



Paint and Paper Department

No. 501

Architectural Interior Formulary

ACTIV-8[®] Drier, Stabilizer and Accelerator is a solution of 1,10-phenanthroline, a chelating agent for metals. **ACTIV-8** acts as drier accelerator and stabilizer when used with cobalt and/ or manganese driers in paints and coatings based on oleoresinous binders. A ratio of 10 parts of **ACTIV-8** to 1 part of drier metal is most often used in solvent-borne coatings. **ACTIV-8** does not affect the activity of the other commonly used drier metals. **ACTIV-8** is used in combination with manganese and/or cobalt driers in coatings that cure by oxidative polymerization. In general, **ACTIV-8** is used with manganese and cobalt in solvent-borne coatings. The surface drying activity of manganese is accelerated to a much greater degree than that of cobalt. The activity with cobalt improves through dry and long term aging stability, especially in waterborne coatings where loss of dry often occurs.

DARVAN[®] 811 Dispersant anionic polyelectrolyte dispersant is used in dispersing minerals and pigments in all types of water-based coatings. It has been found to be an effective dispersing agent for natural ground calcium carbonate (GCC), precipitated calcium carbonate (PCC), kaolin clay, talc, wollastonite and titanium dioxide.

DARVAN 7-N is a sodium polymethacrylate dispersant, a clear to slightly opalescent colorless liquid. It shows very little tendency to foam. It is used as a dispersant for minerals and pigments in the dispersion portion of manufacture of water based paints and coatings.

PYRAX[®] Pyrophyllite is a hydrated aluminum silicate produced from North Carolina deposits of the mineral pyrophyllite. **PYRAX B**, **PYRAX ABB** and **PYRAX WA** are coarse grades and are useful in coatings where pigment fineness is not a prerequisite. The platy particle shape of **PYRAX** imparts "mud-cracking" resistance to high-build coatings such as texture paints and block fillers. For the same reason, it is also useful in crack fillers and joint cements.

VANSIL[®] W Wollastonite is a calcium metasilicate mineral, available in five grades of fineness to meet the requirements of the coatings industry. Each grade exhibits a lower viscosity in paint than is indicated by its oil absorption value. The relatively high pH (10-11) of **VANSIL W** is particularly useful in maintaining the desired alkaline pH level of latex paints and preventing the early rusting of latex maintenance coatings. **VANSIL W** is an excellent extender pigment for powder coatings as well as solvent-thinned and latex paints. **VANSIL W-50** disperses to a 6 to 7 Hegman fineness at three pounds per gallon. This grade is suitable for liquid industrial and corrosion resistant coatings, powder coatings, and semi-gloss architectural coatings. In powder coatings, this grade is desirable for smoother films and improved gloss. **VANSIL WG** is a high aspect ratio, long needle grade of wollastonite. It is used principally as a reinforcing agent to enhance mechanical strength properties in coatings. In texture coatings, **VANSIL WG** improves mud crack resistance. The naturally high pH of wollastonite buffers latex coatings, which improves corrosion resistance. Other applications include cementations board, highly textured coatings and concrete barrier coatings.

VEEGUM[®] T Magnesium Aluminum Silicate Clay - technical grade - offers high thickening and suspension efficiency, particularly in highly alkaline products. Typical use levels are between 0.5% and 2%.

VANZAN[®] Xanthan Gum is a high molecular weight exo-cellular polysaccharide derived from the bacterium *Xanthomonas campestris* using a natural, aerobic fermentation process. The process is conducted in a sterile environment where the pH, oxygen content and temperature are rigorously controlled. After fermentation is complete, the broth is sterilized and the gum is recovered by precipitation with isopropyl alcohol, then dried, milled and packaged under aseptic conditions. **VANZAN** is widely used as a rheology control agent for aqueous systems. It increases viscosity, helps to stabilize emulsions, and prevents the settling of solids in a wide variety of consumer and industrial applications.

ACTIV-8 Drier, Stabilizer and Accelerator, **DARVAN** Dispersant, **PYRAX** Pyrophyllite, **VANSIL** Wollastonite, **VANZAN** Xanthan Gum and **VEEGUM** Magnesium Aluminum Silicate are registered trademarks of R.T. Vanderbilt Holding Company, Inc. and/or its respective wholly owned subsidiaries.

rev02/19/2013

Formula 032100
Clear Alkyd Varnish
ACTIV-8^{®1} Drier, Stabilizer and Accelerator

	<u>Pounds</u>	<u>Gallons</u>	<u>Kilograms</u>	<u>Liters</u>
Duramac [®] HS 57-5816 ²	520.0	62.8	62.17	63.24
Mineral Spirits	197.8	30.9	23.65	30.75
Exkin [®] No 2 ³	1.1	0.1	0.13	0.14
<i>Preblend the next five items and add:</i>				
Butyl alcohol	9.1	1.3	1.09	1.34
Xylene	9.1	1.3	1.09	1.27
ACTIV-8¹ Drier, Stabilizer and Accelerator	1.0	0.1	0.12	0.13
12 % Cobalt Cem-All ^{®4}	1.0	0.1	0.12	0.12
18% Zirconium Hex-Cem ^{®4}	27.8	3.4	3.34	3.01
<i>Mix at slow speed for 10 minutes.</i>				
TOTALS	766.9	100.0	91.71	100.00

PAINT PROPERTIES

Density	7.7 lbs/gal	0.917 g/ml
% Solids by weight	62.9	
% Solids by volume	56.4	
Calculated VOC	2.51 lbs/gal	302 g/L

RAW MATERIAL SUPPLIERS
¹Vanderbilt Minerals, LLC, Norwalk, CT

²Hexion Specialty Chemicals, Houston, TX

³CONDEA Servo LLC, South Plainfield, NJ

⁴OM Group, Inc., Cleveland, OH

TRADEMARKS

Registered and pending trademarks appearing printed in bold in these materials are those of Vanderbilt Minerals, LLC. For a complete listing, please visit http://www.vanderbiltminerals.com/ee_content/Documents/Technical/Trademarks_VM_Web.pdf

Cem-All and Hex-Cem are registered trademarks of OM Group, Inc.
 Duramac is a registered trademark of Eastman Chemical Company.
 Exkin is a registered trademark of CONDEA Servo, LLC.

Rev02/19/2013

Formula 032300
High Solids Alkyd Flat Paint
ACTIV-8^{®1} Drier, Stabilizer and Accelerator

	<u>Pounds</u>	<u>Gallons</u>	<u>Kilograms</u>	<u>Liters</u>
GRIND				
Duramac [®] 50-5070 HS Alkyd ²	225.0	28.4	26.96	28.38
Mineral Spirits	55.0	8.6	6.59	8.57
Ti-Pure [®] R 900 ³	100.0	3.0	11.98	3.00
Gama-sperse [®] 80 ⁴	400.0	17.7	47.94	17.69
ABT [®] 1000 ⁵	125.0	5.5	14.98	5.45

Disperse at high speed to >6 Hegman fineness. Reduce speed for let down.

LET DOWN

Duramac [®] 50-5070 HS Alkyd	228.3	28.2	27.36	28.80
<i>Preblend the next 6 items and add:</i>				
Butyl alcohol	25.0	3.7	3.00	3.70
Xylene	25.0	3.5	3.00	3.48
ACTIV-8¹ Drier, Stabilizer and Accelerator	0.8	0.1	0.10	0.10
12% Cobalt Cem-All ^{®6}	3.8	0.5	0.46	0.46
12% Zirconium Hex-Cem ^{®6}	0.9	0.1	0.11	0.11
Exkin [®] No 2 ⁷	2.0	0.3	0.24	0.26

Mix at slow speed for 10 minutes.

TOTALS	1190.8	100.1	142.71	100.00
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PAINT PROPERTIES

Density	11.9 lbs/gal	1.44 g/ml
% Solids by weight	79.4	
% Solids by volume	62.6	
% PVC	42.5	
Pigment to binder ratio	1.97:1	
Calculated VOC	2.37 lbs/gal	284 g/l

RAW MATERIAL SUPPLIERS

¹Vanderbilt Minerals, LLC, Norwalk, CT

²Hexion Specialty Chemicals, Houston, TX

³E.I. DuPont de Nemours & Company, Wilmington, DE

⁴Imerys Minerals, Ltd., Roswell, GA

⁵Specialty Minerals Inc., Barretts, MT

⁶OM Group, Inc., Cleveland, OH

⁷CONDEA Servo LLC, South Plainfield, NJ

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ABT is a registered trademark of Minerals Technologies, Inc.

