CATHAY PIGMENTS CHINA

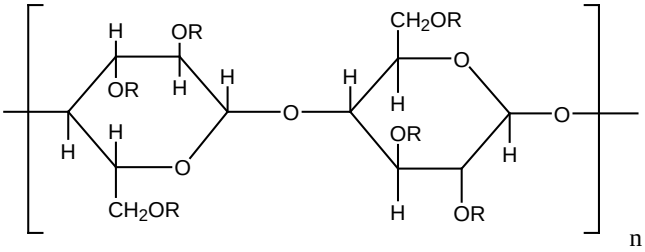
Technical Data

Hydroxylpropyl Methyl Cellulose - HPMC

Cathacell – high quality HPMC (hydroxypropyl methyl cellulose) suitable for wide range of applications. For a long time, these versatile products have played an important role in foods cosmetics, pharmaceuticals, latex paints, construction products, ceramics and a host of other applications. ***Cathacell*** can be used as thickeners, binders, film formers and retention agents. It can be also used as suspension aids, surfactants, lubricants, protective colloids as well as emulsifiers. In addition, solutions of ***Cathacell*** thermally gel, a unique property that plays a key role in a surprising variety of applications.

Cathacell is generally classified into two types: **Common** and **Surface-treated**.

1. Composition and chemical structure



n = degree of polymerization
R = H, CH_3, $CH(CH_3)CH_2OH$ or $CH(CH_3)CH_2OCH_3$

2. Technical specification

a.) Quality standard

Index	Unit	Type (Gelation temperature °C)		
		60	65	75
Methoxyl content	(WT%)	28.0 – 30.0	27.0 – 30.0	19.0 – 24.0
Hydroxypropoxyl content	(WT%)	7.0 – 12.0	4.0 – 7.5	4.0 – 12.0
Gelation temperature	(℃)	58.0 – 64.0	62.0 – 68.0	70.0 – 90.0
pH value	(1% solution, 25℃)	4.0 – 8.0		
Ash content	(WT%)	≤0.5		
Loss or drying	(WT%)	≤5. 0		
Burnt residues	(WT%)	≤1. 5		

b.) Viscosity (2% solution at 20°C)

Specification	Range
100	80 – 120
500	400 – 600
4000	3500 – 5600
12000	10000 – 14000
20000	17000 – 22000
30000	27000 – 32000
40000	38000 – 42000
50000	47000 – 52000
60000	57000 – 62000
75000	72000 – 78000
100000	80000- 120000
150000	125000 – 160000

Cathay Pigments (China) Ltd.
Suite 701-706, 7/F., Tower B
New Mandarin Plaza
14 Science Museum Road
Kowloon, Hong Kong
Tel: (852) 2721 2257
Fax: (852) 2721 6614
E-mail: info@cathaypigments.cn
www.cathaypigments.cn
Shanghai Kai Lee Iron Oxide Co., Ltd.
No. 89 Zhou Zhu Road
Zhou Pu Town, Nan Hui District
Shanghai
Tel: 86 21 68111222
Fax: 86 21 68123123
E-mail: kailee@cathaypigments.cn
www.cathaypigments.cn

Technical Data

Hydroxylpropyl Methyl Cellulose - HPMC

3. Physical properties
   a. Appearance - ***Cathacell*** is a white or light gray pellet with odorless and tasteless.
   b. Solubility - difficult dissolves in waterless ethanol, ether or acetone. Expands as to clear or slightly muddy colloid solution in cold water.
   c. Pellet - 100-screen passable rate is over 98.5%, 80-screen passable rate is 100%.
   d. Bulk density - 0.30 – 0.70g/cm^3, density 1.26 – 1.31g/cm^3

4. Dissolving process

HPMC will sometimes agglomerate when directly added to water. In this way, it is very difficult to dissolve and dissolve very slowly. Suggested methods as follows:

a. In hot water

Hot water is added to the 1/3 or 2/3 volume of the container. Then heated it to over 80℃. As HPMC is insoluble in hot water, so it will disperse uniformly in hot water. Then cool water or ice is added to the mixture, stirred and cool down the mixture.

b. Powder combination

HPMC is mixed with the same volume of other powder, they are dispersed sufficiently, then water is added to the mixed powder, as a result, HPMC can be dissolved without agglomeration.

c. Organic solvent wet

Organic solvents such as ethanol, glycol or oil was used for dispersing or wetting, after that, water is added and so, HPMC can be dissolved without agglomeration.

d. Surface-treated production

With a little glyoxal coated on the surface, the cellulose will turn wet and disperse rapidly without forming lumps. By addition of alkaline, the dispersion will further speed up the dissolving process.

Cathay Pigments (China) Ltd.
Suite 701-706, 7/F., Tower B
New Mandarin Plaza
14 Science Museum Road
Kowloon, Hong Kong
Tel: (852) 2721 2257
Fax: (852) 2721 6614
E-mail: **info@cathaypigments.cn**
www.cathaypigments.cn
Shanghai Kai Lee Iron Oxide Co., Ltd.
No. 89 Zhou Zhu Road
Zhou Pu Town, Nan Hui District
Shanghai
Tel: 86 21 68111222
Fax: 86 21 68123123
E-mail: **kailee@cathaypigments.cn**
www.cathaypigments.cn