



# 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® 6325 Bulk  
 Chemical Family: Polymer Additive  
 Chemical Name: Barium, Zinc Complex Mixture  
 CAS-No.: Mixture

Date of Preparation: 07/16/2003

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

### Exposure limits

Components	CAS-No	Weight %	OSHA	ACGIH
Triphenyl phosphite	101-02-0	1 - 5%	Not applicable	Not applicable
Benzoic acid	85-85-0	1 - 5%	Not applicable	Not applicable
Phenol	108-95-2	1 - 5%	19 mg/m <sup>3</sup> TWA 5 ppm TWA prevent or reduce skin absorption	5 ppm TWA skin - potential for cutaneous absorption
Barium compounds, as Ba	7440-39-3	1 - 5%	0.5 mg/m <sup>3</sup> TWA 0.5 mg/m <sup>3</sup> TWA (as Ba)	0.5 mg/m <sup>3</sup> TWA (as Ba) 0.5 mg/m <sup>3</sup> TWA
Zinc compounds, as Zn	7440-66-6	0.1 - 1.5%	Not applicable	Not applicable
Barium Compound	RR-00555-0	5 - 10%	Not applicable	Not applicable
Zinc Compound	RR-00578-7	1 - 5%	Not applicable	Not applicable

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

## 3. HAZARDS IDENTIFICATION

### Emergency Overview

Caution

NFPA 704

Color: Straw color  
 Physical state: Liquid  
 Odor: Mild

Health: 1  
 Fire: 0  
 Instability: 0

May cause eye/skin irritation. May be harmful if absorbed through skin.

### Potential health effects

Principle routes of exposure: Eye contact, Skin contact, Inhalation.

#### Eye contact:

Contact with eyes may cause irritation.

#### Skin contact:

Prolonged skin contact may cause skin irritation and/or dermatitis. May be harmful if absorbed through skin.

**Inhalation:**

May cause irritation of respiratory tract.

**Ingestion:**

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

**Chronic toxicity:**

Prolonged skin contact may cause skin irritation and/or dermatitis..

**HMS**

Health: 1

Fire: 0

Physical hazard: 0

PPE: G

## 4. FIRST AID MEASURES

**Eye contact:**

Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If eye irritation persists, consult a specialist.

**Skin contact:**

Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. If skin irritation persists, call a physician.

**Inhalation:**

Move to fresh air. If breathing is difficult, give oxygen. Consult a physician.

**Ingestion:**

Do not induce vomiting. Consult a physician.

**Notes to physician:**

Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

Flash point: 128 °C ( 262°F) Method: PMCC

**Suitable extinguishing media:**

Use dry chemical, CO<sub>2</sub>, water spray or "alcohol" foam.

**Hazardous decomposition products:**

Carbon oxides. Hydrocarbons.. BaO, ZnO..

**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:**

Heavy metals may be released in hazardous concentrations in the form of dusts or fumes (see sections 2 & 10).

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:**

Remove all sources of ignition. Avoid contact with skin, eyes and clothing. Use 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.

**Methods for cleaning up:**

Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.

## 7. HANDLING AND STORAGE

**Handling:**

Use only in area provided with appropriate exhaust ventilation.

**Storage:**

Keep containers tightly closed in a cool, well-ventilated place. Keep containers dry and tightly closed to avoid moisture absorption and contamination.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering measures:**

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

**Respiratory protection:**

In case of insufficient ventilation wear suitable respiratory equipment.

**Hand protection:**

Impervious gloves.

**Skin and body protection:**

Long sleeved clothing.

**Eye protection:**

Goggles. Avoid contact with eyes.

**Exposure limits:**

See Section 2.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b>	Liquid
<b>Color:</b>	Straw color
<b>Odor:</b>	Mild
<b>pH:</b>	No data available
<b>Molecular weight:</b>	No data available
<b>Specific gravity (Water =1):</b>	1.020
<b>Vapor density (Air=1):</b>	No data available
<b>Vapor pressure (mmHg):</b>	No data available
<b>Evaporation rate (Water =1):</b>	1.00
<b>Water solubility:</b>	Insoluble
<b>VOC content (%):</b>	No data available

## 10. STABILITY AND REACTIVITY

<b>Stability:</b>	Stable under recommended storage conditions.
<b>Polymerization:</b>	None under normal processing.
<b>Hazardous decomposition products:</b>	Carbon oxides. Possible decomposition products in case of hydrolysis are: phenol, aliphatic alcohol, phosphoric acid.
<b>Materials to avoid:</b>	Strong oxidizing agents. Water.

