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MATERIAL SAFETY DATA SHEET

Ferro Corporation Performance Pigments & Colors 251 West Wylie Ave. Washington, PA 15301 USA

Emergency telephone number

CHEMTREC: 1-800-424-9300

CHEMTREC (outside U.S.): 1-703-527-3887

Phone Number: 1-724-223-5900

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

Product Name:

4144A CRIMSON SPERSASTAIN

Date of Preparation: 12/19/2008

Chemical Family:

Inorganic Pigment

100LB LDRUM

Chemical Name:

Chrome tin pink sphene

Synonyms:

Pigment Red 232

CAS-No.: C.I. Number: Product Code: Mixture 77301

77301 1300690

2. HAZARD IDENTIFICATION

Emergency Overview

Caution

May cause eye/skin imtation. May cause initation of respiratory tract. Avoid dust formation.

NFPA 704

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Colour:

Red

Health:

Physical state:

Powder

Fire:

Odour:

Ododess

Instability:

Potential Health Effects

Principle routes of exposure: inhalation, Ingestion.

Eye contact: May cause irritation.

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

Inhalation: Dust irritating to respiratory tract

Ingestion: May irritate digestive tract.

Chronic toxicity: Repeated or prolonged exposure to the substance can produce lung damage.

| 3. COMPO | SITION/INFORMATION ON | INGREDIENTS |
|------------------------|-----------------------|-------------|
| Components | CAS Number | Weight % |
| Ctrome Tin Pink Sphene | 68187-12-2 | >99% |

The mixed metal oxide pigment in this product is made by high temperature fusion. Due to resulting unique structure, the fired pigment will not necessarily exhibit the same properties as the component oxides or metals in their pure state.

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. Call a physician immediately.

Product name: 4144A CRIMSON SPERSASTAIN 100LB LDRUM

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

Notes to physician: Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash point (°C): Non combustible

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

Hazardous decomposition products: Metal fumes.

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: 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: Clean up promptly by scoop or vacuum. Wear personal protective equipment. Keep in suitable, closed containers for disposal.

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. Wash hands thoroughly before eating, drinking or smoking.

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limits

| Components | OSHA | ACGIH |
|----------------------|-------------|-------------|
| (Tin compound, as Sn | ② mg/m³ TWA | 2 mg/m² TWA |

Engineering measures: Provide appropriate exhaust ventilation at machinery and at places where dust or fumes can be generated.

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.

Hygiene measures: Wash hands before breaks and at the end of workday. Contaminated work clothing should not be allowed out of the workplace. Ensure that eyewash stations and safety showers are proximal to the work-station location.

9. PHYSICAL AND CHEMICAL PROPERTIES

pH:

Colour:

Red

Physical state:

Powder.

Odour:

Odorless:

Molecular weight:

No data available

Boiling point/range (°C): Melting point/range (°C): No data available No data available

Specific gravity (Water =1):

No data available No data available

Vapor pressure (mmHg):

No data available

Evaporation Rate (Water = 1)

No data available

9. PHYSICAL AND CHEMICAL PROPERTIES

Water solubility (mg/l):

Negligible

VOC content (%)

No data available

10. STABILITY AND REACTIVITY

Stability: Stable at normal conditions.

Polymerization: Will not occur.

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

Conditions to avoid: None known

11. TOXICOLOGICAL INFORMATION

Acute toxicity: No data is available on the product itself

Target Organ Effects: Tin compound: Respiratory system (stannosis), eyes, skin.

12. ECOLOGICAL INFORMATION

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.

TDG (Canada)

Proper shipping name: Not regulated.

15. REGULATORY INFORMATION

U.S. Regulations:

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.

Canadian WHMIS

WHMIS hazard class: D2B Toxic materials.

Canadian Ingredient Disclosure List (IDL):

Product name: 4144A CRIMSON SPERSASTAIN 100LB LDRUM

| Components | WHMIS Ingredient Disclosure: |
|--------------|------------------------------|
| Tin Compound | 1% |

International Inventories

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

16. OTHER INFORMATION

For Industrial Use Only

HMIS Health: *1 Fire: 0

Physical hazard: 0

PPE: E

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

Product name: 4144A CRIMSON SPERSASTAIN 100LB LORUM