Material Safety Data Sheet
Black Iron Oxide

Edition: 30/06/2013
In compliance with Regulation (EC)1907/2006
Regulation (EC) 1272/2008 and Regulation (EC) 453/2010

1.1) Identification of substance/preparation and of the company undertaking

Material	Black Iron Oxide
Product Name	Magnetite (Natural), Magnetite (Synthetic)
Synonyms	Natural Black Iron Oxide, Magnetite
EC No	215-570-8
CAS No	1332-37-2
REACH registration No	Exempted in accordance with Annex V.7
Company	Inoxia Ltd 45.7 Dunsfold Park Stovolds Hill Cranleigh Surrey GU6 8TB Tel: 02032 909990 safety@inoxia.co.uk www.inoxia.co.uk

1.2) Relevant identified uses

Use of the substance/preparation:
Substance used as such, in formulation or in formulation of products for:

- Foundries
- Glass
- Ceramics
- Steel industries
- High Density filler

Uses advised against

There is no known adverse use of the substance

2) Hazard Identification

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Physical and chemical hazards: Not classified
Human health: Not classified
Environment: Not classified
Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC or 1999/45/EC

Not classified
Full text of R-phrases: see section 16

Adverse physicochemical, human health and environmental effects

None known.

2.2. Label elements

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

None

2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH, annex XIII.

3) Composition

Chemical Name	EC-No	CAS-No.	Weight %	Classification (67/548/EEC)	Classification (1272/2008/EC)
Magnetite	215-570-8	1332-37-2	>90	Not classified	Not classified

4) First Aid Measures

4.1. Description of first aid measures

Inhalation: Move the exposed person to fresh air at once. Get medical attention if any discomfort continues.

Ingestion: Rinse mouth thoroughly. Get medical attention if any discomfort continues.

Skin contact: Wash skin with soap and water. Get medical attention if irritation persists after washing.

Eye contact: Make sure to remove any contact lenses from the eyes before rising. Rinse water immediately. Get medical attention if any discomfort continues.

4.2. Most important symptoms and effects, both acute and delayed

Inhalation: No specific symptoms noted.

Ingestion: No specific symptoms noted.

Skin contact: No specific symptoms noted.

Eye contact: No specific symptoms noted.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5) Fire Fighting

5.1. Extinguishing media

Suitable extinguishing media: This product is not flammable. Use fire extinguishing media appropriate for the surrounding conditions.

Unsuitable extinguishing media: None

5.2. Special hazards arising from the substance or mixture

Fire hazard: Not flammable.

Explosion hazard: No explosive properties known.

Reactivity: Stable under normal conditions of handling and storage.

5.3. Advice for firefighters

Protection during firefighting: No specific firefighting procedures given.

6) Accidental Release

6.1. Personal precautions, protective equipment and emergency procedures

General measures: Keep public away from danger area. See section 8.2.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent entry to sewers and soil. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up: Sweep or shovel spills into appropriate container for disposal. Avoid dust production.

6.4. Reference to other sections

See section 8 and 13 for more information.

7) Handling/Storage

7.1. Precautions for safe handling

Precautions for safe handling: Do not breathe dust. Wash hands plentifully and other exposed areas with water after handling. Remove contaminated clothing and shoes. Wash clothing before re-using.

Packagings: Even those that have been emptied, will retain product residue. Always obey safety warnings and handle empty packages as if they were full. Avoid all contact with this substance.

Hygiene measures: When using do not eat, drink or smoke. Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work. Remove contaminated clothing and shoes.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in dry, cool, well-ventilated area. Keep away from food, drink and animal feeding stuffs.

7.3. Specific end use(s)

The identified uses for this product are detailed in section 1.2

8) Exposure Controls

Chemical Name	United Kingdom	France	Spain
Magnetite	**WEL: 5.0 mg/m3 STEL -15min: 10.0 mg/m3**	**VLEP: 5.0 mg/m3**	**VLEP: 5.0 mg/m3**

Exposure Limits:

Follow workplace regulatory exposure limits for all types of airborne dust (e.g. total dust, respirable dust).