Conditions to avoid: Exposure to moisture.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

No data is available on the product itself.

### Eye Irritation:

Contact with eyes may cause irritation.

### Skin irritation:

May cause skin irritation in susceptible persons.

### Chronic toxicity:

Prolonged skin contact may cause skin irritation and/or dermatitis.

### Triphenyl phosphite

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

### Benzoic acid

NIOSH - LD50s and LC50s:  
= 1700 mg/kg Oral LD50 Rat  
= 1940 mg/kg Oral LD50 Mouse  
> 10 gm/kg Dermal LD50 Rabbit  
> 26 mg/m<sup>3</sup>/1H Inhalation LC50 Rat

### Phenol

NIOSH - LD50s and LC50s:  
= 177 mg/m<sup>3</sup> Inhalation LC50 Mouse  
= 270 mg/kg Oral LD50 Mouse  
= 316 mg/m<sup>3</sup> Inhalation LC50 Rat  
= 317 mg/kg Oral LD50 Rat  
= 630 mg/kg Dermal LD50 Rabbit  
ACGIH - Carcinogens: A4 - Not Classifiable as a Human Carcinogen

## 12. ECOLOGICAL INFORMATION

No data is available on the product itself.

### Aquatic toxicity:

No information available.

### Benzoic acid

Ecotoxicity - Fish Species Data: = 180 mg/L 96 Hr LC50 mosquito fish  
Ecotoxicity - Microtox Data: = 18.9 mg/L 15 min EC50 Photobacterium phosphoreum (15 °C)

### Phenol

Ecotoxicity - Fish Species Data: = 23.88 mg/L 96 Hr LC50 bluegill (Static)  
= 24 mg/L 96 Hr LC50 fathead minnow (flow-through)  
= 8.9 mg/L 96 Hr LC50 rainbow trout (flow-through)  
Ecotoxicity - Microtox Data: = 28.8 mg/L 5 min EC50 Photobacterium phosphoreum  
= 31.6 mg/L 15 min EC50 Photobacterium phosphoreum  
Ecotoxicity - Water Flea Data: = 23.0 mg/L 48 Hr LC50 water flea

**Canada**

WHMIS hazard class: D2B Toxic materials.

<u>Components</u>	<u>WHMIS: Ingredient Disclosure:</u>
Triphenyl phosphite	1%
Benzoic acid	1%
Phenol	1%

**International Inventories**

TSCA 8(b): All the ingredients are on the TSCA list.

DSL: All the ingredients are on the DSL.

EINECS: All the ingredients are on the EINECS list.

PICCS: Not listed.

ENCS: Not listed.

KECL: Listed.

CHINA: Listed.

AICS: Listed.

**16. OTHER INFORMATION**

**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**

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COGNIS MSDS

00012010/0212

WRITE, WAXY FLAKES OR POWDER WITH A WATTY ACID ODOOR

Non hazardous under normal conditions of use.

Sealed safe powder in a flammable dust. Concentrations as low as 0.017 oz/cu ft in air can burn, and if ignited in a closed space, can explode.

Emergency Contact Information

SECTION 2: HAZARD IDENTIFICATION

CHEMICAL	CONCENTRATION (Wt. %)	EXPOSURE LIMITS
HEXADECANOIC ACID CASRN 57-10-3	50.0	None established
OCTADECANOIC ACID CASRN 67-11-4	39.0	None established
OLEIC ACID CASRN 119-80-1	5.0	None established
MARGARIC ACID CASRN 506-12-7	2.5	None established
TETRADECANOIC ACID CASRN 544-63-8	2.5	None established
HEPTADECANOIC ACID CASRN 1002-84-2	1.0000	None established

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

EMERGENCY NUMBERS: CHEMTRAC: 800-424-9300

EMERGENCY NUMBERS: Home: 800-843-7370 FAX: 513-682-5615

MANUFACTURER: COGNIS CORPORATION  
501 Research Drive  
Cincinnati, OH 45232

PRODUCT NAME: EMERSON 120 STEARIC ACID  
SYNONYMS: OCTADECANOIC ACID  
CASRN: 57-11-4  
REVISION: 02/09/2008  
SUPERSEDES: 01/01/2000

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Material Safety Data Sheet

COGNIS CORPORATION

10000 - 45100 - 2001-1219 DEXTER Tag#002

Printed: 12 Feb

002

To: From: Cognis TX Fax: TOPVAL ME/HR-02-2001-12,19 Doc: 108 Page: 003

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**SKIN CONTACT:**

This material is not classified as a skin irritant.