Cem-All and Hex-Cem are registered trademarks of OM Group, Inc.

Duramac is a registered trademark of Eastman Chemical Company.

Exkin is a registered trademark of CONDEA Servo, LLC.

Gama-Sperse is a registered trademark of Imerys Marble, Inc.

Ti-Pure is a registered trademark of E.I. DuPont de Nemours & Company.

Rev02/19/2013

Formula 032806
Ready Mix Joint Compound
DARVAN® 811¹ Dispersant, PYRAX® B¹ Pyrophyllite

	<u>Pounds</u>	<u>Gallons</u>	<u>Kilograms</u>	<u>Liters</u>
DISPERSION				
Water	420.0	50.4	50.37	50.37
Dibutyl Phthalate	10.0	1.1	1.20	1.14
DARVAN 811¹ Dispersant	7.5	0.7	0.90	0.69
Dolocron® 45-12 ²	700.0	30.0	83.94	29.98
PYRAX B¹ Pyrophyllite	140.0	6.0	16.79	6.00
ATTAGEL™ 50 ³	27.5	1.4	3.30	1.40
Methocel® 240 S ⁴	7.5	0.9	0.90	0.90
Everflex® GT Latex ⁵	85.0	9.5	10.19	9.53
<i>Mix at medium speed for 10 minutes.</i>				
TOTALS	1397.5	100.0	167.59	100.01

PAINT PROPERTIES

Density	14.0 lbs/gal	1.68 g/ml
% Solids by weight	66.0	
% Solids by volume	43.3	
% PVC	87.8	
Pigment to binder ratio	17.96:1	
Calculated VOC	0 lbs/gal	0 g/l

RAW MATERIAL SUPPLIERS
¹Vanderbilt Minerals, LLC, Norwalk, CT

²Specialty Minerals Inc., Bethlehem, PA

³BASF Corporation, Florham Park, NJ

⁴Dow Chemical Company, Midland, MI

⁵Owensboro Specialty Polymers, Owensboro, KY

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ATTAGEL is a trademark of BASF Catalysts LLC.

Dolocron is a registered trademark of Mineral Technologies, Inc.

Everflex is a registered trademark of Owensboro Specialty Polymers.

Methocel is a registered trademark of Dow Chemical Company

Rev02/19/2013

Formula 041409
Interior/Exterior Block Filler
PYRAX® ABB¹ Pyrophyllite, DARVAN® 7-N¹ Dispersant,
VAN GEL® B¹ Magnesium Aluminum Silicate

	<u>Pounds</u>	<u>Gallons</u>	<u>Kilograms</u>	<u>Liters</u>
DISPERSION				
Water	286.9	34.4	33.77	33.77
KTPP	1.5	0.1	0.18	0.71
Triton® CF-10 ²	2.5	0.4	0.42	0.39
DARVAN 7-N¹ Dispersant	10.0	1.0	1.19	1.03
Drewplus® L 475 ³	2.0	0.3	0.24	0.26
Ethylene Glycol	20.0	2.2	2.38	2.14
Texanol® ⁴	15.0	1.9	1.79	1.86
Mineral Spirits	7.0	1.1	0.83	1.09
Zinc Oxide XX 503 ⁵	50.0	1.1	5.96	1.07
Ti-Pure® R 900 ⁶	50.0	1.5	5.96	1.49
Talcron® 35 LOA Talc ⁷	25.0	1.1	2.98	1.06
PYRAX ABB¹ Pyrophyllite	50.0	2.2	5.96	2.25
325 Mesh Mica	70.0	3.0	0.60	0.23
VAN GEL B¹ Magnesium Aluminum Silicate	5.0	0.2	8.34	2.95
Cellosize® ER 15 M ²	2.0	0.2	21.46	20.69
Rhoplex® AC 264 ⁸	180.0	20.4	0.24	0.17
ASP 400 Clay ⁹	430.0	20.0	51.25	19.87

Mix at medium to high speed for 15 minutes. Reduce speed for let down.

LET DOWN

Drewplus® L 475 ³	2.0	0.3	0.24	0.26
Rhoplex® AC 264 ⁸	65.0	7.4	7.75	7.47
Mineral Spirits	8.0	1.2	0.95	1.24

Mix at medium speed for 5 minutes.

TOTALS	1281.9	100.0	152.49	100.00
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PAINT PROPERTIES

Density	12.8 lbs/gal	1.52 g/ml
% Solids by weight	64.8	
% Solids by volume	44.7	
% PVC	65	
Pigment to binder ratio	4.59:1	
Calculated VOC	0.93 lbs/gal	112 g/l

RAW MATERIAL SUPPLIERS

- ¹Vanderbilt Minerals, LLC, Norwalk, CT
- ²Dow Chemical Company, Midland, MI
- ³Ashland Chemical Company, Covington, KY
- ⁴Eastman Chemical Company, Kingsport, TN
- ⁵Zinc Corporation of America, Monaca, PA
- ⁶E.I. DuPont de Nemours & Company, Wilmington, DE
- ⁷Specialty Minerals, Inc., Barretts, MT
- ⁸Dow Chemical, Midland, MI
- ⁹BASF, Florham Park, NJ

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Cellosize and Triton are registered trademarks of Union Carbide Chemicals & Plastics Technology Corporation.

Drewplus is a registered trademark of Ashland Licensing & Intellectual Property, LLC.

Rhoplex is a registered trademark of Rohm & Haas Company.

Talcron is a registered trademark of Minerals Technologies, Inc.

Texanol is a registered trademark of Eastman Chemical Company.

Ti-Pure is a registered trademark of E.I. DuPont de Nemours & Company.

Rev02/19/2013

Formula 042809
Low Cost Ceiling Paint
PYRAX® ABB¹ Pyrophyllite, DARVAN® 7-N¹ Dispersant

	<u>Pounds</u>	<u>Gallons</u>	<u>Kilograms</u>	<u>Liters</u>
DISPERSION				
Water	450.0	54.0	54.40	54.40
KTPP	0.5	0.1	0.06	0.02
Igepal® CO 630 ²	2.0	0.3	0.24	0.23
Texanol® ³	5.0	0.6	0.60	0.63
Drewplus® I 475 ⁴	2.0	0.3	0.24	0.27
DARVAN 7-N¹ Dispersant	5.0	0.6	0.60	0.54
<i>Preblend the next two items and add:</i>				
Ethylene Glycol	15.0	1.6	1.81	1.63
Cellosize® QP 4400 ⁵	6.0	0.6	0.73	0.52
Ti-Pure® R 706 ⁶	125.0	3.7	15.11	3.78
Iceberg® Clay ⁷	125.0	5.7	15.11	5.75
PYRAX ABB¹ Pyrophyllite	137.5	6.6	16.62	6.13
Gama-Sperse® 80 ⁸	137.5	5.9	16.62	5.73
<i>Mix at high speed for 10 minutes. Reduce speed for let down.</i>				

LET DOWN				
Celite® 281 ⁹	50.0	2.6	6.04	2.63
Water	55.0	6.6	6.65	6.65
Aquamac® 580 Latex ¹⁰	100.0	11.1	12.09	11.09
<i>Mix at slow speed for 5 minutes.</i>				

TOTALS	1212.5	100.0	146.92	100.00
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PAINT PROPERTIES				
Density	12.1 lbs/gal		1.47 g/ml	
% Solids by weight	52.0			
% Solids by volume	30.0			
% PVC	80.9			
Pigment to binder ratio	10.18:1			
Calculated VOC	0.59 lbs/gal		70 g/l	

RAW MATERIAL SUPPLIERS

- ¹Vanderbilt Minerals, LLC, Norwalk, CT
- ²Rhodia Inc., Cranberry, NJ
- ³Eastman Chemical Company, Kingsport, TN
- ⁴Ashland Chemical Company, Covington, KY
- ⁵Dow Chemical Company, Midland, MI
- ⁶E.I. DuPont de Nemours & Company, Wilmington, DE
- ⁷Burgess Pigment Company, Sandersville, GA
- ⁸Imerys Minerals, Ltd., Roswell, GA
- ⁹Celite Corporation, Lompoc, CA
- ¹⁰Resolution Specialty Materials, Houston, TX

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Aquamac is a registered trademark of Resolution Specialty Materials.

