

VANATURAL[®]
 Bentonite Clay

VEEGUM[®]
 Magnesium Aluminum Silicate

VAN GEL[®]
 Magnesium Aluminum Silicate

PHARMACEUTICAL & COSMETICS GRADES

VEEGUM R	General purpose grade. Magnesium Aluminum Silicate NF Type IA
VEEGUM HV	Higher viscosity grade; functionality similar to VEEGUM R . Magnesium Aluminum Silicate NF Type IC
VEEGUM K	High acid & electrolyte compatibility; used in oral suspensions. Magnesium Aluminum Silicate NF Type IIA
VEEGUM HS	Highest electrolyte stability, minimum acid demand. Purified Bentonite NF

COSMETIC GRADES

VANATURAL	Fast hydrating bentonite; emulsion and suspension stabilizer for natural and organic formulations. ECOCERT/COSMOS grade.
VANATURAL MC	Fast hydrating bentonite; emulsion and suspension stabilizer. Microbiology controlled.
VANATURAL XGB	Bentonite/xanthan gum blend. Rapidly hydrates. Stabilizes water-based suspensions and emulsions. ECOCERT/COSMOS grade.
VANATURAL CA	Quickest hydration, acidic dispersions; for skin-pH topicals.
VEEGUM Ultra	Quickest hydration, uniquely white, acidic dispersions; for skin-pH topicals.
VEEGUM EZ	Quickest hydration, acidic dispersions; for skin-pH topicals.
VEEGUM Pure	Specially processed for organic and natural personal products. ECOCERT/COSMOS grade.
VEEGUM D	Fast hydration; dentifrice binder, emulsion and suspension stabilizer.

INDUSTRIAL GRADES

VAN GEL B	General purpose grade; for most household, institutional and agricultural applications.
VAN GEL ES	Highest electrolyte stability; for cleaners and cleansers.
VAN GEL SX	Bentonite/xanthan gum blend. High thickening, suspension stabilizing and emulsion stabilizing efficiency.
VAN GEL R	Suitable for most applications; used in industrial and agricultural suspensions. The industrial version of VEEGUM R .
VAN GEL K	High acid & electrolyte compatibility; used in industrial and agricultural suspensions. The industrial version of VEEGUM K .

VANATURAL, **VEEGUM** and **VAN GEL** clay products must be properly dispersed in water and hydrated to develop the desired rheological properties. They can be classified by their rate of hydration as a function of energy input. Energy for hydration is supplied by the mechanical shear of the mixer and the heat supplied by the hydration water. Higher mixer shear and higher water temperature accelerate hydration. Solubles in the water when the clay is added can inhibit hydration.

Minimum Suggested Hydration Times	Normal Hydrating	Quick Hydrating	Ultra Hydrating
<i>Based on laboratory scale preparations under practical formulating conditions. Actual hydration times in the laboratory or in production will depend on the particular combination of batch size, mixer shear, and water temperature used.</i>	VEEGUM R VEEGUM K VEEGUM HV VEEGUM Pure VAN GEL B VAN GEL R VAN GEL K	VANATURAL VANATURAL MC VEEGUM HS VEEGUM D VAN GEL ES	VEEGUM Ultra VEEGUM EZ VANATURAL CA VANATURAL XGB VAN GEL SX
Propeller Mixer:			
800 rpm, 25°C water	120 Minutes	30 Minutes	15 Minutes
800 rpm, 75°C water	45 Minutes	20 Minutes	10 Minutes
Homogenizer:			
3000 rpm, 25°C water	30 Minutes	20 Minutes	10 Minutes
3000 rpm, 75°C water	15 Minutes	10 Minutes	10 Minutes

APPLICATION GUIDE	VEEGUM® Magnesium Aluminum Silicate								VANATURAL® Bentonite Clay			
	R	HV	K	HS	Pure	Ultra	EZ	D	VANATURAL	MC	CA	XGB
PHARMACEUTICALS												
Creams, Lotions, Suspensions; pH <6			X	X								
Creams, Lotions, Suspensions; pH >6	X	X										
Anti-dandruff, Treatment Shampoos	X	X										
Tablet Binder/Disintegrant Wet Granulation	X	X										
Tablet Release Regulator Rapid Release / Extended Release	X	X										
Taste Masking	X	X										
PERSONAL CARE												
Creams, Lotions, Suspensions; pH >2												X
Creams, Lotions, Suspensions; pH <6			X	X		X	X		X	X	X	X
Creams, Lotions, Suspensions; pH >6	X	X			X				X	X		X
Sunscreens						X	X			X	X	X
Antiperspirants		X		X								
Depilatories, Perms, Straighteners				X								
Color Cosmetics	X	X			X	X	X		X	X	X	X
Shampoos				X		X	X				X	
Facial Masks				X		X	X		X	X	X	X
Dentifrices		X						X	X	X		X
ECOCERT/COSMOS					X				X			X

APPLICATION GUIDE	VAN GEL® Magnesium Aluminum Silicate				
	B	ES	SX	R	K
INDUSTRIAL					
Alkaline Cleaners	X	X	X		
Acidic Cleaners		X	X		
Bleach Cleaners		X			
Emulsion Polishes			X		
Abrasive Suspensions	X		X		
Pigment Suspensions	X		X		
Agricultural Suspension Concentrates	X	X	X	X	X

For complete information and guidance on the use of these products please see the technical brochures at www.vanderbiltminerals.com

VANATURAL, VAN GEL and VEEGUM are registered trademarks of Vanderbilt Minerals, LLC.

05/05/23