



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](mailto:webcil@wbcil.com)

Website: [www.wbcil.com](http://www.wbcil.com)

## Section 1 - Chemical Product and Company Identification

**MSDS Name:** Ferrous Ascorbate

**Product Code :** FAS2015

**Synonyms :** L-(+)-Ascorbic acid iron(II) salt, Vitamin C Iron(II) salt

**Company Identification:**

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## Section 2 - Composition / Information on Ingredients

	Ingredient Name	CAS Number	% wt	Molecular Wt.	Molecular formula
	Ferrous Ascorbate	24808 – 52 – 4	90 - 100	406.08 g/mol	$C_{12}H_{14}FeO_{12}$





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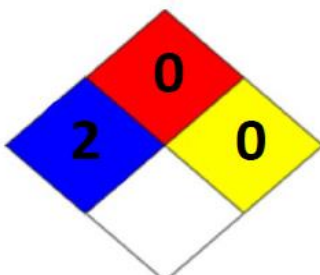
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### Section 3 - Hazards Identification

<b>POTENTIAL ACUTE HEALTH EFFECTS</b>	:	Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.	 <p>NFPA SCALE (0-4)</p> <table border="1" data-bbox="998 703 1421 892"> <tr> <td><b>Health</b></td> <td><b>2</b></td> </tr> <tr> <td><b>Flammability</b></td> <td><b>0</b></td> </tr> <tr> <td><b>Physical Hazard</b></td> <td><b>0</b></td> </tr> <tr> <td><b>Personal Protection</b></td> <td><b>x</b></td> </tr> </table> <p>HMIS RATINGS (0-4)</p>	<b>Health</b>	<b>2</b>	<b>Flammability</b>	<b>0</b>	<b>Physical Hazard</b>	<b>0</b>	<b>Personal Protection</b>	<b>x</b>
<b>Health</b>	<b>2</b>										
<b>Flammability</b>	<b>0</b>										
<b>Physical Hazard</b>	<b>0</b>										
<b>Personal Protection</b>	<b>x</b>										
<b>POTENTIAL CHRONIC HEALTH EFFECTS</b>	:	Slightly hazardous in case of skin contact (irritant), of eyecontact (irritant), of ingestion, of inhalation									
<b>CARCINOGENIC EFFECTS</b>	:	No data available.									
<b>MUTAGENIC EFFECTS</b>	:	No data available.									
<b>TERATOGENIC EFFECTS</b>	:	No data available.									
<b>DEVELOPMENTAL TOXICITY</b>	:	No data available.									





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### Section 4 - First Aid Measures

<b>INHALATION</b>	:	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.
<b>INGESTION</b>	:	Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Seek medical attention.
<b>SKIN CONTACT</b>	:	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.
<b>EYE CONTACT</b>	:	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. Seek immediate medical attention.

### Section 5 - Fire-Fighting Measures

<b>FLAMMABILITY OF THE PRODUCT</b>	:	May be combustible at high temperature.
<b>AUTO IGNITION TEMPERATURE</b>	:	Not available.
<b>FLASH POINTS</b>	:	Not available.
<b>SUITABLE EXTINGUISHING MEDIA</b>	:	Carbon dioxide (CO <sub>2</sub> ). Dry chemical. Water spray mist or foam.
<b>HAZARDOUS COMBUSTION PRODUCTS</b>	:	Decomposition products may include oxides of carbon and iron. Carbon-Monoxide, Carbon Dioxide. Iron oxides.
<b>PRODUCTS OF COMBUSTION</b>	:	These products are carbon oxides (CO, CO <sub>2</sub> ). Some metallic oxides.
<b>FIRE HAZARDS IN PRESENCE OF VARIOUS SUBSTANCES</b>	:	Slightly flammable to flammable in presence of heat. Non-flammable in presence of shocks.
<b>EXPLOSION HAZARDS IN PRESENCE OF VARIOUS SUBSTANCES</b>	:	Slightly explosive in presence of open flames and sparks. Non-explosive in presence of shocks.





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### Section 6 - Accidental Release Measures

<b>Small Spill</b>	:	Use appropriate tools to put the spilled 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 a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow evacuating through the sanitary system.

### Section 7 - Handling and Storage

<b>PRECAUTIONS</b>	:	Keep away from heat. Keep away from sources of ignition. Do not breathe dust.
<b>STORAGE</b>	:	Keep container tightly closed. Keep container in a well-ventilated area.

### Section 8 - Exposure Controls / Personal Protection

<b>ENGINEERING CONTROLS</b>	:	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits.
<b>PERSONAL PROTECTION</b>	:	Safety glasses, Lab Coat, Dust respirator, Be sure to use an approved / certified respirator or equivalent, Gloves
<b>PERSONAL PROTECTION IN CASE OF A LARGE SPILL</b>	:	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.
<b>EXPOSURE LIMITS</b>	:	Consult local authorities for acceptable exposure limits.





