

ARDINAL SAFETY DATA SHEET

ISSUED: 8/20/2018 **REFERENCE:** WH15-T032

T032-WH15 WHITE

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: T032-WH15 WHITE

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: DANGER

HAZARD STATEMENTS:

H412 Harmful to aquatic life with long lasting effects.

H340 May cause genetic defects.

H351 Suspected of causing cancer.

H317 May cause an allergic skin reaction.

H372 Causes damage to organs through prolonged or repeated exposure.

H318 Causes serious eye damage.

PRECAUTIONARY STATEMENTS:

P201 Obtain special instructions before use.

P260 Do not breathe dust.

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

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Weight %	CAS Number
Titanium Dioxide	35% - 40%	13463-67-7
1,3,5-Triglycidyl Isocyanurate	1% - 5%	2451-62-9
Hydrated magnesium silicate	1% - 5%	14807-96-6
Aluminum Oxide	1% - 5%	1344-28-1

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4. FIRST AID MEASURES

Description of first aid measures.

EYE CONTACT: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.

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

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

INHALATION: Allow Victim to breathe fresh air. Allow victim to rest. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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.



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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

1,3,5-Triglycidyl Isocyanurate(2451-62-9)				
ACGIH TLV (Threshold Limit Value)	TWA (Time Weighted Average)	0.05 mg/m3 8 hours		
2-Mercaptobenzothiazole(149-30-4)				
USA WEEL	(WEEL) TWA	5 mg/m3		
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)	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		
Crystalline Silica(14808-60-7)				
ACGIH TLV (Threshold Limit Value)	TWA (Time Weighted Average)	0.025 mg/m3 8 hours		
Hydrated magnesium silicate(14807-96-6)				
ACGIH TLV (Threshold Limit Value)	TWA (Time Weighted Average)	2 mg/m3 (Respirable Fraction) 8 hours		
NIOSH REL(Recommended Exposure Limit)	TWA (Time Weighted Average)	2 mg/m3 (Respirable Fraction) 10 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	:	1.7546
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: Avoid contact with strong oxidizing agents.

