FERRO

MATERIAL SAFETY DATA SHEET

Ferro Corporation, Polymer Additives Division
Walton Hills Operation
7050 Krick Road
Walton Hills, Ohio 44146-4494 USA

Emergency telephone number:
CHEMTREC: 1-800-424-9300

Plant Number: 1-216-750-6708

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

Product Name: **Therm-Chek® 6185 Lb Tote**

Date of Preparation: 12/17/2003

Chemical Family: Polymer Additive

Chemical Name: Zinc Complex Mixture

CAS-No.: Mixture

2. COMPOSITION/INFORMATION ON INGREDIENTS

Exposure limits

Components	CAS-No	Weight %	OSHA	ACGIH
Mineral Spirits	64742-47-8	10 - 20%	Not established	200 mg/m³ TWA
Triphenyl phosphite	101-02-0	1 - 5%	Not established	Not established
Zinc compounds, as Zn		1 - 5%	Not established	Not established

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

3. HAZARDS IDENTIFICATION

Emergency Overview

Warning

Color: Amber
Physical state: Liquid
Odor: Mild

NFPA 704

Health: 1
Fire: 2
Instability: 0

WARNING COMBUSTIBLE! Vapors may travel to a source and flash back. Avoid breathing vapors or mists. May cause eye/skin irritation. May cause irritation of respiratory tract.

Potential Health Effects

Principle routes of exposure: Inhalation, ingestion, skin and eye contact.

Eye contact:
Mild eye irritation.

Skin contact:
Substance may cause slight skin irritation. Prolonged skin contact may cause skin irritation.

Inhalation:
Over-exposure by inhalation may cause respiratory irritation. Inhalation of high vapor concentrations can cause CNS-depression and narcosis.

Ingestion:
May irritate digestive tract. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

Chronic toxicity:
Repeated and prolonged exposure to solvents may cause brain and nervous system damage.

HMIS
Health: 1
Fire: 2
Physical hazard: 0
PPE: G

4. FIRST AID MEASURES

Eye contact:
Rinse immediately with plenty of water, also under the eyelids. Get medical attention if irritation developes.

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 not breathing, give artificial respiration. If symptoms persist, call a physician.

Ingestion:
Clean mouth with water and drink afterwards plenty of water. Consult a physician.

Notes to physician:
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash point: 64 °C (147°F) Method: PMCC

Suitable extinguishing media:
Use dry chemical, CO2, water spray or "alcohol" foam. Do not use a solid water stream as it may scatter and spread fire. Cool containers / tanks with spray water.

Hazardous decomposition products:
Thermal decomposition can lead to release of irritating gases and vapors. Carbon oxides. Hydrocarbons. Heavy metal compounds.

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:
Flash back possible over considerable distance. Vapors can form explosive mixtures at temperatures at or above the flash point. Risk of explosion if heated under confinement. Material may change or decompose on exposure to moisture.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:
Combustible material. Remove all sources of ignition. Do not breathe vapors/dust. Avoid contact with skin, eyes and clothing. Wear personal protective equipment. In case of insufficient ventilation, wear suitable respiratory equipment.

Environmental precautions:
Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not allow material to contaminate ground water system.

Methods for cleaning up:
Wear personal protective equipment. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Dispose of promptly. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Handling:

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Use only in area provided with appropriate exhaust ventilation. Wear personal protective equipment. In case of insufficient ventilation, wear suitable respiratory equipment.

Storage:
Keep product and empty container away from heat and sources of ignition. Take precautionary measures against static discharges. Keep tightly closed in a dry, cool and well-ventilated place. Keep containers dry and tightly closed to avoid moisture absorption and contamination.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures:
Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Respiratory protection:
Use NIOSH approved respirator when ventilation is inadequate.

Hand protection:
Impervious gloves.

Skin and body protection:
Long sleeved clothing.

Eye protection:
Safety glasses with side-shields. If splashes are likely to occur, wear:. Face-shield.

Exposure limits:
See Section 2.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Color:	Amber
Odor:	Mild
pH:	No data available
Molecular weight:	No data available
Boiling point/range (°C):	No data available
Specific gravity (Water =1):	0.960
Vapor pressure (mmHg):	No data available
Evaporation rate (Water =1):	< 1.00
Water solubility (mg/l):	Insoluble
VOC content (%)	No data available

10. STABILITY AND REACTIVITY

Stability:	Stable at normal conditions.
Polymerization:	Will not occur.

Hazardous decomposition products:	Carbon oxides. Hydrocarbons. Thermal decomposition can lead to release of irritating gases and vapors. Vapors may be explosive. Possible decomposition products in case of hydrolysis are:. phenol, aliphatic alcohol, phosphoric acid.
Materials to avoid:	Strong oxidizing agents. Strong acids and strong bases. Water.
Conditions to avoid:	Heat, flames and sparks. Extremes of temperature and direct sunlight. Exposure to moisture.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

No data is available on the product itself.

Chronic toxicity:
Repeated and prolonged exposure to solvents may cause brain and nervous system damage. Repeated absorption may cause disorder of central nervous system, liver, kidneys and blood. Chronic exposure may cause dermatitis.

Component Information
Component information, if any, is listed below

Mineral Spirits
ACGIH - Carcinogens: A3 - Animal Carcinogen (as total hydrocarbon vapor)

Calcium naphthenate
NIOSH - LD50s and LC50s:
> 6 g/kg Oral LD50 Rat

Diphenyl isodecyl phosphite
NIOSH - LD50s and LC50s:
= 2370 µL/kg Oral LD50 Rat

Triphenyl phosphite
NIOSH - LD50s and LC50s:
= 1080 mg/kg Oral LD50 Mouse
= 444 mg/kg Oral LD50 Rat

12. ECOLOGICAL INFORMATION

No data is available on the product itself.

Aquatic toxicity:
No information available.

Persistence and degradability:
No information available

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products:
Dispose of according to all federal, state and local applicable regulations. Where possible recycling is preferred to disposal or incineration.

14. TRANSPORT INFORMATION

DOT:

UN/ID No: NA1993
Proper shipping name: Combustible liquid, N.O.S.
U.S. DOT - Hazard Class: 3
Packing group: III

Other shipping information: Not regulated in containers <119 gallons

Components	CERCLA/DOT RQ:
Phosphoric Acid (< 0.1%)	5000 lb 2270 kg

TDG (Canada):

Proper shipping name: Combustible liquid, N.O.S.
Packing group: III

15. REGULATORY INFORMATION

U.S. Regulations:

Not subject to TSCA 12(b) Export Notification

Zinc compounds, as Zn (1 - 5%)
SARA 313: form R reporting required for 1.0% de minimis concentration (only fume or dust); Chemical Category N982

Zinc Compound (10 - 20%)
SARA 313: 1.0 percent de minimis concentration (Chemical Category N982)

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.
Zinc Compound

NJRTK: 3012
PARTK: Listed

Canadian WHMIS
WHMIS hazard class: B3 Combustible liquid. D2B Toxic materials.

Components	WHMIS Ingredient Disclosure List:
Triphenyl phosphite	1%

International Inventories
TSCA 8(b): All the ingredients are on the TSCA list.
Canadian DSL: All the ingredients are on the DSL.
EINECS: All the ingredients are on the EINECS list.
Phillipines (PICCS): Not listed.
Japan (ENCS): Not listed.
Korea (KECL): Listed.
China (IECS): Listed.
Australia (AICS): 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