



MATERIAL SAFETY DATA SHEET

Ferro Corporation, Polymer Additives Division
Walton Hills Operation
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Emergency telephone number
CHEMTREC: 1-800-424-9300
CHEMTREC (outside U.S.): 1-703-527-3887
Plant Number: 1-216-750-6708

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product Name: Therm-Chek® 130 450 Lb Drm **Date of Preparation:** 03/16/2010
Chemical Family: Polymer Additive
Chemical Name: Barium, Zinc Complex Mixture
CAS-No.: Mixture
Product Code: 1035424

2. HAZARDS IDENTIFICATION

Emergency Overview

Caution
May cause eye/skin irritation.

		<u>HMIS</u>	<u>NFPA 704</u>
Color:	Amber	1	1
Physical state:	Liquid	1	1
Odor:	Solvent-like	0	0
		B	

Potential Health Effects

Principle routes of exposure: Eye contact. Skin contact. Inhalation.
Eye contact: May cause slight irritation.
Skin contact: Prolonged skin contact may cause skin irritation and/or dermatitis.
Inhalation: May cause irritation of respiratory tract.
Ingestion: May irritate digestive tract.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS Number	Weight %
Barium compounds		10 - 20%
Organic solvent		10 - 20%
Zinc compounds		10 - 20%
Benzyl alcohol	100-51-6	1 - 5%
1,2,4-trimethylbenzene	95-63-6	1 - 5%

The specific chemical identities are being withheld as a trade secret (29CFR1910.1200).

This material contains organo phosphorous compounds which may decompose from hydrolysis with water (moisture in air) to produce phenol, aliphatic alcohol, and phosphoric acid.

4. FIRST AID MEASURES

Eye contact: Rinse immediately with plenty of water, also under the eyelids. Get medical attention if irritation develops.
Skin contact: Wash off immediately with soap and plenty of water. Remove and wash contaminated clothing before re-use. If symptoms persist, call a physician.

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. If symptoms persist, call a physician.

Ingestion: Drink plenty of water. Do not induce vomiting. Consult a physician if necessary.

Notes to physician: Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash point (°C): 103 (217°F) Method: PMCC

Suitable extinguishing media: Use dry chemical, CO2, water spray or "alcohol" foam.

Hazardous decomposition products: Thermal decomposition can lead to release of irritating gases and vapors.

Special protective equipment for firefighters: As in any fire, wear self-contained breathing apparatus (pressure-demand, NIOSH approved or equivalent) and full protective gear.

Unusual hazards: Material may change or decompose on exposure to moisture.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Evacuate area of all unnecessary personnel. Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Ensure adequate ventilation.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system. Prevent product from entering drains.

Methods for cleaning up: Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Dispose of promptly. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Handling: Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. In case of insufficient ventilation, wear suitable respiratory equipment. Use only in well-ventilated areas.

Storage: Keep container tightly closed in a dry and well-ventilated place. Keep containers dry and tightly closed to avoid moisture absorption and contamination.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limits

Minimize exposure in accordance with good hygiene practice.

Components	OSHA	ACGIH
Barium compounds	0.5 mg/m ³ TWA Ba	0.5 mg/m ³ TWA Ba
Organic solvent	5 mg/m ³ (oil mist)	5 mg/m ³ (oil mist) TWA 10 mg/m ³ (oil mist) STEL
1,2,4-trimethylbenzene	Not established	25 ppm TWA

Engineering measures: Ensure adequate ventilation, especially in confined areas.

Eye protection: Safety glasses with side-shields.

Skin and body protection: Lightweight protective clothing.

Hand protection: Impervious gloves.

Respiratory protection: Use NIOSH approved respirator when ventilation is inadequate. In case of insufficient ventilation wear suitable respiratory equipment. Seek professional advise prior to respirator selection and use. NIOSH-approved respirators should be worn where engineering controls and work practices do not reduce exposure to or below the PEL. .

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Ensure that eyewash stations and safety showers are proximal to the work-station location. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	Amber	Physical state:	Liquid
Odor:	Solvent-like	Molecular weight:	No data available
Boiling point/range (°C):	No data available	pH:	No data available
Melting point/range (°C):	No data available	Specific gravity (Water =1):	1.02
Vapor pressure (mmHg):	No data available	Evaporation Rate (Water = 1)	< 1.00
Water solubility:	Insoluble	VOC content (%)	No data available

10. STABILITY AND REACTIVITY

Stability: Stable at normal conditions.

Polymerization: Will not occur.

Hazardous decomposition products: None under normal use. Possible decomposition products from hydrolysis: phenol, aliphatic alcohol, phosphoric acid.

Materials to avoid: Strong oxidizing agents. Strong acids and strong bases. Water.

Conditions to avoid Exposure to moisture.