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

11. TOXICOLOGICAL INFORMATION

1,3,5-Triglycidyl Isocyanurate(2451-62-9)	
Acute toxicity - LD50 - oral - rat	100 - 200 mg/kg
Acute toxicity - LC50 - inhalation - rat -	> 650 mg/m3
male - 4 h	, 636 mg/m3
Acute toxicity - LD50 - Dermal - rat- male	> 2000 mg/kg
& female	
Skin irritation - rabbit	Mild skin irritation - 24 hours
Eye irritation - rabbit	Severe eye irritation
Respiratory or skin sensation -	May cause sensitization by skin contact
Maximization test - guinea pig	
Germ cell mutagenicity	In vivo tests showed mutagenic effects
Germ cell mutagenicity - AMES test - S.	Positive
typhimurium	
Germ cell mutagenicity - AMES test -	Positive
mouse - male	
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
ACCIH	by IARC No component of this product present at levels greater than or equal to
ACGIH	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
INIF	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
OSTA	0.1% is identified as a carcinogen or potential carcinogen by OSHA
Reproductive toxicity	No data available
Specific target organ toxicity - single	No data available
exposure	
Specific target organ toxicity - repeated	No data available
exposure	
Aspiration hazard	No data available
Additional information	To the best of our knowledge, the chemical, physical, and toxicological
	properties have not been thoroughly investigated
2-Mercaptobenzothiazole(149-30-4)	
Acute toxicity - LD50 - oral - male and	3800 mg/kg
femal rat	1070 / 0
Acute toxicity - LC50 - inhalation - rat	> 1270 mg/m3
Acute toxicity - LD50 - dermal - male and female rabbit	> 7940 mg/kg
Skin irritation - rabbit	No ckin irritation / 24 h
Eye irritation - rabbit	No skin irritation / 24 h No eye irritation / 24 h
Respiratory or skin sensitisation - Buehler	May cause allergic skin reaction
test - guinea pig	Play cause allergic skill reaction
Respiratory or skin sensitisation -	May cause allergic skin reaction
Maximisation test - guinea pig	, saass and give side i caccion
Germ cell mutagenicity - Ames test - S.	Negative
typhimurium	-3
Germ cell mutagenicity - male and female	Negative
mouse	
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
NITO	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 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	Repeated dose toxicity - male and female rat - lowest observed adverse
	effect level - 2500 mg/kg
Additional information	To the best of our knowledge, the chemical, physical, and toxicological
	properties have not been thoroughly investigated
Aluminum Oxide(1344-28-1)	
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	
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
ALTO	by IARC
NTP	No component of this product present at levels greater than or equal to
OCUA	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
Depreductive toxicity	0.1% is identified as a carcinogen or potential carcinogen by OSHA No data available
Reproductive toxicity Specific target organ toxicity - single	No data available No data available
exposure	NO data available
Specific target organ toxicity - repeated	No data available
exposure	NO 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)	Erver irregularities based on naman evidence
Acute toxicity - Inhalation	No data available
Acute toxicity - Dermal	No data available
Skin irritation	No data available
Respiratory or skin sensation	No data available
	I NO Udla available
Germ cell mutagenicity - rat - lungs	Body fluid assay
Germ cell mutagenicity - rat - lungs Germ cell mutagenicity - rat	Body fluid assay Unscheduled DNA synthesis
Germ cell mutagenicity - rat - lungs	Body fluid assay
Germ cell mutagenicity - rat - lungs Germ cell mutagenicity - rat Carcinogenicity - Rat - Inhalation	Body fluid assay Unscheduled DNA synthesis Tumorigenic: Carcinogenic by RTECS criteria. Lungs, thorax, or respiration: tumors
Germ cell mutagenicity - rat - lungs Germ cell mutagenicity - rat	Body fluid assay Unscheduled DNA synthesis Tumorigenic: Carcinogenic by RTECS criteria. Lungs, thorax, or respiration: tumors Not classifiable as to its carcinogenicity to human
Germ cell mutagenicity - rat - lungs Germ cell mutagenicity - rat Carcinogenicity - Rat - Inhalation IARC	Body fluid assay Unscheduled DNA synthesis Tumorigenic: Carcinogenic by RTECS criteria. Lungs, thorax, or respiration: tumors
Germ cell mutagenicity - rat - lungs Germ cell mutagenicity - rat Carcinogenicity - Rat - Inhalation IARC	Body fluid assay Unscheduled DNA synthesis Tumorigenic: Carcinogenic by RTECS criteria. Lungs, thorax, or respiration: tumors Not classifiable as to its carcinogenicity to human No component of this product present at levels greater than or equal to
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Germ cell mutagenicity - rat - lungs Germ cell mutagenicity - rat Carcinogenicity - Rat - Inhalation IARC ACGIH NTP OSHA Reproductive toxicity	Body fluid assay Unscheduled DNA synthesis Tumorigenic: Carcinogenic by RTECS criteria. Lungs, thorax, or respiration: tumors Not classifiable as to its carcinogenicity to human 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 as known or anticipated carcinogen No component of this product present at levels greater than or equal to
Germ cell mutagenicity - rat - lungs Germ cell mutagenicity - rat Carcinogenicity - Rat - Inhalation IARC ACGIH NTP OSHA	Body fluid assay Unscheduled DNA synthesis Tumorigenic: Carcinogenic by RTECS criteria. Lungs, thorax, or respiration: tumors Not classifiable as to its carcinogenicity to human 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 as known or anticipated carcinogen 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
Germ cell mutagenicity - rat - lungs Germ cell mutagenicity - rat Carcinogenicity - Rat - Inhalation IARC ACGIH NTP OSHA Reproductive toxicity Specific target organ toxicity - single exposure	Body fluid assay Unscheduled DNA synthesis Tumorigenic: Carcinogenic by RTECS criteria. Lungs, thorax, or respiration: tumors Not classifiable as to its carcinogenicity to human 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 as known or anticipated carcinogen No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA No data available No data available
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Germ cell mutagenicity - rat - lungs Germ cell mutagenicity - rat Carcinogenicity - Rat - Inhalation IARC ACGIH NTP OSHA Reproductive toxicity Specific target organ toxicity - single exposure Specific target organ toxicity - repeated exposure	Body fluid assay Unscheduled DNA synthesis Tumorigenic: Carcinogenic by RTECS criteria. Lungs, thorax, or respiration: tumors Not classifiable as to its carcinogenicity to human 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 as known or anticipated carcinogen No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA No data available No data available No data available To the best of our knowledge, the chemical, physical, and toxicological
Germ cell mutagenicity - rat - lungs Germ cell mutagenicity - rat Carcinogenicity - Rat - Inhalation IARC ACGIH NTP OSHA Reproductive toxicity Specific target organ toxicity - single exposure Specific target organ toxicity - repeated exposure Aspiration hazard	Body fluid assay Unscheduled DNA synthesis Tumorigenic: Carcinogenic by RTECS criteria. Lungs, thorax, or respiration: tumors Not classifiable as to its carcinogenicity to human 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 as known or anticipated carcinogen No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA No data available No data available No data available No data available



