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# VANDERBILT

## Technical Data

### VAN GEL<sup>®</sup> B

Magnesium Aluminum Silicate  
Thixotrope for Aqueous Systems

Paint Department

#### Description

**VAN GEL<sup>®</sup> 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® B<sup>1</sup> 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 |
| <b>DISPERSION</b>                                   |           |         |           |         |           |         |           |         |
| Water   | 250.0     | 30.0    | 350.0     | 42.0    | 250.0     | 30.0    | 350.0     | 42.0    |
| VAN GEL® B <sup>1</sup> Magnesium Aluminum Silicate | 3.0       | 0.2     | 4.5       | 0.2     | 3.0       | 0.2     | 4.5       | 0.2     |
| Cellosize® QP-4400 <sup>2</sup>                     | 5.0       | 0.3     | ---       | ---     | 5.0       | 0.3     | ---       | ---     |
| Cellosize® QP-15000 <sup>2</sup>                    | ---       | ---     | 4.5       | 0.3     | ---       | ---     | 4.5       | 0.3     |
| Kathon® LX <sup>2</sup>                             | 1.0       | 0.1     | 1.0       | 0.1     | 1.0       | 0.1     | 1.0       | 0.1     |
| DARVAN® 7N <sup>1</sup> Dispersant                  | 15.0      | 1.5     | 15.0      | 1.5     | 15.0      | 1.5     | 15.0      | 1.5     |
| Triton® CF-10 <sup>2</sup>                          | 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 <sup>3</sup>                                | 12.0      | 1.5     | 12.0      | 1.5     | 12.0      | 1.5     | 12.0      | 1.5     |
| Drewplus® L 475 <sup>4</sup>                        | 1.0       | 0.1     | 1.0       | 0.1     | 1.0       | 0.1     | 1.0       | 0.1     |
| Ti-Pure® R 931 <sup>5</sup>                         | 150.0     | 4.7     | 150.0     | 4.7     | 150.0     | 4.7     | 150.0     | 4.7     |
| Talcron® 40 LOA <sup>6</sup>                        | 151.8     | 6.5     | 151.8     | 6.5     | 151.8     | 6.5     | 151.8     | 6.5     |
| VANSIL® W 30 <sup>1</sup>                           | 159.7     | 6.6     | 159.7     | 6.6     | 159.7     | 6.6     | 159.7     | 6.6     |
| Wollastonite  |           |         |           |         |           |         |           |         |
| <b>REDUCTION</b>                                    |           |         |           |         |           |         |           |         |
| Water   | 185.0     | 22.2    | 85.0      | 10.2    | 170.0     | 20.4    | 70.0      | 8.4     |
| Drewplus® L 475 <sup>4</sup>                        | 1.0       | 0.1     | 1.0       | 0.1     | 1.0       | 0.1     | 1.0       | 0.1     |
| Everflex® G <sup>7</sup>                            | 210.0     | 23.3    | 210.0     | 23.3    | ---       | ---     | ---       | ---     |
| Rhoplex® <sup>2</sup>                               | ---       | ---     | ---       | ---     | 221.0     | 25.1    | 221.0     | 25.1    |
| Rhoplex Multilobe® 200 <sup>2</sup>                 |           |         |           |         |           |         |           |         |
|   | 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

<sup>1</sup>R.T. Vanderbilt Company, Inc., Norwalk, CT

<sup>2</sup>Dow Chemical Company, Midland, MI

<sup>3</sup>Eastman Chemical, Kingsport, TN

<sup>4</sup>Ashland Specialty Chemical Company, Columbus, OH

<sup>5</sup>E.I. Du Pont de Nemours & Company, Wilmington, DE

<sup>6</sup>Specialty Minerals, Inc., Barretts, MT

<sup>7</sup>Owensboro Specialty Polymers, Owensboro, KY

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