Celite is a registered trademark of Celite Corporation.

Cellosize is a registered trademark of Union Carbide Chemicals & Plastics Technology Corporation.

Drewplus is a registered trademark of Ashland Licensing & Intellectual Property, LLC.

Gama-Sperse is a registered trademark of Imerys Marble, Inc.

Iceberg is a registered trademark of Burgess Pigment Company.

Igepal is a registered trademark of Rhodia.

Texanol is a registered trademark of Eastman Chemical Company.

Ti-Pure is a registered trademark of E.I. DuPont de Nemours & Company.

Rev02/19/2013

Formula 031710
Low VOC High Gloss Enamel Trim Paint
ACTIV-8[®] HGL¹ Drier, Stabilizer and Accelerator

	<u>Pounds</u>	<u>Gallons</u>	<u>Kilograms</u>	<u>Liters</u>
DISPERSION				
Water	87.5	10.5	10.62	10.62
Natrosol [®] Plus 330 ²	0.8	0.1	0.09	0.07
AMP-95 ^{®3}	0.6	0.1	0.07	0.08
<i>Add the following 5 items while mixing:</i>				
Disperbyk [®] 190 ⁴	2.5	0.3	0.30	0.29
Triton [®] CF-10 ³	0.8	0.1	0.09	0.09
Kathon [®] LX ³	0.4	0.1	0.05	0.05
Rhodoline [®] 643 ⁵	0.5	0.1	0.06	0.07
Ti-Pure [®] R 706 ⁶	285.0	8.6	34.59	8.65
<i>Mix at high speed for 15 minutes. Reduce speed and add:</i>				
Water	30.0	3.6	3.64	3.64
Acrysol [®] RM 8W ³	3.0	0.4	0.36	0.36
<i>Mix at slow speed for 5 minutes.</i>				
LET DOWN				
Beckosol AQ [®] 101 ⁷	545.0	63.1	66.14	62.69
<i>Preblend the next 4 items and add:</i>				
Propylene Glycol	7.8	0.9	0.95	0.91
ACTIV-8 HGL¹ Drier, Stabilizer and Accelerator	0.8	0.1	0.09	0.09
5% Cobalt Hydrocure [®] II ⁸	3.0	0.4	0.36	0.40
12% Zirconium Hydro-Cem ^{®8}	6.3	0.7	0.77	0.70
<i>Preblend the next 3 items and add:</i>				
Water	73.4	8.8	9.10	9.10
Rhodoline [®] 643 ⁵	1.0	0.1	0.12	0.14
Acrysol [®] RM 8W ³	17.0	2.0	2.06	2.06
<i>Mix at slow speed for 10 minutes.</i>				
TOTALS	1065.4	100.0	129.46	100.01
PAINT PROPERTIES				
Density	10.7 lbs/gal			1.29 g/ml
% Solids by weight	55.4			
% Solids by volume	42.9			
% PVC	20			
Pigment to binder ratio	0.94:1			
Calculated VOC	0.28 lbs/gal			35 g/l

RAW MATERIAL SUPPLIERS
¹Vanderbilt Minerals, LLC, Norwalk, CT

²Aqualon Co., Wilmington, DE

³Dow Chemical, Midland, MI

⁴Byk Chemie, Wallingford, CT

⁵Rhodia, Cranberry, NJ

⁶E.I. DuPont de Nemours & Company, Wilmington, DE

⁷Reichhold, Research Triangle Park, SC

⁸OM Group, Cleveland, OH

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AMP-95 is a registered trademark of Angus Chemical Company.

Cobalt Hydrocure and Hydro-Cem are registered trademarks of OM Group, Inc.

Disperbyk is a registered trademark of Byk-Chemie GmbH.

Natrosol is a registered trademark of Aqualon Company.

Rhodoline is a registered trademark of Rhodia.

Triton is a registered trademark of Union Carbide Chemicals & Plastics Technology Corporation.

Ti-Pure is a registered trademark of E.I. DuPont de Nemours & Company.

Rev02/19/2013

Formula 121809
Interior Latex Satin Wall Paint
DARVAN® 7-N¹ Dispersant

	<u>Pounds</u>	<u>Gallons</u>	<u>Kilograms</u>	<u>Liters</u>
DISPERSION				
2.5% Cellosize® QP 4400 ²	200.0	24.0	23.97	23.97
Water	100.0	12.0	11.98	11.98
KTPP	1.0	0.1	0.12	0.05
DARVAN 7-N¹ Dispersant	5.0	0.5	0.60	0.52
Triton® CF 10 ²	3.0	0.3	0.36	0.34
Drewplus® L 475 ³	2.0	0.3	0.24	0.26
Kathon® LX ²	1.5	0.2	0.18	0.18
Sodium Carbonate	3.0	0.2	0.36	0.17
Ti-Pure® R 900 ⁴	150.0	4.5	17.98	4.49
Satintone® W ⁵	49.4	2.25	5.92	2.25
Talcron® MP 44-26 ⁶	52.5	2.25	6.19	2.25

Mix at high speed for 15 minutes. Reduce speed for let down.

LET DOWN

UCAR® 300 Latex ⁷	400.0	45.0	47.93	44.92
Drewplus® L 475 ³	2.0	0.3	0.24	0.26
<i>Preblend the next two items and add:</i>				
Water	62.6	7.5	7.79	7.79
Acrysol® RM 825 ²	5.0	0.6	0.60	0.58

Mix at slow speed for 10 minutes.

TOTALS	1037.0	100.0	124.46	100.01
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PAINT PROPERTIES

Density	10.4 lbs/gal	1.25 g/ml
% Solids by weight	46.0	
% Solids by volume	32.0	
% PVC	28.6	
Pigment to binder ratio	1.15:1	
Calculated VOC	< 0.05 lbs/gal	< 5 g/L

RAW MATERIAL SUPPLIERS

¹Vanderbilt Minerals, LLC, Norwalk, CT

²Dow Chemical Company, Midland, MI

³Ashland Chemical Company, Covington, KY

⁴E.I. DuPont de Nemours & Company, Wilmington, DE

⁵BASF, Florham Park, NJ

⁶Specialty Minerals, Inc., Barretts, MT

⁷Arkema Emulsion Systems, Cary, NC

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Acrysol and Kathon are registered trademarks of Rohm & Haas Company.

Cellosize, Triton and UCAR are registered trademarks of Union Carbide Chemicals & Plastics Technology Corporation.

Drewplus is a registered trademark of Ashland Licensing & Intellectual Property, LLC.

Satinone is a registered trademark of BASF Catalysts LLC.

Talcron is a registered trademark of Minerals Technologies, Inc.

Ti-Pure is a registered trademark of E.I. DuPont de Nemours & Company.

Rev02/19/2013

Formula 071808
0 VOC High Quality Interior Flat Wall Paint
VANSIL® W-40¹ Wollastonite

	<u>Pounds</u>	<u>Gallons</u>	<u>Kilograms</u>	<u>Liters</u>
DISPERSION				
Water	185.0	22.2	22.21	22.21
Cellosize® QP 4400 ²	1.0	0.1	0.12	0.09
KTPP	1.5	0.1	0.18	0.07
Tamol® 1124 ²	5.0	0.5	0.60	0.51
Triton® CF 10 ²	3.0	0.3	0.36	0.34
Drewplus® L 475 ³	2.0	0.3	0.24	0.26
Kathon® LX ²	2.0	0.2	0.18	0.18
Sodium Carbonate	3.5	0.2	0.42	0.19
Ti-Pure® R 900 ⁴	200.0	6.0	24.01	6.00
Satintone® W ⁵	175.0	8.0	21.00	8.00
Talcron® 35 LOA Talc ⁶	105.0	4.5	12.61	4.50
VANSIL W-40¹ Wollastonite	20.0	0.8	2.40	0.83
Water	85.0	10.2	10.20	10.20

Mix at high speed for 15 minutes. Reduce speed for let down.

