Technical Data Sheet

TWEEN 80
(Polysorbate 80)

Product data

Tween 80 is a polyethylene sorbitol ester, with a calculated molecular weight of 1,310 daltons, assuming 20 ethylene oxide units, 1 sorbitol, and 1 oleic acid as the primary fatty acid. Typically the fatty acid composition is approximately 70% oleic acid with several other fatty acids such as palmitic acid indicated.

INCI name
Polyisorbate 80

Registration
CARS-No: 9005-65-6

Molecular Formula: C_{64}H_{124}O_{26}

Chemical structure:

![Chemical structure of Tween 80]

Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance 25°C (Colour)</td>
<td>Yellow</td>
</tr>
<tr>
<td>Acid value</td>
<td>0-2.0</td>
</tr>
<tr>
<td>Ash content total (Sulphated ash)</td>
<td>0.2% max</td>
</tr>
</tbody>
</table>
Hydroxyl value 65.0- 80.0
Iodine value 18.0- 24.0
Peroxide value (PH Eur) 0.0 – 10.0
Reducing substances 0.0 – 5.0
Saponification value 45.0 – 65.0
Specific gravity 25°C 1.060 – 1.090
Viscosity 25°C 300.0 – 500.0
Water content 0.00 – 3.00

Benefits
- Tween 80 is primarily used in cosmetics and beauty products as a surfactant and emulsifier because of its ability to help other ingredients dissolve in a solvent in which they normally would not be able to dissolve, specifically in the case of oil in water.
- It can also help to reduce surface tension of substances that need to be emulsified.

Applications
  Tween 80 is seen in a variety of formulas, including skin fresheners, skin care products, skin cleansing products, makeup bases and foundations, shampoos, and fragrance powders.

Recommended dosage: 0.5 - 5%

Storage
  Store in a tightly closed container at room temperature between 15-30°C away from light and moisture.