Starting Formulation
SF 1202
Low Temperature Cure Gloss White Enamels
EPONTM Resin 8021 / EPIKURE™ Curing Agent 3292-FX-60 and 3378

<table>
<thead>
<tr>
<th>Formula A Material</th>
<th>Supplier</th>
<th>Pounds</th>
<th>Gallons</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPON Resin 8021/ Part A</td>
<td>Hexion</td>
<td>150.0</td>
<td>16.30</td>
</tr>
<tr>
<td>EPIKURE Curing EPON Resin 8021</td>
<td>BYK-Chemie, USA</td>
<td>5.3</td>
<td>0.68</td>
</tr>
<tr>
<td>Agent 3292-FX-60 Anti-Terra™ U</td>
<td>CYTEC Industries Inc.</td>
<td>5.3</td>
<td>0.62</td>
</tr>
<tr>
<td>Beetle™ U216-8</td>
<td>Du Pont Co.</td>
<td>200.0</td>
<td>6.19</td>
</tr>
<tr>
<td>Ti-Pure™ R-960</td>
<td>Harcross Pigments Inc.</td>
<td>45.0</td>
<td>1.23</td>
</tr>
<tr>
<td>Sparmite™ Microtalc™ MP-15-38</td>
<td>Specialty Minerals Inc.</td>
<td>45.0</td>
<td>1.99</td>
</tr>
<tr>
<td>Bentone™ SD-2</td>
<td>Elementis Specialties Co.</td>
<td>1.4</td>
<td>0.11</td>
</tr>
</tbody>
</table>

High Speed Disperse to 7Hegman, letdown with

<table>
<thead>
<tr>
<th>Material</th>
<th>Supplier</th>
<th>Pounds</th>
<th>Gallons</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPON Resin 8021</td>
<td>Hexion</td>
<td>160.0</td>
<td>17.38</td>
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<tr>
<td>Xylene</td>
<td>19.0</td>
<td>2.64</td>
<td></td>
</tr>
<tr>
<td>MIBK</td>
<td>19.0</td>
<td>2.86</td>
<td></td>
</tr>
<tr>
<td>Total Part A</td>
<td></td>
<td>650.0</td>
<td>50.0</td>
</tr>
</tbody>
</table>

Part B

<table>
<thead>
<tr>
<th>Formula B Material</th>
<th>Supplier</th>
<th>Pounds</th>
<th>Gallons</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPIKURE Curing Agent 3292-FX-60</td>
<td>Hexion</td>
<td>390.8</td>
<td>45.98</td>
</tr>
<tr>
<td>Xylene</td>
<td>19.8</td>
<td>2.76</td>
<td></td>
</tr>
<tr>
<td>N-butanol</td>
<td>8.5</td>
<td>1.26</td>
<td></td>
</tr>
<tr>
<td>Total Part B</td>
<td></td>
<td>419.1</td>
<td>50.0</td>
</tr>
<tr>
<td>Total Part A &amp; B</td>
<td></td>
<td>1069.1</td>
<td>100.0</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Supplier</th>
<th>Amount</th>
<th>Solids</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sparmite™</td>
<td>Harcross Pigments Inc.</td>
<td>60.0</td>
<td>1.63</td>
</tr>
<tr>
<td>Microtalc™ MP-15-38</td>
<td>Specialty Minerals Inc.</td>
<td>60.0</td>
<td>2.65</td>
</tr>
<tr>
<td>Bentone™ SD-2</td>
<td>Elementis Specialties Co.</td>
<td>2.1</td>
<td>0.15</td>
</tr>
</tbody>
</table>

*High Speed Disperse to Hegman, letdown with*

<table>
<thead>
<tr>
<th>Component</th>
<th>Supplier</th>
<th>Amount</th>
<th>Solids</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPON Resin 8021</td>
<td>Hexion</td>
<td>275.0</td>
<td>29.89</td>
</tr>
<tr>
<td>Xylene</td>
<td></td>
<td>8.5</td>
<td>1.18</td>
</tr>
<tr>
<td>MIBK</td>
<td></td>
<td>8.5</td>
<td>1.20</td>
</tr>
</tbody>
</table>