11. TOXICOLOGICAL INFORMATION

Acute toxicity: No data is available on the product itself

Target Organ Effects: Barium compound: Heart, gastrointestinal tract.

Component information, if any, is listed below

Organic solvent

LD50s and LC50s: Inhalation LC50 (Rat) = 2.18 mg/L
Dermal LD50 (Rabbit) = 2000 mg/kg
Oral LD50 (Rat) = 5000 mg/kg

Triphenyl phosphite

LD50s and LC50s: Dermal LD50 (Rat) = 1180 mg/kg
Oral LD50 (Rat) = 444 mg/kg
Dermal LD50 (Rabbit) = 2000 mg/kg
Inhalation LC50 (Rat) = 6.7 mg/L

Benzyl alcohol

LD50s and LC50s: Oral LD50 (Rat) = 1230 mg/kg
Dermal LD50 (Rabbit) = 2000 mg/kg
Inhalation LC50 (Rat) = 8.8 mg/L

Zinc compounds

LD50s and LC50s: Oral LD50 (Rat) = 4920 mg/kg

1,2,4-trimethylbenzene

LD50s and LC50s: Inhalation LC50 (Rat) = 18 g/m³
Oral LD50 (Rat) = 3400 mg/kg
Dermal LD50 (Rabbit) = 3160 mg/kg

12. ECOLOGICAL INFORMATION

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Aquatic toxicity: No data is available on the product itself. Information given is based on data on the components and the ecotoxicology of similar products.

Organic solvent

Ecotoxicity - Fish Species Data:
96 h LC50 (Oncorhynchus mykiss) = 5000 mg/L
Ecotoxicity - Water Flea Data:
48 h EC50 (Daphnia magna) = 1000 mg/L

Benzyl alcohol

Ecotoxicity - Fish Species Data:
96 h LC50 (Lepomis macrochirus) = 10 mg/L static
96 h LC50 (Pimephales promelas) = 460 mg/L static
Ecotoxicity - Water Flea Data:
48 h EC50 (water flea) = 23 mg/L
Ecotoxicity - Freshwater Algae Data:
3 h EC50 (Anabaena variabilis) = 35 mg/L

1,2,4-trimethylbenzene

Ecotoxicity - Fish Species Data:
96 h LC50 (Pimephales promelas) = 7.19-8.28 mg/L flow-through
Ecotoxicity - Water Flea Data:
48 h EC50 (Daphnia magna) = 6.14 mg/L

Persistence and degradability: Not determined

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products: Waste must be disposed of in accordance with federal, state and local environmental control regulations. Where possible recycling is preferred to disposal or incineration.

14. TRANSPORT INFORMATION

DOT (U.S.)

Proper shipping name: Not regulated.

TDG (Canada)

Proper shipping name: Not regulated.

15. REGULATORY INFORMATION

U.S. Regulations:

TSCA: Not subject to TSCA 12(b) Export Notification

SARA 313:

Components	SARA 313:
Barium compounds (10 - 20%)	1.0 % de minimis concentration (Chemical Category N040)
Zinc compounds (10 - 20%)	1.0 % de minimis concentration (Chemical Category N982)
1,2,4-trimethylbenzene (1 - 5%)	1.0 % de minimis concentration

State Regulations

This product or its ingredients have been evaluated for New Jersey, Pennsylvania, and California Prop 65 supplier notification requirements. Substances that are subject to notification requirements, if any, are listed below.

Components	State Regulations - NJ; PA
Barium compounds	Listed (NJRTK) Listed (PARTK)

Components	State Regulations - NJ; PA
Zinc compounds	Listed (NJRTK) Listed (PARTK)
Benzyl alcohol	Listed (PARTK)
1,2,4-trimethylbenzene	Listed (NJRTK) Listed (PARTK)

Components	State Regulation - CA Prop65
Ethylbenzene	Carcinogen
2-Ethylhexanoic Acid	Developmental Toxicity

Canadian WHMIS

WHMIS hazard class: D2B Toxic materials.

Canadian Ingredient Disclosure List (IDL):

Components	Canada - WHMIS Ingredient Disclosure:
Barium compounds	1
Triphenyl phosphite	1
Benzyl alcohol	1
1,2,4-trimethylbenzene	0.1

International Inventories

TSCA 8(b): Listed or exempt.
Canadian DSL: Listed or exempt.
EC-No. Listed or exempt.
Philippines (PICCS): One or more ingredient(s) are not on the PICCS list.
Japan (ENCS): One or more ingredient(s) are not on the ENCS list.
Korea (KECL): One or more ingredient(s) are not on the KECL list.
China (IECS): Listed.
Australia (AICS): Listed.
New Zealand (NZIoC): Listed.

16. OTHER INFORMATION

For Industrial Use Only

Prepared by: Ferro Technical Center

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.

End of Safety Data Sheet