Product Specification

**HARP® AP48**

Typical Composition (not part of specification):

<table>
<thead>
<tr>
<th>Component name</th>
<th>Chemical Formula</th>
<th>CAS Number</th>
<th>Typical Composition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propane</td>
<td>CH_3CH_2CH_3</td>
<td>74-98-6</td>
<td>31 %w/w</td>
</tr>
<tr>
<td>Iso-Butane</td>
<td>CH(CH_3)_3</td>
<td>75-28-5</td>
<td>23 %w/w</td>
</tr>
<tr>
<td>n-Butane</td>
<td>CH_3CH_2CH_2CH_3</td>
<td>106-97-8</td>
<td>46 %w/w</td>
</tr>
</tbody>
</table>

**Guaranteed Specifications**

HARP AP48 is unstenched and complies with the relevant requirements of BS:4250:1997 and in particular to the following:

<table>
<thead>
<tr>
<th>Property</th>
<th>Units</th>
<th>Max/Min</th>
<th>Limit</th>
<th>Test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gauge Vapour Pressure @ 25°C</td>
<td>kPa</td>
<td>386 to 413</td>
<td>386 to 413</td>
<td>BS:EN:ISO 4256 or BS:4250:1997 Annex A</td>
</tr>
<tr>
<td>Gauge Vapour Pressure @ 70°F</td>
<td>psig</td>
<td>46 to 50</td>
<td>46 to 50</td>
<td>BS:EN:ISO 4256 or BS:4250:1997 Annex A</td>
</tr>
<tr>
<td>Total Sulphur content</td>
<td>mg/kg</td>
<td>Max</td>
<td>1</td>
<td>BS:EN 24260</td>
</tr>
<tr>
<td>Mercaptan Sulphur content</td>
<td>mg/kg</td>
<td>Max</td>
<td>1</td>
<td>BS:2000:Part 272</td>
</tr>
<tr>
<td>Hydrogen Sulphide content</td>
<td>mg/m(^3)</td>
<td>Max</td>
<td>0.75</td>
<td>BS:4250:1997 Annex C</td>
</tr>
<tr>
<td>Ammonia content</td>
<td>mg/m(^3)</td>
<td>Max</td>
<td>1.0</td>
<td>Gastec 3L Absorption tube</td>
</tr>
<tr>
<td>Copper Corrosion 1h @ 40°C</td>
<td></td>
<td>Class 1</td>
<td></td>
<td>BS:EN:ISO 6252 (1 hr @ 40°C)</td>
</tr>
<tr>
<td>Dissolved water</td>
<td>mg/kg</td>
<td></td>
<td>10</td>
<td>By Valve Freeze and/or Karl Fischer</td>
</tr>
<tr>
<td>Total Dienes incl. 1,3-Butadiene content</td>
<td>mol %</td>
<td>Max</td>
<td>0.1</td>
<td>BS:EN: 27941</td>
</tr>
<tr>
<td>Ethane</td>
<td>mol %</td>
<td>Max</td>
<td>0.5</td>
<td>BS:3156: Subsection 11.1.1</td>
</tr>
<tr>
<td>C(_3) to C(_4) hydrocarbons</td>
<td>mol %</td>
<td>Min</td>
<td>98.0</td>
<td>By calculation</td>
</tr>
<tr>
<td>C(_5) &amp; higher hydrocarbons</td>
<td>mol %</td>
<td>Max</td>
<td>2.0</td>
<td>BS:3156: Subsection 11.1.1</td>
</tr>
<tr>
<td>Alkynes content</td>
<td>mol %</td>
<td>Max</td>
<td>0.5</td>
<td>BS:3156: Part 4</td>
</tr>
<tr>
<td>Unsaturated hydrocarbons</td>
<td>mol %</td>
<td>Max</td>
<td>1.0</td>
<td>By calculation</td>
</tr>
<tr>
<td>R number</td>
<td></td>
<td>Max</td>
<td>10</td>
<td>BS:2000: Part 317</td>
</tr>
<tr>
<td>O number</td>
<td></td>
<td>Max</td>
<td>33</td>
<td>BS:2000: Part 317</td>
</tr>
<tr>
<td>Odour</td>
<td></td>
<td></td>
<td></td>
<td>Report</td>
</tr>
</tbody>
</table>

For toxicological and health and safety information, please consult our Safety Data Sheet.

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Reviewed by CJH, June 2014.