

## SAFETY DATA SHEET

Iron Heavy


Date Prepared: 5/24/2024

Replaces: All Previous

### SECTION 1. IDENTIFICATION

Product Name: Iron Heavy  
 Synonyms: None  
 Use: Agricultural, Liquid Micronutrient Fertilizer  
 Manufacturer: Chemical Dynamics, Inc.  
 4206 Business Lane  
 Plant City FL 33566  
 Phone: 813-752-4950  
 Chemtrec (Emergency) Phone: 800-424-9300

### SECTION 2. HAZARDS IDENTIFICATION

Pictogram	Signal Word	Hazard Class	Hazard Category	Hazard Statement
	<b>WARNING</b>	Skin Irritation Eye Irritation	Cat 2 Cat 2B	Causes skin and eye irritation.
<b>Precautionary Statements:</b>	<p><b>Prevention:</b> Wash thoroughly after handling. Wear protective gloves, protective clothing, chemical splash proof goggles, and face protection. Use only outdoors or in a well-ventilated area.</p> <p><b>Response:</b> Get medical attention/advice if you feel unwell.</p> <p><u>If on skin:</u> Rinse with water/shower. Take off contaminated clothing and wash contaminated clothing separate from other laundry before reuse.</p> <p><u>If in eyes:</u> Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p><u>If Inhaled:</u> Remove person to fresh air and keep comfortable for breathing.</p> <p><u>If swallowed:</u> Rinse mouth, Drink large amounts of water. Do NOT induce vomiting.</p> <p><b>Storage:</b> Keep container tightly closed when not in use. Store above 32°F.</p> <p><b>Disposal:</b> Dispose of contents/containers in accordance with local/regional/national regulations (See Section 13 of SDS).</p>			

### SECTION 3. COMPOSITION

Material	CAS #	EINECS #	%WT
Iron Citrate	2338-05-8	219-045-4	40%
Water	7732-18-5	231-791-2	Proprietary blend of materials not classified as hazardous or are below de minimus classification limits

See product label for guaranteed analysis.

**SECTION 4. FIRST AID MEASURES**

<b>Ingestion:</b>	Rinse mouth. Drink large amounts of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Obtain medical attention.
<b>Skin Contact:</b>	Remove contaminated clothing. Wash with soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.
<b>Inhalation:</b>	Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention for any breathing difficulty.
<b>Eye Contact:</b>	Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
<b>Acute Exposure Symptoms:</b>	Irritation or burning sensation eyes. Prolonged or repeated contact with skin may cause skin irritation. Ingestion of product solution may cause irritation of the gastrointestinal tract to include nausea, vomiting and diarrhea. Large amounts of ferrous salts are toxic, but in adults fatalities are rare. Severe ferrous sulfate poisoning may cause coagulopathy, abdominal pain, severe shock, hematemesis, diarrhea, pallor or cyanosis. This product is astringent to blood vessels. In children, ingesting large quantities may cause vomiting, hematemesis, hepatic damage, tachycardia, peripheral vascular collapse and death.
<b>Chronic Exposure Symptoms:</b>	Not Available

**SECTION 5. FIRE FIGHTING MEASURES**

<b>Extinguishing Media:</b>	Not Flammable. Use extinguishing media appropriate to surrounding fire. Cool containers with water spray from a distance to avoid rupture from thermal expansion.
<b>Specific Hazards:</b>	This product is an aqueous mixture which will not burn. In a fire, this material may decompose and produce sulfur, sulfur oxides and oxides of carbon, and iron.
<b>Protective Equipment and Precautions for Fire-Fighters:</b>	Wear self-contained breathing apparatus (SCBA) and full protective gear. Avoid inhaling combustion products. Fire run-off should be contained to prevent possible environmental damage.
<b>NFPA Rating:</b>	Health: 1, Fire: 0, Reactivity: 0

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

<b>Precautions:</b>	Acidic Liquid. Isolate area. Keep unnecessary personnel away. Avoid splashing or spraying. Do no touch or walk through spilled material.
<b>Protective Equipment:</b>	Impervious gloves (rubber, neoprene or nitrile), chemical resistant suit, Chemical splash-proof goggles, face shield. Chemical resistant apron and/or rubber boots may be needed. Use NIOSH approved respirator if vapors or mists exceed applicable concentration limits. Clothing and equipment can be washed or laundered for reuse.

