

## MATERIAL SAFETY DATA SHEET

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FERRO Code Number: 11-78070

MSDS Rev.: 27-JAN-2010

MSDS Print Date: 02/01/10

## SECTION I - PRODUCT AND COMPANY INFORMATION

Product Name: BROWN  
 CAS Number: MIXTURE

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

Contact: Carl Brown  
 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: Carl Brown  
 Regulatory & Environmental Affairs

Trade Name: BROWN

## SECTION II - HAZARDOUS INFORMATION

Ingredient Name	CAS Number	Percent	TSCA Inv
Iron Oxide	1309-37-1	40 - 70	Y
Unsaturated Polyester	Trade Secret	25 - 50	Y

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

Contains the following Trade Secret Number:  
 NJ TSRN: 800986-5106P

## SECTION III - PHYSICAL DATA

Boiling Point: Unknown Not Available  
 Vapor Pressure (mmHg): Not Available  
 Evaporation Rate:  
 % Volatile Weight: Not Available  
 % Volatile Volume: Not Available  
 Specific Gravity: 1.925

## SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flammability Class:  
 Flash Point: >100 Deg. C TCC 212.°F  
 Tag Closed Cup  
 Explosive Range: Not Available

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**EXTINGUISHING MEDIA:**

Foam, Dry Chemical, CO2

**SPECIAL FIREFIGHTING PROCEDURES**

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:****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 &amp; 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 may occur

Avoid exposure to excessive heat, peroxides and polymerization catalysts.

**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:**

Oxides of Carbon; incompletely burned hydrocarbons.

Toxic Fumes.

**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
Iron Oxide	5.00 mg/M3	N/est	N/est	N/est	10.00 mg/M3
Unsaturated Polyester	N/est	N/est	N/est	N/est	N/est

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 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.

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**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**

Although Iron Oxides themselves are not listed under Prop. 65, this product may contain trace amounts of chemicals which appear on the State of California's listing of substances known to cause cancer or birth defects or other reproductive harm. (Proposition 65).

**MASSACHUSETTS SUBSTANCE LIST:**

Trace quantities of substances which are listed on the Massachusetts Hazardous Substance List may be found in this product.

**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.