## Chemical product identification and information about manufacturer

### 1.1 Substance identification

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical name</td>
<td>yellow Iron Oxide pigment</td>
</tr>
<tr>
<td>Trade name</td>
<td>yellow Iron Oxide pigment</td>
</tr>
<tr>
<td>EINECS name</td>
<td>iron hydroxide oxide</td>
</tr>
<tr>
<td>IUPAC name</td>
<td>iron hydroxide oxide</td>
</tr>
<tr>
<td>EINECS No.</td>
<td>243-746-4</td>
</tr>
<tr>
<td>CAS No.</td>
<td>20344-49-4</td>
</tr>
<tr>
<td>RTECS</td>
<td>none</td>
</tr>
<tr>
<td>Molecular formula</td>
<td>Fe(OH)O, FeHO2</td>
</tr>
<tr>
<td>Registration number</td>
<td>as per Regulation (EC) No.1907/2006 (REACH)</td>
</tr>
</tbody>
</table>

### 1.2 Intended use of the substance

Pigment.
- manufacture of paints and enamels, artistic paints;
- tanning, paper, ceramic, rubber industries;
- construction industry.

### 1.3 Company/manufacturer identification

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer</td>
<td>Public Joint-Stock Company SUMYKHIMPROM</td>
</tr>
<tr>
<td>Address</td>
<td>Kharkivska str., Sumy, Ukraine, 40003</td>
</tr>
<tr>
<td>Responsible person</td>
<td>Manufacturing Director Mr. L.P. Dolya</td>
</tr>
<tr>
<td>E-mail</td>
<td><a href="mailto:stand@sumykhimprom.org.ua">stand@sumykhimprom.org.ua</a></td>
</tr>
<tr>
<td>Manufacturer’s Special Representative</td>
<td>OSTHEM GERMANY GmbH</td>
</tr>
<tr>
<td>Address</td>
<td>Hamburg, Erdmann str. 10,22765 Germany</td>
</tr>
<tr>
<td>E-mail</td>
<td><a href="mailto:larissa.schmelzing@ostchem.de">larissa.schmelzing@ostchem.de</a></td>
</tr>
<tr>
<td>Telephone /telefax</td>
<td>+49 40 5300 300/ +49 40 5300 30 33</td>
</tr>
</tbody>
</table>

### 1.4 Emergency telephone for handling the substance

For emergency medical aid turn to your local medical establishments

+38(0542) 683-550, +38(0542)674-260 – 24 hours
2 Hazard (hazards) identification

Do not swallow. Avoid direct contact with product, avoid dust formation, apply respiratory organs individual protection means, do not take meals and do not smoke at work place, keep personal hygiene measures. Working cloths should be kept separately from clean personal cloths, take shower after work. The personnel should be subjected to preventive and periodical medical examination. Production premises should be equipped with running cold drinking water supply, ventilation, sanitary and personal service rooms with hot water supply. The production premises should be equipped with first-aid kit, holding the first aid medicines for injured persons.

As per the impact on organism, is related to hazard class 4 (low-hazard substance).
The given product is not classified as dangerous one as per Directives 67/548/EEC and 1999/45/EC. Is not listed in Annex I to Council Regulation No. (EC) 304/2003 «Concerning the Export and Import of Dangerous Chemicals» or in priority list, as indicated in Directive (EEC) No. 793/93 «On the Evaluation and Control of the Risks of Existing Substances».

3 Composition (data on components)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>% by weight</th>
<th>EINECS No.</th>
<th>CAS No.</th>
<th>Substance hazard classification/markings</th>
</tr>
</thead>
<tbody>
<tr>
<td>iron hydroxide oxide</td>
<td>95 –96</td>
<td>243-746-4</td>
<td>20344-49-4</td>
<td></td>
</tr>
</tbody>
</table>

4 First aid measures

General measures: rest, warm, comfortable body position, access of fresh air, unrestricted respiration conditions.

In the event of ingestion: rinse the mouth thoroughly. Allow to drink plenty of water, take activated carbon, purgative. Turn for medical aid.

In the event of ingress in eyes: rinse with running tap water thoroughly till the irritation disappears.

In the event of contact with skin: take off and dispose of contaminated cloths, shoes, ammunition. Rinse with running tap water till the product complete removal.

