

C241-WH493 WHITE RAL 9010

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: C241-WH493 WHITE RAL 9010 **PRODUCT USE: Industrial Powder Coating**

MANUFACTURER 24 HR. EMERGENCY TELEPHONE NUMBER

Cardinal Paint and Powder CHEMTREC (US Transportation): (800)424-9300 1329 Potrero Ave **CHEMTREC (International Transportation)**: (202)483-7616

S. El Monte, CA, 91733 WEB: WWW.CARDINALPAINT.COM 626 444-9274

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.

COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Weight %	CAS Number
Titanium Dioxide	35% - 40%	13463-67-7
Aluminum Oxide	1% - 5%	1344-28-1

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.



SAFETY DATA SHEET

ISSUED: 8/21/2018 **REFERENCE:** WH493-C241

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 EQUIPMENT 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	USA NIOSH TWA (REL)	6 mg/m3	
Amorphous Silica(112926-00-8)			
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)			
NIOSH REL (Recommended Exposure	TWA (Time Weighted Average)	3 ppm 8 hours	
Limit)			
Hydrated magnesium silicate(14807-96-			
ACGIH TLV (Threshold Limit Value)	TWA (Time Weighted Average)	2 mg/m3 (Respirable Fraction) 8 hours	
NIOSH REL(Recommended Exposure	TWA (Time Weighted Average)	2 mg/m3 (Respirable Fraction) 10	
Limit)		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	
Titanium Dioxide(13463-67-7)			
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 ³
Upper explosion limit	:	70 g/m ³
Density	:	1.7267
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

Alumainuma Ovida (1244-20-1)	
Aluminum Oxide(1344-28-1)	. 10 000 //
Acute toxicity - LD50 - oral - rat	> 10,000 mg/kg
Acute toxicity - LC50 - inhalation - rat	> 2.6 mg/L / 4 h
Acute toxicity - dermal	No data available
Skin irritation - rabbit	No skin irritation
Eye irritation - rabbit	No eye irritation
Respiratory or skin sensitisation -	DId not cause sensitisation on laboratory animals
maximisation test - guinea pig	No. 1 de la constitución de la c
Germ cell mutagenicity	No data available
Carcinogenicity	This product is or contains a component that is not classifiable as to its carcinogenicty 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 carcinogen or potential carcinogen by OSHA
Reproductive toxicity	No data available
Specific target organ toxicity - single	No data available
exposure	To data available
Specific target organ toxicity - repeated	No data available
exposure	To data available
Aspiration hazard	No data available
Additional information	Cough, chest pain, difficulty in breathing, gastrointestinal disturbance
Addittional information	Liver irregularities based on human evidence
Amorphous Pyrogenic Silica(112945-52-5)	21701 Integrantico Sassa on Haman erraense
Acute toxicity - Inhalation	No data available
Acute toxicity - Dermal	No data available
Skin irritation	No data available
Respiratory or skin sensation	No data available
Germ cell mutagenicity - rat - lungs	Body fluid assay
Germ cell mutagenicity - rat	Unscheduled DNA synthesis
Carcinogenicity - Rat - Inhalation	Tumorigenic: Carcinogenic by RTECS criteria. Lungs, thorax, or
	respiration: tumors
IARC	Not classifiable as to its carcinogenicity to human
ACGIH	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
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
	0.1% is identifed 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
	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
Acom	0.1% is identified as a carcinogen or potential carcinogen by ACGIH
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
0311/1	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 avanable
Specific target organ toxicity - repeated	no data available
exposure	The data available
Aspiration hazard	no data available
Additional information	
Auditional iniormation	Amorphous silica is not classified as to its carcinogenicity to humans, however, crystalline silica inhaled in the form of quartz or cristobalite from
	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	Stomach - irregularities - based on human evidence
Barium Sulfate(7727-43-7)	Storilacii - irregularities - based on numan evidence
	No determination
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 - mouse -	No reported data
micronucleus test	
Carcinogenicity - rat - intrapleural -	Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or
tumorigenic	Respiration: Tumors
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
ACGIH	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
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	
Specific target organ toxicity - repeated	No data available
exposure	
Aspiration hazard	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)
Eye damage/irritation - Rabbit	No eye irritation, (OECD Test Guideline 405)
Respiratory/skin sensitization - Guinea pig	Did not cause sensitization on laboratory animals, (OECD Test Guideline
I september 1, seems some same pig	
	406)



