Red Iron Oxide

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 01/05/2016

SECTION 1: Identification of the substance/mixture

1.1. Product identifier

Product form	:	Substance
Substance name	:	Red Iron Oxide
Formula	:	Fe_2O_3
Molecular weight	:	159.69 g/mol
CAS No.	:	1309-37-1
Product code	:	LW-FE2O3
Synonyms	:	Ferric oxide, Diiron trioxide

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

Use of the substance/mixture	:	Pigment, Laboratory chemicals, Synthesis of substances

1.3. Emergency telephone number

Emergency number	:	1.800.424.9300 (USA) +1.703.527.3887 (INT)

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

Not a hazardous substance or mixture.

2.2. GHS Label elements, including precautionary statements

None

2.3. Hazards not otherwise classified (HNOC) or not covered by GHS

none

SECTION 3: Composition/information on ingredients

3.1. Substances

Formula	:	Fe_2O_3
Synonyms	:	Ferric oxide
Molecular Weight	:	159.69 g/mol
CAS-No.	:	1309-37-1

Hazardous components

Component	Classification	Concentration
Diiron trioxide		<= 100 %

SECTION 4: Description of first aid measures

4.1. Description of first aid measures

General advice	:	Move out of dangerous area.
First-aid measures after inhalation	:	If breathed in, move person into fresh air. If not breathing, give artificial respiration.
First-aid measures after skin contact	:	Wash off with soap and plenty of water.
First-aid measures after eye contact	:	Flush eyes with water as a precaution.
First-aid measures after 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 labelling (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

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Iron oxides

5.3. Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4. More Information

No data available

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing vapors, 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

Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.

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

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

Keep in a dry 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

Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Red Iron Oxide	13463-67-7	TWA	5 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Pneumoconiosis Not classifiable as a human carcinogen		
		TWA	5.000000 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
		Pneumoconiosis Not classifiable as a human carcinogen		
		TWA	15.000000 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		TWA	5.000000 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants

		TWA	10.000000 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		See Appendix D - Substances with No Established RELs		
		TWA	5.000000 mg/m3	USA. NIOSH Recommended Exposure Limits
		TWA	10.000000 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		TWA	15.000000 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		TWA	5.000000 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		TWA	5.000000 mg/m3	USA. NIOSH Recommended Exposure Limits
		See Appendix D - Substances with No Established RELs		
		TWA	5 mg/m3	USA. NIOSH Recommended Exposure Limits
		See Appendix D - Substances with No Established RELs		

8.2. Exposure controls

Appropriate engineering controls : General industrial hygiene practice.

8.3. Personal protective equipment

Eye 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.

Full contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm

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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.
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).
Environmental exposure controls	:	No special environmental precautions required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	:	Form: powder Color: red
Odor	:	No data available
Odor Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	Melting point/range: 1,538 °C (2,800 °F)

Initial boiling point and boiling range	:	No data available
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper/lower flammability or explosive limits	:	No data available
Vapor pressure	:	No data available
Vapor density	:	No data available
Relative density	:	5.15 g/cm3
Water solubility	:	insoluble
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	:	No data available
Oxidizing properties	:	No data available

9.2. Other safety information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

No data available

10.4. Conditions to avoid

Chloroformates, Peroxides, Strong acids

10.5. Incompatible materials

Strong acids

10.6. Hazardous decomposition products

Other decomposition products - No data available

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	:	LD50 Oral - Rat - > 10,000 mg/kg Inhalation: No data available LD50 Dermal - Rabbit - > 10,000 mg/kg No data available
Skin corrosion/irritation	:	Skin - Rabbit Result: No skin irritation (OECD Test Guideline 404)
Serious eye damage/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)
NTP:	:	No component of this product present at levels greater than or equal to 0.1% is identified as a Sigma-Aldrich - 310050 Page 6 of 7 known or anticipated carcinogen by NTP.
OSHA:	:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
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: Not available

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	:	PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
12.6. Other adverse effects	:	No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product	:	Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.
Contaminated Packaging	:	Dispose of as unused product.

SECTION 14: Transport information

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

SECTION 15: Regulatory information

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Acute Health Hazard

Massachusetts Right To Know Components

Diiron trioxide	CAS-No.	Revision Date
	1309-37-1	2007-03-01

Pennsylvania Right To Know Components

Diiron trioxide	CAS-No.	Revision Date
	1309-37-1	2007-03-01

New Jersey Right To Know Components

Diiron trioxide	CAS-No.	Revision Date
	1309-37-1	2007-03-01

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16: Other information

HMIS Rating

Health Hazard	:	2
Chronic Health Hazard	:	
Flammability	:	0
Physical Hazard	:	0

NFPA Rating

Health hazard	:	2
Fire Hazard	:	0
Reactivity Hazard	:	0

Further Information

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