LET DOWN

UCAR® 300 Latex ⁷	300.0	33.7	36.01	33.75
Drewplus® L 475 ⁴	2.0	0.3	0.24	0.26
Polyphobe® TR 116 ³	10.0	1.1	1.20	1.09
Water	96.0	11.5	11.52	11.52

Mix a slow speed for 10 minutes.

TOTALS	1195.5	100.0	143.50	100.00
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PAINT PROPERTIES

Density	12.0 lbs/gal	1.44 g/L
% Solids by weight	55.6	
% Solids by volume	36.8	
% PVC	52	
Pigment to binder ratio	3.03:1	
Calculated VOC	0 lbs/gal	0 g/L

RAW MATERIAL SUPPLIERS

¹Vanderbilt Minerals, LLC, Norwalk, CT

²Dow-DuPont, Midland, MI

³Ashland Chemical Company, Covington, KY

⁴E.I. DuPont de Nemours & Company, Wilmington, DE

⁵BASF, Florham Park, NJ

⁶Specialty Minerals, Inc., Barretts, MT

⁷Arkema Emulsion Systems, Cary, NC

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Cellosize, Polyphobe, Triton, and UCAR are registered trademarks of Union Carbide Chemicals & Plastics Technology Corporation.

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Kathon and Tamol are registered trademarks of Rohm & Haas Company.

Satintone is a registered trademark of BASF Catalysts LLC.

Talcron is a registered trademark of Minerals Technologies, Inc.

Ti-Pure is a registered trademark of E.I. DuPont de Nemours & Company.

Rev02/19/2013

Formula 070809
General Purpose Primer for Stain Blocking and Tannin Blocking
DARVAN® 7-N¹ Dispersing Agent,
ACTIV-8®¹ Drier Accelerator and Stabilizer

	<u>Pounds</u>	<u>Gallons</u>	<u>Kilograms</u>	<u>Liters</u>
DISPERSION				
Water	85.0	10.2	10.19	10.19
Cellosize® QP 4400 ²	1.0	0.1	0.12	0.09
Ammonium Hydroxide	1.0	0.1	0.12	0.13
Ethylene Glycol	30.0	3.2	3.60	3.23
DARVAN 7-N¹ Dispersing Agent	15.0	1.6	1.80	1.55
Igepal® CO 630 ²	2.5	0.3	0.30	0.28
Surfynol® 104 BC ³	4.0	0.5	0.48	0.53
Ti-Pure® R900 ⁴	150.0	4.5	17.98	4.49
Min-flex® 325 ⁵	25.0	1.1	3.00	1.07
Halox® BW 100 ⁶	50.0	2.2	6.00	2.19
Zinc Oxide	10.0	0.2	1.20	0.22

High speed disperse for 15 minutes. Reduce speed for let down.

LET DOWN

Rhoplex® MV 23-LO Latex ²	550.0	63.7	65.91	63.62
Texanol® ⁷	6.0	0.8	0.72	0.75
<i>Preblend the next five items and add:</i>				
Aroplaz® 1271 Alkyd Resin ⁸	57.4	6.9	6.88	6.88
6% Cobalt drier	0.3	0.0	0.04	0.04
6% Manganese drier	0.3	0.0	0.04	0.04
12% Zirconium drier	1.7	0.2	0.21	0.19
ACTIV-8¹ Drier Accelerator and Stabilizer	0.2	0.0	0.03	0.03
Drewplus® L 475 ⁹	2.0	0.3	0.24	0.26
Acrysol® RM 825 ²	5.5	0.6	0.66	0.63
Water	30.0	3.6	3.60	3.60

Mix at slow speed for 10 minutes.

TOTALS	1026.9	100.1	123.12	100.01
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PAINT PROPERTIES

Density	10.3 lbs/gal	1.23 g/L
% Solids by weight	51.4	
% Solids by volume	40.8	
% PVC	20	
Pigment to binder ratio	0.81:1	
Calculated VOC	0.83 lbs/gal	99 g/L

RAW MATERIAL SUPPLIERS

¹Vanderbilt Minerals, LLC, Norwalk, CT

²Dow-DuPont, Midland, MI

³Air Products and Chemicals, Inc., Allentown, PA

⁴E.I. DuPont de Nemours & Company, Wilmington, DE

⁵Specialty Minerals Incorporated, Barretts, MT

⁶Halox Pigment, Hammond, IN

⁷Eastman, Kingsport, TN

⁸Reichhold, Research Triangle Park, NC

⁹Ashland Specialty Chemical Company, Columbus, OH

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Cellosize is a registered trademark of Union Carbide Chemicals & Plastics Technology Corporation.

Drewplus is a registered trademark of Ashland Licensing & Intellectual Property, LLC.

Halox is a registered trademark of Halox Pigments.

Igepal is a registered trademark of Rhodia.

Min-flex is a registered trademark of Specialty Minerals (Michigan) Inc.

Surfynol is a registered trademark of Air Products and Chemicals, Inc.

Texanol is a registered trademark of Eastman Chemical Company.

Ti-Pure is a registered trademark of E.I. DuPont de Nemours & Company.

rev02/19/2013

Formula 071510
Low VOC Interior Latex Satin Wall Paint
VANSIL® W-30¹ Wollastonite, DARVAN® 7-N¹ Dispersing Agent

	<u>Pounds</u>	<u>Gallons</u>	<u>Kilograms</u>	<u>Liters</u>
DISPERSION				
2% Cellosize® QP 4400 ²	243.5	29.2	29.22	29.22
DARVAN 7-N¹ Dispersing Agent	10.0	1.0	1.20	1.03
AMP 95 ³	2.0	0.3	0.24	0.26
Triton® CF-10 ²	3.0	0.3	0.36	0.34
Rhodoline® 643 ⁴	2.0	0.2	0.24	0.28
Proxel® GXL ⁵	1.5	0.2	0.18	0.16
Ti-Pure® R 706 ⁶	240.0	7.2	28.80	7.20
Talcron® 40-27 ⁷	51.4	2.2	6.17	2.20
VANSIL W-30¹ Wollastonite	53.2	2.2	6.38	2.20

Disperse at high speed for 15 minutes.

Reduce speed for let down.

LET DOWN

Rhoplex® SG30 Latex ²	420.0	47.5	50.40	47.55
Texanol® ⁸	10.0	1.3	1.20	1.25
Drewplus® L 475 ⁹	2.0	0.3	0.24	0.26
<i>Preblend the next two items, mix well and add:</i>				
Water	62.2	7.5	7.47	7.47
Acrysol® RM 825 ²	5.0	0.6	0.60	0.58

Mix at slow speed for 10 minutes.

TOTALS	1105.8	100.0	132.70	100.00
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PAINT PROPERTIES

Density	11.1 lbs/gal	1.33 g/ml
% Solids by weight	52.7	
% Solids by volume	37.0	
% PVC	34	
Pigment to binder ratio	1.64:1	
Calculated VOC	<0.1 lbs/gal	2 g/l

RAW MATERIAL SUPPLIERS

- ¹Vanderbilt Minerals, LLC, Norwalk, CT
- ²Dow Chemical Company, Midland, MI
- ³Angus Chemical Company, Buffalo Grove, IL
- ⁴Rhodia Incorporated, Cranberry, NJ
- ⁵Zeneca Biocides, Wilmington, DE
- ⁶E.I. DuPont de Nemours & Company, Wilmington, DE
- ⁷Specialty Minerals, Inc., Barretts, MT
- ⁸Eastman Chemical Company, Kingsport, TN
- ⁹Ashland Specialty Chemical Company, Columbus, OH

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 AMP-95 is a registered trademark of Angus Chemical Company.
 Cellosize and Triton are registered trademarks of Union Carbide Chemicals & Plastics Technology Corporation.
 Drewplus is a registered trademark of Ashland Licensing & Intellectual Property, LLC.
 Proxel is a registered trademark of Arch UK Biocides.
 Rhodoline is a registered trademark of Rhodia.
 Talcron is a registered trademark of Minerals Technologies Inc.
 Texanol is a registered trademark of Eastman Chemical Company.
 Ti-Pure is a registered trademark of E.I. DuPont de Nemours & Company.