Hemster - Ovary Negative	Germ cell mutagenicity	Ames test, S. typhimurium, negative
Carcinogenicity - Rat - Inhalation 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 minal studies. ARC 2B - Group 2B: Possibly carcinogenic based on its IARC, ACGIH, 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 No component of this product present at levels greater than 0.1% is identified as a carcinogen or potential carcinogen by OSHA Reproductive toxicity No data available Organ toxicity Specific larget organ toxicity - single exposure: No data available Organ toxicity Specific larget organ toxicity - repeated exposure: No data available Appration hazard Additional Information RTEG. REPRODUCT on the best of our knowledge, the chemical , physical, and toxicological properties have not been throughly investigated. Crystaline Silica (14808-60-7) Acute Inhalation toxicity no data available Acute Inhalation toxicity no data available Acute Inhalation on data available Germ cell mutagenicity no data available eye Irritation no data available Germ cell mutagenicity Inmited evidence of carcinogenicity in human studies Germ cell mutagenicity Inmited evidence of carcinogenicity in human studies Group 1: Carcinogenic to humans (Quartz) 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 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 carcinogen or potential carcinogen by ACGIH No component of this product present at levels greater than or eq		
Respiration: Tumors. This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or FPA classification. Limited evidence of carcinogenicity in animal studies. 28 - Group 28: Possibly carcinogenic to humans (carbon black). NTP No component of this product present at levels greater than or equal to 1.9% is identified as a known or anticipated carcinogen by NTP OSHA No component of this product present at levels greater than or equal to 1.9% is 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 - single exposure: No data available Additional Information RTECS: FFS800000 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 Inhalation toxicity no data available Acute Inhalation toxicity no data available Acute Inhalation toxicity no data available acrinogenicity Limited evidence of carcinogenicity in human studies Carcinogenicity Limited evidence of carcinogenicity in human studies Carcinogenicity Limited evidence of carcinogenicity in human studies ACGIH No Selectification to humans (Quartz) ACGIH No Selectification to humans (Quartz) 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 Selectification to humans (Publication or Carcinogenicity in human studies In the lungs, and or this product present at levels greater than or equal to 0.1% is identified as a carcinogen protential carcinogen by ACGIH No Selectification of this product prese		
been reported to be possibly carcinogenic based on its IARC, ACGH, NTP, or EPA classification. Limited evidence of carcinogenicity in mainst studies. IARC 2B - Group 2B: Possibly carcinogenic to humans (carbon black) 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 NTP Organ 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 RECS: FFSB00000 To the best of our knowledge, the chemical , physical, and toxicological properties have not been throughly investigated. Crystalline Silica (14808-50-7) Acute Inhabiton toxicity Organ toxicity Org	Carcinogenicity - Rat - Inhalation	
or EPA classification. Limited evidence of carcinogenicity in animal studies. 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 component of this product present at levels greater than or equal to component of this product present at levels greater than or expected program toxicity. No data available No component of this product present at levels greater than 0.1% is 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 RESS: FFS800000 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 Respiratory or skin sensation No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACCIH No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACCIH No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSFIA Reproductive toxicity Specific target organ toxicity - repeated exposure Reproductive toxicity Reproduct		
IARC 28 - Group 28: Possibly carcinogenic to humans (carbon black) 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 0.1% is identified as a carcinogen or potential carcinogen by OSHA No data available		
NP 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 0.1% is 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 Additional Information RIECS: FFS800000 To the best of our knowledge, the chemical , physical, and toxicitogical properties have not been throughly investigated. Acute Inhalation toxicity No data available RIECS: FFS800000 To the best of our knowledge, the chemical , physical, and toxicological properties have not been throughly investigated. Acute Inhalation toxicity No data available Respiratory or skin sensation 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 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 carcinogen or potential carcinogen by 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 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 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 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 component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potentia	TARC	
to 0.1% is identified as a known or anticipated carcinogen by NTP No component of this product present at levels greater than 0.1% is 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 Aspiration hazard Additional Information RTECS: FFS800000 To the best of our knowledge, the chemical , physical, and toxicological properties have not been throughly investigated. Crystalline Silica(14808-60-7) Acute Dermal toxicity Acute Dermal toxicity Acute Dermal toxicity no data available Respiratory or skin sensation no data available Germ cell mutagenicity In data available Germ cell mutagenicity 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 carcinogen or potential carcinogen by ACGIH No 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 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 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 on to be human carcinogen (Quartz) No carcinogenic or this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH No on to be human supplied to present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH No on to be human supplied to present at levels greater than or equal to 0.1% is identified as a carcinogen (Quartz) No carcinogenic to humans b		
OSHA No component of this product present at levels greater than 0.1% is identified as a carcinogen or potential carcinogen by OSHA Organ toxicity Organ toxicity Specific target organ toxicity - single exposure: No data available Additional information Reproductive toxicity Specific target organ toxicity - repeated exposure: No data available Additional information RTECS: FFS800000 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 Inhalation toxicity no data available Skin irritation no data available Skin irritation no data available Respiratory or skin sensation no data available Germ cell mutagenicity Limited evidence of carcinogenicity in human studies Garcinogenicity Limited evidence of carcinogenicity in human studies Garcinogenicity Limited evidence of carcinogenic to humans (Quartz) 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 carcinogen or potential carcinogen by 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 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 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 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 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 component of this product present at levels greater than or equal to 0.1% is identified as a c		
Reproductive toxicity Organ toxicity Specific target organ toxicity - single exposure: No data available Organ toxicity Specific target organ toxicity - repeated exposure: No data available Additional Information RTECS: FFS800000 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 Acute Dermal toxicity no data available Skin inritation no data available Respiratory or skin sensation no data available Respiratory or skin sensation no data available Respiratory or skin sensation Respiratory or skin sensation no data available No data available Respiratory or skin sensation No data available No data available No data available No data available 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 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 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 component of this product present at levels greater than or equal to 0.1% is dentified as a carcinogen or potential carcinogen by OSHA No data available Reproductive toxicity No data available Reproductive toxicity Prolinged 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, sorthers of breath, emphysical, decreased cheet expansion, and increased susceptibility to twork. Addi	OSHA	No component of this product present at levels greater than 0.1% is
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 RTECS: FFS00000 To the best of our knowledge, the chemical , physical, and toxicological properties have not been throughly investigated. Crystalline Slica(14808-60-7) Acute Inhalation toxicity no data available Acute Dermal toxicity No data available Skin irritation eve irritation eve irritation eve irritation no data available Respiratory or skin sensation no data available Gern cell mutagenicity Initied evidence of carcinogenicity in human studies Initied evidence of carcinogenicity in human studies Initied evidence of carcinogenicity in human studies IARC Group 1: Carcinogenic to humans (Quartz) 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 NOP		identified as a carcinogen or potential carcinogen by OSHA