In the event of inhalation: remove the injured person to fresh air, rinse nasopharynx with drinking water.

5. Fire and explosion safety measures and means

Fire and explosion safety: fire and explosion safe, does not burn and does not maintain burning.

Fire fighting measures: adequate to the type of combustive substances, available in burning area.

Thermal destruction products: iron oxides.

Special fire preventing safety measures: not required.

6 Accidents and emergency situations, and their consequences, prevention and liquidation means

Avoid dust formation. Apply respiratory organs, eyes and skin individual protection measures. Premises mechanical ventilation, gas scrubbing equipment, equipment in pressurized version.

Prevent dust dispersal into environment. Prevent the product ingress into surface and soil waters.

In the event of casual substance discharge: collect in dry manner into container, equipped with cover and marking, avoid dust formation. Contaminated surface should be washed with water and detergents.

7 Chemical products storage rules and handling when loading/unloading

Avoid dust formation when handling. Apply respiratory organs, eyes and skin individual protection means.

Containers with substance should be tightly closed and labeled. Protect from moisture.

Store in original manufacturer’s containers in closed warehouses, protected from atmospheric precipitations and soil waters, and from the goods contamination.

Prevent the product ingress into surface and soil waters.
8 Dangerous impact control measures and individual protection means

8. Parameters, subjected to mandatory control:

**Air of working zone:**
TLV dust - 6 mg/m³ (in terms of Fe), hazard class IV.

**Food products**
Maximum permitted level (MPL)-5 mg/kg (in terms of Fe) (fats, vegetables), 15 mg/kg (alcohol drinks).

8.2 Methods of determination (principle, sensitivity, NTD per each method)


**Food products:** no approved measuring methods found.

8.3 Information about individual protection measures for personnel:

**Respiratory organs protection**
In product manufacture apply anti-dust respirator, type U-2K, «Rostok» or other masks of disposal or short-term action, regulated by norm NF EN 149.

**Protective cloths, shoes etc.**
In product manufacture apply protective suit, protective helmet (in accordance with typical allowance norms or regulated by European norm EN 397), protective shoes – yuift shoes or regulated by EN345 and EN347), protective gloves – rubber gloves or in accordance with EN374-3, protective goggles (in accordance with typical allowance norms or as per CE EN 166).

9 Physical and chemical properties

**Physical state:** crystals (powder) of yellow colour.

**Odor:** odorless

**Melting point:** is not achieved. At >180 °C the substance dehydration starts, forming Fe₂O₃.

**Boiling temperature:** is not achieved.

**Sparkling temperature, ignition temperature, self ignition temperature:** incombustible .

**Vapour pressure:** does not form vapour in standard conditions.

**Density:** 4,28 g/cm³ (at 20°C). Apparent density: (200-600) kg/m³.

**pH of water suspension:** 4,0-7,0 (1:10 water extract).

**Solubility:** actually insoluble in water, soluble in acids, alkali, alkali solutions and NH₄Cl solutions.

**Distribution factor in «octanol-water» system:** no information found.

10 Stability and reactivity

The substance is chemically stable.

**Reactivity:** reacts with acids. If heated to 700°C, transits into soft red iron oxide pigment (Fe₂O₃, hematite), if heated to 450°C, transits into black iron oxide pigment (FeO, Fe₂O₃, magnetite).

**Incompatible:** with acids.

**Substances, contact with which may cause dangerous reaction:** none.

**Dangerous products of decomposition:** none.

11 Information about toxicity

**Acute toxicity indices:** DL₅₀ >10000 mg/kg (intragastrically, rats). CL₅₀ – is not achieved.

**Irritative action:** skin - absent (rabbit), eyes – absent (rabbit), respiratory tract (in terms of iron compounds) - yes (humans), gastro- intestinal tract - yes.

**Skin-resorptive action:** not rated.

**Sensibilizing action:** not studied (single cases of allergic contact dermatitis in the event of handling Fe salts are described).

**Embryotoxic action:** no information found.

**Gonadotoxic action:** no information found.

**Teratogenic action:** not found.
Mutagenic action: not found.
Carcinogenic action: humans - no information found. Animals: not established (rats, interperorally).
IARC evaluation: group 3 (is not classified as carcinogen for humans).

