

T028-GR02 STEEL GRAY**1. PRODUCT AND COMPANY IDENTIFICATION**

PRODUCT NAME: T028-GR02 STEEL GRAY
PRODUCT USE: Industrial Powder Coating

MANUFACTURER
Cardinal Paint and Powder
1329 Potrero Ave
S. El Monte, CA, 91733
626 444-9274

24 HR. EMERGENCY TELEPHONE NUMBER
CHEMTREC (US Transportation): (800)424-9300
CHEMTREC (International Transportation): (202)483-7616
WEB: WWW.CARDINALPAINT.COM

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
1,3,5-Triglycidyl Isocyanurate	1% - 5%	2451-62-9
Titanium Dioxide	1% - 5%	13463-67-7
Mica	1% - 5%	12001-26-2
Carbon Black	0.10% - 0.50%	1333-86-4
Bismuth Vanadate	<1%	14059-33-7

4. FIRST AID MEASURES**Description of first aid measures.**

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

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

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



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
Amorphous Silica(112926-00-8)		
USA OSHA	USA OSHA TWA (Table Z-1)	6 mg/m3
USA OSHA	USA OSHA TWA (Table Z-3)	20 Million particals per cubic foot.
USA NIOSH	USA NIOSH TWA (REL)	6 mg/m3
Bismuth Vanadate(14059-33-7)		
ACGIH	Not Applicable	Not Applicable
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 Limit)	TWA (Time Weighted Average)	3.5 mg/m3 8 hours
NIOSH REL (Recommended Exposure Limit)	TWA (Time Weighted Average)	0.1mg of PAHs/cm3 10 hours
Crystalline Silica(14808-60-7)		
ACGIH TLV (Threshold Limit Value)	TWA (Time Weighted Average)	0.025 mg/m3 8 hours
Glycerol(56-81-5)		
USA ACGIH	USA ACGIH TWA (TLV)	10 mg/m3
USA OSHA	USA OSHA TWA (OEL) Table Z-1	15 mg/m3
Iron Oxide(1309-37-1)		
USA ACGIH	USA ACGIG (TLV) TWA	5 mg/m3
USA OSHA	USA OSHA (OEL) TWA Table Z-1	15 mg/m3
USA NIOSH	USA NIOSH (REL) TWA	5 mg/m3
Limestone(1317-65-3)		
ACGIH	Not Applicable	Not Applicable
OSHA PEL (Permissible Exposure Limit)	TWA (Time Weighted Average)	15 mg/m3 (Total Dust) 8 hours
OSHA PEL (Permissible Exposure Limit)	TWA (Time Weighted Average)	5 mg/m3 (Respirable Fraction) 8 hours
NIOSH REL (Recommend Exposure Limit)	TWA (Time Weighted Average)	15 mg/m3 (Total Dust) 8 hour
NIOSH REL (Recommend Exposure Limit)	TWA (Time Weighted Average)	5 mg/m3 (Respirable Fraction) 8 hours
Mica(12001-26-2)		
ACGIH TLV (Threshold limit Value)	TWA (Time Weighted Average)	3mg/m3 (Respirable Fraction) 8 hours
OSHA PEL (Permissible Exposure Limit)	Ceiling	20 mppcf
NIOSH REL (Recommend Exposure Limit)	TWA (Time Weighted Average)	3mg/m3 (Respirable Fraction)
Silicon Dioxide(7631-86-9)		
USA NIOSH	USA NIOSH TWA (REL)	6 mg/m3
USA OSHA	USA OSHA TWA (Table Z-3)	20 mppcf
Tin Oxide(18282-10-5)		
USA ACGIH	USA ACGIH TWA (TLV)	2 mg/m3
USA NIOSH	USA NIOSH TWA (REL)	2 mg/m3
USA OSHA	USA OSHA TWA (Table Z-1)	2 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	:	1.5343
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 - male - 4 h	> 650 mg/m ³
Acute toxicity - LD50 - Dermal - rat- male & female	> 2000 mg/kg
Skin irritation - rabbit	Mild skin irritation - 24 hours
Eye irritation - rabbit	Severe eye irritation
Respiratory or skin sensation - Maximization test - guinea pig	May cause sensitization by skin contact
Germ cell mutagenicity	In vivo tests showed mutagenic effects
Germ cell mutagenicity - AMES test - S. typhimurium	Positive
Germ cell mutagenicity - AMES test - mouse - male	Positive
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	To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated
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
Bismuth Vanadate(14059-33-7)	
Information on likely routes of exposure	Eye contact, skin contact, inhalation
Acute oral toxicity - LD50 - rat	> 5000 mg/kg
Acute inhalation toxicity - LC50 - rat	5.15 mg/L / 4h
Acute dermal toxicity	No data available