Organ toxicity Aspiration hazard 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 Acute Dermal toxicity In od data available Skin irritation In odata available Acute Inhalation Respiratory or skin sensation In odata available Germ cell mutagenicity Ilimited evidence of carcinogenicity in human studies Germ cell mutagenicity Ilimited 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 0.1% is identified as a carcinogen or potential carcinogen by ACGIH 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 ACGIH Reproductive toxicity Specific target organ toxicity - single Exposure Specific target organ toxicity - repeated Reproductive toxicity Reproductive toxicity Reproductive formation Prolonged inhalation of crystalline silica may result in silicosis, a disabiling pulmonary fibrosis characterized by fibrotic changes and miliary nodules in the lungs, a dry cough, shortness of breath, emphysican, 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: Neonom to be carcinogenicity by the NFN, phorehores of breath, emphysical, 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. Crys		
Aspiration hazard Additional Information RTECS: FS800000 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 Crystalline Silica(14808-60-7) Acute Dermal toxicity No data available 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 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 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 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 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 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 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 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 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 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 component of this product present at levels are severable or data available No possibly are component of potential carcinogen by OSHA No compo		
Additional Information RTECS: FFS800000 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 Dermain toxicity no data available Acute Dermain toxicity no data available Acute Inhalation toxicity no data available Respiratory or skin sensation no data available Respiratory or skin sensation no data available Germ cell mutagenicity in data available Garcinogenicity Limited evidence of carcinogenicity in human studies Garcinogenicity 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 carcinogen or potential carcinogen by 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 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 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 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, ple		
Acute Dermal toxicity Acute Dermal toxicity In odata available Acute Dermal toxicity In odata available Skin irritation In odata available In odata		
Crystalline Silica (14808-60-7) Acute Inhalation toxicity no data available Acute Dermal toxicity no data available eye irritation no data available Respiratory or skin sensation no data available Respiratory or skin sensation no data available Germ Cell mutagenicity Limited evidence of carcinogenicity in human studies Carcinogenicity ACGIH 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 carcinogen or potential carcinogen by 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 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 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 Reproductive toxicity no data available reactinogenic arcinogenic or potential carcinogen by OSHA no data available may cause damage to organs through prolonged or repeated exposure exposure - inhalation and available reactinogenic for province and province and prolonged or repeated exposure exposure - inhalation and prolonged inhalation of crystalline silica may result in silicosis, a disabling pulmonary fibroris 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. Adva	Additional Information	
Acute Derma toxicity Acute Der	Constalling Cilian (14000 CO 7)	and toxicological properties have not been throughly investigated.
Acute Dermal toxicity		no data available
Skin irritation no data available Respiratory or skin sensation no data available Respiratory Limited evidence of carcinogenicity in human studies Raccinogenicity Limited evidence of carcinogenicity in human studies Raccinogenicity Limited evidence of carcinogenicity in human studies Raccinogenicity 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 carcinogen or potential carcinogen by OSHA Reproductive toxicity 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, pensyes, and cereased 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 class		
eye irritation		
Respiratory or skin sensation no data available Germ cell mutagenicity		
Germ cell mutagenicity I Limited evidence of carcinogenicity in human studies IARC Group 1: Carcinogenic to humans (Quartz) 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 NTP Known to be human carcinogen (Quartz) 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 NTP Known to be human carcinogen (Quartz) 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 Reproductive toxicity Specific target organ toxicity - repeated exposure Specific target organ toxicity - repeated exposure Inhalation Aspiration hazard Additional information Additional information Prolonged inhalation of crystalline silica may result in silicosis, a disabling pulmonary fibrosis characterized by fibrotic changes and mililary 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 portracted 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 related to its carcinogenic potential. Additional information Diethanolamine(111-42-2) LD50 Oral - Rat - male and female D50 Dermal - Rabbit		
Limited evidence of carcinogenicity in human studies		
IARC ACGIH ACGIH 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 NTP Known to be human carcinogen (Quartz) 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 carcinogen or potential carcinogen by OSHA Reproductive toxicity Specific target organ toxicity - single exposure Specific target organ toxicity - repeated exposure Aspiration hazard Additional information Additional information Prolonged inhalation of crystalline silica may result in silicosis, a disabiling 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 toli 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 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 related to its carcinogenic potential. Libso Dermal - Rabbit Libso Intraperitoneal - Rat 120 mg/kg Skin Corrosion/irritation No data available Additional information Diethanolamine(111-42-2) Libso Intraperitoneal - Rat 120 mg/kg Skin Corrosion/irritation No data available Additional information No data available Additional information Liver - Irregularities - based on human evidence Biethanolamine(111-42-2) Libso Intraperitoneal - Rat 120 mg/kg Skin Corrosion/irr		
ACGIH 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 NTP Known to be human carcinogen (Quartz) 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 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 - single exposure Specific target organ toxicity - repeated exposure - inhalation Aspiration hazard Additional information Additional		
O.1% is identified as a carcinogen or potential carcinogen by ACGIH Known to be human carcinogen (Quartz) 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 Reproductive toxicity no data available Specific target organ toxicity - single exposure Specific target organ toxicity - repeated exposure Aspiration hazard Additional information 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 related to its carcinogenic potential. Additional information Liver - Irregularities - based on human evidence Diethanolamine(111-42-2) LD50 Oral - Rat - male and female 1,600 mg/kg (OECD Test Guideline 401) LD50 Intraperitoneal - Rat 120 mg/kg Skin Corrosion/irritation No data available Respiratory or skin sensitization Guinea pig - Did not cause sensitization on laboratory animals Germ cell mutagenicity Micronucleus test lymphocyte - Result Negative		
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 Specific target organ toxicity - single exposure Specific target organ toxicity - repeated exposure - inhalation Aspiration hazard Additional information 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 related to its carcinogenic potential. Additional information Liver - Irregularities - based on human evidence Diethanolamine(111-42-2) LD50 Oral - Rat - male and female 1,600 mg/kg (OECD Test Guideline 401) LD50 Intraperitoneal - Rat 120 mg/kg DS0 Intravenous - Rat 778 mg/kg Skin Corrosion/irritation Respiratory or skin sensitization Germ cell mutagenicity Micronucleus test lymphocyte - Result Negative Mutagenicity (micronucleus test) Mouse male and female Carcinogenicity - IARC Zes - Group 2B Possibly carcinogenic to humans 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 Specific target organ toxicity - single exposure Specific target organ toxicity - repeated exposure - inhalation Aspiration hazard Additional information Additional information Additional information Application hazard Additional information Application hazard Additional information Application hazard Additional information Additional information Application hazard Additional information Additional information Application hazard Advanced slicuosis 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 slilicosis may result in death due to cardiac failure or destruction of lung tissue. Crystalline silica is classified as group 1 "known to be 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 related to its carcinogenic potential. Additional information Liver - Irregularities - based on human evidence Diethanolamine(111-42-2) LD50 Oral - Rat - male and female 1,600 mg/kg (OECD Test Guideline 401) LD50 Intraperitoneal - Rat 12,200 mg/kg Skin Corrosion/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 Micronucleus test lymphocyte - Result Negative Micronucleus test lymphocyte - Result Negative All Carcinogenicity - IARC Zarcinogenicity - IARC No component of this product present at levels greater than		
