

SIOF S.p.A.

# SAFETY DATA SHEET

(2001/58/CE)  
**SYNTHETIC BLACK IRON OXIDE**

VERSION DATE : 20/12/2002

Revision 04

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This safety data sheet contains information regarding the use of SIOF S.p.A. inorganic pigments in conditions of safety for persons and for the environment. The information applies to all the types of synthetic red oxides hereunder indicated.

## SYNTHETIC BLACK IRON OXIDE

TYPES: 9313 - 9313C - 9313M - 9315 - 9317 - 27

Common uses : raw material for the paint/varnish, paper, plastic (9313-9313M), concrete industries (9313C-9315-9317)

### 1) IDENTIFICATION OF PRODUCT

- Commercial name: Synthetic black iron oxide
- Identification of manufacturer: SIOF S.p.A.

### 2) COMPOSITION:

Chemical Characterisation :	Iron oxide
Chemical formula :	Fe <sub>3</sub> O <sub>4</sub>
Colour index :	Pigment Black 11 ( 77499 )
C.A.S. N. :	1317-61-9
EINECS N. :	215-277-5

### 3) HAZARDS IDENTIFICATION

Black iron oxide is not classified amongst the dangerous substances (from the Directive 67/548/CEE) but it can not be used in sectors such as pharmaceutical, cosmetic, foodstuff, animal-feed and similar.

Iron oxide does not cause particular problems to health but since it is in a very fine powder form, it must be handled with care so as not to disperse it in the environment. Contact with the product can irritate sensible skins, irritate eyes and make them cry; inhalation can cause coughing and sneezing; ingestion can cause stomach pains, vomit and diarrhoea.

### 4) FIRST AID MEASURES

Particular precautions are not necessary since the product is not amongst the dangerous substances. Use the following precautions:

- Ingestion: The pigment is not assimilated by the body
- Eye contact : Rinse with water lifting the eyelids
- Skin contact : Wash with water and soap.
- Inhalation: Expectorate and move away from the dusty environment. If breathing problems persist consult a doctor.

### 5) FIRE FIGHTING MEASURES

Black iron oxide is not inflammable, therefore in case of fire in the warehouse it can be extinguished using any available means including water.

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**6) ACCIDENTAL RELEASE MEASURES****PERSONAL PROTECTION**

Avoid skin and eye contact. Wear dust mask if necessary.

**ENVIRONMENTAL PROTECTION**

Prevent material from entering drains, soil or waters.

**CLEANING METHOD**

Vacuum in dry state or dispose of in accordance with local regulations if material is damp and absorbed by other materials, avoid formation of dust.

**7) HANDLING AND STORAGE**

The movement of this pigment does not create particular problems. The packages can be the following:

- \* 25 kg multiply paper bags, which can be shrink-wrapped
- \* non rigid big bags with weight varying from 500 Kg to 1000 Kg.

The moving and emptying of the big bags and the removal of the polythene film from the pallets may cause electrostatic charges therefore these operations should be carried out far from inflammable vapours

Storage : store in a cool and dry place and keep separate from substances subject to catalytic decomposition caused by dust, such as peroxides.

The product is not inflammable.

**8) EXPOSURE CONTROLS AND PERSONAL PROTECTION**

The limit of exposure value, A.C.G.I.H., T.L.V., for this material is:

A.C.G.I.H., T.L.V.: 5 mg/m<sup>3</sup> T.W.A. (like Fe)

"T.L.V. - T.W.A." (Limit of Exposure Value - Pondered Average in Time): pondered average concentration in time, on a conventional working day of 8 hours on 40 weekly working hours, to which it is considered that almost all workers can be repeatedly exposed, day after day, without negative effects.

We suggest following individual protections:

- \* protection with anti-dust mask (P1)
- \* protection of eyes by using safety goggles (DP1)
- \* protection of the skin using clothes that prevent as much as possible the penetration of dust
- \* protection of the environment (in working areas) by means of aspirators and reduction of dust in order to avoid dispersing this in the working environment and externally
- \* T.V.L.-T.W.A. (limit of exposure value- pondered average in time) indicates the pondered average concentration in time for an 8 hour working day and for 40 weekly working hours to which almost all workers can be repeatedly exposed, day after day, without negative effects.

