



## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifiers

Substance name: Diiron trioxide  
Trade name: Pigment ferrioxide red sort KA and KB  
EC / CAS number: 215-168-2 / 1309-37-1  
Registration # (assigned under Article 20(3) of Regulation (EC) No 1907/2006): 05-2118896171-36-0000

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Laboratory chemicals, Manufacture of substances. Colorants (pigments and dyestuffs), inorganic.  
Uses advised against: Not known.

### 1.3. Details of the supplier of the safety data sheet

Company Contact Details: Address: Yaroslavskiy Pigment, Limited Liability Company.  
Polushkina Roscha str. 16, Yaroslavl, 150044 Russian Federation.  
Tel.: +7 (485) 2737077  
Fax: +7 (485) 2737618  
E-mail: pigment-yar@yandex.ru.

Only Representative Contact Details: Address: Tekniikantie 21, 02150 Espoo, Finland  
Tel: +358 923 164353  
Fax: +358 985 657173  
E-mail: hs@reach-registrator.net.

### 1.4. Emergency telephone number

Company/Importer/OR Emergency number: +7 (485) 2755231.

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Classification according to the criteria of Regulation (EC) No 1272/2008 (CLP Regulation):

**For physical-chemical properties:**  
Not classified.

**For health hazards:**  
Not classified.

**For environmental hazards:**  
Not classified.

### 2.2. Label elements

Labelling according to the GHS criteria of Regulation (EC) No 1272/2008 (CLP Regulation):

**Signal word:** No signal word.



### 2.3. Other hazards

PBT assessment: The substance is not PBT/vPvB.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Main constituent(s):

Chemical name	Molecular	% (mass)	EC No
Diiron trioxide	Fe <sub>2</sub> O <sub>3</sub>	Up to 100.0	215-168-2

Additive(s): N/A

Other Components / Impurities: There are no other components that need to be disclosed in accordance with Regulation (EC) No1907/2006 (REACH Regulation).

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

Inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration.

Eye contact: Flush eyes with water as a precaution.

Skin contact: Wash off with soap and plenty of water.

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

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

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11.

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

No data available.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Extinguishing media which shall not be used for safety reasons: A jet of water.

### 5.2. Special hazards arising from the substance or mixture

Special exposure hazards in a fire: Iron oxides.

### 5.3. Advice for firefighters

Special protective equipment for firefighters: Wear self-contained breathing apparatus for firefighting if necessary.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing vapours, mist or gas.

For personal protection see section 8.



**6.2. Environmental precautions**

No special environmental precautions required.

**6.3. Methods and material for containment and cleaning up**

Sweep up and shovel. Keep in suitable, closed containers for disposal.

**6.4. Reference to other sections**

For disposal see section 13.

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.2.

**7.2. Conditions for safe storage, including any incompatibilities**

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

Storage class (TRGS 510): Non Combustible Solids.

**7.3. Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

	Limit value - Eight hours		Limit value - Short term	
	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Australia		5		
Austria		5 respirable aerosol	10 respirable aerosol	
Belgium	2	5		
Canada - Ontario		5 (1)		
Canada - Québec		5		
Denmark		3,5		7
Finland		5 (1)(2)		
Hungary		6 respirable aerosol		
Ireland		5		10 (1)
New Zealand		5 (1)		
Poland		5		10
Singapore		5		
South Korea		5		
Spain		5		
Sweden		3,5		
Switzerland		3 respirable aerosol		
USA - NIOSH		5 (1)		



USA - OSHA		10		
United Kingdom		5		10

**Remarks**

Canada - Ontario

(1) Respirable aerosol

Finland

(1) calculated as Fe (2) fume

Ireland

(1) 15 minutes reference period

New Zealand

(1) A range of airborne contaminants are associated with gas and arc welding. The type of metal being welded, the electrode employed and the welding process will all influence the composition and amount of fume. Gaseous products such as oxides of nitrogen, carbon monoxide and ozone may also be produced. In the absence of toxic elements such as chromium, and where conditions do not support the generation of toxic gases, the fume concentration inside the welder's helmet should not exceed 5mg/m3.

USA - NIOSH

(1) as Fe, total particulate

**DNELs:**

Ingredient name	Type	Exposure	Value	Population	Effects
Diiron trioxide red	DNEL	Long term Inhalation	10 mg/m <sup>3</sup>	Workers	Local
	DNEL	Long term Inhalation	3 mg/m <sup>3</sup>	Workers	Local

DNEL conclusion/summary:

Dust Inhalable 10 mg/m<sup>3</sup>, Respirable dust 3 mg/m<sup>3</sup>

**PNECs:**

Not applicable.