**EYE CONTACT:**

This material is not classified as an eye irritant.

**INHALATION:**

No information available

**INGESTION:**

Similar materials are not considered toxic.

**CHRONIC EFFECTS:**

None known.

**OTHER HEALTH EFFECTS:**

No carcinogenicity, mutagenicity or teratogenicity are known. No effects of chronic exposure or target organ effects are known. No exposure limits have been established for this product.

**PRIMARY ROUTES of EXPOSURE: Skin**

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**SECTION 4: FIRST AID MEASURES**  
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**SKIN CONTACT:**

Wash affected area with soap and water.

**EYE CONTACT:**

Immediately flush eyes with plenty of cool water for at least 15 minutes. Do not let victim rub eyes. Get medical attention if irritation develops.

**INHALATION:**

Immediately remove victim to fresh air. If victim has stopped breathing give artificial respiration, preferably, mouth to mouth. Get medical attention immediately.

**INGESTION:**

Call a physician or poison control center immediately.

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**SECTION 5: FIRE FIGHTING MEASURES**  
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Flash Point: 365 Deg F ( Cleveland Open Cup )  
LFL: Not Determined UFL: Not Determined  
AUTOIGNITION TEMP: Not Determined

**RECOMMENDED EXTINGUISHING MEDIA:**

To: From: Cognis T3 Fax:

TopCall at: NAB-09-2001-15-19 Doc: 108 Page: 004

Carbon dioxide, Dry chemical, Foam, Water spray

**SPECIAL FIRE FIGHTING PROCEDURES:**

Use water spray, dry chemical, foam or carbon dioxide. Water may be ineffective but should be used to keep fire exposed containers cool. If a spill or leak has not ignited, use water spray to disperse the vapors. Water spray may be used to flush spills away from fire.

**UNUSUAL FIRE OR EXPLOSION HAZARDS:**

Product dusts may be explosive in mixtures with air. Perform only those fire fighting procedures for which you have been trained. Firefighters should wear self contained breathing apparatus in the positive pressure mode with a full facepiece when there is a possibility of exposure to smoke, fumes or hazardous decomposition products.

**HAZARDOUS COMBUSTION PRODUCTS:**

Decomposition may produce carbon monoxide and carbon dioxide.

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**SECTION 6: ACCIDENTAL RELEASE MEASURES**  
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**STEPS TO TAKE IN CASE OF SPILL OR LEAK:**

Pick up spilled material and containwise. Vacuum area or flush with water to remove residues.

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**SECTION 7: HANDLING AND STORAGE**  
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Keep in closed or covered containers

Store in a cool, dry area.

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**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**  
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**EYE PROTECTION:**

Safety glasses with side shields

**SKIN PROTECTION:**

Rubber or plastic gloves

**RESPIRATORY PROTECTION:**

Nuisance dust mask if use causes dusting

**ENGINEERING CONTROLS:**

Local exhaust

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**SECTION 9: PHYSICAL and CHEMICAL PROPERTIES**  
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To:

From: Cognis

To:

From:

TOTAL at: PPR-05-2001-15:19 Box: 108 Page: 002

PHYSICAL STATE: Solid  
 APPEARANCE: WHITE, WAXY FLAKES OR POWDER WITH A FATTY ACID ODOR  
 ODOR: FATTY ACID  
 ODOR THRESHOLD: Not Determined  
 pH: Not Determined  
 MELTING POINT: 54-55 Deg C  
 BOILING POINT: 726 Deg C  
 SPECIFIC GRAVITY: 0.849  
 SOLUBILITY IN WATER: Insoluble  
 PERCENT VOLATILES (by Wt.): Not Determined  
 VAPOR DENSITY: Not Determined  
 VAPOR PRESSURE: Not Determined  
 EVAPORATION RATE (N-BUTYL ACETATE=1): Not determined  
 VOC CONTENT (EPA Method 24): Not Determined

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 SECTION 10: STABILITY AND REACTIVITY  
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STABILITY: Normally Stable

HAZARDOUS POLYMERIZATION: Will not occur.

