

Product Grades Available

Dietary Supplements

The regulatory compliance information for all Ashland products varies by product family and grade. For specific data about the grade you are interested in please refer to our Excipient Information Packages or the Certificate of Analysis (CoA), which are available from your Ashland sales representative.

Klucel™ hydroxypropylcellulose (HPC)

Grade (X = Fine)	Weight Average Molecular Weight	Typical Brookfield Viscosity (mPa•s)	Solution Concentration (%)
Klucel LF Food	95,000	75–150	5
Klucel Nutra™ W ¹	80,000	300–600	10
Klucel Nutra D ²	80,000	300–600	10
Klucel ELF	40,000	150–225	10

¹ Particle size 250–300 µm ² Particle size 50–80 µm

Aqualon™ sodium carboxymethylcellulose (CMC)

Weight Average Molecular Weight	Viscosity (mPa•s)	Solution Concentration	Degree of Substitution		
			0.7	0.9	1.2
725,000	1,500–3,000	1%	7HF		
725,000	1,000–2,800	1%	7H3SF		
725,000	1,000–2,800	1%	7HOF		
395,000	1,500–3,100	2%		9M31F	
395,000	800–3,100	2%			12M31
250,000	400–800	2%	7MF		
250,000	400–800	2%	7M8SF		
90,500	25–50	2%	7LF		

Aqualon™ ethylcellulose (EC)

Grade	Ethoxyl Substitution (%)	Weight Average Molecular Weight	Typical Brookfield Viscosity (mPa•s) ¹	Solution Concentration (%)
T10 Pharm	49.6–51.0	75,000	8–11	5
N7 Pharm	48.0–49.5	65,000	6–8	5
N10 Pharm	48.0–49.5	75,000	8–11	5
N14 Pharm	48.0–49.5	120,000	12–16	5
N22 Pharm	48.0–49.5	140,000	18–24	5
N50 Pharm	48.0–49.5	160,000	40–52	5
N100 Pharm	48.0–49.5	215,000	80–105	5

¹ Viscosity measured in 80:20 mixture of toluene/ethanol

Aquarius™ film coating systems

Grade	Descriptor	Detail	Class
Preferred	HSC	High-solids coatings based on cellulosic polymers	Aesthetic
Preferred	HSP	High-solids coatings based on copovidone with cellulosic polymers for significant improvements in adhesion and sprayable solids	
Prime	–	Coatings based on traditional cellulosic polymers	
Prime	LS	Coatings based on lactose	
Protect	–	Label-friendly moisture, odor and taste guard	Functional
Control	ENA	Delayed-release (enteric) coatings based on methacrylic acid-ethyl acrylate copolymer	
Control	SRX	Sustained release coatings based on ethylcellulose	

Benecel™ hypromellose and methylcellulose (modified cellulose)

Substitution Type	Grade	Nominal Viscosity (mPa•s) ^a
Hypromellose 2910 "E" types	E4M	2700-5040
Hypromellose 2208 "K" types	K4M	2700-5040
	K15M	13,500-25,200
	K35M	26,250-49,000
	K100M	75,000-140,000
	K200M	150,000-280,000
Methylcellulose "A" types	A4C	300-560
	A4M	3000-5600
	A15C	1200-1800

^a NF/EP/JP viscosity method; all measured at 2% solution concentration

Ferronyl™ iron supplement

Ferronyl iron supplement is a carbonyl iron powder that is an effective answer to iron deficiency treatment and prevention because it has a much higher iron level than ferrous salts, such as ferrous gluconate, ferrous sulfate or ferrous fumarate. Ferronyl iron supplement also has a fine, narrow particle size range (7-9 µm) that increases its bioavailability.

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