VISCOWAX® 453 – high quality oxidised ethylene vinyl-acetate copolymer wax

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Reference Value</th>
<th>Units</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acid Value*</td>
<td>15-18</td>
<td>mg KOH/g</td>
<td>DGF M-IV 2</td>
</tr>
<tr>
<td>Viscosity @ 140 °C *</td>
<td>150-250</td>
<td>mm²/s</td>
<td>DGF M-III 8</td>
</tr>
<tr>
<td>Drop Point *</td>
<td>90-100</td>
<td>°C</td>
<td>DGF M-III 3</td>
</tr>
<tr>
<td>Solidification Point</td>
<td>83-94</td>
<td>°C</td>
<td>DGF M-III 4a</td>
</tr>
<tr>
<td>Needle Penetration</td>
<td>≤ 10</td>
<td>10⁻¹ mm</td>
<td>DGF M-III 9b</td>
</tr>
<tr>
<td>Density</td>
<td>0.94-0.96</td>
<td>g/cm³</td>
<td>DIN EN ISO 1183, C</td>
</tr>
<tr>
<td>Molecular weight (Mn)</td>
<td>1500</td>
<td>g/mol</td>
<td>GPC</td>
</tr>
<tr>
<td>Saponification value</td>
<td>&gt; 80</td>
<td>mg KOH/g</td>
<td>DGF M-IV 2</td>
</tr>
<tr>
<td>Type of delivery</td>
<td>Fine grain</td>
<td>-</td>
<td>Visual</td>
</tr>
<tr>
<td>Appearance</td>
<td>Off white</td>
<td>-</td>
<td>Visual</td>
</tr>
</tbody>
</table>

* general supply specification
DGF: Test methods of the Deutsche Gesellschaft für Fettwissenschaft e.V. Münster i.W.

Main Scope of Application

- **Plastic processing**
  - Pigment processing and additive concentrates

- **Hotmelts**
  - Special applications

Applications as water-based Emulsions:

- **Printing inks and Lacquers**
  - Low solvent and water-based printing inks and lacquers
  - As antisettling agent in metallic lacquers

- **Leather processing**
  - Additive for synthetic resin dispersion used for finishing, fulling and smoothing of upper leather

- **Floor polishes**
  - Antislip additive
Status under Food Legislation

VISCOWAX® 453 has not been licensed for the manufacture of consumer goods for the contact with food.

Form of Delivery, Packaging and Storage

VISCOWAX® 453 is shipped palletised (preferably 750 kg each) and shrink-wrapped as dust-free powder in PE sacks of 25 kg each. Shipment in big bags of different sizes is possible upon request. The product shall be stored in its original packaging at room temperature in a dry place. It must not be stored together with amines. Avoid direct sun radiation and water contact.

Safety and Environment

VISCOWAX® 453 has not been classified as hazardous materials in accordance with the Regulation (EC) No. 1272/2008 (CLP/GHS) and therefore it does not require marking. The product does not contain heavy metals. It is insoluble in water and has no harmful effect on fish and bacteria. Disposal of the product is to be carried out in accordance with the local regulations. Please refer to the Safety Material Data Sheet for further safety-relevant information.

Please do not hesitate to contact us for further details.

Innospec Leuna GmbH
Postfach 1111, D-06234 Leuna, Germany
Tel.: +49(0)3461-434065
Fax : +49(0)3461-434070
E-mail: leuna@innospecinc.com
www.innospecinc.com

The general points listed correspond to our current knowledge and have been elaborated to the best of our belief and under consideration of professional care. Herewith, we do not guarantee definite properties nor suitability for a particular application. It is the customer's duty to particularly check suitability of the product for the use intended.