

## SAFETY DATA SHEET

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Die in diesem Produktdatenblatt genannten Spezifikationen dienen nur zur Produktbeschreibung und beziehen sich auf den Zeitpunkt unmittelbar nach der Produktion bzw. Import des Produktes. Sie entsprechen den Angaben des Herstellers. Eine rechtsverbindliche Zusicherung bestimmter Eigenschaften oder der Eignung für einen bestimmten Einsatzzweck kann hieraus nicht abgeleitet werden. Durch unsachgemäßen Transport und / oder unsachgemäße Lagerung können sich Änderungen ergeben. Die Angaben in diesem Produktdatenblatt entbinden den Verarbeiter nicht von eigener Prüfung der Eigenschaften des Produktes und dessen Eignung für die vorgesehene Verwendung.

Trade name: Eisenoxidbraun hell

Print date: 20.07.23

Version: 6 / DE

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Replaces Version: 5 / DE

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

### 1.1. Product identifier

Eisenoxidbraun hell  
This substance/mixture contains nanoforms.

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

#### Use of the substance/preparation

Colourant

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

#### Address

Deffner & Johann  
Mühläckerstraße 13  
D-97520 Röthlein  
Telefon-Nr.: + 49 (0) 9723 9350-0  
Fax-Nr.: + 49 (0) 9723 9350-25  
E-Mail-Adresse: info@deffner-johann.de

### 1.4. Emergency telephone number

+49 (0) 9723 9350-0 (Mo - Fr: 7.30 -15.00 Uhr)

## SECTION 2: Hazards identification \*\*\*

### 2.1. Classification of the substance or mixture

Voluntary product information following the Safety Data Sheet format  
This product is not classified hazardous in accordance with Regulation (EC) No 1272/2008.

### 2.2. Label elements

#### Labelling according to regulation (EC) No 1272/2008

The product does not require a hazard warning label in accordance with Regulation (EC) No 1272/2008.

### 2.3. Other hazards

Dust loading

\*\*\*

This substance/mixture does not contain components classified as persistent, bioaccumulative and toxic (PBT) at levels of 0.1% or higher. This substance/mixture does not contain components classified as very persistent and very bioaccumulative (vPvB) at concentrations of 0.1% or higher. The substance/mixture does not contain components considered to have endocrine disrupting properties for humans according to REACH Article 57(f) or Regulation (EU) 2017/2100 or Regulation (EU) 2018/605 at levels of 0.1% or higher. The substance/mixture does not contain components considered to have endocrine disrupting properties to non-target organisms according to REACH Article 57(f) or Regulation (EU) 2017/2100 or Regulation (EU) 2018/605 at levels of 0.1% or higher.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

#### Chemical characterization

pigment mixture, inorganic construction

#### Further ingredients

##### Iron hydroxide oxide

CAS No. 51274-00-1  
EINECS no. 257-098-5

Particle size distribution	d10	40	nm		
Particle size distribution	d50	75	nm		
Particle size distribution	d90	160	nm		
		8	to	25	m <sup>2</sup> /cm <sup>3</sup>
Method			Brunauer, Emmett and Teller (BET) method using		

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				Nitrogen
Shape and aspect ratio of particles	Rods,1:4 1:6			
<b>Diiron trioxide</b>				
CAS No.		1309-37-1		
EINECS no.		215-168-2		
Registration no.		01-2119457614-35-XXXX		
Particle size distribution	d10	35		nm
Particle size distribution	d50	85		nm
Particle size distribution	d90	160		nm
		8	to	20 m <sup>2</sup> /cm <sup>3</sup>
	Method			Brunauer, Emmett and Teller (BET) method using Nitrogen
Shape and aspect ratio of particles	Spheroidal			

#### SECTION 4: First aid measures

##### 4.1. Description of first aid measures

###### General information

In case of persistent symptoms consult doctor.

###### After inhalation

Remove the casualty into fresh air and keep him calm. In the event of symptoms take medical treatment.

###### After skin contact

Wash off immediately with soap and water. Consult a doctor if skin irritation persists.