Reproductive toxicity Specific target organ toxicity - single exposure Specific target organ toxicity - repeated exposure and toxicity - repeated exposure - inhalation Aspiration hazard Additional information 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, educated 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 related to its carcinogenic potential. Additional information Diethanolamine(111-42-2) LD50 Oral - Rat - male and female 1,600 mg/kg (OECD Test Guideline 401) LD50 Intravenous - Rat 120 mg/kg LD50 Intravenous - Rat 1778 mg/kg Skin Corrosion/irritation Respiratory or skin sensitization Germ cell mutagenicity Micronucleus test lymphocyte - Result Negative male and female Carcinogenicity - NTP No component of this product present at levels greater than or equal to	OSHA	
Specific target organ toxicity - single exposure Specific target organ toxicity - repeated exposure - inhalation Aspiration hazard no data available Additional information 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 related to its carcinogenic potential. Additional information Liver - Irregularities - based on human evidence Diethanolamine(111-42-2) LD50 Oral - Rat - male and female LD50 Intraperitoneal - Rat LD50 Intraperitoneal - Rat 12,200 mg/kg LD50 Intraperitoneal - Rat 120 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 Germ cell mutagenicity Micronucleus test lymphocyte - Result Negative Mutagenicity (micronucleus test) Mouse male and female Carcinogenicity - IARC 2B - Group 2B Possibly carcinogenic to humans No component of this product present at levels greater than or equal to		
Specific target organ toxicity - repeated exposure - inhalation Aspiration hazard		
Specific target organ toxicity - repeated exposure - inhalation no data available	, , , , ,	no data available
Aspiration hazard Additional information Aspiration hazard Additional information 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 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 related to its carcinogenic potential. Additional information Liver - Irregularities - based on human evidence Diethanolamine(111-42-2) LD50 Oral - Rat - male and female 1,600 mg/kg (OECD Test Guideline 401) LD50 Intravenous - Rat 120 mg/kg Skin Corrosion/irritation No data available Serious eye damage/eye irritation Respiratory or skin sensitization Germ cell mutagenicity Micronucleus test lymphocyte - Result Negative Mutagenicity (micronucleus test) Mouse male and female Carcinogenicity - IARC 2B - Group 2B Possibly carcinogenic to humans No component of this product present at levels greater than or equal to		may cause damage to ergans through prolonged or repeated expessive
Aspiration hazard Additional information 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 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 related to its carcinogenic potential. Additional information Liver - Irregularities - based on human evidence 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 Intravenous - Rat 120 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 male and female Carcinogenicity - IARC 2B - Group 2B Possibly carcinogenic to humans No component of this product present at levels greater than or equal to		Illay cause damage to organs unrough profonged of repeated exposure
Additional information 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 related to its carcinogenic potential. Additional information Liver - Irregularities - based on human evidence Diethanolamine(111-42-2) LD50 Oral - Rat - male and female 1,600 mg/kg (OECD Test Guideline 401) LD50 Intraperitoneal - Rat 12,200 mg/kg Skin Corrosion/irritation No data available Serious eye damage/eye irritation 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 male and female Carcinogenicity - IARC 2B - Group 2B Possibly carcinogenic to humans No component of this product present at levels greater than or equal to		no data available
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 related to its carcinogenic potential. Additional information Liver - Irregularities - based on human evidence Diethanolamine(111-42-2) LD50 Oral - Rat - male and female 1,600 mg/kg (OECD Test Guideline 401) LD50 Intraperitoneal - Rat 120 mg/kg LD50 Intraperitoneal - Rat 120 mg/kg LD50 Intravenous - Rat 778 mg/kg Skin Corrosion/irritation 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 male and female Carcinogenicity - IARC 2B - Group 2B Possibly carcinogenic to humans Carcinogenicity - IARC No component of this product present at levels greater than or equal to		
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 related to its carcinogenic potential. Additional information Liver - Irregularities - based on human evidence Diethanolamine(111-42-2) LD50 Oral - Rat - male and female 1,600 mg/kg (OECD Test Guideline 401) LD50 Dermal - Rabbit LD50 Intraperitoneal - Rat 12,200 mg/kg LD50 Intravenous - Rat 778 mg/kg Skin Corrosion/irritation Respiratory or skin sensitization Respiratory or skin sensitization Germ cell mutagenicity Micronucleus test lymphocyte - Result Negative Mutagenicity (micronucleus test) Mouse male and female Carcinogenicity - IARC 2B - Group 2B Possibly carcinogenic to humans No component of this product present at levels greater than or equal to		
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 related to its carcinogenic potential. Additional information 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 Serious eye damage/eye irritation 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 male and female Carcinogenicity - IARC 2B - Group 2B Possibly carcinogenic to humans No component of this product present at levels greater than or equal to		in the lungs, a dry cough, shortness of breath, emphysema, decreased
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 related to its carcinogenic potential. Additional information Liver - Irregularities - based on human evidence Diethanolamine(111-42-2) LD50 Oral - Rat - male and female 1,600 mg/kg (OECD Test Guideline 401) LD50 Intraperitoneal - Rat 120 mg/kg LD50 Intraperitoneal - Rat 120 mg/kg Skin Corrosion/irritation No data available Serious eye damage/eye irritation 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 male and female Carcinogenicity - IARC 2B - Group 2B Possibly carcinogenic to humans Carcinogenicity - NTP No component of this product present at levels greater than or equal to		
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 related to its carcinogenic potential. Additional information Liver - Irregularities - based on human evidence Diethanolamine(111-42-2) LD50 Oral - Rat - male and female LD50 Intraperitoneal - Rat 1200 mg/kg (OECD Test Guideline 401) LD50 Intraperitoneal - Rat 120 mg/kg LD50 Intraperitoneal - Rat 120 mg/kg 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 Mutagenicity (micronucleus test) Mouse male and female Carcinogenicity - IARC 2B - Group 2B Possibly carcinogenic to humans No component of this product present at levels greater than or equal to		
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 related to its carcinogenic potential. Additional information Liver - Irregularities - based on human evidence 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 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 male and female 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 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 related to its carcinogenic potential. Additional information Liver - Irregularities - based on human evidence Diethanolamine(111-42-2) LD50 Oral - Rat - male and female LD50 Dermal - Rabbit LD50 Intraperitoneal - Rat LD50 Intraperitoneal - Rat 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 Mutagenicity (micronucleus test) Mouse male and female Carcinogenicity - IARC 2B - Group 2B Possibly carcinogenic to humans Carcinogenicity - NTP No component of this product present at levels greater than or equal to		
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 related to its carcinogenic potential. Additional information Liver - Irregularities - based on human evidence Diethanolamine(111-42-2) LD50 Oral - Rat - male and female LD50 Dermal - Rabbit LD50 Intraperitoneal - Rat LD50 Intraperitoneal - Rat LD50 Intravenous - Rat T78 mg/kg Skin Corrosion/irritation No data available Serious eye damage/eye irritation Respiratory or skin sensitization Germ cell mutagenicity Micronucleus test lymphocyte - Result Negative Mutagenicity (micronucleus test) Mouse male and female Carcinogenicity - IARC 2B - Group 2B Possibly carcinogenic to humans Carcinogenicity - NTP No component of this product present at levels greater than or equal to		