Skin irritation - rabbit	No skin irritation
Eye irritation - rabbit	No eye irritation
Respiratory or skin sensitization	No data available
Germ cell mutagenicity - genotoxicity - in vitro	No data available
Germ cell mutagenicity assessment	No information available
Carcinogenicity assessment	No information available
Carcinogenicity	Not listed by IARC, OSHA, NTP
Reproductive toxicity	No information available
STOT- single exposure	No data available
STOT - repeated exposure	No data available
Repeated dose toxicity	This information is not available.
Aspiration toxicity	No data available
Experience with human exposure - general	The possible symptoms known are those derived from the labelling (see section 2 of MSDS).
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 406)
Germ cell mutagenicity	Ames test, <i>S. typhimurium</i> , negative
Hamster - Ovary	Negative
DNA repair - Rat - Female	Negative
Carcinogenicity - Rat - Inhalation	Tumorigenic: Carcinogenic by RTECS criteria. Lungs, Thorax, or Respiration: Tumors. This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification. Limited evidence of carcinogenicity in animal studies.
IARC	2B - Group 2B: Possibly carcinogenic to humans (carbon black)
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP
OSHA	No component of this product present at levels greater than 0.1% is identified as a carcinogen or potential carcinogen by OSHA
Reproductive toxicity	No data available
Organ toxicity	Specific target organ toxicity - single exposure: No data available
Organ toxicity	Specific target organ toxicity - repeated exposure: No data available
Aspiration hazard	No data available
Additional Information	RTECS: FF5800000 To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Crystalline Silica(14808-60-7)	
Acute Inhalation toxicity	no data available
Acute Dermal toxicity	no data available
Skin irritation	no data available
eye irritation	no data available
Respiratory or skin sensation	no data available
Germ cell mutagenicity	no data available
Carcinogenicity	Limited evidence of carcinogenicity in human studies
IARC	Group 1: Carcinogenic to humans (Quartz)
ACGIH	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH
NTP	Known to be human carcinogen (Quartz)
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 - inhalation	may cause damage to organs through prolonged or repeated exposure
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
Glycerol(56-81-5)	
Acute toxicity - LD50 - oral - rat	12,600 mg/kg
Acute toxicity - inhalation	No data available
Acute toxicity - LD50 - dermal - rabbit	> 10,000 mg/kg
Skin irritation - rabbit	Mild skin irritation / 24 h
Eye irritation - rabbit	Mild eye irritation / 24 h
Respiratory or skin sensitization	No data available
Germ cell mutagenicity	No data 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
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 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 or repeated exposure may cause: nausea headache, vomitting
Additional information	To the best of our knowledge, the chemical, physical, and toxicological porperties have not been thoroughly investigated.
Additional information	Kidney 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 tumorigenic 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 0.1% is identified as a kown or anticipated carcinogen by NTP.
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as ca carcinogen or potential carcinogen by OSHA.
Reproductive toxicity	No data available
Specific target organ toxicity - single exposure	inhalation - may cause respiratory irritation.
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.
Iron Oxide(1317-61-9)	
Acute toxicity - LD50 - oral - male and female rat	> 5000 mg/kg
Acute toxicity - inhalation	No data available
Acute toxicity - dermal	No data available
Skin irritation - rabbit	No skin irritation
Eye irritation - rabbit	No eye irritation
Respiratory or skin sensitization - guinea pig	Did not cause sensitization on laboratory animals.
Germ cell mutagenicity - hamster- lungs	Negative
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	To the best of our knowledge, the chemical, physical. and toxicological properties have not been throughly investigated.
Limestone(1317-65-3)	
Draize test, rabbit, eye	750 ug/24H severe
Draize test, rabbit, skin	500 mg/24H moderate
Oral, rat: LD50	6450 mg/kg
ACGIH, IARC, NTP, CA Prop 65	Not listed
Epidemiology	No information available
Teratogenicity	No information available
Reproductive effects	No information available
Mutagenicity	No information available
Neurotoxicity	No information available
Mica(12001-26-2)	
Routes of entry	Inhalation, ingestion
Toxicity to animals - LD50	Not available
Toxicity to animals - LC50	Not available
Chronic effects on humans	The substance is toxic to lungs, mucous membranes.
Other toxic effects on humans	Hazaroud on case of ingestion, of inhalation. Slightly hazardous in case of skin contact (irritant).
Special remarks on the toxicity to animals	Not available
Special remarks on the chronic effects on humans	Not available
Special remarks on other toxic effects on humans	Nuisance dust.
Pentaerythritol tetrakis(6683-19-8)	
Acute toxicity - LD50 - oral - male rat	> 5000 mg/kg
Acute toxicity - LC50 - inahalation - male and female rat	> 1.95 mg/l / 4h
Acute toxicity - LD50 - dermal - male and female rabbit	> 3160 mg/kg
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 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
Silicon Dioxide(7631-86-9)	
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 sensitisation	No data available
Germ cell mutagenicity	No data available
IARC	Group 3: Not classifiable as to its carcinogenicity to humans (Silicon dioxide)
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	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 (silicon dioxide)
Tin Oxide(18282-10-5)	
Acute toxicity - LD50 - oral - rat	> 20,000 mg/kg
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 sensitization	No data available
Germ cell mutagenicity	No data 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.
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	Inorganic tin salts are poorly absorbed into the body. When parenterally administered tin salts are highly toxic. Tin oxide inhaled as a dust or fume leads to a benign pneumoconiosis with no sign of interference with pulmonary function. Deposited dust appears nodular with the particles being mostly extracellular. No necrosis, foreign-body giant-cell reaction, or collagen formation has been seen. Tin salts that have gained access to the blood stream are highly toxic and produce neurologic damage and paralysis. With most common tin salts, the toxicity profile is complicated by hydrolysis in body fluids producing unphysiological pH values. The reported symptoms of hyperemia, vascular changes with bleeding in the central nervous system, liver, heart, and other organs may be due to tin itself or the unphysiological pH changes. Ingestion produces vomiting due to the gastric irritation from the activity and astringency of tin compounds.
Additional information continued	Ingestion of inorganic tin salts produces diarrhea, muscle paralysis, and twitching. Stomach irregularities based on human evidence.
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
Tris(2,4-ditert-butylphenyl) phosphite(31570-04-4)	
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 pig	Does not cause skin sensitization
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