###### After eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical advice immediately.

###### After ingestion

Rinse mouth thoroughly with water. Call in a physician immediately and show him the Safety Data Sheet.

###### Adhere to personal protective measures when giving first aid

First aider: Pay attention to self-protection!

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

Until now no symptoms known so far.

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

###### Hints for the physician / treatment

Treat symptomatically

#### SECTION 5: Firefighting measures

##### 5.1. Extinguishing media

###### Suitable extinguishing media

Water spray jet, Foam, Carbon dioxide, Dry powder

###### Non suitable extinguishing media

Full water jet

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

Metal oxides

##### 5.3. Advice for firefighters

###### Special protective equipment for fire-fighting

Use self-contained breathing apparatus. Wear full protective suit.

###### Other information

Fire residues and contaminated fire-fighting water must be disposed of in accordance with the local regulations.

#### SECTION 6: Accidental release measures

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

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Avoid dust formation. Do not inhale dust. Use breathing apparatus if exposed to vapours/dust/aerosol. Ensure adequate ventilation. High risk of slipping due to leakage/spillage of product. Use personal protective clothing. Refer to protective measures listed in Sections 7 and 8. Remove persons to safety.

**6.2. Environmental precautions**

Do not discharge into the drains/surface waters/groundwater. Do not discharge into the subsoil/soil. Retain and dispose of contaminated wash water.

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

Avoid raising dust. Pick up mechanically. When picked up, treat material as prescribed under Section 13 "Disposal".

**6.4. Reference to other sections**

Information regarding Safe handling, see Section 7. Information regarding personal protective measures, see Section 8. Information regarding waste disposal, see Section 13.

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

**Advice on safe handling**

Provide exhaust ventilation if dust is formed. Avoid the formation and deposition of dust. Handle and open container with care. Provide suitable exhaust ventilation at the processing machines. Ensure adequate ventilation. Use breathing apparatus when transferring large quantities without exhaust ventilation facilities. If workplace limits are exceeded, a respiratory protection approved for this particular job must be worn. Observe the usual precautions for handling chemicals.

**Advice on protection against fire and explosion**

No special measures required.

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

**Hints on storage assembly**

Do not store together with foodstuffs.

**Storage class according to TRGS 510**

Storage class according to TRGS 13 Non- combustible solids  
510

**Further information on storage conditions**

Keep container tightly closed and dry in a cool, well-ventilated place. Protect from direct sunlight. Protect from extreme heat and cold.

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

**8.1. Control parameters**

**Other information**

The national general dust limit must be observed.  
TRGS 900: Observe the general dust threshold.

**Derived No/Minimal Effect Levels (DNEL/DMEL)**

<b>Triiron tetraoxide</b>		
Reference substance	Triiron tetraoxide	
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	10	mg/m <sup>3</sup>
Source	Manufacturer's data	

<b>Triiron tetraoxide</b>		
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	10	mg/m <sup>3</sup>
Source	Manufacturer's data	

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**8.2. Exposure controls**

**General protective and hygiene measures**

Do not inhale dust/fumes/aerosols. Avoid contact with skin and eyes. Do not eat, drink or smoke during work time. Keep away from foodstuffs and beverages. Wash hands before breaks and after work. Use barrier skin cream. Observe the usual precautions for handling chemicals. Take off immediately all contaminated clothing.

**Respiratory protection**

If workplace limits are exceeded, a respiratory protection approved for this particular job must be worn. Particle filter half mask, filter P1; Use breathing apparatus in dust-laden atmosphere.

**Hand protection**

Protective gloves

Observe the information of the glove manufacturers on permeability and breakthrough times and other workplace requirements.

**Eye protection**

Safety glasses with side protection shield

**Body protection**

Clothing as usual in the chemical industry.

