Ti-1100e

High performance titania catalyst

BASF Ti-1100e titania catalyst is designed for improved conversion of sulfur compounds in the Claus process.

Product Applications

When using a titanium dioxide (titania) catalyst like BASF Ti-1100e, the Sulfur Recovery Unit (SRU) operator is seeking to achieve maximum sulfur component species conversion over the run life of the catalyst.

Units operating with high hydrocarbons and/or carbon dioxide (CO2) in the feed will have elevated levels of carbonyl sulfide (COS) and carbon disulfide (CS2) in the feed to the first converter. Activated alumina catalyst like BASF DD-431 will convert these species, but only at elevated operating temperatures which negatively impacts conversion of the two main feed components, hydrogen sulfide (H2S) and sulfur dioxide (SO2). By adding Ti-1100e to the first converter, operating temperatures can be lowered and the highest possible conversions of all sulfur species (H2S, SO2, COS & CS2) can be achieved. Normally used in conjunction with BASF DD-431, the configuration needed to optimize recoveries can be provided by BASF’s Technical Managers.

Whether it’s achieving higher recoveries without capital expenditures, reducing stack emissions through higher COS/CS2 conversion or energy savings with lower operating temperatures, BASF Ti-1100e can bring an SRU to its peak performance.

Packaging

- 2204 lb (1000 kg) super sacks
- 350 lb (150 kg) drums

<table>
<thead>
<tr>
<th>Physical Properties</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface Area, m²/g</td>
<td>110 - 120</td>
</tr>
<tr>
<td>Titania XRD Phase</td>
<td>Anatase</td>
</tr>
<tr>
<td>Crush Strength (1/4&quot; length), N/mm</td>
<td>14</td>
</tr>
<tr>
<td>Packed Bulk Density, lbs/ft³ (kg/m³)</td>
<td>56 (900)</td>
</tr>
<tr>
<td>Titania, minimum wt %</td>
<td>90</td>
</tr>
</tbody>
</table>

*These indicative properties do not represent process capabilities nor specifications.

Figure 1: Comparison of COS and CS2 conversion across BASF titania and alumina at 1000 GHSV hour

Feed Gas Composition

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>H₂S</td>
<td>7.9%</td>
</tr>
<tr>
<td>SO₂</td>
<td>4%</td>
</tr>
<tr>
<td>COS</td>
<td>0.05%</td>
</tr>
<tr>
<td>CS₂</td>
<td>0.05%</td>
</tr>
<tr>
<td>H₂O</td>
<td>30%</td>
</tr>
<tr>
<td>N₂</td>
<td>balance</td>
</tr>
</tbody>
</table>
About Us

BASF’s Catalysts division is the world’s leading supplier of environmental and process catalysts. The group offers exceptional expertise in the development of technologies that protect the air we breathe, produce the fuels that power our world and ensure efficient production of a wide variety of chemicals, plastics and other products, including advanced battery materials. By leveraging our industry-leading R&D platforms, passion for innovation and deep knowledge of precious and base metals, BASF’s Catalysts division develops unique, proprietary solutions that drive customer success.

BASF - We create chemistry

Americas
BASF Corporation
25 Middlesex/Essex Turnpike
Iselin, New Jersey, 08830, USA
Tel: +1-732-205-5000
Fax: +1-732-205-7725
Email: catalysts-americas@basf.com

Asia Pacific
BASF (China) Company Limited
300 Jiang Xin Sha Road,
Pudong, Shanghai 200137
P.R. China
Tel: +86-21-2039 2549
Fax: +86-21-2039 4800-2549
Email: catalysts-asia@basf.com

Europe, Middle East, Africa
BASF De Meern BV Catalysts
The Netherlands
Tel: +31-30-666 9437
Email: catalysts-europe@basf.com

Although all statements and information in this publication are believed to be accurate and reliable, they are presented gratis and for guidance only, and risks and liability for results obtained by use of the products or application of the suggestions described are assumed by the user. NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH. Statements or suggestions concerning possible use of the products are made without representation or warranty that any such use is free of patent infringement and are not recommendations to infringe any patent. The user should not assume that toxicity data and safety measures are indicated or that other measures may not be required. © 2015 BASF