Palatinol® TOTM
Tri Octyl Trimellitate

February 2001

Description
Palatinol® TOTM is a primary branched monomeric plasticizer for vinyl homopolymer and copolymer resins. Palatinol TOTM is suggested for use in those end-use areas where extreme low volatility is required.

Palatinol TOTM can be blended with Palatinol 11P-E to optimize cost-performance in medium to high temperature compounds.

Palatinol TOTM is available with 0.1% by weight of 1,1,3-tris (2-methyl-4-hydroxy-5-t-butylphenyl) butane.

Safety
Based on toxicity studies, Palatinol TOTM has a low order of toxicity and does not require special handling. Handle in accordance with good industrial hygiene and safety practices.

Avoid eye contact by wearing personal protective equipment. If eye contact occurs, wash with flowing water and contact a physician. Avoid repeated or prolonged skin contact. Avoid breathing vapors by providing adequate ventilation.

Always refer to the Material Safety Data Sheet (MSDS) for detailed information on safety.

Applications
Palatinol TOTM provides desirable properties in vinyl applications which require good plasticizer/resin compatibility, low volatility, resistance to extraction by soapy water and good electrical properties.

Palatinol TOTM is often a good substitute for polyester polymeric plasticizers in low volatility applications where improvements in processing are desired.

Palatinol TOTM is suitable alone or in combination with Palatinol 11P-E for:
- 90° and 105° wire insulation
- interior automotive applications (instrument panel skins)

Packaging
Palatinol TOTM is available in bulk tank trucks or bulk rail cars.

Storage & Handling
Palatinol TOTM has an almost unlimited shelf life when properly stored in closed containers.

Always refer to the Material Safety Data Sheet (MSDS) for detailed information on handling and disposal.

(continued on reverse side)
### Performance characteristics of Palatinol TOTM-I in vinyl film (c)

<table>
<thead>
<tr>
<th>Property</th>
<th>Plasticizer concentration, phr*</th>
<th>40</th>
<th>50</th>
<th>70</th>
<th>ASTM Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Durometer Shore A hardness (15 sec.)</td>
<td></td>
<td>95</td>
<td>88</td>
<td>73</td>
<td>D-2240</td>
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<tr>
<td>Brittle temperature, T_b, °C</td>
<td></td>
<td>−15</td>
<td>−21</td>
<td>−35</td>
<td>D-746</td>
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<tr>
<td>Torsional stiffness, T_f, °C (a)</td>
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<td>+1</td>
<td>−14</td>
<td>−29</td>
<td>D-1043</td>
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<tr>
<td>Tensile strength, psi</td>
<td></td>
<td>2710</td>
<td>2485</td>
<td>2020</td>
<td>D-638</td>
</tr>
<tr>
<td>Ultimate elongation, %</td>
<td></td>
<td>310</td>
<td>335</td>
<td>355</td>
<td>D-638</td>
</tr>
<tr>
<td>100% modulus, psi</td>
<td></td>
<td>2310</td>
<td>1795</td>
<td>1020</td>
<td>D-638</td>
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<tr>
<td>Loss from 20 mil film:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volatility</td>
<td></td>
<td>0.2</td>
<td>0.2</td>
<td>0.3</td>
<td>D-1203</td>
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<tr>
<td>Water extraction</td>
<td></td>
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<tr>
<td>24 hours @ 70°C, % wt.</td>
<td></td>
<td>&lt;1.0</td>
<td>&lt;1.0</td>
<td>&lt;1.0</td>
<td>SPI-VD T12</td>
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<td>Oil extraction</td>
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<tr>
<td>50°C, K (b)</td>
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<td>0.8</td>
<td>22</td>
<td>8.0</td>
<td>SPI-VD T13</td>
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</tbody>
</table>

*Formulation:
- GP-4 resin 100 phr
- Dyphos 2 phr
- DS-207 1 phr
- Plasticizer as shown

**ASTM D-1755 classification**
- solid lead stabilizer — Halstab

**NOTES**

(a) T_f is the temperature at which the compound attains a torsional stiffness of 45,000 psi.

(b) \[ K_{	ext{diffusion}} = \frac{\text{wt. loss in grams}}{\text{square meter}} \times \sqrt{\text{time (hours)}} \]

(c) 70 mil film unless otherwise noted.