<b>Containment:</b>	Stop flow of material if safe to do so. Dike area with diatomaceous earth or sand and maximize recovery. Prevent spillage from entering drains or open bodies of water. Any release to the environment may be subject to reporting requirements.
<b>Clean Up:</b>	Pump into a suitable tank or absorb with diatomaceous earth or sand. Sweep up and place into suitable containers for agronomical land application at recommended rates or dispose of in accordance with local/regional/national regulations (See Section 13 of SDS).

### SECTION 7. HANDLING AND STORAGE

<b>Precautions for safe handling:</b>	Open containers carefully. Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Do not eat, drink or use tobacco products when handling this material. Apply product in open areas. Keep away from children and pets. Do not contaminate feed, seed or any water sources. Launder work clothes frequently and separate from other laundry.
<b>Conditions for safe storage:</b>	Store in a well-ventilated, cool, dry place, away where freezing is possible. Keep away from any sources of heat or flame. Store locked up. Store totes and smaller containers out of direct sunlight at moderate temperatures. Keep containers tightly closed when not in use. Do not let product go below 42°F. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged. Store in fiberglass, polypropylene, stainless steel (316L) or HD polyethylene.
<b>Incompatibilities:</b>	This product is not compatible with copper, zinc, or their alloys (i.e. bronze, brass, galvanized metals, etc.). These materials of construction should not be used in piping, handling systems or storage containers for this product.

### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>Component Exposure Limits:</b>	Iron Citrate	1 mg/m <sup>3</sup>	PEL, OSHA (Iron Soluble Salts, as Fe)
		1 mg/m <sup>3</sup>	TWA, ACGIH (Iron Soluble Salts, as Fe)
		Not Established	IDLH, NIOSH
		1 mg/m <sup>3</sup>	REL, NIOSH (Iron Soluble Salts, as Fe)
		Not Established	STEL, NIOSH
<b>Engineering Controls:</b>	Provide local exhaust ventilation and wash facilities. Eye wash stations and safety showers required.		
<b>Personal Protective Equipment:</b>	<u>Eyes:</u> chemical splash-proof goggles and face shield <u>Skin:</u> Impervious gloves (rubber, neoprene or nitrile), long sleeved clothing and Chemically resistant apron. <u>Respiratory:</u> None required for ambient air concentrations (i.e. in the open under normal agronomic conditions). Use NIOSH approved respirator when dusts, mists, or vapors are present.		
<b>General:</b>	Good industrial hygiene practices should be followed, such as, washing thoroughly after handling and before eating or drinking.		

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES			
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<b>Appearance:</b>	Clear green/brown liquid		
<b>Odor:</b>	None	<b>UEL / LEL:</b>	Not Applicable
<b>Odor Threshold:</b>	Not Available	<b>Vapor Pressure:</b>	Similar to water
<b>pH:</b>	2 to 3	<b>Density:</b>	1.255 to 1.275 g/cm <sup>3</sup>
<b>Melting/Freezing Point:</b>	< 0°C (32°F)	<b>Solubility:</b>	Water
<b>Boiling Point:</b>	>100°C (212°F)	<b>Log<sub>ow</sub>:</b>	Not Available
<b>Flash Point:</b>	Not Applicable	<b>Auto Ignition Temp:</b>	Not Applicable
<b>Evaporation Rate:</b>	Not Available	<b>Decomposition Temp:</b>	Not Available
<b>Flammability (Solid/Gas):</b>	Not Applicable	<b>Viscosity</b>	Not Available

SECTION 10. STABILITY AND REACTIVITY	
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<b>Reactivity:</b>	Product is acidic.
<b>Chemical Stability:</b>	Stable under normal conditions
<b>Possibility of Hazardous Reactions:</b>	Hazardous polymerization will not occur.
<b>Conditions to avoid:</b>	Elevated temperatures may cause containers to rupture.
<b>Incompatible Materials:</b>	Strong oxidizing agents, strong acids, strong bases and water reactive substances. Not compatible with copper, zinc, or their alloys (i.e. bronze, brass, galvanized metals, etc.).
<b>Hazardous Decomposition Products:</b>	Decomposition will produce sulfur, sulfur oxides and oxides of nitrogen, carbon and iron