Rev02/19/2013

Formula 073010
0 VOC Quality Interior Latex Flat Paint
VANSIL® W-30¹ Wollastonite, DARVAN® 7-N¹ Dispersing Agent

	<u>Pounds</u>	<u>Gallons</u>	<u>Kilograms</u>	<u>Liters</u>
DISPERSION				
2% Cellosize® QP 4400 ²	240.0	28.8	28.79	28.79
AMP-95® ³	2.0	0.3	0.24	0.26
Proxel® GXL ⁴	2.0	0.2	0.24	0.21
Rhodoline® 643 ⁵	2.5	0.4	0.30	0.35
DARVAN 7-N¹ Dispersing Agent	12.5	1.3	1.50	1.29
Triton® CF10 ²	2.0	0.2	0.24	0.22
Ti-Pure® R 900 ⁶	195.0	5.8	23.39	5.85
Gama-Sperse® 80 ⁷	100.0	4.4	11.99	4.43
VANSIL W-30¹ Wollastonite	74.4	3.1	8.93	3.08
Min-flex® 325 ⁸	35.4	1.5	4.25	1.52
Optiwhite® MX ⁹	75.0	4.1	9.00	4.09
Diafil® 570 ¹⁰	30.0	1.6	3.60	1.64

Mix at high speed for 15 minutes. Reduce speed for let down.

LET DOWN

UCAR® 300 Latex ¹¹	290.0	32.6	34.78	32.60
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Preblend the next two items and add:

Water	110.0	13.2	13.19	13.19
Acrysol® RM 825 ²	5.0	0.6	0.60	0.58

Mix at slow speed for 5 minutes.

Texanol® ¹²	12.5	1.5	1.50	1.56
Rhodoline® 643 ⁵	2.5	0.4	0.30	0.35

Mix at slow speed for 10 minutes.

TOTALS	1190.8	100.0	142.84	100.01
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PAINT PROPERTIES

Density	11.9 lbs/gal	1.43 g/ml
% Solids by weight	56.1	
% Solids by volume	37.3	
% PVC	55	
Pigment to binder ratio	3.22:1	
Calculated VOC	0	0

RAW MATERIAL SUPPLIERS

- ¹Vanderbilt Minerals, LLC, Norwalk, CT
- ²Dow-DuPont, Midland, MI
- ³Angus Chemical Company, Buffalo Grove, IL
- ⁴Zeneca Biocides, Wilmington, DE
- ⁵Rhodia Incorporated, Cranberry, NJ
- ⁶E.I. DuPont de Nemours & Company, Wilmington, DE
- ⁷Imerys, Roswell, GA
- ⁸Specialty Minerals, Inc., Barretts, MT
- ⁹Burgess Pigment, Sandersville, GA
- ¹⁰World Minerals, Santa Barbara, CA
- ¹¹Arkema Incorporated, Philadelphia, PA
- ¹²Eastman Chemicals, Kingsport, TN

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 Diafil is a registered trademark of Celite Corporation.
 Gama-Sperse is a registered trademark of Imerys Marble, Inc.
 Min-flex is a registered trademark of Specialty Minerals, Inc.
 Optiwhite is a registered trademark of Burgess Pigment Company.
 Proxel is a registered trademark of Arch UK Biocides.
 Rhodoline is a registered trademark of Rhodia.
 Texanol is a registered trademark of Eastman Chemical Company.
 Ti-Pure is a registered trademark of E.I. DuPont de Nemours & Company.

Rev02/19/2013

Formula 042099
Interior Texture Paint

DARVAN® 7-N¹ Dispersing Agent, **PYRAX® WA¹** Pyrophyllite,
VANSIL® WG¹ Wollastonite Silicate, **VANZAN®¹** Xanthan Gum Stabilizer

	<u>Pounds</u>	<u>Gallons</u>	<u>Kilograms</u>	<u>Liters</u>
DISPERSION				
Water	515.4	61.8	61.1	61.14
VANZAN¹ Xanthan Gum	10.2	1.0	1.2	1.53
<i>Disperse at high speed for 15 minutes.</i>				
<i>Reduce speed and add:</i>				
DARVAN 7-N¹ Dispersing Agent	8.2	0.9	1.0	0.85
Triton® CF 10 ²	2.0	0.2	0.2	0.22
Texanol® ³	6.1	0.8	0.7	0.76
Drewplus® L 475 ⁴	1.0	0.1	0.1	0.13
Ti-Pure® R 900 ⁵	50.0	1.5	6.0	1.50
VANSIL WG¹ Wollastonite	75.0	3.1	9.0	3.11
PYRAX WA¹ Pyrophyllite	440.0	19.0	52.9	19.09

Mix at medium speed for 15 minutes. High shear will damage the acicular wollastonite particles. Reduce speed for let down.

LET DOWN

Drewplus® L 475 ⁴	1.0	0.1	0.1	0.13
Everflex® GT Latex ⁶	102.7	11.5	12.3	11.54

Mix at slow speed for 10 minutes.

TOTALS	1211.6	100.0	144.6	100.00
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PAINT PROPERTIES

Density	12.1 lbs/gal	1.45 g/ml
% Solids by weight	52.1	
% Solids by volume	30.6	
% PVC	81	
Pigment to binder ratio	10:1	
Calculated VOC	0.19 lbs/gal	22 g/l

RAW MATERIAL SUPPLIERS

¹Vanderbilt Minerals, LLC, Norwalk, CT

²Dow Chemical Company, Midland, MI

³Eastman Chemical Company, Kingsport, TN

⁴Ashland Chemical Company, Covington, KY

⁵E.I. DuPont de Nemours & Company, Wilmington, DE

⁶Owensboro Specialty Polymers, Owensboro, KY

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Texanol is a registered trademark of Eastman Chemical Company.

Ti-Pure is a registered trademark of E.I. DuPont de Nemours & Company.

Triton is a registered trademark of Union Carbide Chemicals & Plastics Technology Corporation.

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Formula 041111
Interior Latex Egg Shell Paint
VANSIL® W 30¹ Wollastonite, DARVAN® 7N¹ Dispersing Agent

	<u>Pounds</u>	<u>Gallons</u>	<u>Kilograms</u>	<u>Liters</u>
DISPERSION				
2.5% Cellosize® ER 4400 ²	160.0	19.2	19.24	19.24
Water	57.5	6.9	6.92	6.92
Propylene Glycol	43.2	5.0	5.20	5.02
Rhodoline® 643 ³	2.0	0.2	0.24	0.28
Kathon® LX ²	2.0	0.2	0.24	0.24
DARVAN 7N¹ Dispersing Agent	4.5	0.8	0.90	0.78
Ti-Pure® R 900 ⁴	254.7	7.7	30.67	7.67
VANSIL W 30¹ Wollastonite	62.0	2.6	7.47	2.58

High speed disperse for 15 minutes. Reduce speed for let down.

LET DOWN

Texanol® ⁵	12.0	1.8	1.44	1.51
Rhodoline 643 ³	1.5	0.2	0.18	0.21
UCAR® 626 Latex ⁶	280.0	32.3	33.72	32.33
Water	85.0	10.2	10.24	10.24
2.5% Cellosize ER 4400 ²	100.0	12.0	12.03	12.03
Igepal® CO 630 ³	4.0	0.5	0.48	0.45
Triton® GR 7M ²	4.0	0.5	0.48	0.46

Mix at slow speed for 10 minutes.

TOTALS	1075.4	100.0	129.45	99.96
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PAINT PROPERTIES

Density	10.8 lbs/gal	1.30 g/cc
% Solids by weight	42.9	
% Solids by volume	25.5	
% PVC	40	
Pigment to binder ratio	2.28:1	
Calculated VOC	1.58 lbs/gl	190 g/l

RAW MATERIAL SUPPLIERS

¹Vanderbilt Minerals, LLC, Norwalk, CT

²Dow Chemical Company, Midland, MI

³Rhodia Inc., Cranberry, NJ

⁴E.I. DuPont de Nemours & Company, Wilmington, DE

⁵Eastman Chemical, Kingsport, TN

⁶Arkema Emulsion Systems, Cary, NC

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Texanol is a registered trademark of Eastman Chemical Company.

Ti-Pure is a registered trademark of E.I. DuPont de Nemours & Company.