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 related to its carcinogenic potential. Additional information Liver - Irregularities - based on human evidence Diethanolamine(111-42-2) LD50 Oral - Rat - male and female LD50 Dermal - Rabbit LD50 Intraperitoneal - Rat LD50 Intraperitoneal - Rat LD50 Intravenous - Rat T78 mg/kg Skin Corrosion/irritation Serious eye damage/eye irritation Respiratory or skin sensitization Germ cell mutagenicity Mutagenicity (micronucleus test) Mouse male and female Carcinogenicity - IARC 2B - Group 2B Possibly carcinogenic to humans No component of this product present at levels greater than or equal to		
including its mechanisms for lung carcinogenicity. Additional studies are needed to determine whether the cell transforming activity of quartz is related to its carcinogenic potential. Additional information Diethanolamine(111-42-2) LD50 Oral - Rat - male and female LD50 Dermal - Rabbit LD50 Intraperitoneal - Rat LD50 Intraperitoneal - Rat LD50 Intravenous - Rat Skin Corrosion/irritation Serious eye damage/eye irritation Respiratory or skin sensitization Germ cell mutagenicity Mutagenicity (micronucleus test) Mouse male and female Carcinogenicity - IARC Carcinogenicity - IARC ZB - Group 2B Possibly carcinogenic to humans including its mechanisms for lung carcinogenicity. Additional studies are needed to determine whether the cell transforming activity of quartz is related to its carcinogenicity. Additional studies are needed to determine whether the cell transforming activity of quartz is related to its carcinogenicity. Additional studies are needed to determine whether the cell transforming activity of quartz is related to its carcinogenicity. Additional studies are needed to its carcinogenicity of quartz is related to its carcinogenicity of quartz is related to its carcinogenicity of quarts is related to its carcinogenic dual numan evidence LD50 Test Guideline 401) 12,600 mg/kg (OECD Test Guideline 401) 12,600 mg/kg (DECD Test Guideline 401) 12,600 mg/kg 120 mg/kg 120 mg/kg 120 mg/kg 120 mg/kg 120 mg/kg 120 mg/kg 1		
needed to determine whether the cell transforming activity of quartz is related to its carcinogenic potential. Additional information Liver - Irregularities - based on human evidence Diethanolamine(111-42-2) LD50 Oral - Rat - male and female LD50 Dermal - Rabbit LD50 Dermal - Rabbit LD50 Intraperitoneal - Rat LD50 Intravenous - Rat LD50 Intravenous - Rat LD50 Intravenous - Rat Skin Corrosion/irritation Serious eye damage/eye irritation Serious eye damage/eye irritation Respiratory or skin sensitization Germ cell mutagenicity Mutagenicity (micronucleus test) Mouse male and female Carcinogenicity - IARC 2B - Group 2B Possibly carcinogenic to humans No component of this product present at levels greater than or equal to		
related to its carcinogenic potential. Additional information Diethanolamine(111-42-2) LD50 Oral - Rat - male and female LD50 Dermal - Rabbit LD50 Intraperitoneal - Rat LD50 Intravenous - Rat Skin Corrosion/irritation Serious eye damage/eye irritation Respiratory or skin sensitization Respiratory or skin sensitization Germ cell mutagenicity Mutagenicity (micronucleus test) Mouse male and female Carcinogenicity - IARC Carcinogenicity - NTP Reduction intervenue - Irregularities - based on human evidence 1,600 mg/kg (OECD Test Guideline 401) 12,200 mg/kg		
Diethanolamine(111-42-2) LD50 Oral - Rat - male and female		related to its carcinogenic potential.
LD50 Oral - Rat - male and female LD50 Dermal - Rabbit LD50 Intraperitoneal - Rat LD50 Intravenous - Rat LD50 Intravenous - Rat Skin Corrosion/irritation Serious eye damage/eye irritation Respiratory or skin sensitization Germ cell mutagenicity Mutagenicity (micronucleus test) Mouse male and female Carcinogenicity - IARC Carcinogenicity - NTP At 12,200 mg/kg LD50 Test Guideline 401) 12,200 mg/kg LD50 Intravenous - Rat 120 mg/kg 12,200 mg/kg 120		Liver - Irregularities - based on human evidence
LD50 Dermal - Rabbit12,200 mg/kgLD50 Intraperitoneal - Rat120 mg/kgLD50 Intravenous - Rat778 mg/kgSkin Corrosion/irritationNo data availableSerious eye damage/eye irritationRabbit - Risk of serious damage to eyes (OECD Test Guideline 405)Respiratory or skin sensitizationGuinea pig - Did not cause sensitization on laboratory animalsGerm cell mutagenicityMicronucleus test lymphocyte - Result NegativeMutagenicity (micronucleus test) Mouse male and femaleResult: NegativeCarcinogenicity - IARC2B - Group 2B Possibly carcinogenic to humansCarcinogenicity - NTPNo component of this product present at levels greater than or equal to		
LD50 Intraperitoneal - Rat LD50 Intravenous - Rat Skin Corrosion/irritation Serious eye damage/eye irritation Respiratory or skin sensitization Germ cell mutagenicity Mutagenicity (micronucleus test) Mouse male and female Carcinogenicity - IARC Carcinogenicity - NTP LD50 Intraperitoneal - Rat 120 mg/kg No data available Rabbit - Risk of serious damage to eyes (OECD Test Guideline 405) Rabbit - Risk of serious damage to eyes (OECD Test Guideline 405) Rabbit - Risk of serious damage to eyes (OECD Test Guideline 405) Rabbit - Risk of serious damage to eyes (OECD Test Guideline 405) Respiratory or skin sensitization Guinea pig - Did not cause sensitization on laboratory animals Micronucleus test lymphocyte - Result Negative Result: Negative Result: Negative No component of this product present at levels greater than or equal to		
LD50 Intravenous - Rat Skin Corrosion/irritation Serious eye damage/eye irritation Respiratory or skin sensitization Germ cell mutagenicity Mutagenicity (micronucleus test) Mouse male and female Carcinogenicity - IARC Carcinogenicity - NTP No component of this product present at levels greater than or equal to		
Skin Corrosion/irritation Serious eye damage/eye irritation Respiratory or skin sensitization Germ cell mutagenicity Mutagenicity (micronucleus test) Mouse male and female Carcinogenicity - IARC Carcinogenicity - NTP No data available Rabbit - Risk of serious damage to eyes (OECD Test Guideline 405) Guinea pig - Did not cause sensitization on laboratory animals Micronucleus test lymphocyte - Result Negative Result: Negative 2B - Group 2B Possibly carcinogenic to humans No component of this product present at levels greater than or equal to		
Serious eye damage/eye irritation Respiratory or skin sensitization Germ cell mutagenicity Mutagenicity (micronucleus test) Mouse male and female Carcinogenicity - IARC Carcinogenicity - NTP Respiratory or skin sensitization Guinea pig - Did not cause sensitization on laboratory animals Micronucleus test lymphocyte - Result Negative Result: Negative 2B - Group 2B Possibly carcinogenic to humans No component of this product present at levels greater than or equal to		
Respiratory or skin sensitization Germ cell mutagenicity Mutagenicity (micronucleus test) Mouse male and female Carcinogenicity - IARC Carcinogenicity - NTP Micronucleus test lymphocyte - Result Negative Result: Negative Result: Negative Result: Negative No component of this product present at levels greater than or equal to		
Germ cell mutagenicity Mutagenicity (micronucleus test) Mouse male and female Carcinogenicity - IARC Carcinogenicity - NTP Micronucleus test lymphocyte - Result Negative Result: Negative 2B - Group 2B Possibly carcinogenic to humans No component of this product present at levels greater than or equal to		
Mutagenicity (micronucleus test) Mouse male and female Carcinogenicity - IARC Carcinogenicity - NTP Result: Negative 2B - Group 2B Possibly carcinogenic to humans No component of this product present at levels greater than or equal to		
male and femaleZB - Group 2B Possibly carcinogenic to humansCarcinogenicity - IARC2B - Group 2B Possibly carcinogenic to humansCarcinogenicity - NTPNo component of this product present at levels greater than or equal to		
Carcinogenicity - IARC 2B - Group 2B Possibly carcinogenic to humans Carcinogenicity - NTP No component of this product present at levels greater than or equal to		Negative
Carcinogenicity - NTP No component of this product present at levels greater than or equal to		2B - Group 2B Possibly carcinogenic to humans
0.1.70 is identified as a known of anticipated careinogen by NTI		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
	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	The data dvallable
Specific target organ toxicity - repeated	No data available
1	IVO data avallable
exposure	No determination
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
	No data available No data available
Acute toxicity - dermal	
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
	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
INIF	
00114	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	
Specific target organ toxicity - repeated	No data available
exposure	No data avallable
	No data accellate
Aspiration hazard	No data available
Additional information	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
Iron Oxide(1309-37-1)	
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
	carcinogenicity based on its IARC, ACGIH, NTP or EPA classification.
IARC	Group 3: not classifiable as to its carcinogeniciy to humans (diiron
	trioxide).
NTP	No component of this product present at levels greater than or equal to
INII	0.1% is identified as a kown or anticpated carcinogen by NTP.
OCHA	
OSHA	No component of this product present at levels greater than or equal to
B 1 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.1% is identified as ca carcinogen or potential carcinogen by 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
Additional information	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.
Pentaerythritol tetrakis(6683-19-8)	
Acute toxicity - LD50 - oral - male rat	> 5000 mg/kg