Recommended monitoring procedures:

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

**8.2. Exposure controls**

Appropriate engineering controls:

General industrial hygiene practice.

Individual protection measures:

**Respiratory protection.**

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Eye/face protection.**

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection.

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without



touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact.

Material: Nitrile rubber.

Minimum layer thickness: 0,11 mm.

Break through time: 480 min.

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M).

Splash contact.

Material: Nitrile rubber.

Minimum layer thickness: 0,11 mm.

Break through time: 480 min.

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M).

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

#### **Body Protection.**

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Environmental exposure controls: No special environmental precautions required.

## **SECTION 9: Physical and chemical properties**

### **9.1. Information on basic physical and chemical properties**

Appearance:	Dry red homogeneous powder.
Odour:	Odorless.
Odour threshold:	Not applicable.
pH:	6,0-8,0 [Conc. (% w/w): 5%].
Melting point/freezing point:	Melting point/range: 1'538 °C.
Initial boiling point and boiling range:	No data available.



Flash point:	Not applicable.
Evaporation rate:	Not more than 1%.
Flammability:	Incombustible.
Vapour pressure:	No data available.
Relative vapour density:	No data available.
Relative density:	5,0-7,0 g/cm <sup>3</sup> at 20°C.
Solubility(ies):	In water not more than 0,5%. Soluble in hydrochloric acid, sulfuric acid and low soluble in nitric acid.
Partition coefficient: n-octanol/water:	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.
Explosive properties:	Not explosive.
Oxidising properties:	No data available.

## 9.2. Other information

Oil absorption: 50% weight/weight.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Chemical dangers: Very stable under normal conditions of use and storage; does not oxidize, does not polymerize, does not decompose.

### 10.2. Chemical stability

Stability/Shelf-life: Stable under recommended storage conditions.

### 10.3. Possibility of hazardous reactions

No data available.

### 10.4. Conditions to avoid

No data available.

### 10.5. Incompatible materials

Chloroformates, Peroxides, Strong acids.

### 10.6. Hazardous decomposition products

Hazardous decomposition products: No data available.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity: LD50 Oral - Rat - > 10.000 mg/kg.

Skin corrosion/irritation: Skin – Rabbit.  
Result: No skin irritation (OECD Test Guideline 404).

Serious eye damage/eye irritation: Eyes – Rabbit.  
Result: No eye irritation (OECD Test Guideline 405).

Respiratory or skin sensitization: No data available.

Germ cell mutagenicity: No data available.



Carcinogenicity:	Carcinogenicity - Rat – Subcutaneous. Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Tumorigenic: Tumors at site or application. This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification. IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Diiron trioxide).
Reproductive toxicity:	No data available.
Specific target organ toxicity - single exposure:	No data available.
Specific target organ toxicity - repeated exposure:	No data available.
Aspiration hazard:	No data available.
Additional Information:	RTECS: NO7400000. Long term inhalation exposure to iron (oxide fume or dust) can cause siderosis. Siderosis is considered to be a benign pneumoconiosis and does not normally cause significant physiologic impairment. Siderosis can be observed on x-rays with the lungs having a mottled appearance., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## **SECTION 12: Ecological information**

### **12.1. Toxicity**

No data available.

### **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**

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**

No data available.

## **SECTION 13: Disposal considerations**

### **13.1. Waste treatment methods**

Product:	Methods of disposal: Examine possibilities for re-utilization. Product residues and unlearned empty containers should be packaged, sealed, labeled, and disposed of or recycled according to relevant national
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and local regulations.

Hazardous waste: Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.

Packaging:

Methods of disposal: The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions: This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

### 14.1. UN number

UN No: Not classified.

### 14.2. UN proper shipping name

UN Proper Shipping Name: Not dangerous goods.

### 14.3. Transport hazard class(es)

Hazard Class or Division: Not classified.

### 14.4. Packing group

UN Packing Group: Not classified.

### 14.5. Environmental hazards

Environmental Hazards: The substance is not classified as to the effects on the environment.

### 14.6. Special precautions for user

Note: None.

### 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

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## SECTION 15: Regulatory information

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

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

### 15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

## SECTION 16: Other information

### Indication of changes:

Version 1.0 dated 30/03/2016 – eSDS was compiled in accordance with REACH legislation.

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