1,3,5-Triglycidyl Isocyanurate(2451-62-9)	
Toxicity to fish - static test LC50 - danio rerio (zebra fish)	> 77 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates - Immobilization - EC50 - daphnia magna (water flea)	> 100 mg/l - 24 h
Toxicity to algae - growth inhibition - EC50 - <i>Desmodesmus subspicatus</i>	29 - 30 mg/l - 72 h
Toxicity to bacteria - Respiration inhibition - IC50 - Sludge Treatment	> 100 mg/l 3 h
Persistence and degradability - biodegradability - aerobic - exposure time: 44 d	0.5 - 1% - not biodegradable
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
Amorphous Silica(112926-00-8)	
Toxicity	no data available
Persistence and degradability	no data available
Bioaccumulative potential	no data available
Mobility in soil	no data available
PBT and vPvB	not available/not required
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
Bismuth Vanadate(14059-33-7)	
Toxicity to fish - LC50 - zebra fish	> 10000 mg/L / 96 h
Toxicity to daphnia and other aquatic invertebrates - EC50 - daphnia magna	> 100 mg/L / 48 h
Toxicity to algae - EC50 - <i>Scenedesmus subspicatus</i>	> 100 mg/L / 72 h
Chronic toxicity to fish	No data available
Toxicity to bacteria	Not tested
Persistence and degradability - biodegradability remarks	Slightly water-soluble inorganic product. It can be removed to a large extent in a chemical purification plant.
Bioaccumulative potential	No data available
Mobility in soil	No data available
Other adverse effects - environmental fate and pathways	No data available
Additional ecological information	Contains heavy metals, should not be allowed to reach ground or open waters.
Carbon Black(1333-86-4)	
Toxicity to fish LC50	Danio rerio (zebra fish) >1000 mg/l - 96 h
EC50 Toxicity to daphnia and other aquatic invertebrates	Daphnia magna (Water flea) > 5600 mg/l - 24 h (OECD Test Guideline 202)
EC50 Toxicity to algae	<i>Desmodesmus subspicatus</i> (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 required
Glycerol(56-81-5)	
Toxicity	No data available
Persistence and degradability	No data available
Bioaccumulative potential	No data available
Mobility in soil	No data available
PBT and vPvB	Not available/not required
Other adverse effects	No data available
Iron Oxide(1309-37-1)	
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
Other adverse effects	No data available
Iron Oxide(1317-61-9)	
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
Other adverse effects	No data available
Limestone(1317-65-3)	
Ecotoxicity	No data available
Environmental	No information reported
Physical	No information available
Mica(12001-26-2)	
Ecotoxicity	Not available
BOD5 and COD	Not available
Products of biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the products of biodegradation	The products of degradation are as toxic as the original product
Special remarks on the products of biodegradation	Not available
Pentaerythritol tetrakis(6683-19-8)	
Toxicity to fish - static LC50 - zebra fish	> 100 mg/L / 96 h
Toxicity to daphnia and other aquatic invertebrates - immobilization EC50 - daphnia magna (water flea)	> 86 mg/L / 24 h
Toxicity to algae - static EC50 - Scenedesmus subspicatus	> 100 mg/L / 72 h
Toxicity to bacteria - respiration inhibition IC50 - sludge treatment	> 100 mg/L / 3 h
Persistence and degradability - biodegradability - aerobic	5% - not biodegradable : exposure time - 28 d
Bioaccumulative potential	No data available
Mobility in soil	No data available
PBT and vPvB	Not available/not required
Other adverse effects	No data available
Silicon Dioxide(7631-86-9)	
Toxicity	No data available
Persistence and degradability	No data available
Bioaccumulative potential	No data available
Mobility in soil	No data available
PBT and vPvP	Not available/not required
Tin Oxide(18282-10-5)	
Toxicity	No data available
Persistence and degradability	No data available



