1 Identification

· Product identifier

· Trade name: Titanium 1000 µg/g in Mineral Oil

· Article number: TIOMS

· Details of the supplier of the safety data sheet

· Manufacturer/Supplier:
  High-Purity Standards
  7221 Investment Drive, North Charleston, SC 29418 United States
  Telephone: +1-843-767-7900
  Fax: +1-843-767-7906
  highpuritystandards.com
  Email: info@highpuritystandards.com

· Information department: Product safety department

· Emergency telephone number:
  INFOTRAC
  Emergency telephone numbers 1-800-535-5053
  Other emergency telephone numbers 1-352-323-3500

2 Hazard(s) identification

· Classification of the substance or mixture

  GHS08 Health hazard

  Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.

· Label elements

· GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms

  GHS08

· Signal word Danger

· Hazard-determining components of labeling:
  White mineral oil, petroleum

· Hazard statements
  H304 May be fatal if swallowed and enters airways.

· Precautionary statements
  If swallowed: Immediately call a poison center/doctor.
  Do NOT induce vomiting.
  Store locked up.
  Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 2)
Safety Data Sheet
acc. to OSHA HCS

Trade name: Titanium 1000 µg/g in Mineral Oil

- Classification system:
  - NFPA ratings (scale 0 - 4)
    - Health = 0
    - Fire = 1
    - Reactivity = 0

- HMIS-ratings (scale 0 - 4)
  - Health = 0
  - Fire = 1
  - Reactivity = 0

- Other hazards
- Results of PBT and vPvB assessment
  - PBT: Not applicable.
  - vPvB: Not applicable.

3 Composition/information on ingredients

- Chemical characterization: Mixtures
- Description: Mixture of the substances listed below with nonhazardous additions.

- Dangerous components:
  - 8042-47-5 White mineral oil, petroleum 99.9%
  - 7440-32-6 titanium 0.1%

4 First-aid measures

- Description of first aid measures
  - After inhalation: Supply fresh air; consult doctor in case of complaints.
  - After skin contact: Generally the product does not irritate the skin.
  - After eye contact: Rinse opened eye for several minutes under running water.
  - After swallowing: If symptoms persist consult doctor.

- Information for doctor:
  - Most important symptoms and effects, both acute and delayed: No further relevant information available.
  - Indication of any immediate medical attention and special treatment needed: No further relevant information available.

5 Fire-fighting measures

- Extinguishing media
  - Suitable extinguishing agents: Use fire fighting measures that suit the environment.
  - Special hazards arising from the substance or mixture: No further relevant information available.
51.0.12

· Advice for firefighters
· Protective equipment: No special measures required.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures Not required.
· Environmental precautions:
  Dilute with plenty of water.
  Do not allow to enter sewers/surface or ground water.
· Methods and material for containment and cleaning up:
  Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  Dispose contaminated material as waste according to item 13.
· Reference to other sections
  See Section 7 for information on safe handling.
  See Section 8 for information on personal protection equipment.
  See Section 13 for disposal information.
· Protective Action Criteria for Chemicals

| PAC-1: | 7440-32-6 titanium | 30 mg/m³ |
| PAC-2: | 7440-32-6 titanium | 330 mg/m³ |
| PAC-3: | 7440-32-6 titanium | 2,000 mg/m³ |

7 Handling and storage

· Handling:
  · Precautions for safe handling No special precautions are necessary if used correctly.
  · Information about protection against explosions and fires: No special measures required.
· Conditions for safe storage, including any incompatibilities
· Storage:
  · Requirements to be met by storerooms and receptacles: No special requirements.
  · Information about storage in one common storage facility: Not required.
  · Further information about storage conditions: Keep receptacle tightly sealed.
· Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

· Additional information about design of technical systems: No further data; see item 7.
51. Control parameters
51.1 Components with limit values that require monitoring at the workplace:
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

51.2 Additional information: The lists that were valid during the creation were used as basis.

52. Exposure controls
52.1 Personal protective equipment:
52.2 General protective and hygienic measures:
Keep away from foodstuffs, beverages and feed. Wash hands before breaks and at the end of work.

52.3 Breathing equipment:
Not required.

52.4 Protection of hands:
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

52.5 Material of gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

52.6 Penetration time of glove material
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

52.7 Eye protection: Goggles recommended during refilling.

9 Physical and chemical properties
9.1 Information on basic physical and chemical properties
9.1.1 General Information
9.1.2 Appearance:
<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>Characteristic</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not determined.</td>
</tr>
</tbody>
</table>

9.1.3 pH-value: Not determined.

9.1.4 Change in condition
<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting point/Melting range:</td>
<td>Undetermined.</td>
</tr>
<tr>
<td>Boiling point/Boiling range:</td>
<td>Undetermined.</td>
</tr>
</tbody>
</table>

9.1.5 Flash point: >112 °C (>233.6 °F)

9.1.6 Flammability (solid, gaseous): Not applicable.

9.1.7 Decomposition temperature: Not determined.
· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**
  - Lower: Not determined.
  - Upper: Not determined.