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 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 exposure	no data available
Specific target organ toxicity - repeated exposure	no data available
Aspiration hazard	no data available
Additional information	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)	
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 - micronucleus test	No reported data
Carcinogenicity - rat - intrapleural - tumorigenic	Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or 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 exposure	No data available
Specific target organ toxicity - repeated exposure	No data available
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
Crystalline Silica(14808-60-7)	
Acute Inhalation toxicity	no data available
Acute Dermal toxicity	no data available
Skin irritation	no data available
eye irritation	no data available
Respiratory or skin sensation	no data available
Germ cell mutagenicity	no data available



Carcinogenicity Limited evidence of carcinogenicity in human studies IARC Group 1: Carcinogenic to humans (Quartz) No component of this product present at levels greater than or equal to No component of this product present at levels greater than or equal to No Component of this product present at levels greater than or equal to No Component of this product present at levels greater than or equal to Reproductive toxicity no data available no data available Specific target organ toxicity - single exposure - inhalation no data available Specific target organ toxicity - repeated exposure - inhalation no data available Additional information no data available 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 exposure of the 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 exposure of the 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 exposure of the prolonged inhalation of crystalline silica is classified as group 1 "known to divide exposure of the prolonged inhalation of crystalline silica is classified as group 1 "known to divide exposure of the prolonged inhalation of crystalline silica is classified as group 1 "known to divide exposure of the prolonged of the mechanisms of quartz toxicity, there is a limited understanding of the mechanisms of quartz toxicity, including its mechanisms for lung activity of quartz is related to its carcinogenicity. Additional studies are related to its carcinogenicity and transportation in the prolonge in the prolonge in the prolo		
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)		
O.1% is identified as a carcinogen or potential carcinogen by ACGIH NTP Known to be human carcinogen (Quartz) O.1% is identified as a carcinogen or potential carcinogen by OSHA O.0% is identified as a carcinogen or potential carcinogen by OSHA O.0% is identified as a carcinogen or potential carcinogen by OSHA O.0% is identified as a carcinogen or potential carcinogen by OSHA O.0% is identified as a carcinogen or potential carcinogen by OSHA O.0% is identified as a carcinogen or potential carcinogen by OSHA OSPECIAL TABLES OF ASHA OSPECIAL STATES OSPECI		
NTP	ACGIN	
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA no data available no data available exposure Inhabition No data available Inhabition No data available Inhabition No data available Inhabition No data available Inhabition	NTP	
Reproductive toxicity Specific target organ toxicity - single exposure Specific target organ toxicity - single exposure Specific target organ toxicity - repeated exposure inhalation Aspiration hazard Additional information Additional information Prolonged inhalation of crystalline silica may result in silicosis, a disabiling 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 carcinogenic ty 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, there is a limited understanding of the mechanisms of quartz toxicity, there is a limited understanding of the mechanisms of quartz toxicity, and the protracted periods of time. Currently, there is a limited understanding of the mechanisms of quartz toxicity, there is a limited understanding of the mechanisms of quartz toxicity, there is a limited understanding of the mechanisms of quartz toxicity, the protracted periods of time. Currently, there is a limited understanding of the mechanisms of quartz is related to its carcinogenic potential. Additional information Liver - Irregularities - based on human evidence Hydrated magnesium silicate(14807-96-6) Acute toxicity - inhalation No data available Skin irritation - human No data available Repiratory or skin sensitisation No data availa		
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NTP No component of this product present at levels greater than or equal to	IARC	Group 3: not classifiable as to its carcinogeniciy to humans (diiron
	NTP	No component of this product present at levels greater than or equal to



