDERATIONS

#### **WASTE TREATMENT METHODS**

**GENERAL INFORMATION:** No data available.

**DISPOSAL METHOD:** Dispose of in accordance with Local, State, Regional, National and International Regulations.

Ecology - waste materials: Avoid release to the environment.

### 14. TRANSPORT INFORMATION

### \*CHECK WITH YOUR CARRIER FOR ADDITIONAL RESTRICTIONS THAT MAY APPLY.

**USDOT GROUND** 

**DOT (DEPARTMENT OF TRANSPORTATION)** 

PROPER SHIPPING NAME (DOT): Not Regulated/Not Applicable

**HAZARDS CLASS:** None

UN/NA NUMBER: Not Applicable

**PACKING GROUP:** None

EMERGENCY RESPONSE GUIDE (ERG): Not Applicable

DOT (INTERNATIONAL AIR TRANSPORTATION ASSOCIATION)

**PROPER SHIPPING NAME:** Not Regulated/Not Applicable

**HAZARDS CLASS:** Not Applicable UN/NA NUMBER: Not Applicable **PACKING GROUP:** Not Applicable

EMERGENCY RESPONSE GUIDE (ERG): Not Applicable

IMDG (OCEAN)

PROPER SHIPPING NAME: Not Regulated, Not Applicable

**HAZARDS CLASS:** Not Applicable UN/NA NUMBER: Not Applicable PACKING GROUP: Not Applicable

EMERGENCY RESPONSE GUIDE (ERG): Not Applicable

**MARINE POLLUTANT:** No

SPECIAL PRECAUTIONS: P235 Keep cool.



# **SAFETY DATA SHEET**

**ISSUED:** 8/23/2018 **REFERENCE:** GR305-C241

### 15. REGULATORY INFORMATION

US FEDERAL REGULATIONS
All ingredients are TSCA (Toxic Substance Control Act) listed.

OSHA HAZARDS: Moderate skin irritant, Moderate eye irritant.

**EPCRA - Emergency** 

**CERCLA REPORTABLE QUANTITY** 

**SARA 304 Extremely Hazardous Substances Reportable Quantity:** This material does not contain any components with a section 304 EHS RQ.

# SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

SARA 311/312 Hazards: Acute Health Hazard, Chronic Health Hazard

This product contains:	Chemical CAS#
Hydrated magnesium silicate	14807-96-6
Titanium Dioxide	13463-67-7
Carbon Black	1333-86-4
Aluminum Oxide	1344-28-1
Crystalline Silica	14808-60-7

SARA 313: No SARA 313 chemicals are present

#### **CLEAN AIR ACT:**

#### **INTERNATIONAL REGULATIONS**

# CLASSIFICATION ACCORDING TO REGULATION (EC) No. 1272/2008 (CLP):

Carc. 2 H351 Suspected of causing cancer

STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure

# **NATIONAL REGULATIONS**

This product contains:	Chemical CAS#	
~Titanium Dioxide	13463-67-7	
~Carbon Black	1333-86-4	
^Crystalline Silica	14808-60-7	

## National Regulations Key

~ Indicates a chemical listed by IARC as a possible carcinogen.

<sup>^</sup> Indicates a chemical listed by IARC as carcinogenic to humans.



# RDINAL SAFETY DATA SHEET

**ISSUED:** 8/23/2018 **REFERENCE:** GR305-C241

# STATE REGULATIONS CALIFORNIA PROPOSITION 65

This product contains:	Chemical CAS#
*Hydrated magnesium silicate	14807-96-6
*Titanium Dioxide	13463-67-7
*Carbon Black	1333-86-4
*Crystalline Silica	14808-60-7
*Diethanolamine	111-42-2

### **Proposition 65 Key**

**WARNING:** This product can expose you to a chemical(s), including those listed above, which is (are) known to the State of California to cause cancer.

For more information visit <u>WWWPROP65.CA.GOV</u>.

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**WARNING:** This product can expose you to a chemical(s), including those listed above, which is (are) known to the State of California to cause birth defects or other reproductive harm.

For more information visit WWWPROP65.CA.GOV.

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**WARNING:** This product can expose you to a chemical(s), including those listed above, which is (are) known to the

State of California to cause cancer and birth defects or other reproductive harm.

For more information visit WWWPROP65.CA.GOV.

### **Massachusetts Right to Know**

This product contains	Chemical CAS#
Barium Sulfate	7727-43-7
Limestone	1317-65-3
Hydrated magnesium silicate	14807-96-6
Titanium Dioxide	13463-67-7
Amorphous Silica	112926-00-8
Iron Oxide	1309-37-1
Carbon Black	1333-86-4
Aluminum Oxide	1344-28-1
Crystalline Silica	14808-60-7
Diethanolamine	111-42-2

## Pennsylvania Right to Know

This product contains	Chemical CAS#
Barium Sulfate	7727-43-7
Limestone	1317-65-3
Hydrated magnesium silicate	14807-96-6
Titanium Dioxide	13463-67-7
Amorphous Silica	112926-00-8
Iron Oxide	1309-37-1
Carbon Black	1333-86-4
Aluminum Oxide	1344-28-1
Crystalline Silica	14808-60-7
Amorphous Pyrogenic Silica	112945-52-5
Diethanolamine	111-42-2



# New Jersey Right to Know

This product contains	Chemical CAS#
Barium Sulfate	7727-43-7
Limestone	1317-65-3
Hydrated magnesium silicate	14807-96-6
Titanium Dioxide	13463-67-7
Amorphous Silica	112926-00-8
Iron Oxide	1309-37-1
Carbon Black	1333-86-4
Aluminum Oxide	1344-28-1
Crystalline Silica	14808-60-7
Amorphous Pyrogenic Silica	112945-52-5
Diethanolamine	111-42-2



# RDINAL SAFETY DATA SHEET

**ISSUED:** 8/23/2018 **REFERENCE:** GR305-C241

#### **16. OTHER INFORMATION**

# **Other Product Information:**

% Volatile by Volume: 0.02 % Volatile by Weight: 0.01 % Solids by volume: 99.98 % Solids by Weight: 99.99

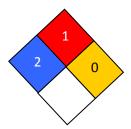
# **VOC CONTENT:**

Content tested per EPA METHOD 24, ASTM D2369 is less than 1% Wt/Wt.

### **HMIS RATING**

Health :	2
Flammability :	1
Reactivity:	0
Personal Protection :	Е

# NFPA CODES



**MANUFACTURER DISCLAIMER:** The information contained in this Safety Data Sheet is considered to be true and accurate. Cardinal Paint and Powder makes no warranties, expressed or implied, as to the accuracy and adequacy of this information. This data is offered solely for the user's consideration, investigation and verification.