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 Electronic Material Systems
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Emergency telephone number
 CHEMTREC: 1-800-424-9300
 CHEMTREC (outside U.S.): 1-703-527-3887
 Phone Number: 1-315-536-3357

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

Product Name:	SBE 50-D-1 20 KG Pail	Date of Preparation: 10/03/2008
Synonyms:	Rare Earth Oxide.	
CAS-No.:	Mixture	
Product Code:	1014915	

2. HAZARD IDENTIFICATION

Emergency Overview

Caution

Avoid dust formation. May cause physical irritation. Lead vapours at high temperatures. Lead poisoning hazard. This material contains very low levels of Naturally Occurring Radioactive Material (NORM).

NFPA 704

Colour:	Reddish brown	Health:	1
Physical state:	Powder	Fire:	0
Odour:	Odorless	Instability:	0

Potential Health Effects

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

Eye contact: May cause slight irritation. Resin particles, like other inert materials, are mechanically irritating to eyes.

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

Inhalation: Product dust may be irritating to eyes, skin and respiratory system. Over-exposure by inhalation may cause respiratory irritation. Metal fumes from firing may cause lung inflammation and injury in terms of hours with symptoms of chest pains, chills, cough, headache, and diarrhea. Symptoms from exposure may not develop quickly and may not cause immediate effects. The effects of overexposure to lead may include decreased stamina, fatigue, sleep disturbance, headaches, aching bones and muscles, constipation, abdominal pains and decreased appetite. Existing lung or pulmonary conditions may be aggravated by exposure.

Ingestion: May irritate digestive tract. Symptoms from exposure may not develop quickly and may not cause immediate effects. The effects of overexposure to lead may include decreased stamina, fatigue, sleep disturbance, headaches, aching bones and muscles, constipation, abdominal pains and decreased appetite.

Chronic toxicity: No known effects under normal conditions of use. Excessive inhalation of dust may cause chemical pneumonitis, cyanosis, and pulmonary edema. Lead is a cumulative poison and can build up in the body over time to toxic levels. Lead overexposure can cause anemia, pale skin, a blue line at the gum margin, decreased coordination and muscle strength, abdominal pain, severe constipation, nausea, vomiting, paralysis of the wrist joint, decreased fertility, and kidney damage. Elevated exposure to either parent before pregnancy may increase the chance of miscarriage, birth defects, or neurological disorders in infants.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS Number	Weight %
Bastnasite	68909-13-7	80 - 90%
Fluoride compound		5 - 10%
Barium compounds, as Ba		1 - 5%
Lead Sulfate	7446-14-2	0.1 - 0.5%
Thorium Phosphate	14485-31-5	<0.1%

OSHA particulate (not otherwise regulated) limit: 5 mg/m³ (respirable); 15 mg/m³ (total). This material contains very low levels of Naturally Occurring Radioactive Material (NORM).

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 (°C): No data available

Suitable extinguishing media: The product itself does not burn. 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. Lead oxides.

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: Dust may form explosive mixture in air.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Avoid dust formation. 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: Use approved industrial vacuum cleaner for removal. Wear personal protective equipment. Dispose of promptly.

7. HANDLING AND STORAGE

Handling: Handle in accordance with good industrial hygiene and safety practice. Avoid dust formation. Avoid contact with skin, eyes and clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Provide appropriate exhaust ventilation at places where dust is formed. Remove all sources of ignition. Take precautionary measures against static discharges.

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limits

Components	OSHA	ACGIH
Bastnasite	2.5 mg/m ³ TWA (as F)	2.5 mg/m ³ TWA (as F)
Fluoride compound	2.5 mg/m ³ TWA (as F)	2.5 mg/m ³ TWA (as F)
Barium compound (as Ba)	0.5 mg/m ³ TWA	0.5 mg/m ³ TWA
Lead Sulfate	50 ug/m ³ TWA (as Pb); 30 ug/m ³ Action Level (as Pb)	0.05 mg/m ³ TWA (as Pb)
Thorium Phosphate	5 x 10 ⁻¹³ microcuries/ml air for thorium 232 (NRC)	5 x 10 ⁻¹³ microcuries/ml air for thorium 232 (NRC)

Minimize exposure in accordance with good hygiene practice

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. Wear NIOSH approved respirator to limit exposure to NORM.

9. PHYSICAL AND CHEMICAL PROPERTIES

Colour:	Reddish brown	Physical state:	Powder
Odour:	Odorless	Molecular weight:	No data available
Boiling point/range (°C):	No data available	pH:	No data available
Melting point/range (°C):	> 2300	Specific gravity (Water =1):	5.4
Vapor pressure (mmHg):	No data available	Evaporation Rate (Water = 1)	No data available
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: None under normal use.

Materials to avoid: None known.

Conditions to avoid: None known.

11. TOXICOLOGICAL INFORMATION

Acute toxicity: No data is available on the product itself

Target Organ Effects: Barium compound: Heart, gastrointestinal tract. Lead may damage kidney function, the blood forming system and the reproductive system. Central nervous system.

Bastnasite

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

12. ECOLOGICAL INFORMATION

No data is available on the product itself.

Aquatic toxicity: Not determined

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.

14. TRANSPORT INFORMATION

TDG (Canada)

Proper shipping name: Not regulated.

15. REGULATORY INFORMATION

U.S. Regulations:

Not subject to TSCA 12(b) Export Notification

Components	SARA 313:
Lead compound (as Pb) (<0.1%)	100 lb Reporting Threshold (Chemical Category N420, PBT Chemical)
Lead compound (0.1 - 0.5%)	100 lb Reporting Threshold (Chemical Category N420, PBT Chemical)
Barium compound (as Ba) (1 - 5%)	1.0% de minimis concentration (Chemical Category N040)
Lead Sulfate (0.1 - 0.5%)	100 lb Reporting Threshold (Chemical Category N420, PBT Chemical)

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; CA Prop65
Calcium Carbonate	Listed (NJRTK) Listed (PARTK)
Thorium Phosphate	Radionuclides (Ca Prop 65)
Lead compound (as Pb)	Listed (NJRTK) Carcinogen (Cal Prop 65) Developmental Toxicity (Cal Prop 65) Listed (PARTK)
Barium sulfate	Listed (NJRTK) Listed (PARTK)
Calcium Sulfate	Listed (NJRTK) Listed (PARTK)
Lead compound	Listed (PARTK) Carcinogen (Cal Prop 65) Developmental Toxicity (Cal Prop 65)
Barium compound (as Ba)	Listed (NJRTK) Listed (PARTK)
Lead Sulfate	Listed (NJRTK) Carcinogen (Cal Prop 65) (PARTK)

Canadian WHMIS

WHMIS hazard class: D2A Very toxic materials.

Canadian Ingredient Disclosure List (IDL): Not Listed.

Components	WHMIS Ingredient Disclosure:
Fluoride compound	1%
Lead Sulfate	1%

International Inventories

TSCA 8(b): Listed or exempt.

Canadian DSL: Listed or exempt.

EC-No. Listed or exempt.

Phillipines (PICCS): Listed.

Japan (ENCS): One or more ingredient(s) are not on the ENCS list.

Korea (KECL): Listed.
China (IECS): Listed.
Australia (AICS): Listed.

Components	Canadian NDSL:	ELINCS:
Calcium Carbonate	Present	
Barium sulfate		EEC No. 444-260-7

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