

## **Piiox® K910M**

This product is not classified as dangerous. A safety data sheet is not required for this product under Article 31 of REACH. This SDS has been created on a voluntary basis.

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

#### **1.1 Product identifier**

Product name: Piiox K910M  
REACH Substance Name: Iron hydroxide oxide  
EG-No.: 257-098-5  
CAS-No.: 51274-00-1  
REACH Registration number: 01-2119457554-33-0027  
**Other names:** C.I. Pigment yellow 42 (77492), Iron hydroxide oxide FeOOH

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

Not known  
**Suitable uses** : Colorants (pigments and dyestuffs), inorganic

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

PIGMENT INTERNATIONAL GmbH & Co. KG  
Karl-Winnacker-Str. 2-4  
D-36396 Steinau, Germany

#### **Phone / Telefax / E-Mail**

+49 6663-96070 / +49 6663-960750 / em@pigment-international.com

#### **1.4 Emergency telephone**

+49 6663-96070 (office times), +49 30-30686700 (24h)

---

### **Section 2: Hazards identification**

#### **2.1 Classification of the substance or mixture**

**Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**

Not a hazardous substance or mixture.

**Classification according to Directive 67/548/EEC [DSD]**

Not classified.

#### **2.2 Label elements (REGULATION (EC) No 1272/2008)**

No hazard pictogram, no signal word, no hazard statement(s), no precautionary statement(s) required

#### **2.3 Other hazards**

**Other hazards which do not result in classification :** 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.

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

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

---

### **Section 3: Composition/information on ingredients**

#### **3.1 Product definition (REACH) : Mono-constituent substance**

Iron hydroxide oxide FeOOH

This substance/ mixture contains nanoforms

Within the present knowledge of the supplier, this product does not contain any hazardous ingredients in quantities requiring reporting in this section, in accordance with EU or national regulations.

### **This substance/ mixture contains nanoforms**

#### **Component: FeOOH      particle characteristics**

Particle Size Distribution : D10 = 40 nm ± 10 nm

D50 = 75 nm ± 25 nm

D90 = 160 nm ± 40 nm

Type of distribution: number distribution

Measurement technique: Brunauer, Emmett and Teller (BET) method using Nitrogen

Shape: rods

Surface treatment /Coatings: no

---

## **Section 4: First aid measures**

### **4.1 Description of first aid measures**

#### **Inhalation**

Move exposed person to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention if symptoms occur. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

#### **Skin contact**

Wash off with plenty of water. Continue to rinse for at least 10 minutes. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. If symptoms persist, call a physician.

#### **Eye contact**

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

#### **Ingestion**

Rinse mouth with water. DO NOT induce vomiting unless directed to do so by a physician or poison control center.

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

See Section 11 for more detailed information on health effects and symptoms.

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

See Section 11 for more detailed information on health effects and symptoms.

---

## **Section 5: Firefighting measures**

### **5.1 Extinguishing media**

**Suitable extinguishing**

**Media** : In case of fire, use water spray (fog), foam, dry chemical or CO<sub>2</sub>.

**Unsuitable extinguishing**

**Media** : None known.

**5.2 Special hazards arising from the substance or mixture**

No specific fire or explosion hazard.

No hazardous combustion products.

**5.3 Advice for fire fighters**

No special precautions for fire fighters. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

**Section 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Avoid breathing dust. Provide adequate ventilation. Put on appropriate personal protective equipment (see Section 8). Hazard of slipping on spilt product.

**6.2 Environmental precautions**

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

**6.3 Methods and materials for containment and cleaning up**

**Methods for cleaning up:** Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal. Move containers from spill area. Stop leak if safe to do so. Dispose of wastes in an approved waste disposal facility.

**6.4 Reference to other sections**

For personal protection see section 8., For disposal considerations see section 13.

---

**Section 7: Handling and storage****7.1 Precautions for safe handling**

**Advice on safe handling** : For personal protection see section 8.  
Avoid contact with skin and eyes.  
Provide sufficient air exchange and/or exhaust in work rooms.  
In case of insufficient ventilation, wear suitable respiratory equipment.  
Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use.  
Dispose of rinse water in accordance with local and national regulations.

**Advice on protection against fire and explosion** : Provide appropriate exhaust ventilation at places where dust is formed.

**Hygiene measures** : General industrial hygiene practice.  
When using do not eat, drink or smoke. Wash face, hands and any exposed skin thoroughly after handling. Wash contaminated clothing before reusing.

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

Requirements for storage areas and containers : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep containers tightly closed in a dry, cool and well-ventilated place. Electrical installations / working materials must comply with the technological safety standards.

Advice on common storage : No materials to be especially mentioned.

