

SAFETY DATA SHEET



according to Regulation (EC) No. 1907/2006 (REACH)

Red iron oxide pigment

Date 30.03.2009

Version 2.0

replaces version: 1.0

Page: 1/6

1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION:

1.1 Substance/Preparation identification: RED IRON OXIDE PIGMENT

Molecular formula: Fe₂O₃

Chemical name:

EINECS : Diiron trioxide

IUPAC: Iron (III)oxide

PRE-REFERENCE NUMBER – 05-2114092030-64-0000

1.2 Use of the substance:

It is used in producing plastics, in paint industry, glass and paper industries. It is also used for producing construction materials.

1.3 Company/Undertaking identification:

Manufacturer: CJSC Crimea TITAN

Address: Severnaya Promzona, Armyansk, AR Crimea, Ukraine, 96012

The person responsible for commercial introduction of the substance in the EU:

Irene Nasdala

«OSTCHEM Germany GmbH»

Hamburg, Erdmannstr. 10, Germany, 22765

tel. +49 40 5 300 300 (**working time only**)

fax: + 49 40 5 300 30 33

e-mail: nasdala@afkem.com

The person responsible for SDS:

Grendach Valentina Mikhailovna – HSE Director

Address: Severnaya Promzona, Armyansk, AR Crimea, Ukraine, 96012

Tel: +38 06567 3 72 11 (**working time only**)

E-mail: dir_ot@titanexport.com

1.4 Emergency Tel: +38 06567 3 74 44 (**working time only**)

+38 06567 3 75 35 (**twenty-four-hour**)

2 HAZARDS IDENTIFICATION

The product is classified as non-hazardous according to the Directives 67/548/EEC and 1999/45/EC. It is not included in the Annex 1 of Council Regulation № (EU) 304/2003.

Potential health effects:

Inhalation: aerosol is irritant to respiratory tract and cause cough and difficult breathing. Persons with respiratory troubles may be more vulnerable to the substance influence.

Eye contact: may cause eyes irritation. Prolonged exposure may cause lacrymation (tears) and reddening of eyes.

Skin contact: mildly irritating to the skin.

Swallowing: swallowing is excluded if proper handled.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Red iron oxide pigment

Date 30.03.2009

Version 2.0

replaces version: 1.0



Page: 2/6

3 COMPOSITION AND INFORMATION ON INGREDIENTS

3.1. Composition

Chemical name	Mass fraction, %	EINECS No	CAS No
Diiron trioxide:	93-97	215-168-2	1309-37-1
Iron (III) sulfate	1,5 - 1,6	231-753-5	7720-78-7

3.2 Classification

It is classified as non-hazardous substance.

4 FIRST AID MEASURES

Inhalation: take out to fresh air. If breathing is difficult, provide humid oxygen; if not breathing, give artificial respiration.

Eye contact: flush eyes with plenty of water with ajar eyelids until irritation symptoms disappear.

Skin contact: remove contaminated clothing, shoes and outfit. Flush the contaminated skin with plenty of water until the skin is clean.

Swallowing: clear the oral cavity free of the substance. Make the injured person drink plenty of water, give charcoal.

5 FIRE FIGHTING MEASURES

Flame- and explosionproof.

Non-flammable, it won't sustain combustion. Use extinguishing media appropriate for surrounding fire.

6 ACCIDENTAL RELEASE MEASURES

6.1. Personal safety measures

Prevent formation of dust. Provide proper ventilation. Use personal protective means (dust mask).

6.2. Environmental protection measures

Prevent dispersion of dust into the environment. Exclude the entering of the product into waste- and soil waters.

6.3. Cleaning procedure

If spilled: collect in dry form into the lockable labeled container for further use or disposing in special area in such a way that there is no spilling out.

7 HANDLING AND STORAGE

7.1 Handling

Dust may form when handling. Production facilities must be equipped with extract-input ventilation. Aspiration hoods must be installed in the area of dust release. The product is recovered and fed back into the production. Process area is wet-cleaned. In the substance processing area eating and food storage are forbidden. Wash the contaminated surface with water.