OSHA	No component of this product present at levels greater than or equal to
Deproductive toxicity	0.1% is identified as ca carcinogen or potential carcinogen by OSHA. No data available
Reproductive toxicity Specific target organ toxicity - single	inhalation - may cause respiratory irritation.
exposure	
Specific target organ toxicity - repeated exposure	No data available
Aspiration hazard	No data available
Additional information	Long term inhalation exposure to iron (oxide fume or dust) can cause siderosis. Siderosis is considered to be a benign pneumoconiosis and does not normally cause significant physiological impairment. Siderosis can be observed on x-rays with the lungs having a mottled appearance., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
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 - sister chromatid exchange	No results available
Germ cell mutagenicity - mouse - micronucleus test	No results available
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 exposure	No data available
Specific target organ toxicity - repeated exposure	No data available
Aspiration hazard	No data available
Additional information	To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated

12. ECOLOGICAL INFORMATION

1,3,5-Triglycidyl Isocyanurate(2451-62-9)	
Toxicity to fish - static test LC50 - danio	> 77 mg/l - 96 h
rerio (zebra fish)	
Toxicity to daphnia and other aquatic	> 100 mg/l - 24 h
invertebrates - Immobilization - EC50 -	
daphnia magna (water flea)	
Toxicity to algae - growth inhibition - EC50	29 - 30 mg/l - 72 h
- Desmodesmus subspicatus	
Toxicity to bacteria - Respiration inhibition	> 100 mg/l 3 h
- IC50 - Sludge Treatment	
Persistence and degradability -	0.5 - 1% - not biodegradable
biodegradability - aerobic - exposure time:	
44 d	
Bioaccumulative potential	No data available
Mobility in soil	No data available
PBT & vPvB	not available/not required
Other adverse effects	An environmental hazard cannot be excluded in the event of
	unprofessional handling or disposal. Harmful to aquatic life with long
	lasting effects
2-Mercaptobenzothiazole(149-30-4)	



Toxicity to fish - flow-through test - LC50 - rainbow trout	0.73 mg/L / 96 h
Toxicity to daphnia and other aquatic invertebrates - immobilization EC50 - Daphnia magna (water flea)	0.71 mg/L / 48 h
Toxicity to algae - growth inhibition - EC50	0.5 mg/L - 72 h
- green algae Persistence and degradability -	1% - not readily biodegradable - exposure time: 28 d
biodegradability - biotic/aerobic Bioaccumulative potential -	0.1 mg/L / 42 d
bioaccumulation - carp Bioaccumulative potential -	< 0.8
Bioconcentration factor Mobility in soil	No data available
PBT and vPvB	Not available Not available/not required
Other adverse effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.
Aluminum Oxide(1344-28-1)	
Toxicity	No toxicity at the limit of solubility
Persisitence and degradability	The methods for determining biodegradability are not applicable to inorganic substances
Bioaccumulative potential Mobility in soil	Does not bioaccumulate No data available
PBT and vPvB	Not available Not available/not required
Other adverse effects	No data available.
Amorphous Pyrogenic Silica(112945-52-5)	
Toxicity	No data available
Persistence and degradability	No data available
Bioaccumulative potential Mobility in soil	No data available No data available
PBT and vPvB	not available/not required
Amorphous Silica(112926-00-8)	not available/not required
Toxicity	no data available
Persistence and degradability	no data available
Bioaccumulative potential	no data available
Mobility in soil	no data available
PBT and vPvB Barium Sulfate(7727-43-7)	not available/not required
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
Crystalline Silica(14808-60-7) Toxicity	no data available
Persistence and degradability	no data available
Bioaccumulative potential	no data available
Mobility in soil	no data available
PBT and vPvB	not available/not required
Hydrated magnesium silicate(14807-96-6)	
Toxicity Persistence and degradability	No data available
Persistence and degradability Bioaccumulative potential	No data available No data available
Mobility in soil	No data available
PBT and vPvB	Not available/not required
Iron Oxide(1309-37-1)	
Toxicity	No data available
Persisitence and degradability	No data available
Bioaccumulative potential Mobility in soil	No data available No data available
Mobility in soil PBT and vPvB	Not available Not available/not required
Other adverse effects	No data available
Titanium Dioxide(13463-67-7)	
Toxicity to fish - LC50 - other fish	> 1000 mg/L / 96 h



