



WEST BENGAL CHEMICAL INDUSTRIES LIMITED
145/1, Jessore Road, Lake Town,
Kolkata – 700 089, India.
Phone: +9133 4025 1700 Fax: +9133 2574 7410
Email: wbcil@wbcil.com Website: www.wbcil.com

Section 1 - Chemical Product and Company Identification

MSDS Name: Iron (III) Hydroxide Polymaltose Complex

Product Code: IPC2625

Company Identification:

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Section 2- Composition / Information on Ingredients

Chemical Name	:	Iron (III) Hydroxide Polymaltose Complex
Molecular Formula	:	$[\text{Fe}(\text{OH})_3(\text{H}_2\text{O})_{1.5}]_n \cdot [(\text{C}_6\text{H}_{10}\text{O}_5)_m]_x$
Molecular weight	:	449.163
CAS Number	:	53858-86-9

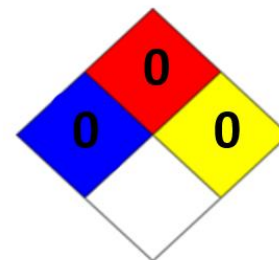
Section 3 - Hazards Identification

Classification of the substance or mixture

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

Label elements Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

Other hazards This substance/mixture contains no components considered to be either persistent, bio accumulative and toxic (PBT), or very persistent and very bio accumulative (vPvB) at levels of 0.1% or higher.



Section 4 - First Aid Measures

Description of first aid measures

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration.

In case of skin contact

Wash off with soap and plenty of water.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water.

Most important symptoms and effects, both acute and delayed



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Section 4 - First Aid Measures

The most important known symptoms and effects are described in section 11

Indication of any immediate medical attention and special treatment needed

No data available.

Section 5 - Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special hazards arising from the substance or mixture

Carbon oxides, Iron oxides

Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

Further information

No data available

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing vapours, mist or gas.

For personal protection see section 8.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Sweep up and shovel. Keep in suitable, closed containers for disposal.

Reference to other sections

For disposal see section 13.

Section 7 - Handling and Storage

Precautions for safe handling: For safe handling, ensure adequate ventilation in the workspace. Wash hands thoroughly after coming into contact with the material. Avoid eating, drinking, or smoking while handling it. Minimize dust and avoid inhaling dust, fumes, gases, mists, vapors, or sprays. Prevent contact with your skin, eyes, and clothing by keeping the container tightly closed and wearing appropriate personal protective equipment like waterproof boots, suitable clothing, and safety glasses. Also, avoid contact with hot surfaces.

Conditions for safe storage, including any incompatibilities: Store the material in a cool, dry, and well-ventilated area. Keep it in its tightly closed original container to minimize air exposure. Protect the container from heat sources, sunlight, sparks, ignition sources, and incompatible materials. Avoid



Section 7 - Handling and Storage

contact with the material itself, including skin and eye contact, and don't breathe in any dust, mist, or vapors it might produce. To ensure safety, don't store the material near strong oxidizing agents or other incompatible materials.

Section 8 - Exposure Controls / Personal Protection

Control parameters

Exposure controls

Appropriate engineering controls

General industrial hygiene practice.

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body Protection

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Respiratory protection is not required. Where protection from nuisance le (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Do not let product enter drains.

Section 9 - Physical and Chemical Properties

Information on basic physical and chemical properties

Physical State	:	Amorphous powder.
Appearance	:	Brown.
Odor	:	Odorless.
Solubility in water	:	NLT 1g sample dissolved in 100 ml water.



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Section 9 - Physical and Chemical Properties

pH (2%w/v Iron Solution)	:	5 to 7	
Vapour Pressure at 35°C	:	Not Applicable.	
Vapour Density (Air = 1)	:	Not Applicable.	
Specific Gravity	:	Not Applicable.	
Boiling Point / Range	:	238.00 TO 239.00	
Melting / Freezing Point	:	Not available	

Section 10 - Stability and Reactivity

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No data available

Conditions to avoid

No data available

Incompatible materials

Strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions.-Carbon oxides, Iron oxides

Section 11 - Toxicological Information

11.1 Information on toxicological effects**Acute toxicity**

Oral: Low toxicity, LD50 >5000 mg/kg (rat). May cause gastrointestinal irritation at high doses.