7.2 Storage

Store in manufacturer's package in cool and dry area where it is safe from contamination and exposure to atmospheric precipitations (rain, snow) and subsoil water.

7.3. Special use – not applied.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Permissible exposure limits:

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Red iron oxide pigment

Date 30.03.2009

Version 2.0

replaces version: 1.0



Page: 3/6

Atmospheric air: TLV = 0,04 mg/m³ (on the basis of Fe).

Air of working area: TLV = 6 mg/m³ (on the basis of Fe), aerosols mainly of fibrogenic action.

For monitoring air of working area the atomic absorption method is recommended (on the basis of Fe) according to the operational guidelines.

8.2 Exposure Controls

8.2.1. Occupational exposure controls:

Running drinkable water must be supplied to the production facilities. General and local dust-exhaust system must be installed. Storage of foodstuff and eating in the substance processing area are forbidden.

8.2.1.1. Respiratory protection

Use dust respirator according to the EN149 equipped with the dust recovery filter according to the EN 143.

8.2.1.2. Hands protection

Use PVC or neoprene gloves according to the EN374.

8.2.1.3. Eye protection

Wear dust-proof glasses according to the EN166.

8.2.1.4. Skin protection

Use protective clothing.

8.2.2 Environmental effects controls:

The product won't form toxic compounds in air and wastewaters in the presence of other substances and agents.

Prevent dispersion of dust into the environment. It is recommended to use dust collecting equipment with bag filters for purifying air from local ventilation.

The substance half life is > 30 days (extremely stable).

Won't transform in ambient medium.

Standard for water bodies for domestic and general water consumption: TLV = 0,3 mg/l (on the basis of Fe).

Standard for fisheries waters: TLV = 0,1 mg/l (on the basis of Fe). TLV = 0,05 mg/l (for sea waters).

8.2.3 Substance consumptive use measures

When following the section 8.2.1 recommendations additional measures are not required.

9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 General information

Appearance	powder
Physical state	solid
Color	from red to wine-colored
Odor	odorless

9.2. Important information on health, safety and environmental protection.

pH	5,0-8,0 (water suspension 40 g/l at 20°C)
Boiling point/ boiling range	not reachable (decomposition at more than 1562 °C)
Flash point	non-flammable
Flammability (solid, gas phase)	flameproof
Explosive properties	non-explosive
Oxidizing properties	non-oxidizable
Vapor pressure	non-volatile
Specific gravity	4,70 – 5,24 g/sm ³
Solubility	soluble in hydrochloric acid, sulphuric acid, low soluble in nitric acid
Water solubility	insoluble
Coefficient of n-octanol/water distribution	insoluble in n-octanol
Viscosity	not applicable

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Red iron oxide pigment

Date 30.03.2009

Version 2.0

replaces version: 1.0



Page: 4/6

Vapor pressure	not applicable
Evaporation rate	not applicable

9.3 Additional information

Miscibility	substance-water, 20 °C: non-miscible
Fat solubility	Insoluble
Melting point	1565 °C

10 STABILITY AND REACTIVITY

The substance appears to be stable and won't form toxic compounds if released into atmosphere.

10.1 Conditions to avoid

Prevent formation of dust aerosol. Keep the package air-tight.

10.2 Incompatibilities (materials to avoid)

Calcium hypochlorite, hydrogen peroxide, carbon monoxide, ethylene oxide, aluminum.

10.3 Hazardous decomposition products

There are no hazardous decomposition products.

11 TOXICOLOGICAL INFORMATION

Acute toxicity data:

Diiron trioxide	oral, rat:	LD ₅₀ >10000 mg/kg
	intraperitoneal, rat	LD ₅₀ = 5500 mg/kg
	intraperitoneal, mouse	LD ₅₀ = 5400 мг/кг

Prolonged inhalation of aerosol may cause pneumoconiosis (siderosis).

