Material Safety Data Sheet

Date reviewed: Februrary 7, 2013

SECTION I - PRODUCT AND COMPANY INFORMATION

Product Name:	SUPER GREY 61
Product Code:	9510-70039
HMIS HAZARD RATING:	Health:2 Fire:1 Reactivity:1 PPI:X

TCI POWDER COATINGS
734 DIXON DR.
ELLAVILLE,GA 31806

TCI CANADA
1435 Norjohn Court Units 8-9
Burlington, ON, L7L 0E6

E-Mail	ehs@tcipowder.com
Toll Free	800-533-9067
Emergency Contact 1	229-938-0454
Emergency Contact 2	229-815-0011

SECTION II - INGREDIENT INFORMATION

Ingredient	CAS Number	PERCENTAGE
TITANIUM DIOXIDE	13463-67-7	15 -30 %
ZINC COMPOUND	7779-90-0	3 -6 %
1,3,5 TRIGLYCIDYL ISOCYANURATE	2451-62-9	3 -6 %
CHROMIUM ANTIMONY TITANATE	68186-90-3	0.5-1.5%
COBALT CHROMITE SPINEL	68187-11-1	0 -5 %
CARBON BLACK	1333-86-4	0 -5 %

SECTION III - HAZARDS IDENTIFICATION

Emergency Overview
WARNING! MAY FORM COMBUSTIBLE DUST CONCENTRATIONS IN AIR (DURING PROCESSING)

PRIMARY ROUTES OF EXPOSURE: Eyes, Inhalation, Skin

Skin Contact: Incidental contact is not expected to cause irritation. However, exposure to this product may cause an allergic skin reaction and sensitization in some individuals. Repeated overexposure can cause skin dryness and may eventually lead to contact dermatitis.

Eye Contact: May cause slight to mild redness and burning. May cause mechanical irritation.

Inhalation: This product contains ingredients with established airborne exposure limits – see Section VIII. Otherwise it is considered a nuisance dust. No effects are expected when exposures are maintained below the exposure limits of Section VIII. However, exposure to this product may cause an allergic reaction and sensitization in some individuals. Lung and respiratory conditions may be aggravated by exposure.

Ingestion: May cause pain and upset stomach.

SECTION IV - FIRST AID MEASURES

Eye Contact: Immediately flush eyes with cool water for 15 minutes, occasionally lifting lids to ensure complete rinsing. Seek medical attention if symptoms persist.

Skin Contact: Wash skin thoroughly with soap and water. Remove and wash clothing and shoes before reuse. Seek medical attention if irritation persists.

Inhalation: Remove to fresh air. If breathing difficulties develop, seek medical attention. If necessary, give artificial respiration.

Ingestion: Seek immediate medical attention. Wash out mouth with water followed by a cupful of water to drink. Repeat if vomiting occurs. Never give anything by mouth to an unconscious person.

SECTION V - FIRE-FIGHTING MEASURES

Flash Range:	Not Applicable
Lower Explosion Limit Range:	30 GM/M3 - 90 GM/M3
Extinguishing Media:	Foam, CO2, dry chemical or water spray.

Fire and Explosion Hazards: An HMIS flammability rating of 1 applies to the product as supplied. However, airborne dust from the product can present a flammability hazard and may form explosive dust mixtures with air. A potentially dangerous situation exists when powder is transferred from a closed container to a process in which dust concentrations are within the explosion (flammability) limits. The concentration of powder dust in air should be maintained outside of the limits.

Firefighting Instructions: Use fully protective equipment with self-contained breathing apparatus.

Explosion: Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Sweep up carefully or use explosion-proof vacuum cleaner. Then dispose of in accordance with local, state, and federal regulations.

Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.

Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).

Nonsparking tools should be used.

SECTION VII - HANDLING AND STORAGE

Keep all equipment clean and work areas free from dust. Avoid excessive skin contact. Do not ingest or inhale. Personnel should be trained in the safe handling and proper use of this product. Wash thoroughly after handling, especially before eating, drinking, smoking, and using restroom facilities.

