Technical Data Sheet

ACS Material SSZ-13

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Revision: 071218
1. Preparation Method
   Hydrothermal Method

2. Characterizations

<table>
<thead>
<tr>
<th>Type</th>
<th>Type A</th>
<th>Type B - Discontinued</th>
<th>Type C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>Microporous zeolite, NH$_4^+$</td>
<td>Microporous zeolite, NH$_4^+$</td>
<td>Microporous zeolite, NH$_4^+$</td>
</tr>
<tr>
<td>SiO$_2$/Al$_2$O$_3$ Molar Ratio:</td>
<td>20-30</td>
<td>10-20</td>
<td>20-30</td>
</tr>
<tr>
<td>Particle Size:</td>
<td>300-800 nm</td>
<td>300-800 nm</td>
<td>2-3 um</td>
</tr>
<tr>
<td>BET:</td>
<td>~671 m$^2$/g</td>
<td>~626 m$^2$/g</td>
<td>~550 m$^2$/g</td>
</tr>
<tr>
<td>Pore Volume:</td>
<td>≥0.25 cm$^3$/g</td>
<td>N/A</td>
<td>≥0.28 cm$^3$/g</td>
</tr>
<tr>
<td>Average Pore Diameter:</td>
<td>1.0 nm</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Na$_2$O:</td>
<td>&lt;500 ppm</td>
<td>&lt;367 ppm</td>
<td>&lt;350 ppm</td>
</tr>
<tr>
<td>H$_2$O</td>
<td>&lt;5%</td>
<td>&lt;4%</td>
<td>&lt;2%</td>
</tr>
</tbody>
</table>

Typical SEM Image of ACS Material SSZ-13 (Type A)
Typical BET Analysis of ACS Material SSZ-13 (Type A)

Typical SEM Image of ACS Material SSZ-13 (Type B)
Typical SEM Image of ACS Material SSZ-13 (Type C)

Typical SEM Image of ACS Material SSZ-13 (Type C)
3. Application Fields

1) Methanol to Olefins (MTO)
2) Selective Catalytic Reduction of Nitrogen Oxides (SCR)
3) Gas adsorption separation

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