

SDS
Glass Frit, Lead Free
GPP-17



Thompson Enamel

P.O. Box 310 Newport, KY 41072 USA ~ (859) 291-3800 fax (859) 291-1849

SECTION 1: Identification of the substance/mixture and of the company

Product Name: Glass Painting Enamel, Lead Free
 Identified uses: For enameling
 Synonyms: Glass Painting Enamel, CX4275, Green Powder
 Supplier: Thompson Enamel
 650 Colfax Avenue
 Bellevue, Ky. 41073 U.S.A.
 Phone: 859-291-3800
 Fax: 859-291-1849
 Email: info@thompsonenamel.com

SECTION 2: Hazards identification

EEC Risk Phrases: Not Evaluated
 EEC Safety Phrases: Not Evaluated
 Methods for Cleanup: See Section XI for Toxicological Information.

SECTION 3: Composition/Information on ingredients

<u>Ingredients:</u>	<u>CAS No:</u>	<u>EINECS</u>	<u>% Weight (Typical)</u>
CI Pigment Yellow 35 (CdZnS)	12442-27-2		0-5
Cobalt Titanate Green Spinel	68186-85-6*	269-047-4	5-10
Copper Chromite Black Spinel	68186-91-4*	269-053-7	0-5
Zinc-Boro-Silicate Glass Frit	65997-18-4* _____		70-80
Zinc-Boro-Silicate Glass Frit with cadmium	65997 -18-4*		0-10

Synonyms: CX4275 - GREEN POWDER

<u>As Regulated (Related Exposure Limits)</u>	<u>OSHA PEL** (mg/m³)</u>	<u>OSHA PEL (mg/m³)</u>	<u>ACGIH TLV (mg/m³)</u>	<u>%Metal (Typical)</u>	<u>Sara 313</u>
Cadmium (as Cd) see 1910.1027		0.005	0.01, 0.002 mg/m ³ Respirable	0-5	Yes
Chromium (III) compounds (as Cr)		0.5	0.5	0-1	Yes
Cobalt metal, dust and fumes (as Co)	0.05	0.1	0.02	0-1	Yes
Copper dusts and mists (as Cu)		1	1	0-1	Yes
Fluorides (as F)		2.5	2.5	0-5	No
Glass- fused Particulates (Insoluble) Not Otherwise Regulated		5 Respirable, 15 mg/m ³ Total	3.0 Respirable, 10 mg/m ³ inhalable	70-90	No

Nickel metal and insoluble compounds (as Ni)	1	0.2 Respirable	0-2	Yes
Silica -Quartz	10 /%SiO ₂ +2 (Respirable) Or 30/%SiO ₂ +2 (Total dust)	0.05 Respirable	0-10	No
Zinc compounds (as Zn)	None		25-30	Yes
Zirconium compounds (as Zr)	5	5, 10 mg/m ³ STEL	0-5	No

** The following PEL's were modified in 1989 but were challenged in 1992 and vacated. Several state programs may still recognize these.

SECTION 4: First aid measures

If inhaled:	If inhaled, remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a physician.
On ingestion:	If swallowed, induce vomiting immediately by giving two glasses of water and sticking finger down throat. Never give anything by mouth to an unconscious person. Call a physician.
On contact with eyes:	On contact with eyes flush eyes with plenty of water for at least fifteen (15) minutes. Call a physician.
On skin contact:	On skin contact, wash thoroughly with soap and water.

SECTION 5: Firefighting measures

Suitable extinguishing media:	This product will not burn. Use suitable extinguishing media for fighting surrounding fire.
Unsuitable extinguishing media:	Not applicable
Emitted when burned:	Not applicable
Special protective equipment:	This product will not burn. Use appropriate techniques for fighting surrounding fire.
Further information:	None

SECTION 6: Accidental release measures

Personal precautions:	Maintain appropriate dust control.
Environmental precautions:	Prevent contamination of soils, drains and surface water.
Methods for cleanup:	Transfer material into closed container for re-use or disposal.

SECTION 7: Handling and storage

Handling:	Good housekeeping procedures should be followed to prevent dust during processing. Do not eat, drink or smoke in work areas. Wash thoroughly with soap and water after handling. Provide eye wash stations in areas of handling.
Storage:	Store material in a closed container. Normal warehousing

SECTION 8: Exposure Controls/Personal protection

Engineering controls/measures:	Use mechanical ventilation to keep dust below regulatory standards (see Section II). Design criteria usually cannot be specified in an MSDS because of its complexity.
Personal Protective Equipment:	
Respiratory protection:	MSHA/NIOSH respirators approved for dusts TC-21C or NIOSH approved cartridges for Non-oil aerosols, N95, N99, N100 (42 CFR 84).
Hand protection:	Rubber, PVC coated gloves, impermeable.
Eye protection:	Safety Glasses with side shields, mono goggles.
Body protection:	No special precautions (see hand protection).
General safety and hygiene measures:	Good housekeeping procedures should be followed to prevent dust during processing.

