



WEST BENGAL CHEMICAL INDUSTRIES LIMITED

145/1, Jessore Road, Lake Town,

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

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

## Section 1 - Chemical Product and Company Identification

**1.1 MSDS Name:** Ferrous Bis Glycinate

**1.2 Product Code:** IBG1921

**1.3 Relevant identified uses of the substance or mixture and uses advised against:**

Identified uses: Laboratory chemicals, manufacture of substances

**1.4 Company Identification:**

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## Section 2 – Hazards Identification

**2.1. Classification of the substance or mixture Classification according to Regulation (EC) No 1272/2008:**

This product does not meet the criteria for classification in any hazard class according to Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.

**2.1.1 Hazard classification**

Acute Tox. 4 (37.9%)

Acute Tox. 4 (37.9%)

Skin Irrit. 2 (60.7%)

Eye Irrit. 2 (60.7%)

Acute Tox. 4 (37.9%)

Aquatic Acute 1 (37.9%)

**2.2 Signal:**

Warning

**2.3 Hazard Statements:**

H302 Harmful if swallowed

H312 Harmful in contact with skin

H315 Causes skin irritation

H319 Causes serious eye irritation

H332 Harmful if inhaled

H400 Very toxic to aquatic life





## Section 2 – Hazards Identification

### 2.4 Precautionary Statement Codes:

#### Prevention

P261 – Avoid breathing dust/fume/gas/mist/vapors/spray

P264 – Wash hands and exposed areas thoroughly after handling

P264+P265 – Wash hands and exposed skin thoroughly after handling. Do not touch eyes

P270 – Do not eat, drink, or smoke when using this product

P271 – Use only outdoors or in a well-ventilated area

P273 – Avoid release to the environment

P280 – Wear protective gloves, protective clothing, and eye/face protection

#### Response

P301+P317 – IF SWALLOWED: Get medical help

P302+P352 – IF ON SKIN: Wash with plenty of soap and water

P304+P340 – IF INHALED: Remove person to fresh air and keep comfortable for breathing

P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P317 – Get medical help

P321 – Specific treatment (see label or SDS for details)

P330 – Rinse mouth

P332+P317 – If skin irritation occurs: Get medical help

P337+P317 – If eye irritation persists: Get medical help





## Section 2 – Hazards Identification

P362+P364 – Take off contaminated clothing and wash it before reuse

### Environmental Response

P391 – Collect spillage

### Disposal

P501 – Dispose of contents/container in accordance with local/regional/national/international regulations

### 2.5 Pictogram:



### 2.6 HIMS Ratings:

Health	1
Flammability	1
Physical Hazard	0
Personal protection	E

HMIS RATINGS (0-4)

## Section 3 – Composition/ Information on Ingredients

**3.1 Ingredient Name:** Ferrous Bis Glycinate

**3.2 Synonym:** Iron glycinate, iron trisglycinate, Iron Bis-glycinate

**3.3 CAS Number:** 20150 - 34 - 9

**3.4 EC Number:** 606-444-7

**3.5 Molecular Formula:** C<sub>4</sub>H<sub>8</sub>FeN<sub>2</sub>O<sub>4</sub>

**3.6 Molecular Weight:** 203.96 g/mol

**3.7 % wt:** 100





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## Section 4 – First Aid Measures

### 4.1 Description of first aid measures:

#### 4.1.1 General information:

No special measures required

#### 4.1.2 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.

#### 4.1.3 Ingestion:

Vomiting caused by local irritant and astringent action of ionic Ferrous on stomach and bowel. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk or induce vomiting.

#### 4.1.4 Skin contact:

Irritant, wash with soap and water. Cover the irritating skin with an emollient. Get medical attention if irritation develops. Cold water may be used.

#### 4.1.5 Eye contact:

Conjunctivitis and edema of eyelids. Hold eyelids open and flush with plenty of water. Cold water may be used. Get medical attention if irritation occurs.

### 4.2 Most important symptoms and effects, both acute and delayed:

No further relevant information available.

### 4.3 Indication of any immediate medical attention and special treatment needed:

No further relevant information available.