**SECTION 9: Physical and chemical properties**

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

**Physical state**

Powder

**Colour**

see tradename

**Odour**

characteristic

**Melting point**

Value

> 1000 °C

Source

Manufacturer's data

**Freezing point**

Remarks

not determined

**Boiling point or initial boiling point and boiling range**

Remarks

not determined

**Flammability**

not determined

**Upper and lower explosive limits**

Remarks

not determined

**Flash point**

Remarks

Not applicable

**Ignition temperature**

Remarks

not determined

**Decomposition temperature**

Remarks

not determined

**pH value**

Value

4 to 8

Concentration/H<sub>2</sub>O

5 %

Source

Manufacturer's data

**Viscosity**

Remarks

No data available

**Solubility(ies)**

Remarks

not determined

**Partition coefficient n-octanol/water (log value)**

Remarks

not determined

**Vapour pressure**

Remarks

Not applicable

**Density and/or relative density**

Value

4,4 kg/l

Temperature

20 °C

Source

Manufacturer's data

**Relative vapour density**

Remarks

not determined

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**Particle characteristics**

Remarks This substance/mixture contains nanoforms.

**9.2. Other information****Odour threshold**

Remarks not determined

**Evaporation rate (ether = 1) :**

Remarks not determined

**Solubility in water**

Remarks insoluble

Source Manufacturer's data

**Explosive properties**

evaluation not determined

**Oxidising properties**

Remarks not determined

**Bulk density**Value 300 to 1000 kg/m<sup>3</sup>**Other information**

None known

**SECTION 10: Stability and reactivity****10.1. Reactivity**

There are no specific test data related to reactivity available for this product or its ingredients.

**10.2. Chemical stability**

When used as recommended, no hazardous reactions are expected.

**10.3. Possibility of hazardous reactions**

When used as recommended, no hazardous reactions are expected.

**10.4. 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.

**Decomposition temperature**

Remarks not determined

**10.5. Incompatible materials**

No hazardous reactions when stored and handled according to prescribed instructions.

**10.6. Hazardous decomposition products**

No dangerous decomposition products if the regulations / instructions for storage and handling are observed.

**SECTION 11: Toxicological information****11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute oral toxicity**

Species rat  
LD50 > 5000 mg/kg  
Remarks Test conducted with a similar formulation.  
Source Manufacturer's data  
Remarks Based on available data, the classification criteria are not met.

**Acute dermal toxicity**

Remarks Based on available data, the classification criteria are not met.

**Acute inhalational toxicity**

Remarks Based on available data, the classification criteria are not met.

**Skin corrosion/irritation**

evaluation non-irritant  
Remarks Test conducted with a similar formulation.  
Source Manufacturer's data  
Remarks Based on available data, the classification criteria are not met.

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**Serious eye damage/irritation**

evaluation non-irritant  
 Remarks Test conducted with a similar formulation.  
 Source Manufacturer's data  
 Remarks Based on available data, the classification criteria are not met.

**Sensitization**

Remarks Based on available data, the classification criteria are not met.

**Subacute, subchronic, chronic toxicity**

Remarks not determined  
 Remarks Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.  
 Remarks Frequent persistent contact with the skin can cause skin irritation.  
 Remarks Like any foreign body, particles (dust) can cause mechanical irritation.

**Mutagenicity**

Remarks Based on available data, the classification criteria are not met.

**Reproductive toxicity**

Remarks Based on available data, the classification criteria are not met.

**Carcinogenicity**

Remarks Based on available data, the classification criteria are not met.

**Specific Target Organ Toxicity (STOT)**

**Single exposure**

Remarks Based on available data, the classification criteria are not met.

**Repeated exposure**

Remarks Based on available data, the classification criteria are not met.

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**11.2 Information on other hazards**

**Endocrine disrupting properties with respect to humans**

The substance/mixture does not contain components considered to have endocrine disrupting properties for humans according to REACH Article 57(f) or Regulation (EU) 2017/2100 or Regulation (EU) 2018/605 at levels of 0.1% or higher.

