



Material Safety Data Sheet

Magnetite Synthetic

Edition: 23/04/2018
In compliance with Regulation (EC) 1907/2006

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

Material	Magnetite Synthetic
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 of the substance or mixture and uses advised against

Use of the Substance/Mixture: Colorants (pigments and dyestuffs), inorganic

2) Hazards identification.

2.1. Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

2.2. Label elements

Labelling (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

2.3. Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.

3) Composition/information on ingredient

3.1. Substances

Chemical nature: Fe₃O₄ Hazardous components

Remarks: No hazardous ingredients

4) First Aid Measures

4.1. Description of first aid measures

General advice: Do not leave the victim unattended.

If inhaled: Move the victim to fresh air. Get medical attention if symptoms occur. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, place in recovery position and get medical attention immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

In case of skin contact: No special measures required.

In case of eye contact: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. If easy to do, remove contact lens, if worn. Continue to rinse for at least 10 minutes. Get medical attention if symptoms appear.

If swallowed: No special measures required.

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

Symptoms: See Section 11 for more detailed information on health effects and symptoms.

Risks: See Section 11 for more detailed information on health effects and symptoms.

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

Treatment: See Section 11 for more detailed information on health effects and symptoms.

5) Fire Fighting

5.1. Extinguishing media

Suitable extinguishing media: In case of fire, use water spray (fog), foam, dry chemical or CO₂.

Unsuitable extinguishing media: None known.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products: The product itself does not burn.

5.3. Advice for firefighters

Special protective equipment for firefighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Further information: Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

6) Accidental Release

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Avoid breathing dust. Use personal protective equipment. Avoid dust formation.

6.2. Environmental precautions

Environmental precautions: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. If the product contaminates rivers and lakes or drains inform respective authorities.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up: Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4. Reference to other sections

For personal protection see section 8. For disposal considerations see section 13

7) Handling/Storage

7.1. Precautions for safe handling

Advice on safe handling: For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area

Advice on protection against fire and explosion: Provide appropriate exhaust ventilation at places where dust is formed.

Hygiene measures: When using do not eat, drink or smoke. Wash face, hands and any exposed skin thoroughly after handling. Wash contaminated clothing before reusing. General industrial hygiene practice

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers: Keep containers tightly closed in a dry, cool and well-ventilated place. Electrical installations / working materials must comply with the technological safety standards.

Advice on common storage: No materials to be especially mentioned.

Further information on storage stability: No decomposition if stored and applied as directed.

7.3. Specific end use(s)

Specific use(s) : No data available

8) Exposure Controls/Personal Protection

8.1. Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (form of exposure)	Control Parameters	Basis
triiron tetraoxide	1317-61-9	TWA (Fumes)	5 mg/m ³ (Iron)	GB EH40
Further information	`The word 'fume' is often used to include gases and vapours. This is not the case for exposure limits where 'fume' should normally be applied to solid particles generated by chemical reactions or condensed from the gaseous state, usually after volatilisation from melted substances. The generation of fume is often accompanied by a chemical reaction such as oxidation or thermal breakdown.			
		STEL (Fumes)	10 mg/m ³ (Iron)	GB EH40

Further information	`The word 'fume' is often used to include gases and vapours. This is not the case for exposure limits where 'fume' should normally be applied to solid particles generated by chemical reactions or condensed from the gaseous state, usually after volatilisation from melted substances. The generation of fume is often accompanied by a chemical reaction such as oxidation or thermal breakdown.
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Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End use	Exposure routes	Potential health effects	Value
triiron tetraoxide	Workers	Inhalation	Long-term exposure, Systemic effects	10 mg/m ³
	Workers	Inhalation	Long-term exposure, Local effects	10 mg/m ³

8.2. Exposure controls

Personal protective equipment

Hand protection

wearing time: < 60 min

Material: Leather gloves

Skin and body protection: Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Additional body garments should be used (e.g. sleevelets, apron, disposable suit etc.), based on the task being performed.

Respiratory protection: Dust-protection mask if there is a risk of dust formation. P1 filter. No personal respiratory protective equipment normally required.

Environmental exposure controls

Water: The product should not be allowed to enter drains, water courses or the soil.

9) Physical/Chemical Properties

Appearance: powder

Colour: black

Odour: odourless

Odour Threshold: No data available

pH: 5 – 8

Concentration: 5 %

Melting point/range: > 1.000 °C

Boiling point/boiling range: No data available

Flash point: No data available

Evaporation rate: No data available

Flammability (solid, gas): No data available
Upper explosion limit: No data available
Lower explosion limit: No data available
Vapour pressure: No data available
Relative vapour density: No data available
Relative density: No data available
Density: 4,6 g/cm³ (20 °C)
Bulk density: 300 - 1.000 kg/m³
Solubility(ies)
 Water solubility: insoluble
Partition coefficient: noctanol/water: No data available
Ignition temperature: No data available
Decomposition temperature: > 80 °C
Viscosity: No data available
Explosive properties: No data available
Oxidizing properties: No data available

9.2 Other information

No data available

10) Stability/Reactivity

10.1. Reactivity

No decomposition if stored and applied as directed.

