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MATERIAL SAFETY DATA SHEET

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7-11-02  
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FERRO Code Number: 11-28030  
MSDS Rev.: 05-APR-2001

MSDS Print Date: 06/19/02

SECTION I - PRODUCT AND COMPANY INFORMATION

Product Name: YELLOW  
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 Dave Malysa  
Regulatory & Environmental Affairs

Trade Name YELLOW

SECTION II - HAZARDOUS INFORMATION

Ingredient Name	CAS Number	Percent	TSCA Inv
Unsaturated Polyester	68511-26-2	30 - 60	Y
C. I. Pigment Yellow # 42	51274-00-1	15 - 40	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): Not Available  
Evaporation Rate:  
% Volatile Weight Not Available  
% Volatile Volume Not Available  
Specific Gravity: 1.477

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flammability Class  
Flash Point: 212.°F  
Tag Closed Cup  
Explosive Range: Not Available

EXTINGUISHING MEDIA:

Foam, Dry Chemical, CO2

SPECIAL FIREFIGHTING PROCEDURES

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PREVENT runoff from entering streams, sewers or drinking water supply. Keep personnel removed and upwind of fire. Wear self-contained breathing apparatus. Wear full protective equipment/clothing. Treat as oil fire. Fight fire from a distance; sealed containers can rupture explosively when heated. Water may be used to keep fire-exposed containers cool until fire is out.

**UNUSUAL FIRE & EXPLOSION HAZARDS:**

Combustion can produce toxic gases.

**SECTION V - HEALTH HAZARD DATA**

**PERMISSIBLE EXPOSURE LEVEL:**

See Section VIII.

**EFFECTS OF OVEREXPOSURE:**

A study conducted by the National Toxicology Program states that lifetime inhalation exposure of rats and mice to concentrations of Ethylbenzene (750 ppm) resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. These effects were not observed in animals exposed to lower concentrations of Ethylbenzene (75 ppm or 250 ppm). The study does not address the relevance of these results to humans. Ethylbenzene is considered a IRAC Group 2B carcinogen based on animal studies.

**IRON OXIDE:**

**ACUTE:** May cause mechanical skin and eye irritation.

**CHRONIC:** Repeated and prolonged inhalation of iron oxide dust is known to cause siderosis. On X-rays it appears to be a benign pneumoconiosis and is not associated with pulmonary fibrosis or disability unless there is concurrent exposure to other fibrosis-producing materials such as silica. The TLV is set to protect against siderosis.

**UNSATURATED POLYESTER:**

If ingested may cause gastrointestinal disturbances. Symptoms may include irritation, nausea, vomiting and diarrhea. Contact with the skin may cause skin irritation. Repeated dermal exposures can result in an eczematous dermatitis caused by primary irritation and/or sensitization. Repeated or prolonged exposure to high vapor concentrations may be irritating to the mucous membranes and upper respiratory tract.

**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.

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Never give anything by mouth to an unconscious person.

**SECTION VI - STABILITY AND REACTIVITY DATA**

Stability: This product is stable  
Hazardous Polymerization: Hazardous polymerization may occur

**INCOMPATIBILITY:**

Iron Oxides are not compatible with hydrazine, calcium hypochlorite, performic acid, and bromine pentafluoride.

POLYESTER: Strong acids, peroxides, oxidizing agents.

**CONDITIONS TO AVOID:**

POLYESTER: Avoid exposure to heat, open flame or contamination with oxidizing agents. Dissolution of material with uninhibited unsaturated monomers can result in exothermic autopolymerization.

**HAZARDOUS DECOMPOSITION PRODUCTS:**

POLYESTER: Carbon monoxide, carbon dioxide, low molecular weight hydrocarbons, organic acids.

**SECTION VII - SPILL OR LEAK PROCEDURES**

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**

Confine spill. Remove all sources of ignition. Ventilate area and maintain ventilation. Use all described protective measures and equipment. Use absorbant material, such as clay or sand, to collect and contain for salvage and disposal. Prevent runoff from entering drains, sewers or waterways.

**WASTE DISPOSAL METHOD:**

Follow all applicable Federal, Provincial, State and Municipal laws, regulations and by-laws. Package in U.N. approved containers and transport to an approved treatment, storage and disposal (TSD) facility. (Also see Section X.)

**SECTION VIII - EXPOSURE CONTROLS/PERSONAL PROTECTION**

Occupational Exposure Limits	ACGIH TLV	ACGIH TLV-C	ACGIH STEL	OSHA STEL	OSHA PEL
Unsaturated Polyester	N/est	N/est	N/est	N/est	N/est
C. I. Pigment Yellow # 42	10.00 mg/M3	N/est	N/est	N/est	10.00 mg/M3
Ethylbenzene	100.00 PPM	N/est	125.00 PPM	N/est	100.00 PPM

Iron Oxide PEL (as fume) and TLV (as dust and fume).

**RESPIRATORY PROTECTION:**

Use appropriate NIOSH/MSHA approved respiratory protection when exposure to airborne contaminants may exceed acceptable limits. In emergency situations, or when used in confined spaces, use

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self-contained breathing apparatus or other air supplied full-face respirator.

**VENTILATION:**

Ventilate to maintain exposure below published exposure limits. Use explosion proof motors and wiring.

**PROTECTIVE GLOVES:**

Use impervious butyl rubber gloves. Replace as often as needed to maintain protection.

**EYE PROTECTION:**

Use chemical safety goggles or full-face shield.

**OTHER PROTECTIVE EQUIPMENT:**

Eye wash stations & safety showers should be easily accessible. Where splash can occur, use protective clothing.

**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.