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

1.1. Product identifier
Product form: Substance
Physical state: Solid
Substance name: GELEST RED IRON OXIDE SS
Product code: RIA-SSA
Synonyms: C.I. PIGMENT RED 101, OCTADECYLTRIETHOXYSILANE; C.I. PIGMENT RED 101, TRIETHOXYOCTADECYLISILANE
Other means of identification: INCI NAME: IRON OXIDES, STEARYL TRIETHOXYSILANE

1.2. Relevant identified uses of the substance or mixture and uses advised against
1.2.1. Relevant identified uses
Use of the substance/mixture: Pigment
Cosmetics, personal care products

1.2.2. Uses advised against
No additional information available

1.3. Details of the supplier of the safety data sheet
GELEST, INC.
11 East Steel Road
Morrisville, PA 19067
USA
T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST
info@gelest.com - www.gelest.com

GELEST INC.
Fritz-Klatte-Strasse 8
65933 Frankfurt
Germany
T +49 (0) 69 3535106-500 - F +49 (0) 69 3535106-501 - (M-F): 8:00 AM - 4:00 PM
info@gelestde.com - www.gelestde.com

1.4. Emergency telephone number
Emergency number: CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Classification according to Regulation (EC) No. 1272/2008 [CLP]
Not classified

Adverse physicochemical, human health and environmental effects
No additional information available

2.2. Labelling according to Regulation (EC) No. 1272/2008 [CLP]
EUH-statements: EUH210 - Safety data sheet available on request.

2.3. OTHER HAZARDS
No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances
Substance type: Multi-constituent
Name: GELEST RED IRON OXIDE SS
CAS-No.: 1309-37-1 (&) 7399-00-0
EC-No.: 215-168-2 (&) 230-995-9
Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP]
--- | --- | --- | ---
Iron oxide (Fe2O3) | (CAS-No.) 1309-37-1 (EC-No.) 215-168-2 | 98 - 99 | Not classified
Stearyl Triethoxysilane | (CAS-No.) 7399-00-0 (EC-No.) 230-995-9 | 1 - 2 | Skin Irrit. 2, H315 Eye Irrit. 2, H319

Full text of H-statements: see section 16

3.2. Mixtures
Not applicable

**SECTION 4: First aid measures**

4.1. Description of first aid measures

First-aid measures general: Remove contaminated clothing and shoes. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label.

First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing. If you feel unwell, seek medical advice.

First-aid measures after skin contact: Wash with plenty of water/….

First-aid measures after eye contact: Immediately flush eyes thoroughly with water for at least 15 minutes. Get medical advice/attention.

First-aid measures after ingestion: Never give anything by mouth to an unconscious person. Get medical advice/attention.

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

Symptoms/effects after inhalation: Inhalation of dust or particulates may irritate the respiratory tract. Overexposure may cause: Cough.

Symptoms/effects after skin contact: No significant signs or symptoms indicative of any adverse health hazard are expected to occur as a result of skin exposure.

Symptoms/effects after eye contact: May cause eye irritation.

Symptoms/effects after ingestion: No information available.

Chronic symptoms: Prolonged inhalation of iron oxide dust is known to produce a condition known as siderosis, a benign pneumoconiosis.

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

No additional information available

**SECTION 5: Firefighting measures**

5.1. Extinguishing media

Suitable extinguishing media: Non-combustible. Use an extinguishing agent suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Firefighting instructions: Exercise caution when fighting any chemical fire. Use water spray or fog for cooling exposed containers.

Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

**SECTION 6: Accidental release measures**

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures: Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment: Equip cleanup crew with proper protection.

6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up: Minimise generation of dust. Use any suitable mechanical means (vacuum, sweeping etc.). Provide ventilation system and use necessary personal protective equipment as described in "8. EXPOSURE CONTROLS AND PERSONAL PROTECTION". Keep in suitable, closed containers for disposal.
6.4. Reference to other sections
See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling: Provide local exhaust or general room ventilation to minimize exposure to dust. Do not breathe dust. Avoid contact with skin and eyes.
Hygiene measures: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities
Storage conditions: Keep container tightly closed. Keep in a clean and dry area in original unopened containers.
Storage area: Store away from heat.

7.3. Specific end use(s)
No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Country</th>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>MAK (mg/m³)</td>
<td>5 mg/m³ (respirable fraction)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 mg/m³ (inhalable fraction)</td>
</tr>
<tr>
<td>Belgium</td>
<td>Limit value (mg/m³)</td>
<td>5 mg/m³ (fume)</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>OEL TWA (mg/m³)</td>
<td>5 mg/m³</td>
</tr>
<tr>
<td>France</td>
<td>VME (mg/m³)</td>
<td>5 mg/m³ (fume)</td>
</tr>
<tr>
<td>Greece</td>
<td>OEL TWA (mg/m³)</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td>Italy - Portugal</td>
<td>ACGIH TWA (mg/m³)</td>
<td>5 mg/m³ (respirable fraction)</td>
</tr>
<tr>
<td>USA</td>
<td>US IDLH (mg/m³)</td>
<td>2500 mg/m³ (dust and fume)</td>
</tr>
<tr>
<td>USA</td>
<td>NIOSH REL (TWA) (mg/m³)</td>
<td>5 mg/m³ (dust and fume)</td>
</tr>
<tr>
<td>USA</td>
<td>OSHA PEL (TWA) (mg/m³)</td>
<td>10 mg/m³ (fume)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15 mg/m³ (total dust)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 mg/m³ (respirable fraction)</td>
</tr>
<tr>
<td>Spain</td>
<td>VLA-ED (mg/m³)</td>
<td>5 mg/m³ (dust and fume)</td>
</tr>
<tr>
<td>Switzerland</td>
<td>MAK (mg/m³)</td>
<td>3 mg/m³ (respirable dust)</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>WEL TWA (mg/m³)</td>
<td>5 mg/m³ (fume)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 mg/m³ (total inhalable)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 mg/m³ (respirable)</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>WEL STEL (mg/m³)</td>
<td>10 mg/m³ (fume)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30 mg/m³ (calculated-total inhalable)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12 mg/m³ (calculated-respirable)</td>
</tr>
<tr>
<td>Denmark</td>
<td>Grænseværdie (langvarig) (mg/m³)</td>
<td>3.5 mg/m³</td>
</tr>
<tr>
<td>Finland</td>
<td>HTP-arvo (8h) (mg/m³)</td>
<td>5 mg/m³ (fume)</td>
</tr>
<tr>
<td>Hungary</td>
<td>AK-érték</td>
<td>6 mg/m³ (respirable dust)</td>
</tr>
<tr>
<td>Ireland</td>
<td>OEL (8 hours ref) (mg/m³)</td>
<td>5 mg/m³ (fume)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 mg/m³ (total inhalable dust)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 mg/m³ (respirable dust)</td>
</tr>
<tr>
<td>Ireland</td>
<td>OEL (15 min ref) (mg/m³)</td>
<td>30 mg/m³ (calculated-total inhalable dust)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 mg/m³ (fume)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12 mg/m³ (calculated-respirable dust)</td>
</tr>
<tr>
<td>Lithuania</td>
<td>IPRV (mg/m³)</td>
<td>3.5 mg/m³ (inhalable fraction)</td>
</tr>
<tr>
<td>Norway</td>
<td>Grenseverdi (AN) (mg/m³)</td>
<td>3 mg/m³</td>
</tr>
<tr>
<td>Norway</td>
<td>Grenseverdi (Kortitsverdi) (mg/m3)</td>
<td>3 mg/m³</td>
</tr>
<tr>
<td>Poland</td>
<td>NDS (mg/m³)</td>
<td>5 mg/m³ (respirable fraction)</td>
</tr>
<tr>
<td>Poland</td>
<td>NDSch (mg/m³)</td>
<td>10 mg/m³ (respirable fraction)</td>
</tr>
<tr>
<td>Romania</td>
<td>OEL TWA (mg/m³)</td>
<td>5 mg/m³ (dust and fume)</td>
</tr>
<tr>
<td>Romania</td>
<td>OEL STEL (mg/m³)</td>
<td>10 mg/m³ (dust and fume)</td>
</tr>
<tr>
<td>Slovakia</td>
<td>NPHV (priemerná) (mg/m³)</td>
<td>1.5 mg/m³</td>
</tr>
</tbody>
</table>
8.2. Exposure controls

Appropriate engineering controls:
Provide local exhaust or general room ventilation.

Personal protective equipment:
Avoid all unnecessary exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Hand protection:
Neoprene or nitrile rubber gloves

Eye protection:
Chemical goggles or safety glasses

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified dust and mist (orange cartridge) respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| Physical state | Solid |
| Appearance     | Powder |
| Colour         | Red to Reddish Brown. |
| Odour          | Slight, characteristic. |
| Odour threshold| No data available |
| Refractive index| No additional information available |
| pH             | No data available |
| Relative evaporation rate (butylacetate=1) | No data available |
| Melting point  | No data available |
| Freezing point | No data available |
| Boiling point  | No data available |
| Flash point    | No data available |
| Auto-ignition temperature | No data available |
| Decomposition temperature | No data available |
| Flammability (solid, gas) | No data available |
| Vapour pressure | No data available |
| Relative vapour density at 20 °C | No data available |
| Relative density | No data available |
| Density        | 4.8 - 5.2 |
| Solubility     | Insoluble in water. |
| Log Pow        | No data available |
| Log Kow        | No data available |
| Viscosity, kinematic | No data available |
| Viscosity, dynamic | No data available |
| Explosive properties | No data available |
| Oxidising properties | No data available |
Explosive limits: No data available

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
No additional information available

10.2. Chemical stability
No additional information available

10.3. Possibility of hazardous reactions
No additional information available

10.4. Conditions to avoid
No additional information available

10.5. Incompatible materials
Oxidizing agent. Iron oxides react violently with aluminum, ethylene oxide, hydrazine, and calcium hypochlorite.

10.6. Hazardous decomposition products
No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity: Not classified

<table>
<thead>
<tr>
<th>Iron oxide (Fe2O3) (1309-37-1)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>&gt; 5000 mg/kg</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation: Not classified

Serious eye damage/irritation: Not classified

Respiratory or skin sensitisation: Not classified

Germ cell mutagenicity: Not classified

Carcinogenicity: Not classified

<table>
<thead>
<tr>
<th>Iron oxide (Fe2O3) (1309-37-1)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>IARC group</td>
<td>3 - Not classifiable</td>
</tr>
</tbody>
</table>

Reproductive toxicity: Not classified

STOT-single exposure: Not classified

STOT-repeated exposure: Not classified

Aspiration hazard: Not classified

Symptoms/effects after inhalation: Inhalation of dust or particulates may irritate the respiratory tract. Overexposure may cause: Cough.

Symptoms/effects after skin contact: No significant signs or symptoms indicative of any adverse health hazard are expected to occur as a result of skin exposure.

Symptoms/effects after eye contact: May cause eye irritation.

Symptoms/effects after ingestion: No information available.

Chronic symptoms: Prolonged inhalation of iron oxide dust is known to produce a condition known as siderosis, a benign pneumoconiosis.

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity: Not classified

Chronic aquatic toxicity: Not classified

<table>
<thead>
<tr>
<th>Iron oxide (Fe2O3) (1309-37-1)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>&gt; 1000 mg/l 48 hours: Leuciscus idus (Golden orfe)</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability
No additional information available

12.3. Bioaccumulative potential
No additional information available

12.4. Mobility in soil
No additional information available
12.5. Results of PBT and vPvB assessment
No additional information available

12.6. Other adverse effects
No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Product/Packaging disposal recommendations: Dispose of contents/container to licensed waste disposal facility.
Ecology - waste materials: Avoid release to the environment.

SECTION 14: Transport information

14.1. UN number
In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number
UN-No. (ADR): Not applicable
UN-No. (IMDG): Not applicable
UN-No. (IATA): Not applicable
UN-No. (ADN): Not applicable
UN-No. (RID): Not applicable

14.2. UN proper shipping name
Proper Shipping Name (ADR): Not applicable
Proper Shipping Name (IMDG): Not applicable
Proper Shipping Name (IATA): Not applicable
Proper Shipping Name (ADN): Not applicable
Proper Shipping Name (RID): Not applicable

14.3. Transport hazard class(es)
ADR
Transport hazard class(es) (ADR): Not applicable

IMDG
Transport hazard class(es) (IMDG): Not applicable

IATA
Transport hazard class(es) (IATA): Not applicable

ADN
Transport hazard class(es) (ADN): Not applicable

RID
Transport hazard class(es) (RID): Not applicable

14.4. Packing group
Packing group (ADR): Not applicable
Packing group (IMDG): Not applicable
Packing group (IATA): Not applicable
Packing group (ADN): Not applicable
Packing group (RID): Not applicable

14.5. Environmental hazards
Dangerous for the environment: No
Marine pollutant: No
Other information: No supplementary information available

14.6. Special precautions for user
- Overland transport
No data available
14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations
No REACH Annex XVII restrictions
GELEST RED IRON OXIDE SS is not on the REACH Candidate List
GELEST RED IRON OXIDE SS is not on the REACH Annex XIV List
GELEST RED IRON OXIDE SS is not subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

15.1.2. National regulations

Germany

Netherlands
SZW-lijs van kankerverwekkende stoffen: The substance is not listed
SZW-lijs van mutagene stoffen: The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding: The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid: The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling: The substance is not listed

15.2. Chemical safety assessment
No additional information available

SECTION 16: Other information

Abbreviations and acronyms:
- Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemical Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development; GHS: The Globally Harmonized System of Classification and Labelling; APF: Assigned Protection Factor

Other information: Prepared by safety and environmental affairs.

Full text of H- and EUH-statements:

| Eye Irrit. 2 | Serious eye damage/eye irritation, Category 2 |
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2 |
| H315 | Causes skin irritation |
| H319 | Causes serious eye irritation |
| EUH210 | Safety data sheet available on request |
The information contained in this document has been gathered from reference materials and/or Gelest, Inc. test data and is to the best knowledge and belief of Gelest, Inc. accurate and reliable. Such information is offered solely for your consideration, investigation and verification. It is not suggested or guaranteed that the hazard precautions or procedures described are the only ones which exist. Gelest, Inc. makes no warranties, express or implied, with respect to the use of such information and assumes no responsibility therefore. Information on this safety data sheet is not intended to constitute a basis for product specifications.

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