# 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 (Tabla 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 (Recommende Exposure LImit) | TWA (Time Weighted Average) | 15 mg/m3 (Total Dust) 8 hour |
| NIOSH REL (Recommende 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 (Recommende 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/m3 |
| 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 |

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|---|---|
| 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, S. typhimurium, negative |
| Hamster - Ovary | Negative |
| DNA repair - Rat - Female | Negative |
| Carcinogenicity - Rat - Inhalation | Tumorigenic: Carcinogenic by RTECS criteria. Lungs, Thorax, or Respiration: Tumors. This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification. Limited evidence of carcinogenicity in animal studies. |
| IARC | 2B - Group 2B: Possibly carcinogenic to humans (carbon black) |
| NTP | No component of this product present at levels greater than or equal to0.1% is identified as a known or anticipated carcinogen by NTP |
| OSHA | No component of this product present at levels greater than 0.1% is identified as a carcinogen or potential carcinogen by OSHA |
| Reproductive toxicity | No data available |
| Organ toxicity | Specific target organ toxicity - single exposure: No data available |
| Organ toxicity | Specific target organ toxicity - repeated exposure: No data available |
| Aspiration hazard | No data available |
| Additional Information | RTECS: FF5800000 To the best of our knowledge, the chemical , physical, and toxicological properties have not been throughly investigated. |
| Crystalline Silica(14808-60-7) | |
| Acute Inhalation toxicity | no data available |
| Acute Dermal toxicity | no data available |
| Skin irritation | no data available |
| eye irritation | no data available |
| Respiratory or skin sensation | no data available |
| Germ cell mutagenicity | no data available |
| Carcinogenicity | Limited evidence of carcinogenicity in human studies |
| IARC | Group 1: Carcinogenic to humans (Quartz) |
| ACGIH | No component of this product present at levels greater than or equal to 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 |

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| 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 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 0.1% is identified as a kown or anticpated 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 |

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| 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 |

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| 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 presesnt 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. |
| Reproductrive toxicty | 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 bing 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 - Desmodesmus subspicatus | 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 othe aquatic invertebrates - EC50 - daphnia magna | > 100 mg/L / 48 h |
| Toxicity to algae - EC50 - Scenedesmus subspicatus | > 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 | 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 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 |
| Persisitence and degradability | No data available |
| Bioaccumulative potential | No data available |
| Mobility in soil | No data available |
| PBT and vPvB | Not available/not required |
| Other adverse effects | No data available |
| 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 - Dapphnia 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 vPbV | 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 |

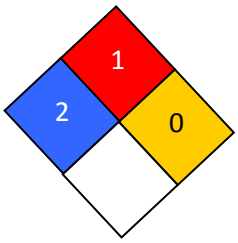
**VOC CONTENT:**

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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