TITANIUM DIBORIDE  GRADE D, GRADE SE, GRADE F

Chemical Formula  
TiB₂

Chemical Name  
Titanium Diboride

Description of Product  
Greyish powder

HS Number  
28500090

Grades Available  
Product Designation
Titanium Diboride Grade D
Titanium Diboride Grade SE
Titanium Diboride Grade F

Chemical Characteristics
(Mass fraction in % [cg/g]; ppm [µg/g])

<table>
<thead>
<tr>
<th></th>
<th>Grade D</th>
<th>Grade SE</th>
<th>Grade F</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>min.</td>
<td>30.0 %</td>
<td>30.0 %</td>
</tr>
<tr>
<td>C</td>
<td>max.</td>
<td>0.5 %</td>
<td>0.5 %</td>
</tr>
<tr>
<td>O</td>
<td>max.</td>
<td>1.1 %</td>
<td>1.5 %</td>
</tr>
<tr>
<td>N</td>
<td>max.</td>
<td>0.6 %</td>
<td>0.7 %</td>
</tr>
<tr>
<td>Fe</td>
<td>max.</td>
<td>0.1 %</td>
<td>0.3 %</td>
</tr>
</tbody>
</table>

Crystallographic Phases

Crystal Structure  
Hexagonal

Physical Characteristics

Particle Size Distribution

<table>
<thead>
<tr>
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<th>Grade SE</th>
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</tr>
</thead>
<tbody>
<tr>
<td>D 10 %</td>
<td>0.7 - 2.0 µm</td>
<td>0.7 - 2.0 µm</td>
<td>0.5 - 1.2 µm</td>
</tr>
<tr>
<td>D 50 %</td>
<td>3.5 - 6.0 µm</td>
<td>3.5 - 6.0 µm</td>
<td>2.5 - 3.5 µm</td>
</tr>
<tr>
<td>D 90 %</td>
<td>6.5 - 10.0 µm</td>
<td>6.5 - 10.0 µm</td>
<td>4.0 - 7.0 µm</td>
</tr>
</tbody>
</table>

1) MICROTRAC by Laser Light Diffraction per ASTM C 1070. e) These products are under export control.
2) Secondary Electron Image (SEI)

SEM Photomicrograph
scale see photograph,
TiB$_2$ Grade D

SEM Photomicrograph
scale see photograph,
TiB$_2$ Grade SE

SEM Photomicrograph
scale see photograph,
TiB$_2$ Grade F
Packaging

50 kg in 60 l steel drums with polyethylene inlet.

9 drums on one pallet CP 3 (1140 x 1140 mm) = 1 packaging unit of 450 kg or
6 drums on one pallet CP 5 (760 x 1140 mm) = 1 packaging unit of 300 kg.

Grade F:

25 kg in 30 l steel drums with polyethylene inlet = 1 packaging unit of 100 kg.

Other packaging unit/quantity on request.

Storage and Handling

Storage and handling are subject to the rules and regulations in the country of use. Store in a closed container.

To prevent quality problems, this boride material should be stored under inert gas. Titanium Diboride (TiB2) and other boride compounds are susceptible to oxidation over time as they are exposed to the air. Opening the product packaging in the presence of moisture can eventually result in oxygen content increasing above the material’s measured values.

Hazards identification in Advertising (REGULATION (EC) No 1272/2008 Article 48)

none.

Documentation

An inspection document in accordance with EN 10204 is supplied with every shipment.