Store in a cool, dry, well ventilated area away from heat, ignition sources, and direct sunlight. Keep containers tightly closed. Protect from physical damage.

Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.

SECTION VIII - EXPOSURE CONTROLS/PERSONAL PROTECTION

Product ingredients other than ingredients with established airborne exposure limits may be considered under the PEL for particulates not otherwise regulated (nuisance dust).

Occupational Exposure Limits

Ingredients	ACGIH TLV	ACGIH TLV-C	ACGIH STEL	OSHA STEL	OSHA PEL
1,3,5 TRIGLYCIDYL ISOCYANURATE	0.05 mg/m3	n/est	n/est	n/est	n/est
COBALT CHROMITE SPINEL	5 mg/m3	n/est	n/est	n/est	5 mg/m3
CARBON BLACK	3.5 mg/m3	n/est	n/est	n/est	3.5 mg/m3
TITANIUM DIOXIDE	10 mg/m3	n/est	n/est	n/est	10 mg/m3
ZINC COMPOUND	10 mg/m3	n/est	n/est	n/est	15 mg/m3
CHROMIUM ANTIMONY TITANATE	5 mg/m3	n/est	n/est	n/est	5 mg/m3
NUISANCE DUST	10 mg/m3	N/est	N/est	N/est	15 mg/m3 (total)
	3 mg/m3				5 mg/m3 (respirable)

The Health and Safety Executive (Great Britain) has set a rocommened exposure limit for powder coating products containing less than 5% (w/w) Triglycidyl Isocyanurate (TGIC) of 2 mg/m3 [Engineering Information Sheet No 15 (rev2] . This limit value is based on an occupational exposure limit for pure TGIC of 0.1 mg/m3, which differs from the ACGIH TLV given above. Using the ACGIH TLV for TGIC of 0.05 mg/m3 gives a recommended occupational exposure limit for powder coating products containing less than 5% (w/w) TGIC of 1mg/m3. Exposure limits for products containing less than 5% (w/w) or more can be calculated based on the upper TGIC percentage in section II. The formula to calculate limits is "5/(percent TGIC)=mg/m3."

ENGINEERING CONTROLS: Provide ventilation to keep airborne particulate concentration below established airborne exposure limits (TLV's or PEL's). It is recommended that all dust controls handling this product be explosion proof, contain relief vents, or other commensurate measures. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Ventilation equipment, baghouse, and cyclone dust collection should be grounded. Curing ovens and heating chambers should be properly vented to prevent any fumes from entering the workplace.

RESPIRATORS: Use a properly fitted NIOSH/MSHA approved respirator if needed to avoid breathing dust.

SKIN PROTECTION: Protective gloves & clothing recommended.

EYE PROTECTION: Goggles or safety glasses with side-shields recommended.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Form:	SOLID POWDER
Color:	BLACK
Odor:	NEGLIGIBLE
Solubility (in water):	INSOLUBLE
pH Value:	NOT APPLICABLE
Boiling Range:	NOT APPLICABLE
Vapor Pressure (mmHg):	NOT APPLICABLE
Melting Point:	< 300° F
Evaporation Rate:	NOT APPLICABLE
Vapor Density:	NOT APPLICABLE
Partition Coefficient:	NOT APPLICABLE
% Volatile Weight:	< 1 (one hour at 110° C)
% Volatile	See Above
Specific Gravity:	1.50
Molecular Weight:	MIXTURE

SECTION X - STABILITY AND REACTIVITY

Stability: This product is stable under normal conditions of storage and use.

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous decomposition products: Combustion byproducts may contain CO, CO_2, incompletely burned carbon compounds, NO_2 or other

nitrogen compounds.