Total Part A 894.3 66.67

Part B

<table>
<thead>
<tr>
<th>Component</th>
<th>Supplier</th>
<th>Amount</th>
<th>Solids</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPIKURE Curing Agent 3378</td>
<td>Hexion</td>
<td>272.3</td>
<td>31.66</td>
</tr>
<tr>
<td>Xylene</td>
<td></td>
<td>8.3</td>
<td>1.15</td>
</tr>
<tr>
<td>N-butanol</td>
<td></td>
<td>3.5</td>
<td>0.52</td>
</tr>
</tbody>
</table>

Total Part B 284.1 33.33

Total Part A & B 1178.4 100.0

### Formula A Table 1 / Typical Coating Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Units</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mix ratio Part A : Part B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>By volume</td>
<td>1 : 1</td>
<td></td>
</tr>
<tr>
<td>By weight</td>
<td>1.55 : 1.0</td>
<td></td>
</tr>
<tr>
<td>Total weight solids</td>
<td>%</td>
<td>78.7</td>
</tr>
<tr>
<td>Total volume solids</td>
<td>%</td>
<td>67.7</td>
</tr>
<tr>
<td>PVC</td>
<td>%</td>
<td>13.9</td>
</tr>
<tr>
<td>Induction time</td>
<td>min.</td>
<td>30</td>
</tr>
<tr>
<td>Volatile Organic Compounds (VOC)</td>
<td>#/gal</td>
<td>2.25</td>
</tr>
<tr>
<td></td>
<td>g/l</td>
<td>270</td>
</tr>
</tbody>
</table>

Curing agent based on solids

<table>
<thead>
<tr>
<th>Property</th>
<th>Units</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cure Development</td>
<td></td>
<td></td>
</tr>
<tr>
<td>@ 77 °F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>@ 40 °F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Set-to-touch</td>
<td>hrs</td>
<td>0.5</td>
</tr>
<tr>
<td>Cotton-free</td>
<td>hrs</td>
<td>1.0</td>
</tr>
<tr>
<td>Thru-dry</td>
<td>hrs</td>
<td>3.25</td>
</tr>
<tr>
<td>24 hour pencil hardness</td>
<td>F</td>
<td>6B</td>
</tr>
<tr>
<td>12 day pencil hardness</td>
<td>F</td>
<td>HB</td>
</tr>
</tbody>
</table>

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### Formula A Table 2 / Ambient Cure Film Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Units</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drawdown on CRS — Cured for 7 days @ 77°F, 55% R.H.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>225 g Pot Life (from 74 – 140 KU)</td>
<td>min.</td>
<td>35</td>
</tr>
<tr>
<td>Specular gloss (60/20 degree)</td>
<td></td>
<td>100/91</td>
</tr>
<tr>
<td>Dry film thickness</td>
<td>mils</td>
<td>1.5</td>
</tr>
<tr>
<td>Impact resistance, (Dir./Rev.)</td>
<td></td>
<td>52/8</td>
</tr>
<tr>
<td>Flexibility</td>
<td></td>
<td>Pass 1/8</td>
</tr>
<tr>
<td>Adhesion</td>
<td></td>
<td>5A</td>
</tr>
<tr>
<td>MEK double rub</td>
<td></td>
<td>&gt;300</td>
</tr>
<tr>
<td>Water resistance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>500 hrs at 140 °F</td>
<td></td>
<td>8MD</td>
</tr>
<tr>
<td>1000 hrs at 140 °F</td>
<td></td>
<td>4D</td>
</tr>
<tr>
<td>Salt spray testing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>500 hrs</td>
<td></td>
<td>6M</td>
</tr>
<tr>
<td>1000 hrs</td>
<td></td>
<td>4M</td>
</tr>
</tbody>
</table>

### Formula A Table 3 / Low Temperature Cure Film Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Units</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drawdown on CRS — Cured for 14 days @ 40°F, 80% R.H.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specular gloss (60/20 degree)</td>
<td></td>
<td>64/20</td>
</tr>
<tr>
<td>Dry film thickness</td>
<td>mils</td>
<td>1.5</td>
</tr>
<tr>
<td>Impact resistance, (Dir./Rev.)</td>
<td></td>
<td>108/104</td>
</tr>
<tr>
<td>Flexibility</td>
<td></td>
<td>Pass 1/8</td>
</tr>
<tr>
<td>Adhesion</td>
<td></td>
<td>5A</td>
</tr>
<tr>
<td>MEK double rub</td>
<td></td>
<td>91</td>
</tr>
<tr>
<td>Water resistance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>500 hrs at 140 °F</td>
<td></td>
<td>6M</td>
</tr>
<tr>
<td>1000 hrs at 140 °F</td>
<td></td>
<td>6D</td>
</tr>
<tr>
<td>Salt spray testing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>500 hrs</td>
<td></td>
<td>6M</td>
</tr>
<tr>
<td>1000 hrs</td>
<td></td>
<td>6D</td>
</tr>
</tbody>
</table>