Irritant action data (localized):

Skin: not irritant to the skin

Eyes: slightly irritant to mucosal tunic

Sensibilizing action: data unavailable

Embryotoxicity: data unavailable

Honadotoxicity: data unavailable

Teratogenicity: data unavailable

Mutagenic activity: data unavailable

Carcinogenic activity: data unavailable for humans

12 ECOLOGICAL INFORMATION

12.1 Eco toxicity

Acute fish toxicity: CL₀ = 2 mg/l (Rutilus rutilus, 48 hours.). CL₀ > 1000 mg/l (Leuciscus idus, 48 hours).

Acute Daphnia magna toxicity: EC = 4,38 mg/l (decreasing reproductive performance).

Invertebrate toxicity: data unavailable

Algal toxicity: data unavailable

Effects on model ecosystems detected: EC>5000 мг/л (Pseudomonas fluorescens, 24 hours)

12.2 Mobility

The substance won't produce toxic compounds in air and wastewaters in the presence of other substances.

Non-transformable in ambient medium.

12.3 Persistence and biodegradability

Biodegradation [BD = (BOD5 : COD) · 100 %]: < 10 % (practically non-degradable).

Chemical oxygen demand: data unavailable

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Red iron oxide pigment

Date 30.03.2009

Version 2.0

replaces version: 1.0



Page: 5/6

Biological oxygen demand: data unavailable

Half-life - > 30 days (extremely stable)

Persistence and degradability – the product is stable and non-degradable.

12.4 Bioaccumulation potential

Cumulation: weak

12.5. PBTs classification (persistent-bioaccumulative and toxic substances)

The substance is not persistent and bioaccumulative one.

12.6 Other negative effects

Substances which may cause destruction of the ozone layer: not available.

Volatility: non-volatile

13 WASTE DISPOSAL

The product is safe for land disposal in sanitary or industrial cesspools. Waste disposal in strict correspondence with the state and local laws and regulations. Waste is non-hazardous according to the 2000/532/EC.

14 TRANSPORT INFORMATION

Red iron oxide pigment is transported by railway (RID), road (ADR), and sea (IMDG) transport.

Obligatory mark «**Keep dry**».

The cargo is classified as non-hazardous in compliance with the international rules of carriage.

15 REGULATORY INFORMATION

State standard GOST 12.1.007-76 SSBT. Hazardous substances. Classification and general safety requirements.

State standard GOST 12.1.005-88 SSBT. General hygiene requirements for the workplace air.

Instructional guidelines MU No. 3132-84 on atomic absorption determination of iron oxide (by Fe), authorized by the Ministry of Health of USSR.

Specification TU U 24.1 – 32785994-005-2004 Red iron oxide pigment.

Safety data card of hazardous factor dated 26.04.2005 No. 4090 B000020 Iron (III) oxide.

Red iron oxide pigment Material Safety Data Sheet. 32785994.21.00131.

Red iron oxide pigment Hygiene and Toxicology Datasheet developed by the Institute of Ecohygiene and Toxicology named for L. I. Medved, Ministry of Health of Ukraine. 2008.

Standard EN 374.

Standard EN 149: 2001.

Standard EN 166 1F (2002).

16 OTHER INFORMATION

16.1 Risk phrases:

R-phrases – not available

Safety phrases:

S-phrases – not available

16.2 Training advice

Read the SDS before use of the product.

16.3 Recommended use restrictions

On condition that regulatory requirements for production process use, storage and transportation are observed the product won't produce negative effects on environment and humans' health.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Red iron oxide pigment



Date 30.03.2009

Version 2.0

replaces version: 1.0

Page: 6/6

Information contained in the Safety Data Sheet refers to this particular substance. It may be invalid in case this substance is used together with any other materials or any other production process. The user bears responsibility for assessment of applicability and completeness of this information for his particular applications.