SECTION XI - TOXICOLOGICAL INFORMATION

PRODUCT:

Exposure to this product may cause an allergic reaction and sensitization in some individuals. Extended inhalation of dust can lead to particulate deposition in the lungs. Repeated overexposure can cause skin dryness and may eventually result in contact dermatitis. Extended inhilation of dust can lead to particulate deposition in the lungs.

COMPONENTS:

1,3,5 TRIGLYCIDYL ISOCYANURATE	TRIGLYCIDYLISOCYANURATE (TGIC): Overexposure to TGIC can cause irritation to the eyes, skin, and respiratory tract; loss of appetite; may cause nose bleeds; toxic by ingestion and if absorbed through the skin. Prolonged or repeated contact may cause skin sensitization. Animal studies show that overexposure can result in toxic effects to the testes, possible effects on the liver and lungs, and possible male reproductive effects. Lethal Dose: LD50 (oral/rat)= 440mg/kg; LD50 (skin/rat)= >2000 mg/kg; LD50 (inhalation/rat) = 2000 mg/m3/4hr. With powder coating formulations containing ca. 6% TGIC, no toxic effects in rats were observed after 2 weeks of exposure at concentrations of 70 mg/m3; no respiratory lesions or systematic toxicity was produced. Using a restriction research exposure method, mice exposed to 10 mg/m3 for 6 hours a day for 5 days did not have any observable effects on their overall health or spermatogonia.
COBALT CHROMITE SPINEL	This form of cobalt chromite spinel is a rutile pigment material. It is based on trivalent chromium (Cr+3). The supplier describes this pigment material as resulting from high temperature calcination of the component metals or oxides. Due to the resulting unique crystalline structure, the properties of the finished pigment do not necessarily reflect the properties of the component substances. This product has negligible water solubility and low toxicity. The reported toxicity is LD50 (oral/rat) > 10,000 mg/Kg. This form of cobalt chromite is not considered to pose unusual acute health hazards when exposures are within established limits. However, repeated overexposure to this compound may cause eye, skin, and respiratory irritation due to abrasiveness. Inhalation of the compound in fine powder form may increase the risk of respiratory disorders aggravated by dust, and dermal exposure may increase the risk of skin disorders aggravated by dust. Carcinogenicity: NTP = No, IARC = Yes, OSHA = No. IARC has classified cobalt compounds in Group 2B as possibly carcinogenic to humans. This pigment material is not itself a Hazardous Waste under RCRA regulations. Chromium does not extract from this form of cobalt chromite spinel above the 5 mg/L TCLP regulatory level. This pigment will not burn.