Storage class (TRGS 510) : 13, Non Combustible Solids

Further information on storage stability : Keep in a dry place. No decomposition if stored and applied as directed.

### 7.3 Specific end use(s)

Not available.

## Section 8: Exposure controls/personal protection

### 8.1 Control parameters

**Exposure limit values** : Contains no substances with occupational exposure limit values.

#### Derived effect levels

| Ingredient name | Type         | Exposure             | Value                | Population | Effects  |
|-----------------|--------------|----------------------|----------------------|------------|----------|
| Piiprox K910M   | DNEL<br>DNEL | Long term Inhalation | 10 mg/m <sup>3</sup> | Workers    | Systemic |
|                 |              | Long term Inhalation | 10 mg/m <sup>3</sup> | Workers    | Local    |

### 8.2 Exposure controls

#### 8.2.1 Technical measures

Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

#### 8.2.2 Personal protection measures

##### Eye protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If operating conditions cause high dust concentrations to be produced, use dust goggles. Recommended: safety glasses with side-shields

##### Skin protection

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

##### Respiratory protection

Recommended: Dust-protection mask

##### Hand protection

Recommended: gloves

##### Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

#### 8.2.3 Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Water : The product should not be allowed to enter drains, water courses or the soil.

---

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

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

|  |   |
|--|---|
| Physical state:                              | solid (powder)                            |
| Colour:                                      | yellow                                    |
| Odour:                                       | odorless                                  |
| pH:  | 5 to 7 (5% aqueous suspension)            |
| Melting point:                               | > 1000°C                                  |
| Vapour pressure:                             | not available.                            |
| Density:                                     | 4,26 kg/l at 20°C                         |
| Solubility :                                 | < 0,000001 g/l (Wasser)                   |
| Decomposition temperature :                  | From approx. 180 °C conversion into Fe2O3 |
| Boiling point/boiling range :                | No data available                         |
| Flash point :                                | No data available                         |
| Evaporation rate :                           | No data available                         |
| Flammability (solid, gas)                    | No data available                         |
| Upper explosion limit :                      | No data available                         |
| Lower explosion limit :                      | No data available                         |
| Vapour pressure :                            | No data available                         |
| Relative vapour density :                    | No data available                         |
| Partition coefficient: n-<br>octanol/water : | No data available                         |
| Ignition temperature :                       | No data available                         |
| Viscosity:                                   | No data available                         |

### **9.2 Other information**

No additional information.

---

## **Section 10: Stability and reactivity**

### **10.1 Reactivity**

No specific test data related to reactivity available for this product or its ingredients.

### **10.2 Chemical stability**

The product is stable.

### **10.3 Possibility of hazardous reactions**

Under normal conditions of storage and use, hazardous reactions will not occur.

### **10.4 Conditions to avoid**

From approx. 180 °C conversion into Fe2O3

### **10.5 Incompatible materials**

No specific data.

### **10.6 Hazardous decomposition products**

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

---

## **Section 11: Toxicological information**

Conform to regulation (EC) No. 1907/2006 (REACH)

Product name: Piiox K910M

Version 2.0 /E

date of issue: 26.01.2023

date processed: 26.01.2023

PIGMENT INTERNATIONAL GmbH &amp; Co.KG, D-36396 Steinau

**11.1 Toxicological information****Potential acute health effects****Eye contact:** Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.**Acute toxicity**

| Product/ingredient name | Result                             | Species | Dose           | Exposure | Test |
|-------------------------|------------------------------------|---------|----------------|----------|------|
| Piiox K910M             | LD50                               | rat     | > 10.000 mg/kg | -        |      |
|                         | LC50 Inhalation<br>Dusts and mists | rat     | > 195 g/m3     | 6 hours  |      |

**Irritation/Corrosion****Skin** : Non-irritating. \*Test results of an analogous product**Eyes** : Non-irritating. \*Test results of an analogous product**Sensitiser**

| Product/ingredient name | Route of exposure | Species    | Result          | Test description |
|-------------------------|-------------------|------------|-----------------|------------------|
| Piiox K910M             | Skin              | Guinea pig | Not sensitizing | -                |

**Potential chronic health effects Mutagenicity**

| Product/ingredient name | Test      | Experiment                                | Result  |
|-------------------------|-----------|---|---------|
| Piiox K910M             | Ames Test | Experiment: In vitro<br>Subject: Bacteria | Negativ |

**Chronic effects** : Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.**Germ cell mutagenicity** : Not classified based on available information.**Carcinogenicity** : Not classified based on available information.**Reproductive toxicity** : Not classified based on available information.**STOT - single exposure** : Not classified based on available information.**STOT - repeated exposure** : Not classified based on available information.**Aspiration toxicity** : Not classified based on available information.**11.2 Information on other hazards**

