

MATERIAL SAFETY DATA SHEET

FERRO Code Number: 33-31052
 MSDS Rev.: 06-APR-1999

MSDS Print Date: 11/10/05

SECTION I - PRODUCT AND COMPANY INFORMATION

Product Name: BLUE
 CAS Number MIXTURE

Company Identification: Ferro Corporation
 L. C. & D. Division
 54 Kellogg Court
 Edison NJ 08817

Contact: Dave Malysa
 Telephone/Fax: 732-287-1930 732-287-1943
 Emergency Phone (24 Hour): FERRO'S Emergency Telephone
 1-216-641-5324
 Chemtrec (24 Hour): 1-800-424-9300
 Preparer James H. Fisher
 Data Coordinator

Trade Name BLUE

SECTION II - HAZARDOUS INFORMATION

Ingredient Name	CAS Number	Percent	TSCA Inv
Titanium Dioxide	13463-67-7	10 - 30	Y
C.I. Pigment Blue 15 (Copper Phthalocyanine Blue)	147-14-8	3 - 7	Y

*** ALL Ingredients in this product are listed in the T.S.C.A. Inventory

SECTION III - PHYSICAL DATA

Boiling Point: Not Available
 Vapor Pressure (mmHg): 1.@ 68.°F
 Evaporation Rate:
 % Volatile Weight Not Applicable
 % Volatile Volume Not Applicable
 Specific Gravity: 1.321

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flammability Class
 Flash Point: 388.4°F
 Tag Open Cup
 Explosive Range: Not Available

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EXTINGUISHING MEDIA:

Use foam, carbon dioxide or dry chemical

SPECIAL FIREFIGHTING PROCEDURES

PREVENT runoff from entering streams, sewers or drinking water supply.

Extinguish flame from perimeter inward to main body of fire.

Extinguisher Media: ABC Extinguisher, Carbon Dioxide, Foam, Water.

Special fire fighting procedures:

Water or foam may cause frothing when applied to liquids having flash points above 100 degrees C. The frothing may be quite violent and endanger the life of the firefighter particularly when solid streams are directed into the hot burning liquid.

ESTER POLYOL: Firefighters must be equipped to prevent breathing of vapors or products of combustion. Wear an approved self-contained breathing apparatus and protective clothing.

UNUSUAL FIRE & EXPLOSION HAZARDS:

PHTHALOCYANINE BLUE: When involved in a fire or exposed to high temperatures for an extended period of time, organic pigments may smolder or burn evolving noxious fumes which can include oxides of nitrogen and carbon, or other toxic compounds.

SECTION V - HEALTH HAZARD DATA**PERMISSIBLE EXPOSURE LEVEL:**

See Section VIII.

EFFECTS OF OVEREXPOSURE:

TITANIUM DIOXIDE: Results of a Dupont epidemiology study showed that employees who had been exposed to Titanium Dioxide pigments were at no greater risk of developing lung cancer than were employees who had not been exposed to Titanium Dioxide pigments. Based on the results of this study Dupont concluded that TiO₂ pigments will not cause lung cancer or chronic respiratory disease in humans at concentrations experienced in the work place.

FIRST AID:

INHALATION: If inhaled, move individual to fresh air. Make comfortably warm but not hot. Use oxygen or artificial respiration as required. See a physician if irritation is present or persists.

SKIN: In case of contact, remove contaminated clothing. Wash thoroughly with soap & plenty of water. See a physician if irritation is present or persists. Launder contaminated clothing before reuse.

EYE: Immediately flush eyes with plenty of water for at least 15 minutes and get prompt medical attention.

INGESTION: If swallowed, call a physician immediately. Induce vomiting only at the instructions of a physician. Never give anything by mouth to an unconscious person.

SECTION VI - STABILITY AND REACTIVITY DATA

Stability: This product is stable

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Hazardous Polymerization: Hazardous polymerization will not occur

INCOMPATIBILITY:

ESTER POLYOL: Strong oxidizers such as hydrogen peroxide, bromine, and chromic acid.

PHTHALOCYANINE BLUE: Avoid strong oxidizing agents such as peroxides, chlorates, perchlorates, nitrates, & permanganates. Oxidizing materials may vigorously evolve oxygen in large amounts.

CONDITIONS TO AVOID:

Keep materials with ester polyol from strong oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS:

Combustion will produce carbon dioxide and carbon monoxide.

PHTHALOCYANINE BLUE: When involved in a fire or exposed to high temperatures for an extended period of time, organic pigments may smolder or burn evolving noxious fumes which can include oxides of nitrogen and carbon, or hydrogen chloride (HCl), depending on the pigment type.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Confine spill. Transfer to secure containers where necessary, Collect using absorbent media. Flush area with hot water and detergent.

WASTE DISPOSAL METHOD:

Dispose of in accordance with Federal, State and Local regulations.

SECTION VIII - EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

	ACGIH TLV	ACGIH TLV-C	ACGIH STEL	OSHA STEL	OSHA PEL
Titanium Dioxide	10.00 mg/M3	N/est	N/est	N/est	10.00 mg/M3
C.I. Pigment Blue 15 (Copper Phthalocyanine Blue)	N/est	N/est	N/est	N/est	N/est

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Particulates not otherwise classified/regulated may be subject to:

ACGIH/TLV	OSHA/PEL
10 mg/M3 Total	15 mg/M3
3 mg/M3 Resp.	5 mg/M3

RESPIRATORY PROTECTION:

Where dust may be present, an approved NIOSH/MSHA dust respirator is recommended.

VENTILATION:

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Mechanical Ventilation Suggested.

PROTECTIVE GLOVES:

Chemical workers gloves is recommended.

EYE PROTECTION:

Chemical goggles as needed to prevent eye contact.

OTHER PROTECTIVE EQUIPMENT:

Practice good hygiene, wash hands and face before eating or smoking. Launder clothing before reuse.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

Avoid contact with eyes, skin, clothing. Avoid breathing vapor, mist or spray. Use with good ventilation. Wash thoroughly after handling. Store in cool, dry area in closed containers away from incompatible materials. Store away from sunlight, heat, sparks and open flames. Protect containers against physical damage. Do not smoke in work area. Do not store near food or feed.

OTHER PRECAUTIONS:

Since emptied containers retain product residues (vapor, liquid or solid), all hazard precautions listed in the MSDS should be observed!

SECTION X - REGULATORY INFORMATION

DISCLAIMER:

The information and recommendations contained in this Material Safety Data Sheet have been compiled from sources believed to be reliable and to represent the most reasonable current opinion on the subject when the MSDS 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.