SECTION 11. TOXICOLOGICAL INFORMATION	
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<b>Acute Toxicity:</b>	Iron Citrate: LD50 oral (rat): 1487 mg/kg (100% basis), ATE >2000 mg/kg in product
<b>Likely Routes of Exposure:</b>	Inhalation, ingestion or skin absorption
<b>Symptoms and Signs of Exposure:</b>	<u>Eyes</u> : Contact causes irritation, burning and watering eyes. <u>Skin</u> : Prolonged or repeated contact with product mist or solution may cause skin irritation. Absorption is unlikely to occur. <u>Ingestion</u> : Ingestion of product solution may cause irritation of the gastrointestinal tract to include nausea, vomiting and diarrhea. <u>Inhalation</u> : Inhalation of product mist may cause irritation of the nose, throat and respiratory tract.
<b>Chronic Effects:</b>	None known
<b>Carcinogenic:</b>	None of this product's components are listed by ACGIH, OSHA, IARC, NIOSH or NTP as carcinogenic.
<b>Mutagenicity:</b>	Not Available
<b>Reproductive Toxicity:</b>	Not Available

SECTION 12. ECOLOGICAL INFORMATION	
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<b>Ecotoxicity:</b>	May be harmful to fish, livestock and wildlife due to low pH. This product is not bioaccumulative.
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<b>Other Adverse Effects:</b>	Not harmful to ozone layer
<b>Ecotoxicity:</b>	Iron Citrate: Not available.

**SECTION 13. DISPOSAL CONSIDERATIONS**

<b>General Information:</b>	None
<b>Disposal Instructions:</b>	Agronomical land application at recommended rates or dispose of in accordance with local/regional/national regulations. Containers may be triple rinsed and offered for recycling

**SECTION 14. TRANSPORT INFORMATION**

<b>This material is not hazardous as defined by 49 CFR 172.101 by the US Department of Transportation</b>	
<b>Proper Shipping Name:</b>	Not Applicable
<b>Hazard Class:</b>	Not Applicable
<b>UN Identification #:</b>	Not Applicable
<b>Packing Group:</b>	Not Applicable
<b>Required Label(s):</b>	Not Applicable
<b>Emergency Response Guide Number:</b>	Not Applicable
<b>Marine Pollutant:</b>	No

**SECTION 15. REGULATORY INFORMATION**

<b>TSCA Inventory Status</b>	All intentional ingredients listed on the TSCA inventory.
<b>DSCL (EEC) Status</b>	All intentional ingredients listed on the DSCL inventory.
<b>United States – SARA Hazard Category:</b>	This product has been reviewed according to the EPA Hazard Categories promulgated under Sections 311 and 312 of Title III of the Superfund Amendments and Reauthorization Act (SARA) and is considered, under applicable definitions, to meet the following categories: Fire – No, Pressure – No, Acute – Yes, Chronic – No, Reactive – No
<b>SARA Title III Information:</b>	This product contains the following substances subject to the reporting requirements of Title III (EPCRA) of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:
Iron Citrate	CERCLA RQ (pounds): No SARA Reporting, 302: No SARA Reporting, 304: No SARA Reporting, 313: No
<b>Federal Insecticide, Fungicide, and Rodenticide Act</b>	This product is not a pesticide.
<b>State Regulations:</b>	Other state regulations may apply. Check individual state requirements.

**SECTION 16. OTHER INFORMATION**

Date of Revision:	5/24/2024, revision prepared in accordance with 29 CFR 1910.1200 Appendix D to meet Global Harmonization Standards.
Disclaimer:	The information contained in this SDS refers only to the specific material designated and does not relate to any process or use with any other materials. This information is based on data believed to be accurate and reliable as of the date hereof. It is intended for use by persons possessing technical knowledge at their own discretion and risk. Because safety standards and regulations are subject to change and because Chemical Dynamics, Inc. has no continuing control over the material, those handling, storing or using the material should satisfy themselves that they have current information regarding the particular way the material is handled, stored or used and that the same is done in accordance with federal, state and local law. No warranty, expressed or implied, and no liability is assumed by Chemical Dynamics, Inc. in conjunction with the use of this information. Nothing herein is to be construed as a recommendation to infringe any patents.