Rev02/19/2013

Formula 021711
Interior Latex Semi-Gloss Paint
VANSIL® W 30¹ Wollastonite, DARVAN® 7N¹ Dispersing Agent

	<u>Pounds</u>	<u>Gallons</u>	<u>Kilograms</u>	<u>Liters</u>
DISPERSION				
2.5% Cellosize® ER 4400 ²	160.0	19.2	19.24	19.24
Water	57.5	6.9	6.92	6.92
Propylene Glycol	43.2	5.0	5.20	5.02
Rhodoline® 643 ³	2.0	0.2	0.24	0.28
Kathon® LX ²	2.0	0.2	0.24	0.24
DARVAN 7N¹ Dispersing Agent	4.5	0.8	0.90	0.78
Ti-Pure® R 900 ⁴	153.5	4.6	18.46	4.62
VANSIL W 30¹ Wollastonite	53.2	2.2	6.40	2.21
<i>High speed disperse for 15 minutes. Reduce speed for let down.</i>				

LET DOWN				
Texanol® ⁵	12.0	1.8	1.44	1.51
Rhodoline 643 ³	1.5	0.2	0.18	0.21
UCAR® 626 Latex ⁶	295.0	33.9	35.48	34.02
Water	100.0	12.0	12.03	12.03
2.5% Cellosize ER 4400 ²	100.0	12.0	12.03	12.03
Igepal® CO 630 ³	4.0	0.5	0.48	0.45
Triton® GR 7M ²	4.0	0.5	0.48	0.46
<i>Mix at slow speed for 10 minutes.</i>				

TOTALS	995.4	100.0	119.72	100.02
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PAINT PROPERTIES

Density	9.95 lbs/gal	1.20 g/cc
% Solids by weight	36.1	
% Solids by volume	23.3	
% PVC	30	
Pigment to binder ratio	1.42:1	
Calculated VOC	1.71 lbs/gal	205 g/l

RAW MATERIAL SUPPLIERS
¹Vanderbilt Minerals, LLC, Norwalk, CT

²Dow Chemical Company, Midland, MI

³Rhodia Inc., Cranberry, NJ

⁴E.I. DuPont de Nemours & Company, Wilmington, DE

⁵Eastman Chemical, Kingsport, TN

⁶Arkema Emulsion Systems, Cary, NC

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Texanol is a registered trademark of Eastman Chemical Company.

Ti-Pure is a registered trademark of E.I. DuPont de Nemours & Company.

Rev02/19/2013

**Formula 062512
Interior Semi-Gloss Paint**

DARVAN® 7N¹ Dispersing Agent, **VANSIL® W 30¹** Wollastonite,
VAN GEL® O¹ Magnesium Aluminum Silicate

	<u>Pounds</u>	<u>Gallons</u>	<u>Kilograms</u>	<u>Liters</u>
DISPERSION				
2.5% Cellosize® QP 4400 ²	160.0	19.2	19.20	19.20
Water	52.5	6.3	6.30	6.30
Propylene Glycol	43.2	5.0	5.19	5.01
Drewplus® L 475 ³	2.0	0.3	0.24	0.26
Proxel® GXL ⁴	2.0	0.2	0.24	0.21
DARVAN® 7N¹	7.5	0.8	0.90	0.78
Ti-Pure® R 902 ⁵	166.5	5.0	19.98	5.00
VANSIL® W 30¹	40.0	1.7	4.81	1.66
VAN GEL® O¹	5.0	0.2	0.60	0.23

Disperse at high speed for 15 minutes. Reduce speed for let down.

LET DOWN

Texanol® ⁶	12.0	1.5	1.44	1.50
Drewplus® L 475 ³	1.5	0.2	0.18	0.20
UCAR® 626 Latex ⁷	350.0	40.8	42.01	40.78
Water	53.5	6.4	6.42	6.42
2.5% Cellosize® QP 4400 ²	100.0	12.0	12.00	12.00
Triton® CF 10 ²	2.0	0.2	0.24	0.22
Aerosol® OT-75 ⁸	2.0	0.2	0.24	0.23

Mix at slow speed for 10 minutes.

TOTALS	999.7	100.0	119.99	100.00
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PAINT PROPERTIES

Density	10.0 lbs/gal	1.999 g/ml
% Solids by weight	39.3%	
% Solids by volume	27.5%	
PVC	25.5	
Pigment to binder ratio	1.21:1	
Calculated VOC	1.52 lbs/gal	184 g/L

RAW MATERIAL SUPPLIERS

¹ Vanderbilt Minerals, LLC, Norwalk, CT

² Dow Chemical Company, Midland, MI

³ Ashland Inc, Wilmington, DE

⁴ Arch Chemicals, Smyrna, GA

⁵ E.I. duPont de Nemours & Company, Wilmington, DE

⁶ Eastman Chemical Company, Kingsport, TN

⁷ Arkema Emulsion Systems, Cary, NC

⁸ Cytec Industries, Woodland Park, NJ

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Cellosize, Triton and UCAR are registered trademarks of Union Carbide Chemicals & Plastics Technology Corporation.

Drewplus is a registered trademark of Ashland Licensing and Intellectual Property, LLC.

Proxel is a registered trademark of Arch UK Biocides.

Texanol is a registered trademark of Eastman Chemical Company.

Ti-Pure is a registered trademark of E.I. DuPont de Nemours & Company.

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Formula 082012
Interior Semi-Gloss Wall Paint
DARVAN® 7N¹ Dispersant, VANSIL® W-30¹ Wollastonite

	<u>Pounds</u>	<u>Gallons</u>	<u>Kilograms</u>	<u>Liters</u>
DISPERSION				
2.5% Cellosize® QP 4400 Solution ²	80.0	9.6	9.63	9.63
Water	120.0	14.4	14.44	14.44
DARVAN® 7N¹	10.0	1.0	1.20	1.04
AMP 95 ³	2.0	0.3	0.24	0.26
Triton® CF -10 ²	3.0	0.3	0.24	0.27
Drewplus® L 475 ⁴	2.0	0.2	0.36	0.34
Proxel® GLX ⁵	1.5	0.2	0.18	0.16
Ti-Pure® R 706 ⁶	225.0	6.8	27.07	6.77
VANSIL® W-30¹	50.0	2.1	6.02	2.07
Talcron® 35 LOA ⁷	50.0	2.1	6.02	2.15

Disperse at high speed for 15 minutes. Reduce speed for let down.

LET DOWN

Rhoplex® SG 30 Latex ²	480.0	54.5	57.75	54.48
Texanol ⁸	10.0	1.3	1.20	1.25
Drewplus® L 475 ⁴	2.0	0.3	0.24	0.27
<i>Preblend water and rheology modifier, mix gently and add.</i>				
Water	55.0	6.6	6.62	6.62
Polyphobe® TR 116 ²	2.5	0.3	0.30	0.27

Mix at slow speed for 10 minutes.

TOTALS	1093.0	100.0	131.51	100.02
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PAINT PROPERTIES

Density	10.9lbs/gal	1.315 g/ml
% Solids by weight	52.4	
% Solids by volume	36.9	
PVC	30	
Pigment to binder ratio	1.35:1	
Calculated VOC	0.29 lbs/gal	35 g/L

RAW MATERIAL SUPPLIERS

- ¹Vanderbilt Minerals, LLC, Norwalk, CT
- ²Dow Chemical Company, Midland, MI
- ³Angus Chemical Company, Buffalo Grove, IL
- ⁴Ashland Specialty Chemical Company, Columbus, OH
- ⁵Arch Lonza, Norwalk, CT
- ⁶E.I. DuPont de Nemours & Company, Wilmington, DE
- ⁷Specialty Minerals Incorporated, Barretts, MT
- ⁸Eastman Chemical, Kingsport, TN

TRADEMARKS

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AMP-95 is a registered trademark of Angus Chemical Company.

Cellosize, Polyphobe and Triton are registered trademarks of Union Carbide Chemicals & Plastics Technology Corporation.

Drewplus is a registered trademark of Ashland Licensing and Intellectual Property, LLC.

Proxel is a registered trademark of Arch UK Biocides.

Rhoplex is a registered trademark of Rohm & Haas Company.

Talcron is a registered trademark of Minerals Technologies Inc.

