

Material Safety Data Sheet / Safety Data sheet

Magnetite

Section 1: Chemical Product Identifier and Synonyms

Product Name: Magnetite

UN Number: Not available.

CAS Number: 1317-61-9

Synonym: Iron(II)iron(III) oxide, Iron(II,III) oxide, Ferrous ferric oxide, Ferroso Ferric oxide, Magnetite, black iron oxide, lodestone, rust, Iron(II) diiron(III) oxide

Chemical Formula: Fe₃O₄

Section 2: Composition and Information on Ingredients

Composition

Name	CAS Number:	% By Weight
Magnetite	1317-61-9	>100

Toxicology Data On Ingredients: Magnetite LD50: Not Available. LC50: Not Available

Section 3: Hazards Identification

Potential Acute Health Effects:

Slightly hazardous in case of eye contact (irritant), of ingestion, of inhalation.

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact during pregnancy/while nursing.

Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. Repeated or prolonged exposure is not known to aggravate medical condition.

Section 4: First Aid Measures

Eye Contact:

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Skin Contact:

Wash off immediately with plenty of warm water and soap for at least 15 minutes. Immediate medical attention is required. Remove any contaminated clothing.

Inhalation:

Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position. Seek medical advice if discomfort or irritation persists. If breathing difficult, give oxygen.

Ingestion:

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

Section 5: Fire and Explosion Data

Flammability of the Product: Not available.

Auto-Ignition Temperature: Not available.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: Not applicable.

Explosion Hazards in Presence of Various Substances: Not available.

Risks of explosion of the product in presence of mechanical impact: Not available.

Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions: No special restrictions – use suitable extinguishing agent for surrounding material and type of fire. Do not use water for metal fires – use CO₂, sand, extinguishing powder.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill:

Wear appropriate respiratory and protective equipment specified in special protection information. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. Take care not to raise dust

Large Spill:

If in laboratory setting, follow Chemical Hygiene plan procedures. Place into properly labelled containers for recovery or disposal. If necessary, use trained response staff/contractor. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Collect solids in powder form using vacuum with filter

Section 7: Handling and Storage

Precautions:

Minimise dust generation and accumulation. Wash hands after handling. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Follow good hygiene procedures when handling chemical materials. Do not eat, drink, smoke, or use personal products when handling chemical substances. If in a laboratory setting, follow chemical hygiene plan. Use only in well ventilated areas. Avoid generation of dust or fine particulate. Avoid contact with eyes, skin, and clothing.

Storage:

Store in a cool location. Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store away from food. Store away from oxidizing agents. Store in cool, dry conditions in well-sealed containers. Keep container tightly sealed.

Section 8: Exposure Controls / Personal Protection

Engineering Controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use/handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor or dusts (total/respirable) below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above. Use under a fume hood. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

Personal Protection:

Safety glasses. Gloves. Protective clothing. Dust production: dust mask with filter type P3.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Boots. Gloves. 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

Physical state and appearance: Powder

Odour: Odourless.

Taste: Not available.

Molecular Weight: Not available.

Colour: Black / Grey

pH (1% soln/water): Not available.

Boiling Point: Not available.

Melting Point: 1538 °C

Critical Temperature: Not available.

Specific Gravity: 231.53 g/mole (Water = 1)

Vapour Pressure: 1 mmHg at 865 °C

Vapour Density: 5.2 g/cc

Volatility: Not available.

Odour Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: Not available.

Solubility: Insoluble.

Section 10: Stability and Reactivity Data

Stability: The product is stable under normal conditions.

Instability Temperature: Not available.

Conditions of Instability: Direct sunlight. Extremely high temperatures and excess heat.

Incompatibility with various substances: Oxidizing agents

Corrosivity: Not available.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: Not available.

Section 11: Toxicological Information

Routes of Entry: Eye contact. Inhalation. Ingestion.

Toxicity to Animals: (LD50): Not available. LC50: Not available.

Chronic Effects on Humans: Not available.

Other Toxic Effects on Humans: Slightly hazardous in case of ingestion, of inhalation. May cause harm to breastfed babies.

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.

Section 12: Ecological Information

Ecotoxicity: Not available.
BOD5 and COD: Not available.
Products of Biodegradation: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation: The products of degradation are as toxic as the original product.
Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Information

Waste Disposal: Dispose of in accordance with local regulations

Section 14: Transport Information

DOT Classification: Not dangerous goods.
Identification: Magnetite.
Special Provisions for Transport: Not available.

Section 15: Regulatory Information

Regulations: Labelling according to Regulation (EC) No 1272/2008.

Section 16: Other Information

The information supplied in this Safety Data Sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication however no guarantee is made to its accuracy. This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials. The author will not be held liable for any damage or injury caused by this product and does not obviate the requirement for end users to carry out their own workplace and specific use risk assessment.

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