### Formula B Table 4 / Typical Coating Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Units</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mix ratio Part A : Part B</td>
<td></td>
<td>2 : 1</td>
</tr>
<tr>
<td>By volume</td>
<td></td>
<td></td>
</tr>
<tr>
<td>By weight</td>
<td>3.15 : 1.0</td>
<td></td>
</tr>
<tr>
<td>Total weight solids</td>
<td>%</td>
<td>97.1</td>
</tr>
<tr>
<td>Total volume solids</td>
<td>%</td>
<td>95.3</td>
</tr>
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</table>
PVC % 14
Induction time min. 0
Volatile Organic Compounds (VOC)

<table>
<thead>
<tr>
<th>Units</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Induction time</td>
<td>min. 0</td>
</tr>
<tr>
<td>Volatile Organic Compounds (VOC)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Units</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pounds/gallon</td>
<td>0.28</td>
</tr>
<tr>
<td>Grams/liter</td>
<td>34</td>
</tr>
<tr>
<td>Curing agent phr, on solids</td>
<td>phr 60</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Units</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>@ 77 °F</td>
<td>@ 40 °F</td>
</tr>
<tr>
<td>Cure Development</td>
<td></td>
</tr>
<tr>
<td>Set-to-touch</td>
<td>hrs 5.5</td>
</tr>
<tr>
<td>Cotton-free</td>
<td>hrs 6.5</td>
</tr>
<tr>
<td>Thru-dry</td>
<td>hrs 11.0</td>
</tr>
<tr>
<td>24 hour pencil hardness</td>
<td>&lt;6B</td>
</tr>
<tr>
<td>12 day pencil hardness</td>
<td>5B</td>
</tr>
</tbody>
</table>

**Formula B Table 5 / Ambient Cure Film Properties**

<table>
<thead>
<tr>
<th>Units</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drawdown on CRS – Cured for 7 days @ 77°F, 55% R.H.</td>
<td></td>
</tr>
<tr>
<td>225 g Pot Life (from 83 – 140 KU)</td>
<td>min. 45</td>
</tr>
<tr>
<td>Specular gloss (60/20 degree)</td>
<td>85/40</td>
</tr>
<tr>
<td>Dry film thickness</td>
<td>mils 1.5</td>
</tr>
<tr>
<td>Impact resistance, (Dir./Rev.)</td>
<td>160/160</td>
</tr>
<tr>
<td>Flexibility</td>
<td>Pass 1/8</td>
</tr>
<tr>
<td>Adhesion</td>
<td>5A</td>
</tr>
<tr>
<td>MEK double rub</td>
<td>66</td>
</tr>
<tr>
<td>Water resistance</td>
<td></td>
</tr>
<tr>
<td>500 hrs at 140 °F</td>
<td>6F</td>
</tr>
<tr>
<td>1000 hrs at 140 °F</td>
<td>6M</td>
</tr>
<tr>
<td>Salt spray testing</td>
<td></td>
</tr>
<tr>
<td>500 hrs</td>
<td>6D</td>
</tr>
<tr>
<td>1000 hrs</td>
<td>4MD</td>
</tr>
</tbody>
</table>

**Formula B Table 6 / Low Temperature Cure Film Properties**

<table>
<thead>
<tr>
<th>Units</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drawdown on CRS – Cured for 14 days @ 40°F, 80% R.H.</td>
<td></td>
</tr>
<tr>
<td>Specular gloss (60/20 degree)</td>
<td>96/80</td>
</tr>
<tr>
<td>Dry film thickness</td>
<td>mils 1.5</td>
</tr>
<tr>
<td>Impact resistance, (Dir./Rev.)</td>
<td>160/160</td>
</tr>
<tr>
<td>Flexibility</td>
<td>Pass 1/8</td>
</tr>
<tr>
<td>Adhesion</td>
<td>5A</td>
</tr>
</tbody>
</table>
MEK double rub 20

Water resistance

500 hrs at 140 °F NE
1000 hrs at 140 °F 8F

Salt spray testing

500 hrs 6VF
1000 hrs 6MD

Storage

Recommendations regarding storage conditions can be obtained by visiting our web site at www.hexion.com

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