Bioaccumulative potential	No data available
Mobility in soil	No data available
PBT and vPvB	Not available/not required
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 - Daphnia magna (water flea)	> 1000 mg/L / 48 h
Toxicity to daphnia and other aquatic invertebrates - EC0 - Daphnia magna (water flea)	1000 mg/L / 48 h
Persistence and degradability	No data available
Bioaccumulative potential	No data available
Mobility in soil	No data available
PBT and vPvB	Not available/not required
Other adverse effects	No data available
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 invertebrates - static EC50 - Daphnia magna	510 mg/L / 24 h
Toxicity to algae - static EC50 - Scenedesmus subspicatus	> 75 mg/L / 72 h
Toxicity to bacteria - respiration inhibition IC50 - sludge treatment	> 100 mg/L / 3 h
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.

**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#
1,3,5-Triglycidyl Isocyanurate	2451-62-9
Titanium Dioxide	13463-67-7
Mica	12001-26-2
Carbon Black	1333-86-4
Bismuth Vanadate	14059-33-7

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
~Carbon Black	1333-86-4

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
*Carbon Black	1333-86-4
*Crystalline Silica	14808-60-7

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 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 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 WWWPROP65.CA.GOV.

Massachusetts Right to Know

This product contains	Chemical CAS#
Limestone	1317-65-3
Barium Sulfate	7727-43-7
Titanium Dioxide	13463-67-7
Mica	12001-26-2
Carbon Black	1333-86-4
Amorphous Silica	112926-00-8
Silicon Dioxide	7631-86-9
Iron Oxide	1309-37-1
Crystalline Silica	14808-60-7
Tin Oxide	18282-10-5
Glycerol	56-81-5

Pennsylvania Right to Know

This product contains	Chemical CAS#
Limestone	1317-65-3
Barium Sulfate	7727-43-7
Titanium Dioxide	13463-67-7
Mica	12001-26-2
Carbon Black	1333-86-4
Amorphous Silica	112926-00-8
Silicon Dioxide	7631-86-9
Iron Oxide	1309-37-1
Pentaerythritol tetrakis	6683-19-8
Crystalline Silica	14808-60-7
Tris(2,4-ditert-butylphenyl) phosphite	31570-04-4
Tin Oxide	18282-10-5
Glycerol	56-81-5
Iron Oxide	1317-61-9

New Jersey Right to Know

This product contains	Chemical CAS#
Limestone	1317-65-3
Barium Sulfate	7727-43-7
1,3,5-Triglycidyl Isocyanurate	2451-62-9
Titanium Dioxide	13463-67-7
Mica	12001-26-2
Carbon Black	1333-86-4
Amorphous Silica	112926-00-8
Silicon Dioxide	7631-86-9
Iron Oxide	1309-37-1
Pentaerythritol tetrakis	6683-19-8
Crystalline Silica	14808-60-7
Tris(2,4-ditert-butylphenyl) phosphite	31570-04-4
Tin Oxide	18282-10-5
Glycerol	56-81-5
Iron Oxide	1317-61-9

16. OTHER INFORMATION**Other Product Information:**

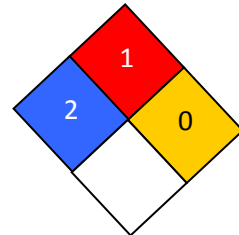
% Volatile by Volume : 0.01 % Volatile by Weight : 0.01
% Solids by volume : 99.99 % Solids by Weight : 100.00

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 :	E

NFPA CODES

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