Acute toxicity - LC50 - inahalation - male	> 1.95 mg/l / 4h
and female rat	
Acute toxicity - LD50 - dermal - male and	> 3160 mg/kg
female rabbit	1000 //
Acute toxicity - LD50 - intraperitoneal - rat	> 1000 mg/kg
Skin corrosion - rabbit	No skin irritation - 24 h
Eye irritation - rabbit	No eye irritation
Respiratory or skin sesnsitization - guinea pig	Does not cause skin sensitization
Germ cell mutagenicity - Ames test - S. typhimurium	Negative
Mutagenicity - micronucleus test - male and female hamster	Negative
IARC carcinogenicity	No component of this product present at levels greater than or equal to
TAKE careinogeniaty	0.1% is identified as a probable, possible, or confirmed human carcinogen by IARC
ACGIH	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
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	
Specific target organ toxicity - repeated	No data available
exposure	
Aspiration hazard	No data 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 - micronucleus test	No results available
Germ cell mutagenicity - hamster - lungs	DNA inhibition
Germ cell mutagenicity - hamster - ovary -	No results available
sister chromatid exchange	
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 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	
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 properties have not been thoroughly investigated
Tris(2,4-ditert-butylphenyl) phosphite(31570	
LD50 - oral - male and female rat - Acute Toxicity	> 6000 mg/kg
LD50 - dermal - male and female rat	> 2000 mg/kg
Skin irritation - rabbit	No skin irritation / 24 h
Eye irritation- rabbit	No eye irritation / 30 s
Respiratory or skin sensitization - guinea	Does not cause skin sensitization
pig	