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### Section 9 - Physical and Chemical Properties

APPEARANCE FORM	:	Blackish free flowing powder.
VAPOR PRESSURE	:	1.18E-08mmHg at 25°C
VAPOR DENSITY (AIR =1)	:	No information found.
Molecular/Formula weight (g/mole)	:	406.08 g/mol
RELATIVE DENSITY	:	about 1.65
MELTING POINT	:	193°C literature
BOILING POINT OR INITIAL BOILING POINT AND BOILING RANGE	:	415.8°C at 760mmH
FLASH POINT	:	180.4°C
ODOUR	:	Odourless
SOLUBILITY	:	Soluble in water.
pH (2% w/v Solution)	:	4.5 – 7.0

### Section 10 - Stability and Reactivity

STABILITY	:	The product is stable at normal conditions.
HAZARDOUS POLYMERIZATION	:	Does not occur
INCOMPATIBILITIES:	:	Not available.
CORROSIVITY	:	Not available.

### Section 11 – Toxicological Information

Routes of Entry	:	Inhalation. Ingestion
Toxicity to Animals	:	LD50: Not available. LC50: Not available.
Chronic Effects on Humans	:	Not Available
Other Toxic Effects on Humans	:	Hazardous in case of skin contact (irritant), of ingestion, of inhalation
Special Remarks on Toxicity to Animals	:	Not Available
Special Remarks on Chronic Effects on Humans	:	Not Available
Special Remarks on other Toxic Effects on Humans	:	Not Available
Acute Toxicity	:	LD50 (Oral, Rat): 1,500 - 1,600 mg/kg for ferrous ascorbate.





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### Section 11 – Toxicological Information

	<p>This dose indicates moderate acute toxicity if ingested in large amounts.</p> <p><b>LD50 (Oral, Mouse):</b> 900 - 1,000 mg/kg for ferrous ascorbate.</p> <p>These values suggest similar toxicity across rodent species.</p>
<b>Chronic Toxicity:</b>	<p>: <b>NOAEL (No Observed Adverse Effect Level, oral, rat, 90 days):</b> 30 mg/kg/day for ferrous ascorbate.</p> <p>At this dose, no significant adverse effects were observed after chronic exposure.</p> <p><b>LOAEL (Lowest Observed Adverse Effect Level, oral, rat, 90 days):</b> 50 mg/kg/day for ferrous ascorbate.</p>
<b>Reproductive and Developmental Toxicity</b>	<p>: <b>NOAEL for Reproductive Toxicity (oral, rat):</b> 20 mg/kg/day for ferrous ascorbate.</p> <p>At this level, no adverse reproductive effects were observed.</p> <p><b>LOAEL for Developmental Toxicity (oral, rat):</b> 40 mg/kg/day.</p>

### Section 12 - Ecological Information

<b>ECOTOXICITY</b>	: Not Available
<b>BOD 5 and COD</b>	: Not Available
<b>PRODUCTS of BIODEGRADATION</b>	: Possibly 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>SPECIAL REMARKS ON THE PRODUCTS OF BIODEGRADATION.</b>	: Not Available
<b>Ecological Information</b>	<p>: <b>Ecotoxicity:</b></p> <p><b>LC50 (Fish, 96 hours):</b> 20 mg/L for ferrous ascorbate.</p> <p>This indicates moderate toxicity to fish, as iron can disrupt respiratory function in aquatic organisms.</p>





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### Section 12 - Ecological Information

	<p><b>EC50 (Daphnia, 48 hours): 10 mg/L</b> for ferrous ascorbate. This level indicates that ferrous ascorbate is toxic to aquatic invertebrates, potentially leading to population declines at higher concentrations.</p> <p><b>Toxicity to Algae (EC50, 72 hours): 15 mg/L</b> for ferrous ascorbate. Iron promotes algal growth but can be toxic at higher concentrations.</p>
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### 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
- Air transport Goods** : Nonhazardous/non dangerous as per IATA DGR.
- Special Provision for Transport** : Not applicable
- IATA Specification** : Non-dangerous, non-hazardous

**DOT (Pictograms)**

AS PER IATA REGULATION SAFE FOR CARRAGE, NON-HAZARDOUS AND NON-RESTRICTED.

NO SPECIAL LABELLING OR TRANSPORT MEASURE HAVE BEEN IDENTIFIED.

THIS IS NOT REGULATED AS PER IATA REGULATION



### Section 15 - Regulatory Information

<b>FEDERAL AND STATE REGULATION</b>	: No products were found.	
<b>OTHER REGULATION</b>	: Not available.	
<b>WHMIS (Canada)</b>	: Not controlled under WHMIS (Canada).	
<b>DSCL (EEC)</b>	: This product is not controlled under the EU Regulations.	
<b>PROTECTIVE EQUIPMENT</b>	: Gloves. Lab coat. Dust respirator. Be sure to use an approved /certified respirator or equivalent. Splash goggles.	





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## 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.

**Issue Date: Aug, 2023**

**Revision Date: July, 2025**

**Revision No.: 03**