Dermal: Low toxicity, no significant effects from skin contact.

Inhalation: No specific data, but inhalation of iron dust may irritate the respiratory tract.

Chronic Toxicity

Carcinogenicity: No evidence of carcinogenicity in long-term studies. Iron overload may increase cancer risk in specific cases (e.g., liver).



Section 11 - Toxicological Information

Mutagenicity: No mutagenic effects reported for iron compounds.

Reproductive Toxicity: No known effects. Excessive iron can cause fetal toxicity in iron overload conditions.

Target Organ Toxicity: Chronic exposure may lead to iron accumulation in liver, heart, and pancreas, causing organ damage (e.g., hemosiderosis).

Inhalation: No specific data, but inhaling high concentrations of iron dust may cause **respiratory irritation** (coughing, shortness of breath).

Skin Corrosion/Irritation Low irritation potential. Prolonged contact may cause mild redness or itching.

Serious Eye Damage/Eye Irritation: May cause mild irritation (redness, discomfort) if in contact with eyes.

Respiratory: No evidence of respiratory sensitization.

Skin Sensitization: Rare allergic reactions (rash, itching) may occur in sensitive individuals.

Other Toxicological Effects

Gastrointestinal: Excessive intake can cause nausea, vomiting, and abdominal pain.

Iron Overload: Chronic excessive iron exposure may lead to liver damage, heart failure, or pancreatic dysfunction due to iron deposition.

Aspiration Hazard

No data available. Inhalation of dust or fumes may cause respiratory irritation.

Section 12 - Ecological Information

12.1. Toxicity Ecotoxicity effects

May cause long-term adverse effects in the environment. Do not allow material to contaminate ground water system.

12.2. Persistence and degradability



Section 12 - Ecological Information

The product includes heavy metals. Prevent release into the environment. Special pretreatment required.

Aquatic Toxicity

- **Fish:** LC50 >100 mg/L (iron compounds).
- **Daphnia:** EC50 50–500 mg/L.
- **Algae:** IC50 50–100 mg/L (iron salts).
 - High iron levels may lead to **algal blooms**.

Bioaccumulation

- **Low bioaccumulation potential:** Iron is naturally recycled in the environment.

Soil Toxicity

- **Low toxicity** to soil organisms (LC50 >1000 mg/kg for earthworms).

PBT (Persistent, Bioaccumulative, and Toxic) and vPvB (very Persistent and very Bioaccumulative) Assessment

- **PBT Assessment:** Iron Hydroxide Polymaltose Complex is **not considered persistent, bioaccumulative, or toxic (PBT)** based on its environmental behavior. It is biodegradable, and its potential for bioaccumulation is low due to its natural occurrence and the body's ability to process iron.
- **vPvB Assessment:** The compound is **not classified as very persistent and very bioaccumulative (vPvB)** because it does not accumulate significantly in organisms, and it is naturally recycled in the environment.

Other Adverse Effects

- **Aquatic Toxicity:** At high concentrations, iron can cause **eutrophication** in water bodies, leading to **algal blooms** and oxygen depletion, which may disrupt aquatic ecosystems.
- **Soil Toxicity:** While generally low, excessive iron in the soil can impact **soil microorganisms**, potentially altering microbial activity in the soil.
- **Iron Overload:** In humans and animals, excess iron from chronic exposure can lead to **iron overload** in organs, resulting in conditions like **hemochromatosis** and organ damage.

Persistence

Insoluble in water, May persist.

Degradation in sewage treatment plan

Contains substances known to be hazardous to the environment or not degradable in wastewater treatment plants.waste.



Section 12 - Ecological Information

12.3. Bioaccumulative potential

May have some potential to bioaccumulation; Product has a high potential to bioconcentrate.

12.4. Mobility in soil

Spillage unlikely to penetrate soil Is not likely mobile in the environment due its low water solubility.

12.5. Results of PBT and vPvB assessment

No data available for assessment.

12.6. Other adverse effects

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

Persistent Organic Pollutant

This product does not contain any known or suspected substance

Ozone Depletion Potential

This product does not contain any known or suspected substance

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

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, 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

Safety, health and environmental regulations/legislation specific for the substance or mixture

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

Chemical safety assessment

For this product a chemical safety assessment was not carried out.



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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.

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