INCOMPATIBLE MATERIALS:  
 Strong acids, bases and oxidizing agents.

CONDITIONS TO AVOID:  
 Avoid contact with heat, sparks, flame and all sources of ignition.

HAZARDOUS DECOMPOSITION PRODUCTS:  
 Decomposition products contain carbon dioxide and carbon monoxide.

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 SECTION 11: TOXICOLOGICAL INFORMATION  
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TYPE OF STUDY	RESULTS	SPECIES
SKIN IRRITATION	0 (Scale 0-5)	Rabbit

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 SECTION 12: ECOLOGICAL INFORMATION  
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ECOLOGICAL TOXICITY:  
Not Determined

ENVIRONMENTAL FATE:  
Not Determined

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 SECTION 13: DISPOSAL CONSIDERATIONS  
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All recovered material should be packaged, labeled, transported, and disposed or reclaimed in conformance with applicable laws and regulations and in conformance with Good Engineering Practices. Avoid landfilling of liquids. Reclaim where possible.

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SECTION 14: TRANSPORTATION INFORMATION  
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PROPER SHIPPING NAME: Not Applicable  
UN/NA:  
DOT HAZARD CLASS: Not Determined  
DOT HAZARDOUS MATERIALS:  
Not Applicable  
EMERGENCY RESPONSE GUIDE NUMBER: Not Determined  
PACKAGING GROUP: Not Determined

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SECTION 15: REGULATORY INFORMATION  
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TSCA INVENTORY STATUS:  
This product and/or all of its components are included on the TSCA Inventory of Chemical Substances.

TSCA 12 (b) COMPONENTS:  
None

SARA 311/312 HAZARD CATEGORIES: None

SARA 313 TOXIC CHEMICALS:  
None

SARA 302 EXTREMELY HAZARDOUS SUBSTANCES:  
None

CERCLA HAZARDOUS SUBSTANCES:  
None

CALIFORNIA PROPOSITION 65 COMPONENTS:  
None

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SECTION 16: OTHER INFORMATION  
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HMIS RATINGS: HEALTH: 1 FLAMMABILITY: 1 REACTIVITY: 0

MSHA RATINGS: HEALTH: 1 FLAMMABILITY: 1 REACTIVITY: 0 OTHER: None

THE FOLLOWING WARNING INFORMATION IS PROVIDED ON THE LABEL FOR THIS PRODUCT:  
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FIRST AID - INHALATION:

Tel:

From: Cognis

To:

Fax:

TOPCALL at: 000-00-0001-15:19 Doc: 100 Page: 007

Immediately remove victim to fresh air. If victim has stopped breathing give artificial respiration, preferably, mouth to mouth. Get medical attention immediately.

**FIRST AID - SKIN CONTACT:**

Wash affected area with soap and water.

**FIRST AID - EYE CONTACT:**

Immediately flush eyes with plenty of cool water for at least 15 minutes. Do not let victim rub eyes. Get medical attention if irritation develops.

**FIRST AID - INGESTION:**

Call a physician or poison control center immediately.

**STEPS TO TAKE IN CASE OF SPILL OR LEAK:**

Pick up spilled material and containerize. Vacuum area or flush with water to remove residues.

**HANDLING AND STORAGE:**

Keep in closed or covered containers

**ABBREVIATIONS USED:**

ND or N/D = Not Determined

NA or N/A = Not Applicable or Not Available

NE or N/E = Not Established

N/AP = Not Applicable

All information, recommendations, and suggestions appearing herein concerning our product are based upon tests and data believed to be reliable. However, it is the user's responsibility to determine the safety, toxicity, and suitability for his own use of the product described herein. Since the actual use by others is beyond our control, no guarantee, express or implied, is made by Cognis Corporation as to the effects of such use, the results obtained, or the safety and toxicity of the product nor does Cognis Corporation assume any liability arising out of use, by others, of the product referred to herein. The information herein is not to be construed as absolutely complete since additional information may be necessary or desirable when particular or exceptional conditions or circumstances exist or because of applicable laws or government regulations.

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