Germ cell mutagenicity -Ames test (micronucleus test) - male and femae hamster	Negative
Carcinogenicity - oral - male and female rat	No adverse effect has been observed in chronic toxicity tests
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
ACGIH	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
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 0.1% is identified as a carcinogen or potential carconogen by OSHA
Reproductive toxicity	Not data available
Developmental toxicity - oral - rabbit	No adverse effect has been observed in chronic toxicity tests
Specific target organ toxicity - single exposure	No data available
Specific target organ toxicity - repeated exposure	No data available
Additional information	Repeated dose toxicity - rat - male and female - oral - No observed adverse effect level - >/ 1000 mg/kg
Additional information	No adverse effect has been observed in chronic toxicity tests

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
r crointernee and degradability	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)	The data aranasis
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)	- Total and and total and
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
Barium Sulfate(7727-43-7)	
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	Daphnia magna (Water flea) > 5600 mg/l - 24 h (OECD Test Guideline
invertebrates	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
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 re Diethanolamine(111-42-2) Toxicity to fish LC50 - Pimephales	equired
PBT and vPvB not available/not re Diethanolamine(111-42-2)	equired
Diethanolamine(111-42-2)	equired
	promelas (fathead minnow) - 1,460 mg/l - 96h
Toxicity to daphnia and other aquatic static test EC50 - E	Daphnia magna (Water Flea) - 30.1 mg/l - 48h
invertebrates	Suprima magna (water riea) 3011 mg/r 1011
	aerobic - Exposure time 28d - Result: 93% Readily
biodegradable (OE	ECD Test Guideline 301F)
Bioaccumulative potential No data available	
Mobility in Soil No data available	
	ent not available as chemical safety assessment not
Other adverse effects required/not condu	hazard cannot be excluded in the event of
	ndling or disposal. Harmful to aquatic life with long
lastting effects	iding of disposal. Hairmar to addatic life with long
Hydrated magnesium silicate(14807-96-6)	
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 r	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 r	required
Other adverse effects No data available	
Pentaerythritol tetrakis(6683-19-8)	
Toxicity to fish - static LC50 - zebra fish > 100 mg/L / 96 h	1
Toxicity to daphnia and other aquatic > 86 mg/L / 24 h	
invertebrates - immobilization EC50 -	
daphnia magna (water flea) Toxicity to algae - static EC50 - > 100 mg/L / 72 h	
Scenedesmus subspicatus	
Toxicity to bacteria - respiration inhibition > 100 mg/L / 3 h	
IC50 - sludge treatment	
	dable : exposure time - 28 d
biodegradability - aerobic	20010 1 0.0p0001 0 00
Bioaccumulative potential No data available	
Mobility in soil No data available	
PBT and vPvB Not available/not r	equired
Other adverse effects No data available	
Titanium Dioxide(13463-67-7)	
Toxicity to fish - LC50 - other fish > 1000 mg/L / 96	
Toxicity to daphnia and other aquatic > 1000 mg/L / 48	h
invertebrates - EC50 - Dapphnia magna	
(water flea)	
Toxicity to daphnia and other aquatic 1000 mg/L / 48 h	
invertebrates - EC0 - Daphnia magna	
(water flea) Persistence and degradability No data available	
Bioaccumulative potential No data available	
Mobility in soil No data available	
PBT and vPbV Not available/not r	required
Other adverse effects No data available	equil eu
Tris(2,4-ditert-butylphenyl) phosphite(31570-04-4)	
Toxicity to fish - static LC0 - zebra fish 100 mg/L / 96 h	
Toxicity to daphnia and other aquatic 510 mg/L / 24 h	
invertebrates - static EC50 - Daphnia	
magna	
Toxicity to algae - static EC50 - > 75 mg/L / 72 h	
Scenedesmus subspicatus	
Toxicity to bacteria - respiration inhibition > 100 mg/L / 3 h	
IC50 - sludge treatment	