10.2. Chemical stability

The product is stable.

10.3. Possibility of hazardous reactions

Hazardous reactions: Stable under recommended storage conditions. No hazards to be specially mentioned.

10.4. Conditions to avoid

Conditions to avoid: At temperatures above 80 °C the product may become unstable and oxidise. This generates additional heat which, under unfavourable conditions, may result in the combustion of flammable materials. The product should therefore not be stored near heat sources.

10.5. Incompatible materials

Materials to avoid : No specific data.

10.6. Hazardous decomposition products

No decomposition if stored and applied as directed.

11) Toxicological Info

11.1. Information on toxicological effects

Acute toxicity

Product:

Acute oral toxicity: LD50 (Rat, male and female): > 5.000 mg/kg. Remarks: Information refers to the main component.

Skin corrosion/irritation

Product:

Species: Rabbit

Method: OECD Test Guideline 404

Result: No skin irritation

Remarks: Information refers to the main component.

Serious eye damage/eye irritation

Product:

Species: Rabbit

Method: OECD Test Guideline 405

Result: No eye irritation

Remarks: Information refers to the main component.

Respiratory or skin sensitisation

Product:

Species: Guinea pig

Result: Not a skin sensitizer.

Remarks: Information refers to the main component.

Germ cell mutagenicity

Product: Genotoxicity in vitro:

Test Type: Ames test

Test system: Bacteria

Metabolic activation: with and without metabolic activation

Result: negative

Remarks: Information refers to the main component.

Test Type: In vitro mammalian cell gene mutation test

Test system: Mammalian-Animal

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Remarks: Information refers to the main component.

Test Type: Chromosome aberration test in vitro

Test system: Mammalian-Animal

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473

Result: negative

Remarks: Information refers to the main component.

Carcinogenicity

Product:

Species: Rat, (male and female)

Exposure time: 914 days

Dose: 600 mg/kg body weight

Result: negative

Remarks: Information refers to the main component.

Repeated dose toxicity

Product:

Species: Rat, male

LOAEL: 185,6 mg/m³

Application Route: inhalation (dust/mist/fume)

Exposure time: 2 Weeks

Number of exposures: 6 hours/day

Remarks: Information refers to the main component.

Further information

Product:

Remarks: No data available

12) Ecological Information

12.1 Toxicity

Product:

Toxicity to fish:

LC0 (Danio rerio (zebra fish)): > 10.000 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Remarks: Fresh water

Information refers to the main component.

Toxicity to daphnia and other aquatic invertebrates:

EC0 (Daphnia magna (Water flea)): > 10.000 mg/l

Exposure time: 48 h

Method: Regulation (EC) No. 440/2008, Annex, C.2

Remarks: Fresh water Information refers to the main component.

Toxicity to microorganisms:

EC50 (adapted and activated sludge micro-organism):

Exposure time: 3 h

Method: OECD Test Guideline 209

Remarks: Fresh water

Information refers to the main component.

12.2 Persistence and degradability

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

Product:

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

12.6 Other adverse effects

Product:

Additional ecological information: Ecotoxicological data are not available. No known significant effects or critical hazards.

13) Disposal Considerations

13.1. Waste treatment methods

Product: Examine possibilities for re-utilisation. Product residues and uncleaned empty containers should be packaged, sealed, labelled, and disposed of or recycled according to relevant national and local regulations. When uncleaned empty containers are passed on, the recipient must be warned of any possible hazard that may be caused by residues.

For disposal within the EC, the appropriate code according to the European Waste List (EWL) should be used. It is among the tasks of the polluter to assign the waste to waste codes specific to industrial sectors and processes according to the European Waste List (EWL). Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

Contaminated packaging: The generation of waste should be avoided or minimised wherever possible. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14) Transport Information

14.1 UN Number

Not regulated as a dangerous good

14.2 UN Proper Shipping Name

Not regulated as a dangerous good

14.3 Transport Hazard Class(es)

Not regulated as a dangerous good

14.4. Packing group

Not regulated as a dangerous good

14.5. Environmental hazards

Not regulated as a dangerous good

14.6. Special precautions for user

Hazard statements: Not dangerous cargo. Keep separated from foodstuffs.

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

Not applicable for product as supplied.

15) Regulatory Information

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

International Chemical Weapons Convention (CWC): Not applicable

Schedules of Toxic Chemicals and Precursors

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII): Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. Not applicable

15.2 Chemical safety assessment

Not applicable

16) Other Information

Full text of other abbreviations

GB EH40: UK. EH40 WEL - Workplace Exposure Limits

GB EH40 / TWA: Long-term exposure limit (8-hour TWA reference period)

GB EH40 / STEL: Short-term exposure limit (15-minute reference period)

ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

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.

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