Texanol is a registered trademark of Eastman Chemical Company.

Ti-Pure is a registered trademark of E.I. DuPont de Nemours & Company.

Rev02/19/2013

Formula 082112
Interior Semi-Gloss Wall Paint
DARVAN® 561¹ Dispersant, VANSIL® W-30¹ Wollastonite

	<u>Pounds</u>	<u>Gallons</u>	<u>Kilograms</u>	<u>Liters</u>
DISPERSION				
2.5% Cellosize® QP 4400 Solution ²	80.0	9.6	9.63	9.63
Water	120.0	14.4	14.44	14.44
DARVAN® 561¹	10.0	1.0	1.20	1.04
AMP 95 ³	2.0	0.3	0.24	0.26
Triton® CF -10 ²	3.0	0.3	0.24	0.27
Drewplus® L 475 ⁴	2.0	0.2	0.36	0.34
Proxel® GLX ⁵	1.5	0.2	0.18	0.16
Ti-Pure® R 706 ⁶	225.0	6.8	27.07	6.77
VANSIL® W-30¹	50.0	2.1	6.02	2.07
Talcron® 35 LOA ⁷	50.0	2.1	6.02	2.15

Disperse at high speed for 15 minutes. Reduce speed for let down.

LET DOWN

Rhoplex® SG 30 Latex ²	480.0	54.5	57.75	54.48
Texanol ⁸	10.0	1.3	1.20	1.25
Drewplus® L 475 ⁴	2.0	0.3	0.24	0.27
<i>Preblend water and rheology modifier, mix gently and add.</i>				
Water	55.0	6.6	6.62	6.62
Acrysol RM 825 ²	2.5	0.3	0.30	0.27

Mix at slow speed for 10 minutes.

TOTALS	1093.0	100.0	131.51	100.02
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PAINT PROPERTIES

Density	10.9lbs/gal	1.315 g/ml
% Solids by weight	52.4	
% Solids by volume	36.9	
PVC	30	
Pigment to binder ratio	1.35:1	
Calculated VOC	0.29 lbs/gal	35 g/L

RAW MATERIAL SUPPLIERS

¹Vanderbilt Minerals, LLC, Norwalk, CT

²Dow Chemical Company, Midland, MI

³Angus Chemical Company, Buffalo Grove, IL

⁴Ashland Specialty Chemical Company, Columbus, OH

⁵Arch Lonza, Norwalk, CT

⁶E.I. DuPont de Nemours & Company, Wilmington, DE

⁷Specialty Minerals Incorporated, Barretts, MT

⁸Eastman Chemical, Kingsport, TN

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http://www.vanderbiltminerals.com/ee_content/Documents/Technical/Trademarks_VM_Web.pdf

Acrysol and Rhoplex are registered trademarks of Rohm & Haas Company.

AMP-95 is a registered trademark of Angus Chemical Company.

Cellosize and Triton are registered trademarks of Union Carbide Chemicals & Plastics Technology Corporation.

Drewplus is a registered trademark of Ashland Licensing and Intellectual Property, LLC.

Proxel is a registered trademark of Arch UK Biocides.

Talcron is a registered trademark of Minerals Technologies Inc.

Texanol is a registered trademark of Eastman Chemical Company.

Ti-Pure is a registered trademark of E.I. DuPont de Nemours & Company.

Rev02/19/2013

Formula 061406
Interior Texture Paint

DARVAN® 811¹ Dispersing Agent, **PYRAX® B¹** Pyrophyllite, **VANZAN®¹** Xanthan Gum,
VANSIL® WG¹ Wollastonite

	<u>Pounds</u>	<u>Gallons</u>	<u>Kilograms</u>	<u>Liters</u>
DISPERSION				
Water	445.0	53.4	54.00	54.00
DARVAN® 811¹	10.0	0.9	1.21	0.93
Triton® CF-10 ²	2.5	0.3	0.30	0.28
Drewplus® L 475 ³	4.0	0.5	0.49	0.53
PYRAX® B¹	535.0	23.2	64.92	23.18
<i>Preblend the next two items and add:</i>				
Ti-Pure® R 931 ⁴	61.5	2.1	7.46	2.07
VANZAN®¹	10.1	1.5	1.21	0.81
<i>Mix at medium speed for 10 minutes. Reduce speed for let down.</i>				
LET DOWN				
VANSIL® WG¹	95.0	3.9	11.53	3.98
Airflex® 400 Latex ⁵	125.0	14.1	15.17	14.22
<i>Mix at slow speed for 5 minutes.</i>				
TOTALS	1288.0	99.9	156.29	100.00

PAINT PROPERTIES

Density	12.9 lbs/gal	1.56 g/l
% Solids by weight	60.65	
% Solids by volume	38.5	
PVC	76	
Pigment to binder ratio	1.56:1	
Calculated VOC	0 lbs/gal	0 g/l

RAW MATERIAL SUPPLIERS
¹Vanderbilt Minerals, LLC, Norwalk, CT

²Dow Chemical Company, Midland, MI

³Ashland Chemical Company, Covington, KY

⁴E.I. DuPont de Nemours & Company, Wilmington, DE

⁵Air Products and Chemicals, Inc., Allentown, PA

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Airflex is a registered trademark of Air Products and Chemicals, Inc.

Drewplus is a registered trademark of Ashland Licensing and Intellectual Property, LLC.

Ti-Pure is a registered trademark of E.I. du Pont de Nemours & Company.

Triton is a registered trademark of Union Carbide Chemicals & Plastics Technology Corporation.

Rev02/27/2013

Formula 051414
Ceiling Paint
DARVAN® 7-N¹ Dispersant, PYRAX® ABB¹ Pyrophyllite,
VANSIL® CK-20¹ Wollastonite

	Pounds	Gallons	Kilograms	Liters
DISPERSION				
2.5% Cellosize® QP-4400 ²	240.0	28.8	28.78	28.78
Water	210.0	25.2	25.18	25.18
Texanol ^{®3}	5.0	0.6	0.60	0.63
Ethylene Glycol	15.0	1.6	1.80	1.62
Drewplus® L 475 ⁴	2.0	0.3	0.24	0.26
Triton® CF-10 ²	2.0	0.2	0.24	0.22
DARVAN® 7-N¹ Dispersant	10.0	1.0	1.20	1.03
Ti-Pure® R 706 ⁵	125.0	3.8	14.99	3.75
Iceberg® Clay ⁶	125.0	5.7	14.99	5.70
PYRAX® ABB¹ Pyrophyllite	137.5	5.7	16.49	5.69
VANSIL® CK-20¹ Wollastonite	137.5	5.7	16.49	5.69

High speed disperse for 15 minutes. Reduce speed for let down.

LET DOWN

Cellite® 281 ⁷	50.0	2.6	6.00	2.61
Water	60.0	7.2	7.19	7.19
Encor® 367 Latex ⁸	105.0	11.7	12.59	11.67

Mix at slow speed for 10 minutes.

TOTALS	1224.0	100.1	146.78	100.02
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PAINT PROPERTIES

Density	12.2 lbs/gal	1.47 g/ml
% Solids by weight	52.2	
% Solids by volume	30.8	
% PVC	80	
Pigment to binder ratio	9.95:1	
Calculated VOC	0.6 lbs/gal	72 g/l

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. DuPont de Nemours & Company, Wilmington, DE
⁶Gurgess Pigment Company, Sandersville, GA
⁷Celite Corporation, Lompoc, CA
⁸Arkema Emulsion Systems, Cary, NC

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 Drewplus is a registered trademark of Ashland Licensing and Intellectual Property, LLC.
 Encor is a registered trademark of Arkema Corporation.
 Iceberg is a registered trademark of Burgess Pigment Company.
 Texanol is a registered trademark of Eastman Chemical Company.
 Ti-Pure is a registered trademark of E.I. DuPont de Nemours & Company

Rev07/31/2014

Formula 062414
Low VOC Interior Flat Latex Wall Paint with Good Scrub Resistance
VANSIL® CK-20¹ Wollastonite, DARVAN® 7-N¹ Dispersant

