

Specification

**2-Hydroxypropyl- $\beta$ -Cyclodextrin**

**A0367**

<b>Physical Description:</b>	Solid
<b>Product Code:</b>	A0367
<b>Product Name:</b>	2-Hydroxypropyl- $\beta$ -Cyclodextrin
<b>Specifications:</b>	Assay: min. 97 % Heavy metals (as Pb): max. 0.001 % Loss on drying: max. 7.5 % As: max. 0.0003 %
<b>WGK:</b>	1
<b>Storage:</b>	RT
<b>CAS:</b>	128446-35-5
<b>CS:</b>	29400000
<b>Comment</b>	<p>Hydroxypropyl-<math>\beta</math>-Cyclodextrin (HPBCD) is a partially substituted poly(hydroxypropyl) ether of <math>\beta</math>-cyclodextrin (BCD). The hydroxypropyl groups are randomly substituted onto the hydroxyl groups of the cyclodextrin. Variations in the degree of substitution don't allow to give an exact molecular weight. <b>Functionality:</b> HPBCD, like BCD and other derivatives of BCD are suitable for molecular encapsulation of a variety of sparingly water soluble compounds to enhance the aqueous solubility of the encapsulated compounds. In addition to increase the solubility, the stability of the guest compound can be enhanced and the volatility can be reduced. This product is chemically stable and does not contribute significantly to viscosity until very high concentrations (&gt; 50 %) are reached. The basic closed circular structure of BCD is maintained in HPBCD. <b>Solubility and Stability:</b> HPBCD is itself very soluble in water (&gt; 500 mg/ml at room temperature compared to 18 mg/ml for <math>\beta</math>-Cyclodextrin). When making aqueous solutions of HPBCD or HPBCD/drug complexes, a significant volume expansion must be accounted for. While the volume expansion is around 1.0 ml/gram at low (5 % w/v) concentrations, the magnitude of the effect levels off at about 0.7 ml/gram at concentrations greater than 20 % (w/v). Strong acids, such as hydrochloric or sulfuric acids, hydrolyze HPBCD. The rate of hydrolysis is dependent upon the temperature and concentration of the acid. The higher the temperature or concentration of the acid, the more rapid is the rate of hydrolysis. Weak acids, such as organic acids do not hydrolyze HPBCD. HPBCD is stable in bases. HPBCD is synthesized under basic conditions without opening of the BCD ring.</p>

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