



# MATERIAL SAFETY DATA SHEET

Ferro Corporation  
Electronic Material System  
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**Emergency telephone number**  
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## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

**Product Name:** Zox® Ce-89  
**Synonyms:** Aqueous slurry.  
**CAS-No.:** Mixture

Date of Preparation: 06/01/2005

## 2. HAZARD IDENTIFICATION

### Emergency Overview

Caution  
May cause eye/skin irritation. Avoid contact with the skin and the eyes.

NFPA 704

<b>Colour:</b>	White	<b>Health:</b>	1
<b>Physical state:</b>	Slurry	<b>Fire:</b>	0
<b>Odour:</b>	Odorless	<b>Instability:</b>	0

### Potential Health Effects

**Principle routes of exposure:** Eye contact. Skin contact.

**Eye contact:** May cause slight irritation.

**Skin contact:** Prolonged skin contact may cause skin irritation and/or dermatitis.

**Inhalation:** Breathing of mists, vapors, or fumes may irritate the nose, throat and lungs.

**Ingestion:** May irritate digestive tract.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS Number	Weight %
Bastnasite	68909-13-7	40 - 50%
Barium sulfate	7727-43-7	1 - 5%
Strontium Fluoride	7783-48-4	1 - 5%
Fluorspar	7789-75-5	1 - 5%
Calcium Carbonate	1317-65-3	1 - 5%

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

**Ingestion:** Drink plenty of water. Consult a physician if necessary. Do not induce vomiting without medical advice.

**Notes to physician:** Treat symptomatically. Lanthanides, because of their high density, can produce abnormalities on chest x-ray. Lanthanides, generally are not felt to be fibrogenic and the lesions typically have little or no clinical significance. However, occasional cases of pneumoconiosis have been reported.

## 5. FIRE-FIGHTING MEASURES

**Flash point:** Non combustible

**Suitable extinguishing media:** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**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:** None known.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Evacuate area of all unnecessary personnel. Avoid contact with skin, eyes and clothing. Use personal protective equipment.

**Environmental precautions:** Prevent further leakage or spillage if safe to do so. Do not let product enter drains. 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. 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.

**Storage:** Keep container tightly closed in a dry and well-ventilated place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Exposure limits:**

Components	OSHA	ACGIH
Barium sulfate	15 mg/m <sup>3</sup> TWA (total dust) 5 mg/m <sup>3</sup> TWA (respirable)	10 mg/m <sup>3</sup> TWA
Calcium Carbonate	15 mg/m <sup>3</sup> TWA (total dust); 5 mg/m <sup>3</sup> TWA (respirable fraction)	10 mg/m <sup>3</sup> TWA
Bastnasite	Not established	Not established
Strontium Fluoride	2.5 mg/m <sup>3</sup> TWA as F	2.5 mg/m <sup>3</sup> TWA (as F)
Fluorspar	2.5 mg/m <sup>3</sup> TWA (as F)	2.5 mg/m <sup>3</sup> TWA (as F)

OSHA particulate (not otherwise regulated) limit: 5 mg/m<sup>3</sup> (respirable); 15 mg/m<sup>3</sup> (total).

**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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Colour:</b>	White	<b>Physical state:</b>	Slurry
<b>Odour:</b>	Odorless	<b>Molecular weight:</b>	No data available

<b>Boiling point/range (°C):</b>	100.	<b>pH:</b>	7.8
<b>Freezing point/range (°C):</b>	0.0	<b>Specific gravity (Water =1):</b>	1.500
<b>Vapor pressure (mmHg):</b>	No data available	<b>Evaporation rate (Water =1):</b>	No data available
<b>Water solubility (mg/l):</b>	No data available	<b>VOC content (%)</b>	No data available

## 10. STABILITY AND REACTIVITY

**Stability:** Stable at normal conditions.

**Polymerization:** Will not occur.

**Hazardous decomposition products:** None under normal use.

**Materials to avoid:** Strong oxidizing agents.

**Conditions to avoid:** None known

## 11. TOXICOLOGICAL INFORMATION

**Acute toxicity:**

No data is available on the product itself.

**Barium sulfate**

**ACGIH - Carcinogens:** A4 - Not Classifiable as a Human Carcinogen

A4 - Not Classifiable as a Human Carcinogen (as Ba)

**Bastnasite**

**NIOSH - LD50s and LC50s:** > 5 g/kg Oral LD50 Rat

**Fluorspar**

**NIOSH - LD50s and LC50s:** = 4250 mg/kg Oral LD50 Rat

## 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.

## 12. ECOLOGICAL INFORMATION

No data is available on the product itself

**Aquatic toxicity:** Not determined

**Persistence and degradability:** Not determined

## 14. TRANSPORT INFORMATION

**DOT**

**Proper shipping name:** Not regulated.

**TDG (Canada)**

**Proper shipping name:** Not regulated.

## 15. REGULATORY INFORMATION

**U.S. Regulations:**

**Not subject to the provisions of SARA 313 Title III**

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

**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. This product contains a trace amount of a lead compound (<0.1%) and a very low level of Naturally Occurring Radioactive Material (NORM)..

<b>Components</b>	<b>NJRTK:</b>	<b>PARTK:</b>	<b>Cal Prop65:</b>
Lead compounds	2266 (inorganic: 0.1%; organic: 1.0%)	Listed	Carcinogen, developmental toxicity.
Calcium Carbonate	N/A	Listed	N/A
Thorium Phosphate	N/A	N/A	Radionuclides
Fluorspar	sn 0319	N/A	N/A

**Canadian WHMIS**

WHMIS hazard class: D2B Toxic materials.

**Components**

Lead compounds

**WHMIS Ingredient Disclosure:**

1%

**International Inventories**

TSCA 8(b): Listed or exempt.  
Canadian DSL: Listed or exempt.  
EINECS: Listed or exempt.  
Phillipines (PICCS): Not listed.  
Japan (ENCS): Not listed.  
Korea (KECL): Listed.  
China (IECS): Listed.  
Australia (AICS): Listed.

**16. OTHER INFORMATION**

**For Industrial Use Only**

**HMIS**

**Health:** 1

**Fire:** 0

**Physical hazard:** 0

**PPE:** X

**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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