## Section 5 – Fire-Fighting Measures

### 5.1 Extinguishing media:

#### 5.1.1 Suitable extinguishing media

Use fire-extinguishing media appropriate to the surrounding fire

#### 5.1.2 Small fire: Use Dry chemical powder.

5.1.3 Large fire: Use water spray, fog or foam, BCF (where regulations permit), Carbon dioxide, Water spray or fog - large fires only, Do not use water jet.

### 5.2 Special hazards arising from the substrate or mixture:

Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

### 5.3 Hazardous combustion products:





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## Section 5 – Fire-Fighting Measures

Decomposition products may include oxides of carbon ( CO and CO<sub>2</sub> ) and iron.

### 5.3.1 Fire:

Slightly flammable in presence of heat. Non flammable in presence of shocks.

### 5.3.2 Explosion:

Slightly explosive in presence of open flames and sparks. Non explosive in presence of shock.

### 5.4. Advice for firefighters:

Combustible solid. Organic dusts (approx. 70%) may cause fires/dust explosions. Finely divided organic powders in air can form explosive mixtures. Avoid dust generation, especially in confined spaces. Dust clouds (especially from fine grinding) are hazardous; accumulations of fine dust (<420 microns) burn rapidly. Larger particles (up to 1400 microns) can contribute to explosion propagation. Dust clouds have a Minimum Explosible Concentration (MEC). Hybrid mixtures with flammable liquids/vapors/mists are more hazardous (lower LEL, MIE). Dust explosions can release large quantities of gas, causing secondary explosions. Dry dust can be electrostatically charged; prevent build-up with bonding/grounding. Equipment (dust collectors, dryers, mills) may need explosion venting. Limit movable part speed to <1 m/sec. Sudden release of charged materials, especially at elevated temperatures/pressure, may cause ignition. Flammability data varies widely. Autoignition temperatures (MIT for clouds, LIT for layers) are important; LIT decreases with layer thickness.

### 5.5 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

### 6.1 Personal precautions, protective equipment and emergency procedures:

Wear breathing apparatus if exposed to vapours/dusts/aerosols. Provide adequate ventilation.

#### 6.1.1 For non-emergency personnel:

Leave the area surrounding the spill or release. Do not smoke. Wear gloves and protective clothing.

#### 6.1.2 For emergency responders:





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## Section 6 – Accidental Release Measures

Eliminate all unguarded flames and possible sources of ignition. No smoking. Provision of sufficient ventilation. Evacuate the danger area and, in case, consult an expert.

### 6.2 Environmental precautions:

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains. Ensure all waste water is collected and treated via a waste water treatment plant.

### 6.3 Methods and material for containment and cleaning up:

#### 6.3.1 Spill control and 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.

#### 6.3.2 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.

## Section 7 – Handling and Storage

### 7.1 Precautions for safe handling:

Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not breathe dust. Keep away from incompatibles such as oxidizing agent.

### 7.2 Conditions for safe storage, including any incompatibilities:

Store in accordance with local regulations. Store in original container, protected from direct sunlight. Keep container tightly closed and sealed until ready for use.

7.2.1 Storage temperature Store at -20°C(powder) or -80°C ( in solvent)

## Section 8– Exposure Controls/Personal protection

### 8.1 Exposure limit values:

Does not contain any substances with occupational exposure limits.

### 8.2 Exposure controls:





## Section 8– Exposure Controls/Personal protection

Showers, Eyewash stations, Ventilation systems. Industrial Hygiene Mechanical exhaust required. Safety shower and eye shower.

### 8.3 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.

### 8.4 Individual protection measures, such as personal protective equipment:

#### 8.4.1 Eye/Face Protection:

Wear safety glasses with side shields or chemical goggles. Soft contact lenses may absorb irritants and pose a hazard. A workplace policy should address lens use, absorption risks, and injury history. Medical personnel must be trained in lens removal, with suitable equipment readily available. In case of exposure, start eye irrigation immediately and remove contact lenses as soon as possible. Remove lenses at the first sign of irritation and only in a clean environment after thorough hand washing. (Sources: CDC NIOSH Bulletin 59, AS/NZS 1336 or national equivalent).