	Pounds	Gallons	Kilograms	Liters
DISPERSION				
Water	275.0	33.0	33.00	33.00
Natrosol® Plus 330 ²	2.5	0.2	0.30	0.22
AMP 95 ³	5.0	0.6	0.60	0.64
Kathon® LX ⁴	1.5	0.2	0.18	0.18
Drewplus® L 475 ⁵	1.5	0.2	0.18	0.20
DARVAN® 7-N¹ Dispersant	10.0	1.0	1.20	1.03
Triton® CF-10 ⁶	2.0	0.2	0.24	0.22
Ti-Pure® R 706 ⁷	235.0	7.1	28.20	7.05
VANSIL® CK-20¹ Wollastonite	75.0	3.1	9.00	3.10
Minex® 4 ⁸	50.0	2.3	6.00	2.30
Iceberg® Clay ⁹	50.0	2.3	6.00	2.28
<i>Mix at high speed for 20 minutes. Reduce speed for let down.</i>				
LET DOWN				
Encor® 367 Vinyl Acrylic Latex ¹⁰	350.0	38.9	42.00	38.92
Texanol® ¹¹	10.0	1.3	1.20	1.25
<i>Preblend the next two items and add.</i>				
Water	40.0	4.8	4.80	4.80
Polyphobe® TR 116 ⁴	10.0	1.1	1.20	1.09
Drewplus® L 475 ⁵	2.0	0.3	0.24	0.26
Water	28.4	3.4	3.45	3.45
<i>Mix at slow speed for 10 minutes.</i>				
TOTALS	1147.9	100.0	137.79	99.99
PAINT PROPERTIES				
Density	11.8 lbs/gal		1.38 g/l	
% Solids by weight	54.2			
% Solids by volume	36.9			
PVC	39.9			
Pigment to binder ratio	1.93:1			
Calculated VOC	0.26 lbs/gal		31 g/l	

RAW MATERIAL SUPPLIERS

- ¹Vanderbilt Minerals, LLC, Norwalk, CT
- ²Aqualon Company, Wilmington, DE
- ³Angus Chemical Company, Buffalo Grove, IL
- ⁴Dow Chemical Company, Midland, MI
- ⁵Ashland Specialty Chemical Company, Columbus, OH
- ⁶E.I. DuPont de Nemours & Company, Wilmington, DE
- ⁷Unimin, New Canaan, CT
- ⁸Burgess Pigment Company, Sandersville, GA
- ⁹Arkema Emulsion System, Cary, NC
- ¹⁰Eastman Chemical, Kingsport, TN

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Drewplus is a registered trademark of Ashland Licensing and Intellectual Property, LLC.

Encor is a registered trademark of Arkema Inc.

Iceberg is a registered trademark of Burgess Pigment Company.

Kathon is a registered trademark of Rohm and Haas Company.

Minex is a registered trademark of Unimin Canada LTD.

Natrosol is a registered trademark of Aqualon Company.

Polyphobe and Triton are registered trademarks of Union Carbide Chemicals & Plastics Technology Corporation.

Texanol is a registered trademark of Eastman Chemical Company.

Ti-Pure is a registered trademark of E.I. DuPont de Nemours & Company.

Rev07/31/2014

Formula 021616
Interior Concrete Block Filler
DARVAN® 7N¹ Dispersant, PYRAX® ABB¹ Pyrophyllite, VANSIL® CK-20¹ Wollastonite,
VAN GEL® B¹, Magnesium Aluminum Silicate

	<u>Pounds</u>	<u>Gallons</u>	<u>Kilograms</u>	<u>Liters</u>
DISPERSION				
Water	306.9	36.8	37.11	37.11
VAN GEL® B¹	5.0	0.2	0.60	0.23
Cellosize® QP 4400 ²	2.0	0.2	0.24	0.17
Ammonium Hydroxide	1.0	0.1	0.12	0.13
KTPP	1.5	0.1	0.18	0.07
Drewplus® L 475 ³	2.0	0.3	0.24	0.26
Triton® CF-10 ²	3.5	0.4	0.42	0.39
DARVAN® 7N¹	10.0	1.0	1.20	1.03
Ethylene Glycol	20.0	2.2	2.39	2.15
Texanol ⁴	15.0	1.9	1.80	1.87
Mineral Spirits	7.0	1.1	0.84	1.09
Zinc Oxide XX 503 ⁵	50.0	1.1	5.99	1.08
Ti-Pure® 900 ⁶	50.0	1.5	5.99	1.50
PYRAX® ABB¹	50.0	2.1	5.99	2.06
325 Mesh WG Mica ⁷	70.0	3.0	8.38	2.96
VANSIL® CK-20¹	450.0	18.6	53.87	18.58

Mix at high speed for 15 minutes. Reduce speed for let down.

LET DOWN

Drewplus® L 475 ³	2.0	0.3	0.24	0.26
Encor® 625 ⁸	245.0	27.9	29.33	27.80
Mineral Spirits	8.0	1.2	0.96	1.25

Mix at slow speed for 10 minutes.

TOTALS

1298.9	100.0	155.89	99.99
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PAINT PROPERTIES

Density	13.0 lbs/gal	1.56 g/L
% Solids by weight	61.5 %	
% Solids by volume	53.3 %	
% PVC	66.8	
Pigment to binder ratio	5.47:1	
Calculated VOC	0.72 lbs/gal	87 g/L

RAW MATERIAL SUPPLIERS

- ¹Vanderbilt Minerals, LLC, Norwalk, CT
²Dow-DuPont, Midland, MI
³Ashland Specialty Chemical Company, Columbus, OH
⁴Eastman Chemical, Kingsport, TN
⁵Zinc Corporation of America, Monaca, PA
⁶Chemours Company, Wilmington, DE
⁷KMG Minerals, Kings Mountain, NC
⁸Arkema Emulsion Systems, Cary, NC

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 Drewplus is a registered trademark of Ashland Licensing and Intellectual Property, LLC.
 Encor is a registered trademark of Arkema Inc. Corporation, King of Prussia, PA.
 Texanol is a registered trademark of Eastman Chemical Company.
 Triton is a registered trademark of Union Carbide Chemicals & Plastics Technology Corporation.
 W G Mica is a registered trademark of KMG Minerals, Inc.

March 1, 2016

Formula 080216
Interior Texture Paint

DARVAN® 811¹ Dispersing Agent, **PYRAX® B¹** Pyrophyllite, **VANSIL® CK-20¹** Wollastonite,
VANSIL® WG¹ Wollastonite, **VANZAN® D¹** Xanthan Gum

	<u>Pounds</u>	<u>Gallons</u>	<u>Kilograms</u>	<u>Liters</u>
DISPERSION				
Water	470.4	56.4	56.22	56.22
DARVAN® 811¹	7.5	0.7	0.90	0.69
Triton® CF-10 ²	2.5	0.3	0.30	0.28
Drewplus® L-475 ³	4.0	0.5	0.48	0.53
PYRAX® B¹	400.0	17.1	48.11	17.18
VANSIL® CK-20¹	104.0	4.3	12.51	4.31
<i>Preblend the next two items and add:</i>				
Ti-Pure® R 706 ⁴	70.0	2.1	8.42	2.11
VANZAN® D¹	10.0	0.8	1.20	0.80
<i>Mix at medium speed for 10 minutes. Reduce speed for let down.</i>				
LET DOWN				
VANSIL® WG¹	95.0	3.9	11.43	3.94
Encor® 367 Latex ⁵	125.0	13.9	15.03	13.93
<i>Mix at slow speed for 5 minutes.</i>				
TOTALS	1288.4	100.0	154.60	99.99

PAINT PROPERTIES

Density	12.9 lbs/gal	1.55 g/L
% Solids by weight	58.9	
% Solids by volume	36.5	
% PVC	75.4	
Pigment to binder ratio	10.7:1	
Calculated VOC	0.0 lbs/gal	0 g/L

RAW MATERIAL SUPPLIERS
¹Vanderbilt Minerals, LLC, Norwalk, CT

²Dow Chemical, Midland, MI

³Ashland Specialty Chemical Company, Columbus, OH

⁴E.I. DuPont de Nemours & Company, Wilmington, DE

⁵Arkema Emulsion Systems, Cary, NC

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Encor is a registered trademark of Arkema Corporation.

Ti-Pure is a registered trademark of E.I. DuPont de Nemours & Company.

August 16, 2016