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VANDERBILT

Minerals Technical Data

VAN GEL[®] B

Magnesium Aluminum Silicate
Thixotrope for Aqueous Systems

Paint Department

Description

VAN GEL[®] B Magnesium Aluminum Silicate is derived from a naturally-occurring colloidal magnesium aluminum silicate that has been highly refined to produce uniform thixotropic aqueous dispersions at low concentrations.

Typical Properties

Appearance	Small granules
Color	Off-white
Odor	None
Density	2.6 g/cc (21.7 lbs/gal)
pH	8.5 to 9.5 (4% dispersion)
Moisture	8% maximum (at time of shipment)

Application

Use **VAN GEL B** in latex paints for the development of smooth thixotropic consistency. **VAN GEL B** prevents syneresis and settling, provides dripless application, controls leveling and sag resistance, and eliminates or minimizes the need to stir the paint prior to use.

Use Levels

Use 2 to 8 pounds of **VAN GEL B** per 100 gallons of latex paint to attain the desired degree of thixotropy. In the presence of nonionic cellulosic thickeners (e.g., hydroxyethyl, hydroxypropyl, methyl or hydroxypropylmethyl cellulose), the best results are obtained at ratios of 0.5 to 1.0 part **VAN GEL B** to 1.0 part nonionic cellulosic thickener.

Paint Preparation

VAN GEL B is easily dispersed with conventional high shear equipment. Add **VAN GEL B** to the initial water charge and disperse at high speed until 7 Hegman fineness is achieved (usually 5 to 10 minutes). Add the remaining formulation ingredients and process in the usual manner.

Formulations

The following formulas illustrate the use of **VAN GEL B**. Formulas F-103 and F-105 exhibit sufficient thixotropy for excellent package stability and application properties. Formulas F-104 and F-106 exhibit greater body and brush pick-up while matching the advantages of F-103 and F-105.

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VAN GEL® B¹ Magnesium Aluminum Silicate in Flat Interior Latex Paints

	No. F-103		No. F-104		No. F-105		No. F-106	
	Pounds	Gallons	Pounds	Gallons	Pounds	Gallons	Pounds	Gallons
DISPERSION								
Water	250.0	30.0	350.0	42.0	250.0	30.0	350.0	42.0
VAN GEL® B ¹ Magnesium Aluminum Silicate	3.0	0.2	4.5	0.2	3.0	0.2	4.5	0.2
Cellosize® QP-4400 ²	5.0	0.3	---	---	5.0	0.3	---	---
Cellosize® QP-15000 ²	---	---	4.5	0.3	---	---	4.5	0.3
Kathon® LX ²	1.0	0.1	1.0	0.1	1.0	0.1	1.0	0.1
DARVAN® 7N ¹ Dispersant	15.0	1.5	15.0	1.5	15.0	1.5	15.0	1.5
Triton® CF-10 ²	2.0	0.2	2.0	0.2	2.0	0.2	2.0	0.2
Ethylene Glycol	25.0	2.7	25.0	2.7	25.0	2.7	25.0	2.7
Texanol® ³	12.0	1.5	12.0	1.5	12.0	1.5	12.0	1.5
Drewplus® L 475 ⁴	1.0	0.1	1.0	0.1	1.0	0.1	1.0	0.1
Ti-Pure® R 931 ⁵	150.0	4.7	150.0	4.7	150.0	4.7	150.0	4.7
Talcron® 40 LOA ⁶	151.8	6.5	151.8	6.5	151.8	6.5	151.8	6.5
VANSIL® W 30 ¹	159.7	6.6	159.7	6.6	159.7	6.6	159.7	6.6
Wollastonite								
REDUCTION								
Water	185.0	22.2	85.0	10.2	170.0	20.4	70.0	8.4
Drewplus® L 475 ⁴	1.0	0.1	1.0	0.1	1.0	0.1	1.0	0.1
Everflex® G ⁷	210.0	23.3	210.0	23.3	---	---	---	---
Rhoplex® ²	---	---	---	---	221.0	25.1	221.0	25.1
Rhoplex Multilobe® 200 ²								
	1171.5	100.0	1172.5	100.0	1167.5	100.0	1168.5	100.0
Pigment Volume Concentration	60.0		60.0		60.0		60.0	
Solids by Weight, %	50.0		50.0		50.0		50.0	
Consistency, KU	87		94		78		85	
Brookfield Viscosity, cps								
10 rpm	6800		10200		6400		12400	
100 rpm	1500		2000		1100		1600	
Thixotropic Index	4.53		5.10		5.82		7.75	

Raw Material Suppliers

- ¹Vanderbilt Minerals, LLC Norwalk, CT
²Dow Chemical Company, Midland, MI
³Eastman Chemical, Kingsport, TN
⁴Ashland Specialty Chemical Company, Columbus, OH
⁵E.I. Du Pont de Nemours & Company, Wilmington, DE
⁶Specialty Minerals, Inc., Barretts, MT
⁷Owensboro Specialty Polymers, Owensboro, KY

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