Ingredients comments:

Dust contains respirable silica. Prolonged and/or massive inhalation of respirable silica dust may cause lung fibrosis. Commonly referred to as silicosis. Principal symptoms of silicosis are cough and breathlessness. Occupational exposure to respirable dust should be monitored and controlled. The product should be handled using methods and techniques that minimise or eliminate dust generation. The product contains less than 1% w/w RCS (respirable crystalline silica) as determine by the SWERF method. The respirable crystalline silica content can be measured using the “Size-Weighted Respirable Fraction – SWERF” method. All details about the SWERF method are available at www. crystallinesilica.eu

8.2. Exposure controls

Appropriate engineering controls: Use as far as possible in a closed system. Provide a regular control of the atmosphere. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Local exhaust and general ventilation must be adequate to meet exposure standards. Please refer to the annex (exposure scenarios).

Hand protection: Use gloves resistant to chemical products corresponding to EN 374:3. Take advice to gloves' manufacturer.

Eye protection: Wear safety glasses with side shields according EN 166.

Skin and body protection: Wear closed protective clothing.

Respiratory protection: Use respiratory protection mask according to EN 140 or EN 405 with filter type P3 according to EN 143:2000 or FFP3 according to EN 149:2001.

Environmental exposure controls: Avoid release to the environment.

9) Physical/Chemical Properties

Physical state	Powder.
Colour	Black.
Odour	odourless.
Odour threshold	Not applicable
pH	No data available
Relative evaporation rate (butylacetate=1)	No data available
Melting point	1,400 – 1,600 °C
Freezing point	No data available
Boiling point	No data available
Flash point	Not flammable
Self ignition temperature	Not applicable
Decomposition temperature	No data available
Flammability (solid, gas)	Not flammable
Vapour pressure	Not applicable.
Relative vapour density at 20 °C	No data available
Relative density	5.0
Density	No data available
Solubility	Negligible.
Log Pow	Not applicable
Log Kow	Not applicable
Viscosity, kinematic	Not applicable
Viscosity, dynamic	Not applicable
Explosive properties	Not explosive.
Oxidising properties	Non oxidizing material according to EC criteria.
Explosive limits	Not applicable

10) Stability/Reactivity

10.1. Reactivity

No specific reactivity hazards associated with this product.

10.2. Chemical stability

Stable under normal conditions of handling and storage.

10.3. Possibility of hazardous reactions

Not relevant.

10.4. Conditions to avoid
Not relevant.
10.5. Incompatible materials
No specific, or groups of materials, are likely to react to produce a hazardous situation.
10.6. Hazardous decomposition products
Not relevant.

11)

Other health effects: This substance has no evidence of carcinogenic properties.

Acute toxicity	**Not relevant.**
Skin corrosion/irritation	**Powder may irritate skin.**
Serious eye damage/irritation	**Particles in the eyes may cause irritation and smarting.**
Respiratory or skin sensitisation	**Dust in high concentrations may irritate the respiratory system.**

12) Ecological Information
Ecotoxicity: Not regarded as dangerous to the environment

12.1. Acute fish toxicity
Not considered toxic to fish
12.2. Persistence and degradability
This product is not readily biodegradable**.**
12.3. Bioaccumulative potential
The product is not bioaccumulating.
12.4. Mobility in soil
Not relevant, due to the form of the product.
12.5. Results of PBT and vPvB assessment
This substance does not meet the PBT or vPvB criteria of REACH, annex XIII.
12.6. Other adverse effects
None known.

13) Disposal Consideration
Waste treatment methods: Dispose of this material and residues in accordance with local authority requirements.
Additional information: Empty packaging can have residues or dusts and are subject to proper waste disposal, as above.
Ecology - waste materials: See the european waste catalogue.

