



MATERIAL SAFETY DATA SHEET
Ferrous Sulfate
HEPTAHYDRATE - MONOHYDRATE

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| HEALTH | 1 |
| FLAMMABILITY | 0 |
| REACTIVITY | 0 |
| PERSONAL PROTECTION | E |

| Manufacturer Information | |
|--------------------------------|--|
| Product/Material: | Ferrous Sulfate Moist & Dried Heptahydrate & Monohydrate |
| Manufacturer's Name & Address: | QC Corporation 5566 Nash Road Cape Girardeau, MO 63701 |
| Emergency Tel. No.: | 410-486-0010 |
| Chemtrec Number: | 800-424-9300 |
| Date Prepared: | 1/01/12 |
| Prepared By: | Jason Gordon |

| Section I - Product Identification | |
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| Trade Name: | Ferrous Sulfate: Moist Heptahydrate, Dried Heptahydrate, Monohydrate |
| Synonym: | Copperas, Iron (II) Sulfate |
| Chemical Family: | Iron (II) Sulfate |
| Formula: | FeSO ₄ · 7H ₂ O - Heptahydrate FeSO ₄ · 1H ₂ O - Monohydrate |
| CAS: | 7720-78-7 - Ferrous Sulfate 7782-63-0 - Heptahydrate 17375-41-6 - Monohydrate |
| HMIS: | H1 FO RO, Personal Protection Code-E (Safety glasses, gloves) |
| *DOT Category (only for packages containing 1,000 lbs. or more): | Other regulated substances, solid, N.O.S., 9, NA 3077, III, RQ (Ferrous Sulfate) *Per 49CFR 172.504 (f) (9), Class 9 placards are not required for domestic (USA ground) transportation, however shipments with packaging or bulk in excess of 1,000 lbs. each, will require a marking on a white square of 3077. Shipments with markings DO NOT require a driver CDL with hazardous endorsements. |

| Section II - Hazardous Ingredients | |
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| Ferrous Sulfate: | FeSO ₄ · H ₂ O |
| OSHA PEL: | N.A. |
| ACGIH TLV (1979): | Rat. Oral LD50: 1480 mg/m ³ |
| Other Limits: | None |

| Section III - Physical Data | |
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| Boiling Point: | Decomposition at 300° C. |
| Vapor Pressure (mm Hg): | 0 |
| Vapor Density: | N.A. |
| Solubility in Water (20°C): | Heptahydrate: 48.50 gms in 100 ml Monohydrate: 29.65 gms in 100 ml |
| Appearance & Odor: | Heptahydrate: Blue-green, acidic/sour Monohydrate: Gray, acidic/sour |
| Specific Gravity: | Heptahydrate: 1.898 @ 25°C Monohydrate: 2.970 @ 25°C |

| Section IV - Fire and Explosion Hazard Data | |
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| Flash Point: | None |
| Flammable Limits: | NAN. |
| LELA and UEL: | N.A. |
| Extinguishing Media: | N.A. |
| Special Firefighting Procedures: | N.A. |
| Unusual Fire & Explosion Hazards: | None |

| Section V - Reactivity Data | |
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| Stability: | Stable |
| Incompatibility: | Oxidizing Agents and Alkalies. |
| Conditions to Avoid: | Extremely high temperatures. |
| Hazardous Decomposition or By-products: | Products of sulfur oxides, i.e. SO ₂ & SO ₃ |
| Hazardous Polymerization: | Will Not Occur |

| Section VI - Health Hazard Data | |
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| Route(s) of Entry: | Inhalation (Yes); Skin (Yes), Ingestion (Yes); Eyes (Yes) |
| Inhalation: | Irritation to respiratory system. |
| Skin: | Mild irritant. |
| Eyes: | Will cause painful irritation. |
| Ingestion: | Ingestion of large quantities can produce GI tract disturbances, severe shock, vomiting, liver damage, tachycardia and death. |
| Carcinogenicity: | Not established. |
| Medical Conditions Generally Aggravated by Exposure: | Dermatitis, asthma, conjunctivitis, stomach or digestive problems. |
| Signs and Symptoms of Exposure: | Irritation or itching, stinging of eyes, breathing problems, stomach ache, acid or sour taste. |
| Emergency and First-Aid Procedures: | Flood skin and eyes with water for 15 minutes, consult physician. If inhaled, remove to fresh air, consult physician. If ingested, drink large amounts of water, induce vomiting, consult physician. |

| Section VII - Precautions for Safe Handling and Use | |
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| Steps to be Taken in Case Material is Released or Spilled: | Sweep up and repackage or place in receptacle for future disposal. |
| Waste Disposal Method: | Remove to properly designated landfill or, if in solution, precipitate with alkali and filter off iron for removal to landfill with pH adjustments of the filtrate and discharge to sewer. |
| Precautions to be taken in Handling and Storage: | Wear gloves, safety goggles, breathing mask and coveralls when handling. Stored materials should be placed in a dry and reasonably temperatured area, preferably below 120°F. |
| Other Precautions: | None |

| Section VIII - Control Measures | |
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| Respiratory Protection: | Dusk mask |
| Protective Gloves: | Work gloves |
| Eye Protection: | Safety goggles |
| Clothing: | Coveralls |
| Ventilation: | Local exhaust-none required. Special - None Mechanical - None Other - None |
| Work/Hygienic Practices: | Available safety showers as well as end of shift clean-up facilities. |