



Material Safety Data Sheet

Section 1. Product and Company Identification

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|---------------------|---|-----------------------|-----------|
| Product Name | Ferroun Indicator solution | Product Code | VW3319 |
| Manufacturer | EMD Chemicals Inc. P.O. Box 70 480 Democrat Road Gibbstown, NJ 08027 Prior to January 1, 2003 EMD Chemicals Inc. was EM Industries, Inc. or EM Science, Division of EM Industries, Inc. | Effective Date | 3/23/2005 |
| | | Print Date | 3/23/2005 |

For More Information Call

856-423-6300 Technical Service
Monday-Friday: 8:00 AM - 5:00 PM

In Case of Emergency Call

800-424-9300 CHEMTREC (USA)
613-996-6666 CANUTEC (Canada)
24 Hours/Day: 7 Days/Week

Synonym None.

Material Uses Laboratory Reagent

Chemical Family Solution.

Section 2. Composition and Information on Ingredients

| Component | CAS # | % by Weight |
|------------------------------|-----------|-------------|
| Iron(II)sulfate heptahydrate | 7782-63-0 | 0.7 |
| o-PHENANTHROLINE | 5144-89-8 | 1.5 |
| Water | 7732-18-5 | 98 |

+ Section 3. Hazards Identification

Physical State and Appearance Liquid.

Emergency Overview CAUTION !
HARMFUL IF SWALLOWED.
CAUSES EYE AND SKIN IRRITATION.
MAY BE HARMFUL IF INHALED.

Routes of Entry Inhalation. Ingestion.

Potential Acute Health Effects

Eyes Hazardous in case of eye contact (irritant). Inflammation of the eye is characterized by redness, watering, and itching.

Skin Hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Inhalation May be hazardous in case of inhalation.

Ingestion Hazardous in case of ingestion.

Potential Chronic Health Effects

Carcinogenic Effects This material is not known to cause cancer in animals or humans.

Additional information See Toxicological Information (section 11)

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| Medical Conditions Aggravated by Overexposure: | Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs. |
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Section 4. First Aid Measures

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| Eye Contact | Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately. |
| Skin Contact | In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately. |
| Inhalation | If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. |
| Ingestion | If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately. |

Section 5. Fire Fighting Measures

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| Flammability of the Product | Non-flammable. |
| Auto-ignition Temperature | Not applicable. |
| Flash Points | Not applicable. |
| Flammable Limits | Not applicable. |
| Products of Combustion | Not applicable. |
| Fire Hazards in Presence of Various Substances | Not applicable. |
| Explosion Hazards in Presence of Various Substances | Risks of explosion of the product in presence of static discharge: No. Risks of explosion of the product in presence of mechanical impact: No. |
| Fire Fighting Media and Instructions | Not applicable. |
| Protective Clothing (Fire) | Not applicable. |
| Special Remarks on Fire Hazards | Not available. |
| Special Remarks on Explosion Hazards | Not available. |

Section 6. Accidental Release Measures

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| Small Spill and Leak | Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. |
| Large Spill and Leak | Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. |
| Spill Kit Information | No specific spill kit required for this product. |

Section 7. Handling and Storage

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| Handling | Avoid contact with eyes, skin and clothing. Do not ingest. Avoid breathing vapors or spray mists. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. |
| Storage | Keep container tightly closed. Keep container in a cool, well-ventilated area. |

Section 8. Exposure Controls/Personal Protection

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| Engineering Controls | Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location. |
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Personal Protection

Eyes Splash goggles.

Body Lab coat.

Respiratory Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Hands Gloves.

Feet Not applicable.

Protective Clothing (Pictograms)**Personal Protection in Case of a Large Spill**

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Product Name

Iron(II)sulfate heptahydrate
o-PHENANTHROLINE
Water

Exposure Limits

Not available.
Not available.
Not available.