SECTION 9: Physical and chemical properties

Appearance:	Green Powder
Odor:	No Odor
Melting point/melting range:	Not Determined
Boiling point/boiling range:	Not applicable
Flash point:	Not applicable
Combustibility:	Not applicable
Explosion limits:	
Lower Vol. %:	Not applicable
Upper Vol. %:	Not applicable
Ignition temperature:	Not applicable
Self-ignition:	Not applicable
Self-ignition temperature:	Not applicable
Explosion hazard:	Not applicable
Fire promoting properties:	Not applicable
Vapor pressure:	Not applicable
Specific gravity:	>1
Bulk density:	No data available
Packing density:	No data available
Solubility in Water:	<2
Solubility in other solvents:	Negligible
pH value:	No data available
Octanol/water partition coefficient (log POW):	Not applicable
Viscosity:	Not applicable
Other information:	Not applicable

SECTION 10: Stability and reactivity

Conditions to avoid:	None known
Materials to avoid:	None known
Hazardous reactions:	None known
Hazardous decomposition products:	None known

SECTION 11: Toxicological information

Acute Toxicity

LD50/oral/rat:	Not Tested
LD50/inhal/rat:	Not Tested
Sensitizing:	None expected
Primary skin irritation/rabbit:	No data available
Primary mucous membrane irritation/rabbit' eyes:	No data available

ADDITIONAL INFORMATION:

Zinc-Boro-Silicate or Zinc-Alkali-Boro- Silicate Glass Frit-

Repeated overexposure to this compound may cause eye, skin and respiratory tract irritation. Some compounds of the metals used in the manufacturing of this Frit, Chromium, Cobalt, Copper, Nickel and Zinc, have demonstrated various toxic properties (1,2,3,4). However, there is no evidence that this frit has these toxic characteristics.

Long term overexposure to silica causes pneumoconiosis and silicosis, a form of pulmonary fibrosis. Continued exposure to silica can lead to cardiopulmonary impairment. Symptoms are usually delayed (10 years or more), but may appear in as little as 8-18 months after initial exposure.

Zinc is not inherently a toxic element. However, when heated, it evolves a fume of Zinc Oxide, when inhaled fresh, can cause a disease known as "Brass Chills" characterized by sweet taste, throat dryness, cough, weakness, generalized aching, fever, nausea, and vomiting. It is possible for people to become immune to it, but the immunity can be broken by cessation to exposure for a few days.

Routes of Entry:

Eyes: No	Skin: No	Inhalation: Yes	Ingestion: Yes
CARCINOGENICITY: NTP:	Yes	IARC Monographs:	Yes
OSHA Regulated:	No		

IARC and the NTP consider nickel compounds to be carcinogenic to humans. (Monograph #49).

IARC has classified cobalt and cobalt compounds as possibly carcinogenic to humans. (Group 2B, Monograph #52).

Crystalline silica has been reviewed by IARC. IARC found limited evidence for carcinogenicity of crystalline silica in humans and sufficient evidence in experimental animals. Crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (IARC Monograph, Volume 68). Silica, crystalline is known to be a human carcinogen (NTP 10th Edition) Warning: This product contains a chemical known to the State of California to cause cancer.

Cadmium compounds are poisonous by ingestion, however the irritating and emetic action is so violent that little of the cadmium has time to be absorbed, and fatal poisoning rarely occurs. Excessive inhalation of cadmium compounds may, after several hours, cause coughing, chest pains, sweating, chills, shortness of breath and possible death due to pulmonary edema. Ingestion of cadmium compounds may cause nausea, vomiting, diarrhea and abdominal cramps. Prolonged exposure to cadmium compounds may cause kidney damage. IARC classifies cadmium and cadmium compounds as carcinogenic to humans (Group 1). The NTP lists cadmium and cadmium compounds as Known to be

Human Carcinogens. This product contains chemicals known to the state of California to cause cancer and birth defects or other reproductive harm.

Signs and Symptoms of Exposure: Irritation of the eyes, skin and respiratory tract.

Medical Conditions Generally Aggravated by Exposure: Respiratory and skin disorders aggravated by dust.

SECTION 12: Ecological information

No specific ecological data available for this product.

SECTION 13: Disposal considerations

Waste disposal recommendations: Trash can.

SECTION 14: Transportation information

This product is not Department of Transportation (DOT) regulated.

This product is not TDG (Canada) regulated.

SECTION 15: Regulatory information

Labeling according to EEC Directives: Not Evaluated

SARA

SARA 312:

Health:	Immediate (Acute):	No*	Fire:	None
	Delayed (Chronic):	Yes**	Reactivity:	None
			Sudden release of pressure:	None

*Not an acute hazard, however may cause irritation due to abrasiveness.

** See Section 11

SARA 313:

THIS PRODUCT CONTAINS A CHEMICAL OR CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF TITLE III OF THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 AND 40 CFR PART 372. THIS INFORMATION MUST BE INCLUDED IN ALL MSDS THAT ARE COPIED AND DISTRIBUTED FOR THIS MATERIAL.

0-15% Cadmium Compound

5-10% Cobalt Compound

0-3% Chromium Compound

0-5% Copper Compound

5-10% Nickel Compound

70-85% Zinc Compound

Inventories

The ingredients of this product have been listed in the following inventories:

Europe EINECS: Listed
U.S.A. TSCA: Listed

HMIS Code:

SECTION 16: Other information

References

DOT Department of Transportation
OSHA Occupational Safety and Health Administration
CAS Chemical Abstracts Service
TSCA Toxic Substances Control Act

This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

The information and recommendations contained in this SDS have been compiled from sources believed to be reliable and to represent current opinion on the subject when the SDS was prepared. No warranty, guaranty or representation is made as to the correctness or sufficiency of the information. The user of this product must decide what safety measures are necessary to safely use this product, either alone or in combination with other products, and determine its environmental regulatory compliance obligations under any applicable federal or state laws.

UPDATED MAY 2015