14) Transport Information
14.1. UN number
The product is not covered by international regulation on transport of dangerous goods (IMDG, IATA, ADR/RID).
14.2. UN proper shipping name
Not classified for transportation.
14.3. Transport hazard class(es)
Not classified for transportation.
14.4. Packing group

Not classified for transportation.

14.5. Environmental hazards

Other information: No environmental hazards known with this product.

14.6. Special precautions for user

Not classified for transportation.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

15) Regulatory Information

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

Approved code of practice:

Classification and labelling of substances and preparations dangerous for supply.
Safety data sheets for substances and preparations.

Guidance notes:

Workplace Exposure Limits EH40.

EU Legislation:

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18th December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulations (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16th December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 with amendments.

15.2. Chemical Safety Assessment.

Exempted from REACH Registration in accordance with Annex V.7

16) Other Information

Full text of R-phrases referred to under sections 2 and 3

R48/20 – Harmful: danger of serious damage to health by prolonged exposure through inhalation.

Full text of R-phrases referred to under sections 2 and 3

H372 – Causes damage to lung through prolonged or repeated exposure by inhalation.

Abbreviations and acronyms:

ADN: European Agreement concerning international carriage of Dangerous goods by Inland waterways
ADR: European Agreement concerning international carriage of Dangerous goods by Road
AF: Assessment factor
BCF: Bioconcentration factor
Bw: Body weight

CAS: Chemical Abstracts Service
CLP: Classification, labelling, packaging
CSR: Chemical Safety Report
DMEL: Derived maximum effect level
DNEL: Derivative No effect Level
EC: European Community
ELV: Emission limit values
EN: European Norm
EUH: European Hazard Statement
EWC: European Waste catalogue
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
IMDG: International Maritime Dangerous Goods
LC50: Median lethal concentration
LD50: Median lethal dose
NOAEL: No-observed-adverse-effect-level
NOEC: No observed effect concentration
NOEL: No observed effect level
OEL: Operator exposure level
PBT: Persistent, bioaccumulative, Toxic
PEC: Predicted effect level
PNEC: Predicted No effect Concentration
REACH: Registration, evaluation and autorisation of chemicals
RID: Regulations concerning the international carriage of dangerous goods by rail
STEL: Short Term Exposure Limit
TWA: Time weighted average
vPvB: Very persistent, very bioaccumulative.

Training advice:

Workers must be informed of the presence of crystalline silica and trained in the proper use and handling of this product as required under applicable regulations.

Social Dialogue on Respirable Crystalline Silica

A multi-sectorial social dialogue agreement on workers Health Protection through the Good Handling and Use of Crystalline Silica Products Containing it was signed on 25th April 2006. This autonomous agreement, which receives the European Commission's financial support, is based on a Good Practices Guide. The requirements of the Agreement came into force on 25th October 2006. The Agreement was published in the Official Journal of the European Union (2006/C 279/02). The text of the Agreement and its annexes, including the Good Practices Guide, are available from http://wwwnepsi.eu and provide useful information and guidance for the handling of products containing respirable crystalline silica. Literature references are available on request from EUROSIL, the European Association of Industrial Silica Producers.

Health & Safety Executive (Specific for UK)

Detailed reviews of the scientific evidence on the health effects of crystalline silica have been published by HSE (Health and Safety Executive, UK) in the Hazard Assessment Documents EH75/4 (2002) and EH75/5 (2003). The HSE points out on its website that "Workers exposed to fine dust containing quartz are at risk of

developing a chronic and possibly severely disabling lung disease known as “silicosis”. In addition to silicosis, there is now evidence that heavy and prolonged workplace exposure to dust containing crystalline silica can lead to an increased risk of lung cancer. The evidence suggests that an increased risk of lung cancer is likely to occur only in those workers who have developed silicosis”. In addition to silicosis, there is now evidence that heavy and prolonged workplace exposure to dust containing crystalline silica can lead to an increased risk of lung cancer. The evidence suggests that an increased risk of lung cancer is likely to occur only in those workers who have developed silicosis.

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product. DISCLAIMER OF LIABILITY The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable