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 BLACK IRON OXIDE TC
Product code: BIA-TCA
Synonyms: C.I. PIGMENT BLACK 11, N-OCTYLTRIETHOXYXILANE
Other means of identification: INCI NAME: IRON OXIDES, TRIETHOXYCAPRYLILXILANE

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. Label elements

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 BLACK IRON OXIDE TC
CAS-No.: 1317-61-9
EC-No.: 215-277-5
GELEST BLACK IRON OXIDE TC
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<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron oxide (Fe3O4)</td>
<td>(CAS-No.) 1317-61-9 (EC-No.) 215-277-5</td>
<td>98 - 99</td>
<td>Not classified</td>
</tr>
<tr>
<td>Triethoxyacrylsilane</td>
<td>(CAS-No.) 2943-75-1 (EC-No.) 220-941-2</td>
<td>1 - 2</td>
<td>Skin Irrit. 2, H315</td>
</tr>
</tbody>
</table>

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/…. Get medical advice/attention.

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 causes coughing, sneezing and respiratory problems.

Symptoms/effects after skin contact: Skin contact may cause irritation due to mechanical action on sensitive skin.

Symptoms/effects after eye contact: Eye contact causes irritation due to mechanical action and secretion of tears.

Symptoms/effects after ingestion: Ingestion can cause stomach ache, vomiting and diarrhoea.

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: Use water spray to cool exposed surfaces. Exercise caution when fighting any chemical fire.

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. Avoid contact with skin and eyes. Do not breathe dust.
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.
Incompatible materials: Iron oxides react violently with aluminum, ethylene oxide, hydrazine, and calcium hypochlorite.
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>Iron oxide (Fe3O4) (1317-61-9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Italy - Portugal - USA ACGIH</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 | Black. |
| 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 - 5.1 |
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Solubility : No data available
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
This product is not stable if stored at temperatures above 140° F (60° C). Storage temperatures above 140° F (60° C) may cause the black iron oxide to oxidize, generating heat which could cause surrounding combustibles to burn.

10.3. Possibility of hazardous reactions
No additional information available

10.4. Conditions to avoid
Excessive heat.

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>Triethoxycaprylsilane (2943-75-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</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

This product contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified
Symptoms/effects after inhalation : Inhalation causes coughing, sneezing and respiratory problems.
Symptoms/effects after skin contact : Skin contact may cause irritation due to mechanical action on sensitive skin.
Symptoms/effects after eye contact : Eye contact causes irritation due to mechanical action and secretion of tears.
Symptoms/effects after ingestion : Ingestion may cause stomach ache, vomiting and diarrhoea.
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 (Fe3O4) (1317-61-9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</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

| Sewage disposal recommendations | : Do not dispose of waste into sewer. |
| 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

| 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
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<table>
<thead>
<tr>
<th>Marine pollutant</th>
<th>: No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other information</td>
<td>: No supplementary information available</td>
</tr>
</tbody>
</table>

14.6. Special precautions for user

- Overland transport  
  Not applicable

- Transport by sea  
  Not applicable

- Air transport  
  Not applicable

- Inland waterway transport  
  Not applicable

- Rail transport  
  Not applicable

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 BLACK IRON OXIDE TC is not on the REACH Candidate List  
GELEST BLACK IRON OXIDE TC is not on the REACH Annex XIV List  
GELEST BLACK IRON OXIDE TC 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  
Reference to AwSV  
Water hazard class (WGK) nwg, Non-hazardous to water (Classification according to VwVwS, Annex 1 or 2; ID No. 751)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV  
Is not subject of the 12. BlmSchV (Hazardous Incident Ordinance)

Netherlands  
SZW-lijst van kankerverwekkende stoffen  
The substance is not listed

SZW-lijst van mutagene stoffen  
The substance is not listed

NIET-elimitatie lijst van voor de voortplanting giftige stoffen – Borstvoeding  
The substance is not listed

NIET-elimitatie lijst van voor de voortplanting giftige stoffen – Vruchtbareheid  
The substance is not listed

NIET-elimitatie 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
GELEST BLACK IRON OXIDE TC
Safety Data Sheet

Other information:
Prepared by safety and environmental affairs.

Full text of H- and EUH-statements:

<table>
<thead>
<tr>
<th>H315: Skin irritation</th>
<th>EUH210: Safety data sheet available on request</th>
</tr>
</thead>
</table>

Skin Irrit. 2: Skin corrosion/irritation, Category 2

SDS EU (REACH Annex II) - Custom

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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