

C909-YL201 YELLOW (YL01 COLOR)**1. PRODUCT AND COMPANY IDENTIFICATION**

PRODUCT NAME: C909-YL201 YELLOW (YL01 COLOR)
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 : WARNING

HAZARD STATEMENTS :

H351 Suspected of causing cancer.
H372 Causes damage to organs through prolonged or repeated exposure.
H317 May cause an allergic skin reaction.

PRECAUTIONARY STATEMENTS :

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe dust.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Weight %	CAS Number
Titanium Dioxide	5% - 10%	13463-67-7
Bismuth Vanadate	1% - 5%	14059-33-7
Aluminum Oxide	<1%	1344-28-1

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

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

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

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 to fresh air and keep at rest in a position comfortable to breath. Call a Poison Center or doctor/physician if you feel unwell.

Most important symptoms and effect, both acute and delayed : Symptoms/Injuries: May cause genetic defects. Causes damage to organs. - After Inhalation: Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled. May cause an allergic skin reaction. May cause cancer by inhalation. - After Eye Contact: Causes serious eye damage. - After Ingestion: Swallowing a small quantity of this material may result in serious health hazard. Indication of any immediate medical attention and special treatment needed: No additional information available.

5. FIRE FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA: Foam, alcohol foam, dry chemical, carbon dioxide, water fog or sand.

UNSUITABLE EXTINGUISHING MEDIA: Do not use heavy water stream.

FIRE FIGHTING PROCEDURE: Firefighting instructions: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering the environment.

Protection during firefighting: Firefighters should wear full protective gear. Do not enter fire area without proper protective equipment, including self-contained breathing apparatus with full face piece operated in pressure demand or other positive pressure modes.

UNUSUAL FIRE AND EXPLOSION HAZARD: This product is stable at normal handling and storage conditions.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES : General measures: Remove ignition sources. Use special care to avoid static electric charges. No smoking.

FOR NON-EMERGENCY PERSONNEL : For non-Emergency procedures: Evacuate unnecessary personnel.

FOR EMERGENCY RESPONDERS : Protective equipment : Equip cleanup crew with proper protection. - Emergency procedures : Ventilate area.

ENVIRONMENTAL PRECAUTIONS : Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public water. Avoid release to the environment.

METHODS AND MATERIAL FOR CONTAINMENT AND CLEAN UP : On land, sweep or shovel into suitable containers,. Minimize generation of dust.

7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when you are leaving work. Provide good ventilation in process area. Use only in well ventilated areas. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Eliminate all ignition sources if safe to do so. Avoid breathing dust, fumes and/or vapors.

Hygiene measures: Wash Skin thoroughly after handling.

CONDITIONS FOR SAFE STORAGE, INCLUDING INCOMPATIBILITIES : Avoid heat sources and direct sunlight. Store in a dry place. Protect from moisture. Keep container closed when not in use. Keep only in the original container in a cool well ventilated place away from heat, ignition sources and direct sunlight.

Incompatible products: Strong bases. Strong acids.

Incompatible materials: Source of ignition. Direct sunlight.

**8. EXPOSURE CONTROLS\PERSONAL PROTECTION**

Aluminum Oxide(1344-28-1)		
USA OSHA	(OEL) Table Z-1, TWA	15 mg/m3
USA ACGIH	(TLV) TWA	1 mg/m3
Amorphous 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
Diethanolamine(111-42-2)		
ACGIH TLV (Threshold Limit Value)	TWA (Time Weighted Average)	1.0 mg/m3 8 hours
NIOSH REL (Recommended Exposure Limit)	TWA (Time Weighted Average)	15 mg/m3 8 hours
NIOSH REL (Recommended Exposure Limit)	TWA (Time Weighted Average)	3 ppm 8 hours
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	:	1.4788
Solubility	:	No data available.
Autoignition temperature	:	No data available.
Decomposition temperature	:	No data available.

10. STABILITY AND REACTIVITY**REACTIVITY :** This product is stable at normal handling and storage conditions.**CHEMICAL STABILITY :** Stable under normal conditions.**CONDITIONS TO AVOID :** Direct sunlight. Extremely high or low temperatures.**INCOMPATIBLE MATERIALS :** Strong acids. Strong bases.**HAZARDOUS DECOMPOSITION PRODUCTS:** Fume. Carbon monoxide. Carbon dioxide.

