

# MATERIAL SAFETY DATA SHEET

LaMOTTE COMPANY  
PO BOX 329 - CHESTERTOWN - MARYLAND - 21620  
TELEPHONE # FOR INFORMATION 410-778-3100

24 Hour Emergency Number (CHEM-TEL) 800-255-3924

## 1. PRODUCT IDENTIFICATION

Ferrou Indicator

Code Nr. **6410**

## 2. HAZARDOUS INGREDIENTS

NAME	CAS #	TSCA #	%	PEL	TLV
1, 10 Phenanthroline monohydrate	5144-89-8		0.3	N/E	N/E
Ferrous Sulfate heptahydrate	7782-63-0		0.1	N/E	1 mg/cubic m as Fe

## 3. NON-HAZARDOUS INGREDIENTS EXCEPT WATER (7732-18-5)

NAME	CAS #	%
Water to 100%		

## 4. PHYSICAL DATA

Appearance: Red-orange Liquid	Odor: None	Boiling Point: >100 deg C	Melt. Point: N/A
Solubility in Water: Soluble	Vapor Pressure: <17 @ 20 deg C	Vapor Density: <1 (Air=1)	pH: 5

## 5. FIRE AND EXPLOSION DATA

Flash Point (method used): N/A	Flammable Limit: LEL: N/A	UEL: N/A
Extinguishing Media: Not a fire hazard	Hazardous Decomposition Products: CO, NOx, HCN	
HMS Hazard: Health - 1	Flammability - 0	Reactivity: 0
Scale: 4 = Extreme, 3 = High, 2 = Moderate, 1 = Slight, 0 = Least		
Special Fire Fighting Procedures: N/A		
Unusual Fire & Explosion Hazard: N/A		

## 6. REACTIVITY DATA

Stability: <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Unstable	Conditions to avoid: N/A	Incompatibility (Materials to avoid): Contact with nitric acid or other strong oxidizers
Hazardous Decomposition Products: CO, NOx, HCN		

## 7. HEALTH HAZARD DATA

Toxicity: <i>rat</i> LD50:132 mg/kg for 1,10-Phenanthroline anhydrous. 1,10-Phen.toxic by ingestion	
Primary Route of Entry: <input type="checkbox"/> Inhalation <input type="checkbox"/> Skin <input checked="" type="checkbox"/> Ingestion <input type="checkbox"/> N/A	Carcinogenicity: <input checked="" type="checkbox"/> None <input type="checkbox"/> NTP <input type="checkbox"/> OSHA <input type="checkbox"/> IARC
Other Health Related Comments:	
Target Organs: N/A	
Signs and symptoms of exposure: May be harmful if swallowed.	
Medical Condition Aggravated by Exposure: N/A	

## 8. EMERGENCY FIRST AID PROCEDURES

Eye Contact: Flush with water for 15 minutes.
Ingestion: Drink water, consult physician.
Inhalation: Remove to fresh air.
Skin Contact: Flush skin with water. Wash with soap and water.

## 9. SPILL AND DISPOSAL PROCEDURES

Spill and Leak: 1,10 Phenanthroline is toxic to aquatic organisms. Small spills can be mopped up and flushed to drain. Large spills: Absorb material on inert spill pads and dispose of as hazardous waste--not to sewer.
Disposal: Small amount: Flush down drain. Large amount: Dispose according to federal, state and local regulations.

## 10. PRECAUTIONARY MEASURES

In Handling: <input checked="" type="checkbox"/> Gloves <input checked="" type="checkbox"/> Eye Protection <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Other: Lab Coat
Ventilation: <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Mechanical <input type="checkbox"/> Respiratory Protection
Work/Hygiene Practices: Avoid contact with eyes, skin.

## 11. SPECIAL PRECAUTIONS

N/A	
DATE: 10/25/03	The above information is believed to be correct but does not claim to be all inclusive and should be used only as a guide.

This is a toxic chemical subject to reporting requirements of section 313 of EPCRA and 40CFR372.