#### 8.4.2 Hand Protection:

Glove selection depends on material quality, chemical resistance, thickness, dexterity, and contact duration. Always check breakthrough times from the manufacturer. Gloves should meet standards like EN 374, US F739, AS/NZS 2161.1.

Prolonged contact: Use gloves with protection class 5+ (breakthrough > 240 min).

Brief contact: Use gloves with protection class 3+ (breakthrough > 60 min).

Glove ratings (ASTM F-739-96):

Excellent: >480 min

Good: >20 min

Fair: <20 min

Poor: Material degrades

For dry solids without abrasion risk, suitable materials include polychloroprene, nitrile rubber, butyl rubber, fluorocautchouc, polyvinyl chloride (PVC). Thin gloves (<0.1 mm) allow dexterity but provide short protection, while thick gloves (up to 3 mm) offer mechanical resistance.

Replace contaminated gloves and inspect regularly for wear. Wash hands after use and apply non-perfumed moisturizer.

#### 8.4.3 Respiratory Protection:





## Section 8– Exposure Controls/Personal protection

Use a P-filter respirator meeting AS/NZS 1716, EN 143, ANSI Z88, or equivalent standards. Select based on exposure level:

Up to 10× exposure standard (ES): P1 filter, air-line (negative pressure demand), or PAPR-P1.

Up to 50× ES: P2 filter, air-line (continuous flow), or PAPR-P2.

Up to 100× ES: P3 filter, air-line.

100+× ES: Air-line (continuous flow) or PAPR-P3.

Filter Classes:

A: Organic vapors, B1/B2/B3: Acid gases, E: SO<sub>2</sub>, K: NH<sub>3</sub>, Hg: Mercury, NO: Nitrogen oxides, MB: Methyl bromide, AX: Low boiling organics (<65°C).

Use respirators when ventilation is insufficient. Exposure limits guide selection. N95 (US) or P1 (EU) dust masks work for nuisance dust. Fit-tested, certified respirators are essential for safety. Use positive-flow masks if airborne dust is significant. Minimize dust generation.

### 8.5 General Hygiene Considerations:

Handle in accordance with good industrial hygiene and safety practice.

### 8.6 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.

## Section 9– Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties:

**Appearance:** Free flowing, light to dark greenish powder, with occasional friable lumps, very hygroscopic. Physical state solid, powder

**Colour:** Light to dark greenish.







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## Section 9– Physical and Chemical Properties

<b>Odour:</b>	Odourless
<b>Odour threshold:</b>	Not determined
<b>Melting point/freezing point:</b>	162 °C
<b>Boiling point or initial boiling point and boiling range:</b>	150 °C at 760 mmHg
<b>Flammability:</b>	Not determined
<b>Lower and upper explosion limit:</b>	Not determined
<b>Flash point:</b>	Not determined ASTM D92
<b>Auto-ignition temperature:</b>	Not determined
<b>Decomposition temperature:</b>	162 °C
<b>pH:</b>	Not determined
<b>Kinematic viscosity:</b>	Not determined
<b>Solubility:</b>	Water solubility -3 mg/mL
<b>Water solubility :</b>	Not determined
<b>Partition coefficient n-octanol/water (log value):</b>	Not determined
<b>Vapour pressure :</b>	Not determined
<b>Density and/or relative density:</b>	Not determined
<b>Relative density :</b>	1.898g/cm <sup>3</sup>
<b>Particle characteristics:</b>	Not determined

## Section 10- Stability and Reactivity

### 10.1 Stability:

The product is stable at room temperature.

### 10.2 Instability Temperature:

Not available

### 10.3 Conditions of Instability:

Not available

### 10.4 Incompatibility with various substances:

Reactive with oxidizing agents.

### 10.5 Incompatible materials:





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## Section 10- Stability and Reactivity

Strong acids/alkalis, strong oxidising/reducing agents.

### 10.6 Conditions to avoid:

Heat, dust formation.

### 10.7 Hazardous decomposition products:

carbon oxides, iron oxides, nitrogen oxides, hydrogen fluoride

### 10.8 Corrosivity:

Non corrosive in presence of glass

### 10.9 Special remarks on Reactivity:

Not available

### 10.10 Special remarks on Corrosivity:

Not available

### 10.11 Polymerization:

Will not occur.