· **Vapor pressure:** Not determined.

· **Density:** Not determined.
· **Relative density** Not determined.
· **Vapor density** Not determined.
· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with Water:** Fully miscible.

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**
  - Dynamic: Not determined.
  - Kinematic: Not determined.

· **Solvent content:**
  - VOC content: 0.00 %
  - 0.0 g/l / 0.00 lb/gal

· **Solids content:** 0.1 %
· **Other information** No further relevant information available.

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### 10 Stability and reactivity

· **Reactivity** No further relevant information available.
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions** No dangerous reactions known.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** No dangerous decomposition products known.

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### 11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**
· **Primary irritant effect:**
  - on the skin: No irritant effect.
  - on the eye: No irritating effect.
Trade name: Titanium 1000 µg/g in Mineral Oil

- Sensitization: No sensitizing effects known.
- Additional toxicological information:
  The product shows the following dangers according to internally approved calculation methods for preparations:
  - Carcinogenic categories
    - IARC (International Agency for Research on Cancer)
      None of the ingredients is listed.
    - NTP (National Toxicology Program)
      None of the ingredients is listed.
    - OSHA-Ca (Occupational Safety & Health Administration)
      None of the ingredients is listed.

12 Ecological information

- Toxicity
  - Aquatic toxicity: No further relevant information available.
  - Persistence and degradability: No further relevant information available.
  - Behavior in environmental systems:
    - Bioaccumulative potential: No further relevant information available.
    - Mobility in soil: No further relevant information available.
- Additional ecological information:
  - General notes:
    Water hazard class 1 (Self-assessment): slightly hazardous for water
    Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
  - Results of PBT and vPvB assessment
    - PBT: Not applicable.
    - vPvB: Not applicable.
- Other adverse effects: No further relevant information available.

13 Disposal considerations

- Waste treatment methods
  - Recommendation:
    Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- Uncleaned packagings:
  - Recommendation: Disposal must be made according to official regulations.
  - Recommended cleansing agent: Water, if necessary with cleansing agents.
14 Transport information

- UN-Number
  - DOT, ADR, IMDG, IATA: not regulated

- UN proper shipping name
  - DOT, ADR, IMDG, IATA: not regulated

- Transport hazard class(es)
  - DOT, ADR, ADN, IMDG, IATA: not regulated

- Packing group
  - DOT, ADR, IMDG, IATA: not regulated

- Environmental hazards:
  - Not applicable.

- Special precautions for user
  - Not applicable.

- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
  - Not applicable.

- UN "Model Regulation": not regulated

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
  - Sara
    - Section 355 (extremely hazardous substances):
      - None of the ingredients is listed.
    - Section 313 (Specific toxic chemical listings):
      - None of the ingredients is listed.
    - TSCA (Toxic Substances Control Act):
      - All components have the value ACTIVE.
    - Hazardous Air Pollutants
      - None of the ingredients is listed.
    - Proposition 65
      - None of the ingredients is listed.

- Chemicals known to cause cancer:
  - None of the ingredients is listed.

- Chemicals known to cause reproductive toxicity for females:
  - None of the ingredients is listed.

- Chemicals known to cause reproductive toxicity for males:
  - None of the ingredients is listed.
Trade name: Titanium 1000 µg/g in Mineral Oil

- Chemicals known to cause developmental toxicity:
  None of the ingredients is listed.

- Carcinogenic categories
  - EPA (Environmental Protection Agency)
    None of the ingredients is listed.
  - TLV (Threshold Limit Value established by ACGIH)
    None of the ingredients is listed.
  - NIOSH-Ca (National Institute for Occupational Safety and Health)
    None of the ingredients is listed.

- GHS label elements
  The product is classified and labeled according to the Globally Harmonized System (GHS).
  - Hazard pictograms

  GHS08

- Signal word
  Danger

- Hazard-determining components of labeling:
  White mineral oil, petroleum

- Hazard statements
  H304 May be fatal if swallowed and enters airways.

- Precautionary statements
  If swallowed: Immediately call a poison center/doctor.
  Do NOT induce vomiting.
  Store locked up.
  Dispose of contents/container in accordance with local/regional/national/international regulations.

- Chemical safety assessment:
  A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Department issuing SDS: Environment protection department.
- Contact:
  High-Purity Standards
  Tel: 843-767-7900
  Fax: 843-767-7906
- Date of preparation / last revision 05/23/2020 /
- Abbreviations and acronyms:
  ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  IMDG: International Maritime Code for Dangerous Goods
  DOT: US Department of Transportation
Trade name: Titanium 1000 µg/g in Mineral Oil

IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
REL: Recommended Exposure Limit
Asp. Tox. 1: Aspiration hazard – Category 1