



WEST BENGAL CHEMICAL INDUSTRIES LIMITED

145/1, Jessore Road, Lake Town,

Kolkata – 700 089, India.

Phone: +9133 4025 1700 Fax: +9133 2574 7410

Email: webcil@wbcil.com

Website: www.wbcil.com

Section 1 - Chemical Product and Company Identification

MSDS Name: Ferric Pyrophosphate Citrate

Product Code : FPPSL10

Company Identification:

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Section 2 - Composition / Information on Ingredients

Ingredient Name	CAS Number	Molecular Formula	Molecular Wt.	% wt
Ferric Pyrophosphate Citrate	10058-44-3	$C_{18}H_{24}Fe_4O_{42}P_6$	1321.6 g/mol	100

Section 3 - Hazards Identification

INHALATION	:	May cause respiratory irritation
INGESTION	:	May cause gastrointestinal irritation
SKIN CONTACT	:	May cause skin irritation
EYE CONTACT	:	May cause eye irritation
CHRONIC EXPOSURE	:	No known significant effects or critical hazards

Section 4 - First Aid Measures

INHALATION	:	Move exposed person to fresh air. If not breathing, seek immediate medical attention. If breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel and seek medical attention
INGESTION	:	Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Seek medical attention.
SKIN CONTACT	:	Remove contaminated clothing and shoes and immediately flush skin with plenty of water for at least 15 minutes. Wash clothing before reuse. Clean shoes thoroughly before reuse. If irritation persists, seek medical attention.





Section 4 - First Aid Measures

EYE CONTACT	:	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids.
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Section 5 - Fire-Fighting Measures

HAZARDOUS COMBUSTION PRODUCTS	:	Decomposition products may include oxides of carbon and iron.
FIRE	:	Not considered a fire hazard.
EXPLOSION	:	Not considered an explosion hazard.
FIRE EXTINGUISHING MEDIA	:	Use fire-extinguishing media appropriate to the surrounding fire
SPECIAL INFORMATION	:	In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full-face piece operated in the pressure demand or other positive pressure mode.

Section 6 - Accidental Release Measures

SPILL CONTROL & RECOVERY	:	Wear appropriate personal protective equipment as specified in Section 8. Clean up spills in a manner that does not disperse dust into the air. Reduce airborne dust and prevent scattering by moistening with water. Pick up spill for recovery or disposal and place in a closed container
DISPOSAL	:	Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.





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Section 7 - Handling and Storage

HANDLING	:	Avoid contact with eyes. Avoid breathing dust. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use.
STORAGE	:	Store in accordance with local regulations. Store in original container, protected from direct sunlight. Keep container tightly closed and sealed until ready for use.

Section 8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS	:	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne Contaminants below the exposure limit.
PERSONAL PROTECTION	:	Safety glasses, Lab Coat, Dust respirator, Be sure to use an approved / certified respirator or equivalent, Gloves
PERSONAL PROTECTION IN CASE OF A LARGE SPILL	:	Splash goggles. Full suit. Dust 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.
EXPOSURE LIMITS	:	Consult local authorities for acceptable exposure limits.

Section 9 - Physical and Chemical Properties

Appearance Form	
Form	: Free flowing powder
Color	: Apple green to greenish brown
Odour	: Characteristic
Solubility	: Freely soluble in water, insoluble in alcohol





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Section 10 - Stability and Reactivity

Stability	:	The product is stable at normal conditions.
Instability Temperature	:	Not available
Conditions of Instability	:	Not available
Incompatibility with various substances	:	Not available
Corrosivity	:	Non corrosive in presence of glass
Special remarks on Reactivity	:	Not available
Special remarks on Corrosivity	:	Not available
Polymerization	:	Will not occur.

Section 11 - Toxicological Information

Routes of Entry	:	<p>Inhalation: Not expected under normal handling conditions (solid or liquid form used in medical settings).</p> <p>Skin Contact: Possible via handling, but minimal risk expected.</p> <p>Eye Contact: Possible through splashes or accidental exposure.</p> <p>Ingestion: Unlikely under controlled use conditions; accidental ingestion may lead to gastrointestinal distress.</p> <p>Injection: Deliberate intravenous route for therapeutic purposes; overdose can cause systemic toxicity.</p>
Toxicity to Animals	:	<p>Acute Toxicity (Oral, Dermal, Inhalation): No LD50 values reported for animals. Excessive iron intake in animal models has shown toxicity leading to gastrointestinal and systemic effects.</p> <p>Developmental Toxicity: In animal studies, high doses caused post-implantation loss, abnormal placentae, and fetal malformations at doses of 90 mg/kg/day in rats and 40 mg/kg/day in rabbits. No effects</p>