**SECTION 12: Ecological information**

**12.1. Toxicity**

**General information**

No data available

**Fish toxicity**

Species golden orfe (*Leuciscus idus*)  
 LC50 > 1000 mg/l  
 Duration of exposure 96 h  
 Source Manufacturer's data

**Daphnia toxicity**

Remarks No data available

**Bacteria toxicity**

Remarks No data available

**12.2. Persistence and degradability**

**General information**

No data available

**12.3. Bioaccumulative potential**

**General information**

No data available

**Partition coefficient n-octanol/water (log value)**

Remarks not determined

**12.4. Mobility in soil**

**General information**

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No data available

#### 12.5. Results of PBT and vPvB assessment

##### Results of PBT and vPvB assessment

This substance/mixture does not contain components classified as persistent, bioaccumulative and toxic (PBT) at levels of 0.1% or higher.

This substance/mixture does not contain components classified as very persistent and very bioaccumulative (vPvB) at concentrations of 0.1% or higher.

#### 12.6 Endocrine disrupting properties

##### Endocrine disrupting properties with respect to the environment

The substance/mixture does not contain components considered to have endocrine disrupting properties to non-target organisms according to REACH Article 57(f) or Regulation (EU) 2017/2100 or Regulation (EU) 2018/605 at levels of 0.1% or higher.

#### 12.7. Other adverse effects

##### General information

No data available

##### General information / ecology

Ecological data are not available. Do not discharge product unmonitored into the environment.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

##### Disposal recommendations for the product

Product should be taken to a suitable and authorized waste disposal site in accordance with relevant regulations and if necessary after consultation with the waste disposal operator and/or the competent Authorities.

##### Disposal recommendations for packaging

Packaging that cannot be cleaned should be disposed off as product waste.  
Uncontaminated packaging may be taken for recycling.

### SECTION 14: Transport information

#### Land transport ADR/RID

The product does not constitute a hazardous substance in land transport.

#### Marine transport IMDG/GGVSee

The product does not constitute a hazardous substance in sea transport.

#### Air transport ICAO/IATA

The product does not constitute a hazardous substance in air transport.

### SECTION 15: Regulatory information

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

##### Water Hazard Class (Germany)

Water Hazard Class (Germany)

Not water hazardous

Remarks

The mixture is classified as not hazardous to water, because according to Annex 1, No. 2.2 AwSV the mixture can not be classified as hazardous to water (§ 10 Part 1 No. 1 AwSV)

#### 15.2. Chemical safety assessment

not applicable

### SECTION 16: Other information

#### Abbreviations

ADR: Accord européen relatif au transport international des marchandises Dangereuses par Route

AGW: Arbeitsplatzgrenzwert

AwSV: Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (Ordinance on facilities for handling substances that are hazardous to water)

BGW: Biologischer Grenzwert

CAS: Chemical Abstracts Service



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DNEL: Derived no effect level  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
GGVSee: Gefahrgutverordnung See  
IARC: International Agency for Research on Cancer  
IATA: International Air Transport Association  
ICAO: International Civil Aviation Organization  
IMDG: International Maritime Code for Dangerous Goods  
LC: Lethal concentration  
LD: Lethal dose  
MAK: Maximale Arbeitsplatz-Konzentration  
NOEC: No observable effect concentration  
NOEL: No observable effect level  
OECD: Organisation for Economic Co-operation and Development  
OEL: Occupational exposure limit  
PBT: Persistent, Bioaccumulative and Toxic  
PNEC: Predicted no effect concentration  
RID: Règlement concernant le transport international ferroviaire de marchandises dangereuses  
TRGS: Technische Regeln für Gefahrstoffe  
VDI: Verein Deutscher Ingenieure  
VLEP: Valeurs Limites d'exposition Professionnelle  
vPvB: Very persistent and very bioaccumulative  
WGK: Wassergefährdungsklasse (water hazard class)

**Supplemental information**

These data is based on our present knowledge and experience respectively supplier-information. This safety data sheet describes the product in regard to the requirements of safety. The information does not represent an assurance for certain properties. Existing laws and regulations are to be observed by the recipient of our products in own responsibility. It is the responsibility of the user, to determine if the product is suitable for the deliberate operational area and the respective intended purpose. A liability for damages in connection with the use of this information is excluded. Relevant changes compared with the previous version of the safety data sheet are marked with: \*\*\*