

# material safety data sheet

SECTION 1 IDENTIFICATION	
Product	PIROTECHNICA
Chemical Name	Iron Citrate
Chemical Family	Plant available trace element (iron)
SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS	
Composition	
Citric acid, 2-hydroxy-, iron salt	38% CAS RN 2338-05-8
Iron content	Fe 8.7%w/v CAS 7782-63-0
SECTION 3 HAZARDS IDENTIFICATION	
Potential Health Effects	
Eye	Irritating to eyes . Symptoms include stinging, tearing, redness, and swelling of eyes.
Skin	Unlikely to cause skin irritation or injury.
Swallowing	Swallowing this material is not likely to be harmful.
Inhalation	Breathing small amounts of this material is not likely to be harmful.
SECTION 4 FIRST AID MEASURES	
If in eyes	Rinse with plenty of water for 15 min's. See a doctor
If on skin	Rinse with plenty of water and soap, if any irritation persists, see a doctor
If Swallowed	Drink plenty of water/milk. Induce vomiting. .
Inhalation	If symptoms develop, move individual away from exposure and into fresh air. If symptoms persist, seek medical attention. If breathing is difficult, administer oxygen. Keep person warm and quiet; seek immediate medical attention.
SECTION 5 FIRE and EXPLOSION Data	
Flammability of the Product	May be combustible at high temperature
Auto-Ignition Temperature	Not applicable
Flash Point	Not applicable
Flammable Limits	Not applicable
Products of combustion	May form carbon oxides (CO,CO2). Some metallic oxides.

<b>Fire Hazards in Presence of Various Substances</b>	Slightly flammable to flammable in presence of extreme heat
<b>Explosion hazard in Presence of Various Substances</b>	Slightly explosive in presence of open flames and sparks. Non explosive in presence of shocks
<b>Fire fighting Media and Instructions</b>	<p>SMALL FIRE: use DRY chemical powder.</p> <p>LARGE FIRE: Use water spray, fog or foam. Do not use water jet.</p> <p>Wear a self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode with appropriate turn-out gear and chemical resistant personal protective equipment. Refer to the personal protective equipment section of this MSDS.</p>
<b>Special Fire Fighting Procedures:</b> this is not a flammable material. In smoke or fumes wear self-contained breathing apparatus. Advise fire brigade of any hazard. Suitable for most extinguishing media.	
<b>Special Remarks on Fire Hazards</b>	As with most organic Aqueous solutions, fire is only possible at elevated temperatures
<b>Special Remarks on Explosion Hazard</b>	A fine spray of liquid substance may dry to dust and when dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard
<b>SECTION 6 ACCIDENTAL RELEASE MEASURES</b>	
<b>Small Spill</b>	Use appropriate tools to apply soil or kitty litter to the spill site and put the resultant solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
<b>Large Spill</b>	Use shovel to spread soil or kitty litter on the spill site and put resultant solids into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate the sanitary system.
<b>SECTION 7 HANDLING AND STORAGE</b>	
<b>General information</b>	Keep away from heat. Do not breath mist. Keep away from incompatibles such as oxidizing agents.
<b>Storage</b>	Keep container tightly closed. Keep container in a cool well-ventilated area. No special transportation conditions are applicable.
<b>SECTION 8 EXPOSURE CONTROLS/PERSONAL</b>	
<b>Engineering controls</b>	Engineering controls: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate mist use respirator to keep exposure below limits.
<b>Personal Protection</b>	Safety glasses. Overalls. Respirator. Be sure to use an approved /certified respirator equivalent. Gloves. Wash hands before eating, drinking, smoking, or using toilet facilities. Promptly remove soiled clothing and wash before reuse. Shower after work using plenty of soap and water.
<b>Personal protection in</b>	Splash goggles. Overalls. Respirator. Boots. Gloves.

<b>case of large spill</b>	
<b>Exposure limits</b>	No exposure limits established
<b>SECTION 9 PHYSICAL PROPERTIES</b>	
<b>Physical</b>	
<b>Appearance and Odor</b>	Green to brown liquid
<b>pH</b>	1 -2
<b>Boiling point</b>	≥ 100°C
<b>Specific gravity</b>	1.28 – 1.32
<b>Vapor pressure</b>	Not determined
<b>Vapor density</b>	Not determined
<b>Dispersion properties</b>	See solubility in water
<b>Solubility in water</b>	Soluble
<b>SECTION 10 STABILITY AND REACTIVITY</b>	
<b>Stability</b>	The product is stable under normal ambient conditions
<b>Instability temperature</b>	<4deg C
<b>Conditions of instability</b>	Excess heat, incompatible materials, low temperatures >4 deg C
<b>Incompatibility with various substances</b>	Reactive with oxidizing agents
<b>Corrosivity</b>	Corrosive to most metals
<b>Special remarks on reactivity</b>	Sensitive to light. May form: carbon dioxide and carbon monoxide.
<b>Polymerization</b>	Will not occur
<b>SECTION 11 TOXICOLOGICAL INFORMATION</b>	
<b>Routes of Entry</b>	Inhalation. Ingestion
<b>Toxicity to Animals</b>	LD50: no data available
	LC50: no data available
<b>Chronic effects on Humans</b>	May cause damage to the following organs: Liver.
<b>Other toxic effects on Humans</b>	Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.
<b>Special Remarks on Toxicity to Animals</b>	Not available
<b>Special Remarks on Toxicity to Humans. Acute Potential Health Effects</b>	
<b>Skin</b>	Unlikely to cause skin irritation
<b>Eyes</b>	Mays cause eye irritation
<b>Inhalation</b>	This material may produce aerosol droplets. Breathing small mounts of this materials droning normal handling is not likely to

	cause harmful effects.
<b>Ingestion</b>	Swallowing small amounts during normal handling is not likely to cause harmful effects. Swallowing large amounts of Iron may cause gastrointestinal upset (nausea, vomiting, diarrhea) and may also affect the liver. Furthermore, pink urine is a strong indicator of Iron poisoning.
<b>Chronic Potential Health Effects</b>	Ingestion: Prolonged or repeated ingestion of large quantities may cause liver damage.
<b>SECTION 12 ECOLOGICAL INFORMATION</b>	
<b>Ecotoxicity</b>	
<b>Product of Biodegradation</b>	Possible hazardous short term degradation products are not likely. However, long term degradation products may arise
<b>Toxicity of the Products of Biodegradation</b>	The product itself and its products of degradation are not toxic
<b>SECTION 13 DISPOSAL CONSIDERATIONS</b>	
<b>Waste Disposal</b>	Waste must be disposed of in accordance with federal, stated and local environmental control regulations
<b>SECTION 14 TRANSPORT INFORMATION</b>	
	The product is not considered a dangerous good and not subject to the provisions of ADR (road), RID( railway), IMDG(sea) & IATA(airplane)
<b>SECTION 15 RUGULATORY INFORMATION</b>	
<b>R20/21/22</b>	Harmful by inhalation, in contact with skin and if swallowed
<b>R36</b>	. irritating to eyes
<b>S1/2</b>	Keep locked up and out of the reach of children
<b>S23</b>	Do not breathe vapor/spray
<b>S24/25</b>	Avoid any inhalation, contact with skin and eyes. Wear suitable protective clothing and gloves
<b>Fire Hazard</b>	1
<b>Reactivity</b>	0
<b>Personal Protection</b>	E
<b>Protective Equipment</b>	Gloves
	Overalls
	Respirator
	Safety Glasses
<b>SECTION 16 OTHER INFORMATION</b>	
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