Shell Adrana D 408

Water extendible metalworking fluid

Shell Adrana D 408 is a high quality, general-purpose metalworking fluid recommended for light to medium duty operations on a broad range of materials.

Applications
Shell Adrana D 408 is recommended, over a broad water hardness range, for general machining operations on cast iron, steel, and aluminum alloys. Shell Adrana D 408 is also suitable for machining of copper alloys.

Performance Features and Benefits
- Low foam in soft water
- Good stability ensuring prolonged sump life
- Good corrosion protection
- Good detergency offering low drag out, clean parts and machine tools, and a better working environment
- Operator friendly

Recommended Concentrations
The concentration varies depending on the type of machining operation, the water hardness, and the required corrosion protection. The typical recommended concentrations for use in medium water hardness are:
- General machining: 5 – 7%
- Heavy duty machining: 8 – 12%
- Grinding: 4 – 5%

Storage
The product should be stored inside (41-104°F) for no more than one year. Freezing should be avoided.

Health & Safety
Please note that mixed coolants work over long periods of time, therefore chemical contamination (hydraulic oils, greases, metal solutions, paints, rust inhibitors, etc.) or bacterial contamination (from dirty hands, work pieces, industrial grade water, sundry waste, etc.) can often occur. Contamination with the above materials should be minimized/eliminated. Regular monitoring of the in-use product is recommended to maintain optimum product condition and for determination of its useful working life.

Protect the environment
Waste must be disposed of in accordance with EC Directive 91/156, 91/689 and 94/62 or in line with local legislation.
## Typical Physical Characteristics

<table>
<thead>
<tr>
<th>Product Codes</th>
<th>Unit</th>
<th>Method</th>
<th>Shell Adrana D 408</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Drum</td>
<td>5073143</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pail</td>
<td>5073352</td>
</tr>
<tr>
<td>Mineral Oil content</td>
<td>%</td>
<td></td>
<td>30</td>
</tr>
<tr>
<td>Density @ 20°C</td>
<td>g/mL</td>
<td>ASTM D 1298</td>
<td>0.98</td>
</tr>
<tr>
<td>pH of the emulsion at 5%</td>
<td></td>
<td>DIN 51369</td>
<td>9.1</td>
</tr>
<tr>
<td>Min Anti-Cor. Protection Limit (0-0)</td>
<td>%</td>
<td>DIN 51360/2</td>
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<tr>
<td>Refractometer Factor</td>
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<td></td>
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</tr>
<tr>
<td>Acid Split Factor</td>
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<td></td>
<td>1.53</td>
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</tbody>
</table>

These characteristics are typical of current production. While future production will conform to Shell’s specification, variations in these characteristics may occur.