12 Information on environmental impact
12.1 Ecotoxicity
Acute toxicity for Daphnia magna: no information found.
Acute toxicity for fish: \( CL_{50} > 1000 \) mg/l (Leuciscus idus, 48 hr.)
Toxic impact on algae: no information found.
Toxic impact on soil invertebrates: no information found.
Disclosed effects on modeled ecosystems: \( EC_0 > 10000 \) mg/l (Pseudomonas fluorescens)

12.2 Mobility
Does not form toxic compounds in air or sewage water. Is not transformed in environment.

12.3 Stability and dissociation potential
Stability in abiotic conditions \( (\tau_{1/2}) > 30-7 \) days (highly stable)
Biological dissimilation: not applied.
Biological oxygen demand: not applied.
Chemical oxygen demand: no information found.

12.4 Bioaccumulation property
Cumulativeness: weak.

12.5 Stable bioaccumulative toxic (SBT) properties evaluation results: the substance is not a bioaccumulative stable one.

12.6 Hygienic norms within environmental objects
Fishery farm ponds (FFP) water: TLV\(_l\)=0.1mg/l (toxic) (in terms of Fe); hazard class IV.
Atmospheric air: TLV-0.04mg/m\(^3\) (in terms of Fe), hazard class III.
Water in water basins of economic-drinking and cultural-household assignments: TLV\(_w\)=0.3mg/l (in terms of Fe), hazard class III.
Soil: no norms rated

Test methods (principle, sensitivity, NTD per method)
Fishery farm ponds water: fluorometric measurement under MB No. 0031-98 dated 08.05.98 (in terms of Fe).

12.7 Other negative effects
Substances, capable to evoke ozone layer deterioration – none. Volatility - non volatile.
13 Recommendations on wastes (residues) disposal
The product is non-hazardous to be buried in economical or sanitary settlers. No hazardous wastes as per Resolution by European Commission 2000/532/EC dated 3.05.2000 «On European Wastes Catalogue Approval». Upon absence of possibility for recycling or utilization, wastes and tare should be liquidated in accordance with national and local legal regulations.

14 Information for transportation
Hints on transportation: the product is transportable by all kinds of vehicles (railroad, road, naval, air) in accordance with transport regulations, active for the given kind of transportation.
The sign «Keep dry» is mandatory.

15 Information about national and international legislation

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>EC rules</td>
<td>The given product is not classified as a dangerous one as per Directives 67/548/EEC and 1999/45/EC</td>
</tr>
<tr>
<td>Safety symbols</td>
<td>-</td>
</tr>
<tr>
<td>Risk phrases (R –phrases)</td>
<td>-</td>
</tr>
<tr>
<td>Safety phrases (S –phrases)</td>
<td>-</td>
</tr>
<tr>
<td>Marking conditions</td>
<td>Hazard warning marking is mandatory</td>
</tr>
<tr>
<td>Industrial utilisation</td>
<td>Keep the handling instructions to avoid risk for humans and environment</td>
</tr>
</tbody>
</table>

16 Additional information
16.1 List of references
1. DSTU GOST 30333:2009 «Chemical Product Safety Data Sheet»
2. GOST 18172-80 Yellow Iron Oxide pigment. Specification
3. Material Safety Data Sheet No. 12374.
4. Toxicological and hygienic passport for yellow Iron Oxide pigment, developed by Hygienic Regulating Committee, attached to Ukrainian Ministry for Health Care.
   About approximation of laws, sublegislative and administrative acts of member countries in terms of classification, packing and marking of dangerous substances
6. Directive by European Sub-Committee Commission 1999/45 dated 31.05.1999
   About approximation of laws, sublegislative and administrative acts of member countries in terms of classification, packing and marking of dangerous substances
7. Standards: NF EN 149 2001, CE EN 166, EN 397, EN345 and EN347, EN374-3
### 16.2 Recommendations on training
The given document is targeted for personnel, dealing with the product carriage and utilization, with the purpose to learn the safety handling rules.

### 16.3 Restrictions in utilisation
Persons, subjected to the given document delivery, may undertake the independent estimation of the product appropriateness for their own needs. The user bares responsibility for appropriateness check and information integrity for his specific application sphere.

The manufacturer will be grateful for sending the information about the product utilization, to undertake the extended risks evaluation, at the address indicated on page 1.