



Paradise Minerals

One of the biggest manufacturer and exporter of Minerals

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DATE: 29th June 2026

MICACEOUS IRON OXIDE (MIO)

Safety Data Sheet (SDS)

Premium Grade for Submerged Arc Welding (SAW) Flux Manufacturing

Product Name: Micaceous Iron Oxide (MIO)
Chemical Name: Ferric Oxide (Micaceous Form)
Chemical Formula: Fe_2O_3
CAS No.: 1309-37-1
EC No.: 215-168-2
UN Number: Not Regulated

Product Overview

Paradise Minerals supplies **premium-grade Micaceous Iron Oxide (MIO)**, a naturally occurring crystalline iron oxide processed to deliver exceptional purity, controlled particle size, and consistent quality. Due to its high iron oxide content and lamellar (plate-like) structure, it is widely used in **Submerged Arc Welding (SAW) Flux**, protective coatings, refractory products, and metallurgical applications.

Key Features

- ✓ High Iron Oxide (Fe_2O_3) Content
- ✓ Lamellar (Plate-like) Particle Structure
- ✓ Excellent Thermal Stability
- ✓ Low Moisture Content
- ✓ Controlled Particle Size Distribution

- ✓ Consistent Chemical Composition
- ✓ Suitable for SAW Flux Manufacturing

Typical Applications

- Submerged Arc Welding (SAW) Flux
- Agglomerated Welding Flux
- Welding Consumables
- Protective & Anti-Corrosive Coatings
- Refractory Industry
- Metallurgical Applications
- Industrial Mineral Blends

Typical Physical Properties

Property	Value
Chemical Formula	Fe ₂ O ₃
Appearance	Grey to Reddish Grey Powder
Physical Form	Fine Powder
Odour	Odourless
Bulk Density	1.2–2.0 g/cm ³ (Approx.)
Specific Gravity	4.6–5.2
Melting Point	Approximately 1,560°C
Solubility	Insoluble in Water
Moisture	Low
Stability	Stable Under Normal Conditions

Typical Chemical Composition*

Component	Typical Value (%)
Ferric Oxide (Fe ₂ O ₃)	≥88–95
Silicon Dioxide (SiO ₂)	≤5.0
Aluminium Oxide (Al ₂ O ₃)	≤3.0
Titanium Dioxide (TiO ₂)	≤2.0
Calcium Oxide (CaO)	≤1.0
Loss on Ignition (LOI)	≤1.0

***Typical values. Actual composition may vary depending on product grade and customer specifications.**

Safety Information

Micaceous Iron Oxide is **not classified as hazardous** under normal industrial handling conditions. Dust generated during handling may cause temporary irritation to the eyes, skin, and respiratory tract.

First Aid Measures

Eye Contact

Flush immediately with clean water for at least 15 minutes. Seek medical attention if irritation persists.

Skin Contact

Wash affected area thoroughly with soap and water.

Inhalation

Move the affected person to fresh air. Seek medical attention if respiratory irritation continues.

Ingestion

Rinse mouth with water. Obtain medical advice if discomfort occurs.

Fire Fighting Measures

- Non-Combustible Material
- Suitable Extinguishing Media:
 - Water Spray
 - Foam
 - Dry Chemical Powder
 - Carbon Dioxide (CO₂)

Handling & Storage

- Avoid generating excessive dust.
- Ensure adequate workplace ventilation.
- Wear appropriate personal protective equipment.
- Store in a cool, dry, and well-ventilated area.
- Protect from moisture and contamination.
- Keep containers tightly sealed.

Exposure Controls & Personal Protection

Eye Protection: Safety Goggles

Respiratory Protection: N95 Dust Mask or Approved Respirator

Hand Protection: Protective Gloves

Foot Protection: Safety Shoes

Protective Clothing: Recommended during industrial handling

Stability & Reactivity

Chemical Stability: Stable under normal storage conditions.

Conditions to Avoid:

- Excessive dust generation
- Contact with strong acids
- Prolonged exposure to moisture

Hazardous Decomposition Products:

None under normal handling and storage conditions.

Environmental Information

- Environmentally stable under normal conditions.
- Avoid uncontrolled release of dust.
- Dispose of waste according to applicable environmental regulations.

Transportation Information

Not classified as dangerous goods under:

- IMDG Code
- ADR
- IATA
- RID

Why Choose Paradise Minerals?

- ✓ High Purity Micaceous Iron Oxide
- ✓ Excellent Thermal & Chemical Stability
- ✓ Controlled Particle Size Distribution
- ✓ Consistent Batch Quality

- ✓ Reliable Bulk Supply
- ✓ Strict Quality Assurance
- ✓ Trusted Industrial Mineral Supplier Since **1981**