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

**Section 12: Ecological information****12.1 Toxicity**

| Product/ingredient name | Test | Result | Species | Exposure |
|-------------------------|------|--------|---------|----------|
|-------------------------|------|--------|---------|----------|

Conform to regulation (EC) No. 1907/2006 (REACH)

Product name: Piirox K910M

Version 2.0 /E

date of issue: 26.01.2023

date processed: 26.01.2023

PIGMENT INTERNATIONAL GmbH &amp; Co.KG, D-36396 Steinau

|              |                      |                            |          |
|--------------|----------------------|----------------------------|----------|
| Piirox K910M | LC50 >100<br>mg/l    | Daphnia magna              | 46 hours |
|              | LC0 >100.000<br>mg/L | fish: Brachydanio<br>rerio | 96 hours |

**Conclusion/Summary** : Not available.

## 12.2 Persistence and degradability

**Conclusion/Summary** : Not available.

## 12.3 Bioaccumulative potential

Not available.

## 12.4 Mobility in soil

**Soil/water partition  
coefficient (KOC )**

: Not available.

**Mobility**

: Not 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

Additional ecological information : Ecotoxicological data are not available.

No known significant effects or critical hazards.

## 12.7 Endocrine disrupting properties

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

---

## **Section 13: Disposal considerations**

### 13.1 Waste treatment methods

#### Product

##### Methods of disposal

Examine possibilities for re-utilisation. Product residues and uncleaned empty containers should be packaged, sealed, labeled, and disposed of or recycled according to relevant national and local regulations. Where large quantities are concerned, consult the supplier. When uncleaned empty containers are passed on, the recipient must be warned of any possible hazard that may be caused by residues. For disposal within the EC, the appropriate code according to the European Waste List (EWL) should be used. It is among the tasks of the polluter to assign the waste to waste codes specific to industrial sectors and processes according to the European Waste List (EWL).

##### 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

Conform to regulation (EC) No. 1907/2006 (REACH)

Product name: Pierox K910M

Version 2.0 /E

date of issue: 26.01.2023

date processed: 26.01.2023

PIGMENT INTERNATIONAL GmbH &amp; Co.KG, D-36396 Steinau

The generation of waste should be avoided or minimized 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**

|   | <b>ADR/RID</b> | <b>ADN/ADNR</b> | <b>IMDG</b>    | <b>IATA</b>    |
|---|----------------|-----------------|----------------|----------------|
| <b>14.1 UN number</b>   | -----          | -----           | -----          | -----          |
| <b>14.2 UN proper shipping name</b>                             | -----          | -----           | -----          | -----          |
| <b>14.3 Transport hazard class(es)/ Marks</b>                   | -----          | -----           | -----          | -----          |
| <b>14.4 Packing group</b>                                       | -----          | -----           | -----          | -----          |
| <b>14.5 Environmental hazards</b>                               | No.            | No.             | No.            | No.            |
| <b>14.6 Special precautions for user/Additional information</b> | Not regulated. | Not regulated.  | Not regulated. | Not regulated. |

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not available.

**Hazard notes** : Not dangerous cargo.  
Keep separated from foodstuffs.

**Section 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)

: Not applicable

International Chemical Weapons Convention (CWC) Schedules of Toxic Chemicals and Precursors

: Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).

: This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer

: Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast)

: Not applicable

Council Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors.

: Neither banned nor restricted

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals

: Not applicable

REACH - List of substances subject to authorisation

Conform to regulation (EC) No. 1907/2006 (REACH)

Product name: Piiprox K910M

Version 2.0 /E

date of issue: 26.01.2023

date processed: 26.01.2023

PIGMENT INTERNATIONAL GmbH &amp; Co.KG, D-36396 Steinau

(Annex XIV) : Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

:Not applicable

Water hazard class (Germany)

: nwg not water endangering

Code Number: 800

Classification according to AwSV, Annex 1 (2)

## 15.2 Chemical Safety Assessment

A Chemical Safety Assessment is not required for this substance.

## Section 16: Other information

### Abbreviations and acronyms:

ATE = Acute Toxicity Estimate

CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]

DNEL = Derived No Effect Level

EUH statement = CLP-specific Hazard statement

PBT = Persistent, Bioaccumulative and Toxic

PNEC = Predicted No Effect Concentration

RRN = REACH Registration Number

vPvB = Very Persistent and Very Bioaccumulative

### History

**Date of issue : 26.01.2023****Date of previous issue : 16.03.2021****Version 2.0**

### Notice to reader

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet and its Annex [if required according to Regulation (EC) 1907/2006 (REACH)] is to describe the products in terms of their safety requirements. The given details do not imply any guarantee concerning the composition, properties or performance.