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24 Hour Emergency Number (CHEM-TEL) 800-255-3924

## 1. PRODUCT IDENTIFICATION

**Nitrite DRT Reagent**

Code Nr. **6411**

## 2. HAZARDOUS INGREDIENTS

NAME	CAS #	TSCA #	%	PEL	TLV
Sulfuric Acid	7664-93-9		9 - 10	1 mg/cubic m	1 mg/cubic m
Ceric Ammonium Nitrate	16774-21-3		8	N/E	N/E

## 3. NON-HAZARDOUS INGREDIENTS EXCEPT WATER (7732-18-5)

NAME	CAS #	%
Water (to 100%)		80 - 82

## 4. PHYSICAL DATA

**Appearance:** Clear Colorless Liquid  
**Solubility in Water:** Soluble      **Odor:** None      **Boiling Point:** > 90 deg C      **Melt. Point:** N/A  
**Vapor Pressure:** <17 @ 20 deg C      **Vapor Density:** Unknown      **pH:** <1

## 5. FIRE AND EXPLOSION DATA

**Flash Point (method used):** N/A      **Flammable Limit: LEL:** N/A      **UEL:** N/A  
**Extinguishing Media:** Dry chemical, CO2 extinguisher or appropriate foam  
**HMS Hazard:** Health - 2      Flammability - 0      Reactivity - 1      *Scale: 4 = Extreme, 3 = High, 2 = Moderate, 1 = Slight, 0 = Least*  
**Special Fire Fighting Procedures:**  
 Firefighters wear self-contained breathing apparatus  
**Unusual Fire & Explosion Hazard:**  
 Can react with metals to produce hydrogen gas which can form an explosive mixture with air.

## 6. REACTIVITY DATA

**Stability:** Conditions to avoid: N/A  
 **Stable**      **Incompatibility (Materials to avoid):**  
 Metals, organic or combustible materials, strong bases  
 **Unstable**  
**Hazardous Decomposition Products:** SOx, NOx, hydrogen gas

## 7. HEALTH HAZARD DATA

**Toxicity:** oral rat LD50: 2140 mg/kg for sulfuric acid, 95%  
**Primary Route of Entry:**       **Inhalation**       **Skin**      **Carcinogenicity:**       **None**       **NTP**  
     **Ingestion**       **N/A**       **OSHA**       **IARC**  
**Other Health Related Comments:**  
**Target Organs:** Corrosive to all body parts.  
**Signs and symptoms of exposure:**  
 Severe burns. Ingestion may be fatal. Inhalation can cause coughing, chest pains, damage to lungs.  
**Medical Condition Aggravated by Exposure:** N/A

## 8. EMERGENCY FIRST AID PROCEDURES

**Eye Contact:** Immediately flush with water for at least 15 minutes. Consult physician.  
**Ingestion:** Do not induce vomiting. Rinse out mouth. Drink plenty of water. Call a doctor immediately.  
**Inhalation:**  
 Remove to fresh air.  
**Skin Contact:**  
 Immediately flush with water for at least 15 minutes while removing affected clothing. Wash skin with soap and water. Consult physician.

## 9. SPILL AND DISPOSAL PROCEDURES

**Spill and Leak:**  
 Cover spill with sodium bicarbonate or soda ash/slaked lime mixture. Mix and carefully add water to form slurry. Scoop up and wash down drain with excess water.  
**Disposal:**  
 Add very slowly with stirring to a large volume of soda ash (sodium carbonate) and slaked lime (calcium hydroxide). Pour neutralized solution down drain with excess water. Dispose according to federal, state and local regulations.

## 10. PRECAUTIONARY MEASURES

**In Handling:**       **Gloves**       **Eye Protection**       **N/A**       **Other:** Lab Coat  
**Ventilation:**       **Normal**       **Mechanical**       **Respiratory Protection**  
**Work/Hygienic Practices:** Avoid contact with skin and clothing

## 11. SPECIAL PRECAUTIONS

Store away from incompatible items.

**DATE:** 11/20/04

The above information is believed to be correct but does not claim to be all inclusive and should be used only as a guide.

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