Toxicity to daphnia and other aquatic invertebrates - EC50 - Dapphnia magna	> 1000 mg/L / 48 h
(water flea)	
(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 required
Other adverse effects	No data available

13. DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHODS

GENERAL INFORMATION: No data available.

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

Ecology - waste materials: Avoid release to the environment.

14. TRANSPORT INFORMATION

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

USDOT GROUND

DOT (DEPARTMENT OF TRANSPORTATION)

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

HAZARDS CLASS: None

UN/NA NUMBER: Not Applicable

PACKING GROUP: None

EMERGENCY RESPONSE GUIDE (ERG): Not Applicable

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: 8/20/2018 **REFERENCE:** WH15-T032

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
1,3,5-Triglycidyl Isocyanurate	2451-62-9
Hydrated magnesium silicate	14807-96-6
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):

Eye Dam. 1 H318 Causes serious eye damage
Skin Sens. 1 H317 May cause an allergic skin reaction
Muta. 1B H340 May cause genetic defects
Carc. 2 H351 Suspected of causing cancer

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

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects

NATIONAL REGULATIONS

This product contains:	Chemical CAS#
~Titanium Dioxide	13463-67-7

National Regulations Key

 \sim Indicates a chemical listed by IARC as a possible carcinogen.

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



RDINAL SAFETY DATA SHEET

ISSUED: 8/20/2018 **REFERENCE:** WH15-T032

STATE REGULATIONS **CALIFORNIA PROPOSITION 65**

This product contains:	Chemical CAS#
*Titanium Dioxide	13463-67-7
*Hydrated magnesium silicate	14807-96-6
*Crystalline Silica	14808-60-7
*2-Mercaptobenzothiazole	149-30-4

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 <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 cancer and birth defects or other reproductive harm.

For more information visit WWWPROP65.CA.GOV.

Massachusetts Right to Know

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

Pennsylvania Right to Know

This product contains	Chemical CAS#
Titanium Dioxide	13463-67-7
Hydrated magnesium silicate	14807-96-6
Aluminum Oxide	1344-28-1
Barium Sulfate	7727-43-7
Amorphous Silica	112926-00-8
Crystalline Silica	14808-60-7
2-Mercaptobenzothiazole	149-30-4
Amorphous Pyrogenic Silica	112945-52-5
Iron Oxide	1309-37-1



New Jersey Right to Know

This product contains	Chemical CAS#
Titanium Dioxide	13463-67-7
1,3,5-Triglycidyl Isocyanurate	2451-62-9
Hydrated magnesium silicate	14807-96-6
Aluminum Oxide	1344-28-1
Barium Sulfate	7727-43-7
Amorphous Silica	112926-00-8
Crystalline Silica	14808-60-7
2-Mercaptobenzothiazole	149-30-4
Amorphous Pyrogenic Silica	112945-52-5
Iron Oxide	1309-37-1



RDINAL SAFETY DATA SHEET

ISSUED: 8/20/2018 **REFERENCE:** WH15-T032

16. OTHER INFORMATION

Other Product Information:

% Volatile by Volume : 0.00 % Volatile by Weight : 0.00 % Solids by volume : 100.00 % Solids by Weight : 100.00

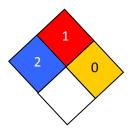
VOC CONTENT:

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



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