Section 9. Physical and Chemical Properties

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| Odor | Not available. |
| Color | Clear. |
| Physical State and Appearance | Liquid. |
| Molecular Weight | Not applicable. |
| Molecular Formula | Not applicable. |
| pH | Not available. |
| Boiling/Condensation Point | The lowest known value is 99.9°C (211.8°F) (Water). |
| Melting/Freezing Point | May start to solidify at -0.1°C (31.8°F) based on data for: Water. |
| Specific Gravity | Not available. |
| Vapor Pressure | Not available. |
| Vapor Density | Not available. |

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| Odor Threshold | Not available. |
| Evaporation Rate | 0.36 (Water) compared to(n-Butyl Acetate =1) |
| LogK_{ow} | Not available. |
| Solubility | Soluble in water. |

Section 10. Stability and Reactivity

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| Stability and Reactivity | The product is stable. |
| Conditions of Instability | Not available. |
| Incompatibility with Various Substances | Reactive with metals. |
| Rem/Incompatibility | Not available. |
| Hazardous Decomposition Products | CO _x , NO _x |
| Hazardous Polymerization | Will not occur. |

Section 11. Toxicological Information

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| RTECS Number: | Ferrous Sulfate, Heptahydrate o-Phenanthroline Water | NO8510000 Not available. ZC0110000 |
| Toxicity | LD ₅₀ : Not available. LC ₅₀ : Not available. | |
| Chronic Effects on Humans | Not available. | |
| Acute Effects on Humans | Hazardous in case of eye contact (irritant). Inflammation of the eye is characterized by redness, watering, and itching. Hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. May be hazardous in case of inhalation. Hazardous in case of ingestion. | |
| Synergetic Products (Toxicologically) | Not available. | |
| Irritancy | <u>Draize Test</u> : Not available. | |
| Sensitization | Not available. | |
| Carcinogenic Effects | This material is not known to cause cancer in animals or humans. | |
| Toxicity to Reproductive System | Not available. | |
| Teratogenic Effects | Not available. | |
| Mutagenic Effects | Not available. | |

Section 12. Ecological Information

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| Ecotoxicity | Not available. |
| BOD5 and COD | Not available. |
| Toxicity of the Products of Biodegradation | The products of degradation are less toxic than the product itself. |

Section 13. Disposal Considerations

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| EPA Waste Number | Not available. |
| Treatment | Material does not have an EPA Waste number and is not a listed waste, however consultation with a permitted waste disposal site (TSD) should be accomplished. |

Section 14. Transport Information

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| DOT Classification | Proper Shipping Name: CHEMICALS, N.O.S. RQ: Not applicable. |
| TDG Classification | Not available. |
| IMO/IMDG Classification | Not available. |
| ICAO/IATA Classification | Not available. |

+ Section 15. Regulatory Information

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| U.S. Federal Regulations | TSCA 8(b) inventory: Iron(II)sulfate heptahydrate; o-Phenanthroline; Water SARA 302/304/311/312 extremely hazardous substances: No products were found. SARA 302/304 emergency planning and notification: No products were found. SARA 302/304/311/312 hazardous chemicals: Iron(II)sulfate heptahydrate SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Iron(II)sulfate heptahydrate: Delayed (Chronic) Health Hazard SARA 313 toxic chemical notification and release reporting: No products were found. Clean Water Act (CWA) 307: No products were found. Clean Water Act (CWA) 311: Iron(II)sulfate heptahydrate Clean air act (CAA) 112 accidental release prevention: No products were found. Clean air act (CAA) 112 regulated flammable substances: No products were found. Clean air act (CAA) 112 regulated toxic substances: No products were found. |
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| WHMIS (Canada) | Class D-2B: Material causing other toxic effects (TOXIC). CEPA DSL: WATER This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all required information. |
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International Regulations

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| EINECS | Iron(II)sulfate heptahydrate | Not available. |
| | o-Phenanthroline | Not available. |
| | Water | 231-791-2 |

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| DSCL (EEC) | This product is not classified according to the EU regulations. |
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| International Lists | Australia (NICNAS): Iron(II)sulfate heptahydrate; o-Phenanthroline; Water Japan (MITI): Water Korea (TCCL): Water Philippines (RA6969): Iron(II)sulfate heptahydrate; o-Phenanthroline; Water China: No products were found. |
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| State Regulations | Pennsylvania RTK: Iron(II)sulfate heptahydrate: (environmental hazard, generic environmental hazard) Massachusetts RTK: Iron(II)sulfate heptahydrate New Jersey: Ferriin Indicator Solution California prop. 65: No products were found. |
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Section 16. Other Information

National Fire
Protection
Association
(U.S.A.)



Changed Since Last
Revision

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Notice to Reader

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