CARBON BLACK	Carbon Black may cause mechanical irritation to the eyes and temporary discomfort to the respiratory tract at concentrations above the respiratory tract at concentrations above the occupational exposure limit (see Section VIII). Temporary respiratory tract discomfort arising from Carbon Black exposure may occurdue to mechanical irritation. No adverse reactions are usually expected from ingestion or dermal (skin) exposure. Carbon Black has not been reported as causing sensitization in humans. Epidemiological studies of workers in the Carbon Black producing industries of North America and Western Europe show no evidence of clinically significant adverse health effects due to occupational exposure to Carbon Black. Based on a comprehensive independent review of a major epidemiological study, the validity of a relationship between Carbon Black exposure and symptoms of cough and sputum can not be supported by the available data. In a sub-chronic toxicity study of the effects of Carbon Black inhalation on the lungs of rats exposed to Carbon Black for ninety (90) days found the effects included inflammation, hyperplasia, and fibrosis with a NOEL of 1.1 mg/m3. A chronic toxicity study of the effects of Carbon Black inhalation on the lungs of rats exposed to Carbon Black for two (2) years found the effects included inflammation, fibrosis, and tumors (related to fine particle overload rather than to a specific chemical effect). Acute Toxicity: LD50 (oral/rat) = > 8,000 mg/kg. Carcinogenicity: NTP = No; IARC = Yes (IARC considers Carbon Black to be possibly carcinogenic to humans - Group 2B); OSHA = No.
TITANIUM DIOXIDE	Signs and symptoms of acute exposure to titanium dioxide may include physical irritation of the skin and eyes, with redness and swelling; cough; and sneezing. Signs and symptoms of chronic exposure to titanium dioxide may include X-ray evidence of mild fibrosis; dysprea; cough; and declines in pulmonary function. Titanium dioxide is not known to cause sensitization. LD50 (oral/rat)=>10,000 mg/kg LD50 (dermal/rabbit)=>10,000 mg/kg In 2006 IARC concluded that titanium dioxide is possibly carcinogenic to humans (Group 2B). This conclusion was based on experimental evidence in animals (rat inhalation studies). There is inadequate evidence in humans for the carcinogenicity of titanium dioxide.
ZINC COMPOUND	This zinc compound has water solubility less than 0.1% and low taxicity. Unusual exposure hazards are generally not encountered in normal industrial use. Contact with eyes may cause eye irritation due to abrasive effects. Overexposure to particulates may irritate skin by mechanical action or, as with all dusty materials, cause some respiratory irritation, sneezing, coughing and runny nose. This material is not likely to cause allergic reaction. Acute toxicityL LD50 (oral/rat) = >5,000 mg/kg; skin irritation (rabbit) = not irritating; eye irritation (rabbit) = not irritating. Carcinogenicity: OSHA = No, IARC = No, NTP = No. Zinc compounds can be toxic to aquatic organisms.

CHROMIUM ANTIMONY TITANATE	This form of chromium antimony titanate is a rutile pigment material. It is based on trivalent chromium (Cr+3). The supplier describes this pigment material as resulting from high temperature calcination of the component metals or oxides. Due to the resulting unique crystalline structure the properties of the finished pigment do not necessarily reflect the properties of the component substances. This pigment has negligible water solubility and low toxicity. The reported toxicity is: LD50 (oral/rat) > 10,000 mg/Kg. Chromium antimony titanate rutile is not considered to pose unusual acute health hazards when exposures are within established limits. However, some exposures can cause mechanical irritation of the eyes and skin due to abrasiveness. Furthermore, in fine powder form inhalation may increase the risk of respiratory disorders aggravated by dust, and dermal exposure may increase the risk of skin disorders aggravated by dust. Carcinogenicity: NTP = No, IARC = No, OSHA = No. This pigment material is not itself a Hazardous Waste under RCRA regulations; it is not specifically listed or uncharacteristically hazardous. Chromium does not extract from this form of chromium antimony titanate above the 5 mg/L TCLP regulatory level. This pigment will not burn.

SECTION XII - ECOLOGICAL INFORMATION

No information is available for this product.

SECTION XIII - DISPOSAL CONSIDERATIONS

Dispose in accordance with all local, state, and federal regulations.

SECTION XIV - TRANSPORT INFORMATION

In non-bulk containers this product is not a regulated Hazardous Material for transportation (49 CFR 172).

SECTION XV - REGULATORY INFORMATION

The ingredients in this product are listed on the TSCA Inventory maintained by U.S. EPA or are otherwise approved for commercial use under TSCA.

This product contains the following Toxic Chemicals at levels above the applicable de minimis concentrations (40 CFR 372).

None

These Toxic Chemicals (SARA TITLE III SECTION 313) are subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right to Know Act of 1986 and of 40 CFR 372.

California Proposition 65. This product contains a chemical known to the State of California to cause cancer, birth defects or other reproductive harm: Triglycidylisocyanurate = 1,3,5-Triglycidyl-s -triazinetrione = TGIC = CAS Number 2451-62-9.

SECTION XVI - OTHER INFORMATION

Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, for safe handling.

The information contained herein is based on the data available to us and is believed to be correct. However, we make no warranty, expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof, we assume no responsibility for injury from the use of the product described herein.