**11. TOXICOLOGICAL INFORMATION**

Aluminum Oxide(1344-28-1)	
Acute toxicity - LD50 - oral - rat	> 10,000 mg/kg
Acute toxicity - LC50 - inhalation - rat	> 2.6 mg/L / 4 h
Acute toxicity - dermal	No data available
Skin irritation - rabbit	No skin irritation
Eye irritation - rabbit	No eye irritation
Respiratory or skin sensitisation - maximisation test - guinea pig	Did not cause sensitisation on laboratory animals
Germ cell mutagenicity	No data available
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	No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible or confirmed human carcinogen by IARC
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA
Reproductive toxicity	No data available
Specific target organ toxicity - single exposure	No data available
Specific target organ toxicity - repeated exposure	No data available
Aspiration hazard	No data available
Additional information	Cough, chest pain, difficulty in breathing, gastrointestinal disturbance
Additional information	Liver irregularities based on human evidence
Amorphous Silica(112926-00-8)	
Acute toxicity	no data available
Acute toxicity: Inhalation	no data available
Acute toxicity: Dermal	no data available
Skin irritation	no data available
Eye irritation	no data available
Respiratory or skin sensation	no data available
Germ cell mutagenicity	no data available
Carcinogenicity: IARC: Group 3:	not classifiable as to its carcinogenicity to humans
ACGIH	no component of this product present at levels greater than or equal to 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).
Diethanolamine(111-42-2)	
LD50 Oral - Rat - male and female	1,600 mg/kg (OECD Test Guideline 401)
LD50 Dermal - Rabbit	12,200 mg/kg
LD50 Intraperitoneal - Rat	120 mg/kg
LD50 Intravenous - Rat	778 mg/kg
Skin Corrosion/irritation	No data available
Serious eye damage/eye irritation	Rabbit - Risk of serious damage to eyes (OECD Test Guideline 405)
Respiratory or skin sensitization	Guinea pig - Did not cause sensitization on laboratory animals
Germ cell mutagenicity	Micronucleus test lymphocyte - Result Negative
Mutagenicity (micronucleus test) Mouse male and female	Result: Negative
Carcinogenicity - IARC	2B - Group 2B Possibly carcinogenic to humans
Carcinogenicity - 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
Carcinogenicity - OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA
Reproductive toxicity	No data available
Specific target organ toxicity - single exposure	No data available
Specific target organ toxicity - repeated exposure	No data available
Aspiration hazard	No data available
Additional information	Repeated dose toxicity - rat - male and female - oral Lowest observed adverse effect level - 25 mg/kg RTECS: KL297500



Additional information	To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated
Additional information	Liver - Irregularities - Based on Human Evidence
Titanium Dioxide(13463-67-7)	
Acute toxicity - LD50 - oral - rat	> 10000 mg/kg
Acute toxicity - inhalation	No data available
Acute toxicity - LD50 - dermal - rabbit	> 10000 mg/kg
Skin irritation - human	Mild skin irritation - 3 h
Eye irritation - rabbit	No eye irritation
Respiration or skin sensitisation	Will not occur
Germ cell mutagenicity - hamster - ovary - micronucleus test	No results available
Germ cell mutagenicity - hamster - lungs	DNA inhibition
Germ cell mutagenicity - hamster - ovary - sister chromatid exchange	No results available
Germ cell mutagenicity - mouse - micronucleus test	No results available
IARC	No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible or confirmed human carcinogen by IARC
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA
Reproductive toxicity	No data available
Specific target organ toxicity - single exposure	No data available
Specific target organ toxicity - repeated exposure	No data available
Aspiration hazard	No data available
Additional information	To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated

12. ECOLOGICAL INFORMATION

Aluminum Oxide(1344-28-1)	
Toxicity	No toxicity at the limit of solubility
Persistence and degradability	The methods for determining biodegradability are not applicable to inorganic substances
Bioaccumulative potential	Does not bioaccumulate
Mobility in soil	No data available
PBT and vPvB	Not available/not required
Other adverse effects	No data available.
Amorphous 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.
Diethanolamine(111-42-2)	
Toxicity to fish	LC50 - Pimephales promelas (fathead minnow) - 1,460 mg/l - 96h
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water Flea) - 30.1 mg/l - 48h
Persistence and degradability	Biodegradability - aerobic - Exposure time 28d - Result: 93% Readily biodegradable (OECD Test Guideline 301F)
Bioaccumulative potential	No data available
Mobility in Soil	No data available
Results of PBT and vPvB assessment	PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
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
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

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#
Titanium Dioxide	13463-67-7
Bismuth Vanadate	14059-33-7
Aluminum Oxide	1344-28-1

SARA 313 : No SARA 313 chemicals are present

CLEAN AIR ACT :**INTERNATIONAL REGULATIONS****CLASSIFICATION ACCORDING TO REGULATION (EC) No. 1272/2008 (CLP) :**

Carc. 2 H351 Suspected of causing cancer
STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure

NATIONAL REGULATIONS

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

National Regulations Key

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

**STATE REGULATIONS
CALIFORNIA PROPOSITION 65**

This product contains:	Chemical CAS#
*Titanium Dioxide	13463-67-7
*Diethanolamine	111-42-2

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#
Titanium Dioxide	13463-67-7
Barium Sulfate	7727-43-7
Amorphous Silica	112926-00-8
Aluminum Oxide	1344-28-1
Diethanolamine	111-42-2

Pennsylvania Right to Know

This product contains	Chemical CAS#
Titanium Dioxide	13463-67-7
Barium Sulfate	7727-43-7
Amorphous Silica	112926-00-8
Aluminum Oxide	1344-28-1
Diethanolamine	111-42-2

New Jersey Right to Know

This product contains	Chemical CAS#
Titanium Dioxide	13463-67-7
Barium Sulfate	7727-43-7
Amorphous Silica	112926-00-8
Aluminum Oxide	1344-28-1
Diethanolamine	111-42-2



16. OTHER INFORMATION

Other Product Information:

% Volatile by Volume :	0.02	% Volatile by Weight :	0.02
% Solids by volume :	99.98	% Solids by Weight :	99.98

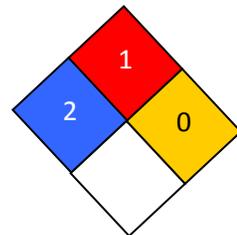
VOC CONTENT:

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



MANUFACTURER DISCLAIMER : The information contained in this Safety Data Sheet is considered to be true and accurate. Cardinal Paint and Powder makes no warranties, expressed or implied, as to the accuracy and adequacy of this information. This data is offered solely for the user's consideration, investigation and verification.