Persistence and degradability - biodegradability - aerobic	6% - not readily biodegradable - exposure: 28 d
Bioaccumulative potential	No data available
Mobility in soil	No data available
PBT and vPvB	not available/not required

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

IATA (AIR)

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: 8/21/2018 **REFERENCE:** WH493-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#
Titanium Dioxide	13463-67-7
Aluminum Oxide	1344-28-1

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

National Regulations Key

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

^ Indicates a chemical listed by IARC as carcinogenic to humans.



STATE REGULATIONS **CALIFORNIA PROPOSITION 65**

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

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>.

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.

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 <u>WWWPROP65.CA.GOV</u>.

Massachusetts Right to Know

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

Pennsylvania Right to Know

This product contains	Chemical CAS#
Titanium Dioxide	13463-67-7
Aluminum Oxide	1344-28-1
Hydrated magnesium silicate	14807-96-6
Amorphous Silica	112926-00-8
Pentaerythritol tetrakis	6683-19-8
Tris(2,4-ditert-butylphenyl) phosphite	31570-04-4
Amorphous Pyrogenic Silica	112945-52-5
Diethanolamine	111-42-2
Crystalline Silica	14808-60-7
Carbon Black	1333-86-4
Iron Oxide	1309-37-1
Barium Sulfate	7727-43-7



New Jersey Right to Know

This product contains	Chemical CAS#
Titanium Dioxide	13463-67-7
Aluminum Oxide	1344-28-1
Hydrated magnesium silicate	14807-96-6
Amorphous Silica	112926-00-8
Pentaerythritol tetrakis	6683-19-8
Tris(2,4-ditert-butylphenyl) phosphite	31570-04-4
Amorphous Pyrogenic Silica	112945-52-5
Diethanolamine	111-42-2
Crystalline Silica	14808-60-7
Carbon Black	1333-86-4
Iron Oxide	1309-37-1
Barium Sulfate	7727-43-7



RDINAL SAFETY DATA SHEET

ISSUED: 8/21/2018 **REFERENCE:** WH493-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

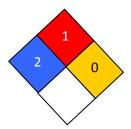
VOC CONTENT:

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.