## Section 11- Toxicological Information

### 11.1 Routes of Entry:

Inhalation, Ingestion

### 11.2 Toxicity to Animals:

LD50: Not available, LC50: Not available.

### 11.3 Chronic Effects on Humans:

Not Available

### 11.4 Other Toxic Effects on Humans:

Slightly hazardous in case of skin contact (irritation), or ingestion or inhalation.

### 11.5 Special Remarks on Toxicity to Animals:

Not Available

### 11.6 Special Remarks on Chronic Effects on Humans:

Not Available

### 11.7 Special Remarks on other Toxic Effects on Humans:

#### 11.7.1 Skin:

Contact may cause irritation or rash, particularly with moist skin.

#### 11.7.2 Eyes:

Dust may cause irritation (abrasion) by mechanical action and cause redness, and tearing.





## Section 11- Toxicological Information

### 11.7.3 Inhalation:

Inhalation high concentrations of dust may cause nasal or lung irritation.

### 11.7.4 Ingestion:

Ingestion can produce gastrointestinal tract irritation. Can cause diarrhea.

### 11.8 Mutagenicity:

No data available

### 11.9 Carcinogenicity:

No data available

### 11.10 Reproductivity:

No data available

### 11.11 STOT - Single Exposure:

No data available

### 11.12 STOT – Repeated Exposure:

No data available

### 11.13 Aspiration Hazard:

No data available.

## Section 12- Ecological Information

### 12.1 Ecotoxicity:

Substance	Endpoint	Test Duration (hr)	Species	Value	Source
Ferrous Bisglycinate 20% Fe	Not Available	Not Available	Not Available	Not Available	Not Available
Ferrous Glycinate	EC50	72h	Algae or other aquatic plants	48.53 mg/L	2
	NOEC (ECx)	72h	Algae or other aquatic plants	4 mg/L	2
	LC50	96h	Fish	0.83 mg/L	2

### 12.2. Persistence and degradability:





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## Section 12- Ecological Information

No data available

### 12.3. Bioaccumulative potential:

No data available

### 12.4. Mobility in soil:

No data available

### 12.5 Results of PBT and vPvB assessment:

Results of PBT and vPvB assessment PBT/vPvB assessment unavailable as chemical safety assessment not required or not conducted.

### 12.6 BOD 5 and COD:

Not Available

### 12.7 Products of biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

### 12.8 Toxicity of the Products of biodegradation:

The Product itself and its products of degradation are not toxic. Special remarks on the Products of biodegradation:

## Section 13 - Disposal Considerations

Waste must be disposed of in accordance with federal , state and local environmental control regulations.

## Section 14 - Transport Information

### 14.1. UN number:

Not included in the scope of application regulations concerning the transport of dangerous goods: by road (ADR); by rail (RID); by air (ICAO / IATA); by sea (IMDG).

### 14.2. UN proper shipping name:

None.

### 14.3. Transport hazard class(es):

None.

### 14.4. Packing group:

None.





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## Section 14 - Transport Information

### 14.5. Environmental hazards:

None.

### 14.6. Special precautions for user:

No data available.

### 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:

It is not intended to carry bulk.

D O T 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, NONHAZARDOUS AND NON-RESTRICTED.

NO SPECIAL LABELLING OR TRANSPORT MEASURE HAVE BEEN

IDENTIFIED. THIS IS NOT REGULATED AS PER IATA REGULATION



## Section 15 – Regulatory Information

### International Inventories

All of the components in the product are on the following Inventory lists

No information available

X - Listed

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

### US Federal Regulations

SARA 313





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## Section 15 – Regulatory Information

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

### **SARA 311/312 Hazard Categories**

Acute health hazard No

Chronic Health Hazard No

Fire hazard No

Sudden release of pressure hazard No

Reactive hazard No

### **CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

### **US State Regulations**

#### **California Proposition 65**

This product does not contain any Proposition 65 chemicals.

#### **U.S. State Right-to-Know Regulations**

This product does not contain any substances regulated by state right-to-know regulations

## Section 16 - Other Information

**Disclaimer:** This material safety data sheet is provided as an information resource. 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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02

