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## Certificate of Analysis

**Product Description:** gamma-Cyclodextrin  
**Catalog Number:** 190054  
**Lot:** 7347KA

**Formula:** (C<sub>6</sub>H<sub>10</sub>O<sub>5</sub>)<sub>8</sub>  
**CAS #:** 17465-86-0  
**Physical Description:** White Powder

**Formula Weight:** 1297.14  
**Storage:** Room Temperature

Cyclodextrin content (HPLC): 99.4%  
Heavy metals: <4 ppm  
Microorganisms: <10/g  
A420nm (10% soln): 0.018  
Reducing substances: 0.100%  
Residue on ignition: 0.03%  
Salmonella/ E.coli: 0/10 g  
Specific rotation: 177.2°  
Residual solvents: 3 ppm (GC)  
Loss on drying: 9.7%  
Related substances (single): <0.2500% (HPLC)  
Related substances (sub): <0.2500% (HPLC)  
Yeast & Mold: <1/g

06/28/2010 - Christina Marotta  
MP Biomedicals, LLC.  
Technical Director

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