**9) PHYSICAL AND CHEMICAL PROPERTIES**

Appearance	: very fine powder
Colour	: black
Odour	: none
pH	: 4,5-8

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Fusion point	: n.a.
Inflammability point	: not inflammable
Autoinflammability	: absent
Inflammability	: the product is incombustible
Explooding properties	: n.a.
Comburent properties	: n.a.
Vapour tension	: n.a.
Density	: 4,5 - 5,0 g./ml.
Tamped apparent density	: 0,6 - 1,0 kg./l.
Viscosity	: not applicable
Solubility	: insoluble in water and organic solvents, soluble in acids

**10) STABILITY - REACTIVITY**

Synthetic black iron oxides do not originate dangerous reactions, and are stable up to a temperature of 170°C approx. above which they start turning into red oxides. These products are subject to a catalytical decomposition caused by the dust, like the peroxides.

**11) TOXICOLOGY INFORMATION**

Based on experimental data toxicity has given the following indications:

$LD_{50} \geq 5$  gr./kg of rat

For this product there is no information in literature on possible acute or chronic effects concerning the product.

**12) ECOLOGICAL INFORMATION**

Bacteriological toxicity : no available information

Degradability : data not available

Bioaccumulation potential : data not available

Avoid contamination of soil do not disperse in rivers. The pigment is insoluble in water, it can be recovered after it is separated by sedimentation.

**13) DISPOSAL CONSIDERATIONS**

Product and packaging can be disposed of as non-hazardous waste in accordance with local and national regulations.

**14) TRANSPORT INFORMATION**

Iron oxide is not included amongst the products that require particular precautions during transport (GVVS/GVE/RID/IMDG-CODE/TCAO/ATA/DGR/ADR).

**15) REGULATORY INFORMATION**

This sheet has been filed in according to the Community Directive 2001/58/CE.  
Iron oxides are not classified dangerous according to the Directive 67/548/CE.

Relevant legislative references:

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- I.P.R. 54/55 Rules concerning the prevention of injuries whilst working  
 I.P.R. 203/88 Emission into the atmosphere  
 1) Lgs 626/94 Safety and health in working places  
 1) Lgs 242/96 Modifications and completion D. Lgs 626/94  
 1) Lgs 22/97 Accomplishment of the directives 91/156/CEE, 91/689/CEE concerning dangerous waste and 94/62 CE concerning packaging and packaging waste  
 1) Lgs 52/97 Accomplishment of the directive 92/32/CEE concerning the classification, packaging and labelling of dangerous substances
- Ministerial Decree dated 4/4/97  
 Accomplishment of art. 25, comma 1 and 2 of legislative decree 3/2/97, n.52, concerning the classification, packaging and labelling of dangerous substances, relevant to the informative sheet on security
- Ministerial Decree dated 28/4/97  
 Accomplishment of art. 17, comma 1 and 2, of the legislative decree 3/2/97, n.52, concerning the classification, packaging and labelling of dangerous substances.
- Ministerial Decree dated 5/2/98  
 Determination of non-dangerous waste subject to the simplified procedures of recovery as per the senses of articles 31 and 33 of the legislative decree 5/2/97, n.22
- Legislative Decree 285 dated 18/7/98  
 Accomplishment of community directives concerning the classification, packaging and labelling of dangerous preparations as per art. 38 of the law 24/4/98 n.128
- Legislative Decree n.152 dated 11/5/99  
 Regulations concerning the protection of the waters from pollution and receipt of the directive 91/271/CEE concerning the treatment of the urban reflux waters and of the directive 91/676/CEE concerning the protection of the waters from pollution caused by nitrates coming from agricultural sources.
- Legislative Decree 172 dated 4/8/99  
 Accomplishment of the directive 96/61/CE concerning the prevention and integrating reduction of pollution (IPPC).
- Legislative Decree 25 dated 2/2/02  
 Accomplishment of the directive 98/24/CE on security and health protection of the workers against the risks of chemical agents during work.
- European body of legislation of reference
- Directive 67/548/CEE dated 27/6/67  
 Council Directive dated 27/6/67 concerning the drawing together of the administrative and prescribed legislative dispositions concerning the classification, packaging and labelling of dangerous substances.
- Directive 2001/58/CE Safety data sheet
- Directive 1999/45/CE Classification, labelling, packaging of dangerous preparations
- Directive 2001/59/CE which has the twenty-eighth adjustment of Directive 67/548/CEE.
- Decision 2001/118/CE European register of waste

## 16) OTHER INFORMATION

The above given information is based on actual knowledge and information available at the moment.  
 There is no liability whatsoever in case of inexact or incomplete data.  
This safety data sheet replaces completely the previous safety data sheets.

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