High Mole Ethoxylates
≥ 15 mole EO

Description
Using Sasol’s patented narrow range ethoxylation catalyst technology, ethoxylates of excellent quality can be produced with up to 150 moles of EO using a variety of branched alcohols. The alcohol hydrophobes can be linear or branched depending on the desired properties. The NOVEL® High Mole Ethoxylates yield surfactants that:

- Are classified as “Readily biodegradable” according to standard OECD methodology
- Provide excellent emulsification properties
- Contain < 0.5 wt.% residual alcohol
- Exhibit significantly lower polyethylene glycol content (< 1.5 wt.%) than traditionally catalyzed ethoxylates
- Are 100% active products (unless otherwise requested*)
- Are white solids that melt to slightly hazy to clear liquids

Applications
Sasol’s NOVEL® High Mole Ethoxylates may be used in a wide array of applications. These applications include oilfield, metalworking fluids, textiles, emulsion polymerization, and any other applications where high mole alkylphenol ethoxylates (APEOs) are utilized.

Improved Color for High Mole Ethoxylates
Below is a cetaryl alcohol ethoxylated to 40 moles. The left is catalyzed with NOVEL catalyst while the right is catalyzed with traditional caustic catalyst (45% potassium hydroxide). Each was catalyzed with 0.1 and 0.5 weight percent catalyst (left and right, respectively, in each photo).

Examples of Sasol High Mole Ethoxylate Products

*Looking for something easier to handle?
All of Sasol North America’s branched high mole ethoxylates can be blended with water to obtain products that are easier to handle. These blends are either liquid at room temperature, or they require less heating in order to make them liquid. For more information, please contact us.
# High Mole Ethoxylates

≥ 15 mole EO

## Examples of Sasol High Mole Ethoxylate Products

All of Sasol North America’s branched high mole ethoxylates have a free EO content ≤1 ppm and a pH (1% in IPA/Water) of 5-8. Typical physical properties are listed in the table below. Actual properties may vary from lot to lot.

<table>
<thead>
<tr>
<th>Surfactant</th>
<th>Moles of EO</th>
<th>HLB</th>
<th>Melting Point, °C</th>
<th>Hydroxyl Number</th>
<th>Density, 60°C g/cm³</th>
<th>Viscosity, 60°C, cSt</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOVEL® TDA-20 Ethoxylate</td>
<td>20</td>
<td>16.3</td>
<td>33</td>
<td>52</td>
<td>1.02</td>
<td>38</td>
</tr>
<tr>
<td>NOVEL® 23E20 Ethoxylate</td>
<td>20</td>
<td>16.4</td>
<td>36</td>
<td>52</td>
<td>1.03</td>
<td>37</td>
</tr>
<tr>
<td>NOVEL® 16-20 Ethoxylate</td>
<td>20</td>
<td>15.7</td>
<td>45</td>
<td>50.0</td>
<td>1.01</td>
<td>46.6</td>
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<tr>
<td>NOVEL® 18-20 Ethoxylate</td>
<td>20</td>
<td>15.3</td>
<td>45</td>
<td>48.8</td>
<td>1.01</td>
<td>44.9</td>
</tr>
<tr>
<td>NOVEL® 12-23 Ethoxylate</td>
<td>23</td>
<td>16.9</td>
<td>40</td>
<td>46.8</td>
<td>1.03</td>
<td>39.8</td>
</tr>
<tr>
<td>NOVEL® 22-25 Ethoxylate</td>
<td>25</td>
<td>15.4</td>
<td>53</td>
<td>39.3</td>
<td>1.00</td>
<td>73</td>
</tr>
<tr>
<td>NOVEL® 1618-28 Ethoxylate</td>
<td>28</td>
<td>16.6</td>
<td>47</td>
<td>37.7</td>
<td>1.03</td>
<td>63.3</td>
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<tr>
<td>NOVEL® TDA-30 Ethoxylate</td>
<td>30</td>
<td>17.3</td>
<td>42</td>
<td>37</td>
<td>1.04</td>
<td>60</td>
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<tr>
<td>NOVEL® 23E30 Ethoxylate</td>
<td>30</td>
<td>17.5</td>
<td>45</td>
<td>37</td>
<td>1.04</td>
<td>58</td>
</tr>
<tr>
<td>NOVEL® TDA-40 Ethoxylate</td>
<td>40</td>
<td>17.9</td>
<td>48</td>
<td>29</td>
<td>1.05</td>
<td>93</td>
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<tr>
<td>NOVEL® TDA-70 Ethoxylate</td>
<td>70</td>
<td>18.8</td>
<td>57</td>
<td>17</td>
<td>1.07</td>
<td>371</td>
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<tr>
<td>NOVEL® 2426-150 Ethoxylate</td>
<td>150</td>
<td>18.9</td>
<td>61</td>
<td>8</td>
<td>1.06*</td>
<td>2099*</td>
</tr>
</tbody>
</table>

*at 80°C

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**Contact Information**

For technical information and/or samples:

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For detailed safety and handling information regarding these products, please refer to the respective Sasol North America Material Safety Data Sheet.  
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