		observed at therapeutic doses.
Chronic Effects on Humans	:	<p>Prolonged exposure to excessive iron can lead to iron overload, resulting in damage to organs such as the liver (hepatic fibrosis), heart (cardiomyopathy), and pancreas (diabetes).</p> <p>Chronic iron overload may also impair endocrine functions and increase oxidative stress, contributing to tissue damage.</p>
Other Toxic Effects on Humans	:	<p>Acute Effects: May include nausea, vomiting, diarrhea, hypotension, muscle pain, headache, and fatigue.</p> <p>Severe Effects (Overdose): Includes hypovolemic shock, gastrointestinal bleeding, multi-organ failure (particularly liver and heart), and potentially fatal anaphylactic reactions.</p> <p>Hypersensitivity Reactions: Rare but life-threatening hypersensitivity/anaphylactic reactions reported with intravenous administration.</p>
Special Remarks on Toxicity to Animals	:	<p>Ferric Pyrophosphate Citrate was not mutagenic in standard tests (e.g., Ames test) and not clastogenic in in vivo studies.</p> <p>High doses in animal studies caused developmental and reproductive toxicity, but only at maternally toxic levels.</p>
Special Remarks on Chronic Effects on Humans	:	<p>Chronic overexposure to iron (through therapeutic misuse or environmental exposure) may result in hemochromatosis, characterized by excessive iron deposition in tissues leading to irreversible damage.</p> <p>Repeated hypersensitivity reactions may sensitize individuals to ferric iron-containing compounds, increasing risk of severe allergic responses.</p>
Special Remarks on other Toxic	:	Overdose Symptoms: Include severe gastrointestinal irritation,





Effects on Humans	<p>hematemesis, hypotension, shock, and liver necrosis in extreme cases. Iron chelation therapy is the preferred treatment for acute overdose.</p> <p>Parenteral Use: Risks are higher with intravenous use due to direct entry into the bloodstream. Proper monitoring is critical to prevent iron toxicity.</p> <p>Iron Storage Disorders: Pre-existing conditions, such as thalassemia or chronic liver disease, increase susceptibility to toxic effects.</p>
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Section 12 - Ecological Information

ECOTOXICITY	: Not Available
BOD 5 and COD	: Not Available
PRODUCTS of BIODEGRADATION	<p>Ferric Component:</p> <p>Degrades into ferric (Fe³⁺) ions, which may precipitate as ferric hydroxide or other iron salts, depending on pH and environmental conditions.</p> <p>Citrate Component:</p> <p>Decomposes into carbon dioxide (CO₂) and water under aerobic conditions via microbial activity.</p>
TOXICITY OF THE PRODUCTS OF BIODEGRADATION	<p>Ferric Ions:</p> <p>Ferric ions are generally non-toxic at low concentrations but may pose a hazard in high quantities, altering soil and water chemistry.</p> <p>Ferric hydroxide precipitates may clog water systems and harm aquatic organisms by depleting dissolved oxygen.</p>





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	Citrate Degradation Products: CO ₂ and water are non-toxic and environmentally benign.
SPECIAL REMARKS ON THE PRODUCTS OF DEGRADATION	: Not Available.

Section 13 - Disposal Considerations

It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14 - Transport Information

DOT Classification	:	Not a DOT controlled material
Identification	:	Not applicable.
Special Provision for Transport	:	Not applicable
ICAO		
UN-NO	:	Not Regulated
Proper Shipping Name	:	No information Available
Hazard Class	:	No information Available
Subsidiary Risk	:	No information Available
Packing Group	:	No information Available
IATA		
UN-NO	:	Not Regulated
Proper Shipping Name	:	No information Available
Hazard Class	:	No information Available
Subsidiary Risk	:	No information Available
Packing Group	:	No information Available
ERG Code	:	No information Available
Special Provisions	:	No information Available

Section 15 - Regulatory Information

Federal and State Regulations: TSCA 8(b) inventory: Ferric pyrophosphate





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Section 15 - Regulatory Information

Other Regulations: Not available.

Other Classifications: WHMIS (Canada): Not controlled under WHMIS (Canada).

DSCL (EEC): R36/38- Irritating to eyes and skin.

HMIS (U.S.A.): Health Hazard: 2

Fire Hazard: 0

Reactivity: 0

Personal Protection: E

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

Health: 2

Flammability: 0.

Reactivity: 0

Specific hazard:

Protective Equipment: Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Splash goggles.

Section 16 - Other Information

Disclaimer: This material safety data sheet is provided as an information resource only. WEST BENGAL CHEMICAL INDUSTRIES LIMITED believes the information contained herein is accurate and compiled from reliable sources. It is the responsibility of the user to verify its validity. The buyer assumes all responsibility of using and handling the product in accordance with federal, state, and local regulations.

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