

MATERIAL SAFETY DATA SHEET

HMIS INFORMATION:

HEALTH: 1
FLAMMABILITY: 0
PHYSICAL HAZARD: 0

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Section 1. PRODUCT IDENTIFICATION

PRODUCT NAME: **5556 COBALT BLUE**
VERSION DATE: 02/26/2007
CAS NUMBER: 1345-16-0
C.I. Pigment : C.I. Pigment Blue 28
C.I. Constitution # : 77346

Section 2. COMPOSITION

COMPONENT

Ingredient	CAS No	Percent	Hazardous
Cobalt Aluminate Blue Spinel	1345-16-0	100	No

This material contains SARA 313 listed substances. See Section 15 for further details.

As Regulated (Regulated Exposure Limits)	OSHA PEL ** (mg/m ³)	OSHA PEL (mg/m ³)	ACGIH TLV (mg/m ³)	% Metal (Typical)
Cobalt metal, dust & fumes (as Co)	0.05	0.10	0.02	25

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

This product is the result of high temperature calcinations of the component substances. Due to its unique crystalline structure the properties of this finished pigment do not necessarily reflect the properties of the components or oxides. **

Section 3. HAZARDS IDENTIFICATION

Emergency Overview - NA

Contact Rating: 2 - Moderate
Lab Protective Equip: Safety glasses

Potential Health Effects

Inhalation:

Remove to fresh air immediately. Call physician.

Ingestion:

No significant effects.

Skin Contact:

May cause skin irritation if in contact for extended periods of time.

Eye Contact:

The more common hazards are local irritation or abrasion. In severe cases absorption can occur through eye tissues and may cause corneal injury or blindness.

Chronic Exposure:

None known

Aggravation of Pre-existing Conditions:

None known

Section 4. FIRST AID MEASURES

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion:

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact:

Immediately flush skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Section 5. FIRE FIGHTING MEASURES

Fire:

Not considered to be a fire hazard.

Explosion:

Not considered to be an explosion hazard. Sealed containers may rupture when heated.

Fire Extinguishing Media:

Use any means suitable for extinguishing surrounding fire. Do not allow water runoff to enter sewers or waterways. Carbon dioxide, water spray or foam are all suitable.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

Section 6. ACCIDENTAL RELEASE MEASURES

Ventilate area of leak or spill. Wear appropriate PPE as specified in Section 8.

Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

Section 7. HANDLING AND STORAGE

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Wear special protective equipment (Sec. 8) for maintenance break-in or where exposures may exceed established exposure levels. Wash hands, face, forearms and neck when exiting restricted areas. Shower and change to clean garments at the end of the day. Avoid cross-contamination of street clothes. Wash hands before eating and do not eat, drink, or smoke in workplace. Observe all warnings and precautions listed for the product.

Section 8. EXPOSURE CONTROLS

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits as indicated in Section 2. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

Respiratory Protection:

MSHA / NIOSH respirators approved for dusts TC-21C or NIOSH approved cartridges for Non-oil aerosols, N95, N99, N100 (42 CFR 84)

Skin Protection:

For hands – rubber, PVC coated gloves, impermeable. For body - impervious protective clothing, including boots, lab coat, apron or coveralls as deemed appropriate.

Eye Protection:

Use chemical safety goggles and/or full-face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

Other Control Measures:

Eating, drinking, and smoking should not be permitted in areas where solids or liquid compounds are handled, processed, or stored. Good housekeeping procedures should be followed to prevent dust during processing.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Blue Powder
Odor:	Odorless
Solubility:	Negligible
Specific Gravity:	4.30
pH:	10.7
% Volatiles by volume @ 21C (70F):	0
Boiling Point:	Not Applicable
Melting Point:	Not Determined
Vapor Density (Air=1):	Not Applicable
Vapor Pressure (mm Hg):	Not Applicable
Evaporation Rate (BuAc=1):	Not Applicable

Section 10. STABILITY AND REACTIVITY

Stability:	Stable under ordinary conditions of use and storage.
Hazardous Decomposition Products:	None
Hazardous Polymerization:	Will not occur.
Incompatibilities:	Strong reducing agents, combustibles
Conditions to Avoid:	None known

Section 11. TOXICOLOGICAL INFORMATION

Toxicological Data:Acute Toxicity

LD50/oral/rat: >10,000 mg/kg (5)

LD50/inhal/rat: Not tested

Sensitizing: None expected
 Primary Skin Irritation/rabbit: No data available
 Primary mucous membrane irritation/rabbit eyes: No data available
 Reproductive Toxicity: No data available

ADDITIONAL INFORMATION:

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

Routes of Entry: Eyes: No Skin: No Inhalation: Yes Ingestion: Yes

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.

Cancer Lists

Ingredient	NTP Carcinogen		
	Known	Anticipated	IARC Category
Cobalt and Cobalt Compounds	No	No	Yes

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

Section 12. ECOLOGICAL INFORMATION

Environmental Fate:
 When released into the soil, this material may leach into groundwater. When released into the air, this material may be removed from the atmosphere to a moderate extent by wet deposition.

Environmental Toxicity: No data available
 Degradability: No data available

Short and long term effects on:
 Ecotoxicity: No data available
 Other adverse effects: No data available

Section 13. DISPOSAL CONSIDERATIONS

Dispose of substance and packaging in accordance with federal, state and local requirements.

Section 14. TRANSPORTATION INFORMATION

Domestic (Land, D.O.T.)

Proper Shipping Name: Not regulated
 Hazard Class:
 UN/NA:
 Packing Group:
 Information reported for product/size:

International (Water, I.M.O.)

Proper Shipping Name: Not regulated
 Hazard Class:
 UN/NA:
 Packing Group:
 Information reported for product/size:

International (Air, I.C.A.O.)

Proper Shipping Name: Not regulated
 Hazard Class:
 UN/NA:
 Packing Group:
 Information reported for product/size:

Section 15. REGULATORY INFORMATION

Chemical Inventory Status

Ingredient	TSCA	EC	Japan	Australia	Korea	Canada		Phil.
						DSL	NDSL	
Cobalt Aluminate Blue Spinel	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes

Federal, State & International Regulations

Ingredient	SARA 302		SARA 313		CERCLA	RCRA 261.33	TSCA 8(d)
	RQ	TPQ	List	Chemical Category			
Cobalt Aluminate Blue Spinel	No	No	Yes	Yes	No	No	No

NOTE: 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 40CFR PART 372. THIS INFORMATION MUST BE INCLUDED IN ALL MSDS THAT ARE COPIED AND DISTRIBUTED FOR THIS MATERIAL. (100% Cobalt Compound)

TSCA 12(b): No
 CDTA: No
 SARA 311/312:
 Acute: (immediate) No (*) May cause irritation due to abrasiveness
 Chronic: (delayed) Yes (*) See Section 11

Fire: No
Reactivity: No
Sudden release of pressure: No

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

Section 16. OTHER

NFPA Ratings:

Health: 1
Flammability: 0
Reactivity: 0

Label Hazard Warning:

Label Precautions:

Do not get in eyes, on skin, or on clothing.
Do not breathe dust.
Keep container closed.
Use only with adequate ventilation.
Wash thoroughly after handling.

Label First Aid:

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. In all cases get medical attention immediately.

DISCLAIMER OF LIABILITY

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