



Distributed in the Interest
of Product Development

VANDERBILT *Minerals*

Color Cosmetics Formulary No. 907



Vanderbilt Minerals, LLC, 30 Winfield Street, P.O. Box 5150, Norwalk, CT 06856-5150
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VEEGUM® in Color Cosmetics

VANATURAL® Bentonite Clay

VEEGUM® Magnesium Aluminum Silicate

VANZAN® Xanthan Gum

VANATURAL and **VEEGUM** products are natural water-washed smectite clays that reliably stabilize emulsions and suspensions. **VANATURAL** bentonite is listed by the Organics Materials Review Institute (OMRI). **VANATURAL** bentonite and **VANATURAL XGB** bentonite-xanthan gum blend are authorized by ECOCERT Greenlife as complying with the ECOCERT and COSMOS standards for ecological and organic cosmetics.

VANZAN xanthan gum is a natural high molecular weight polysaccharide derived from *Xanthomonas campestris*. Because of its protective function in nature, it is more resistant than are most gums to shear, heat, bacterial, enzyme, and UV degradation. **VANZAN** products are efficient thickeners as well as emulsion and suspension stabilizers. They also provide useful synergism with **VANATURAL** and **VEEGUM** clays.

USING VANATURAL AND VEEGUM CLAYS

VANATURAL and **VEEGUM** products must be properly dispersed in water to provide their best performance. No other materials should be present in the water, because they can interfere with the proper hydration of the clay and the formation of the colloidal structure. Generally, the degree of clay hydration is directly proportional to the amount of energy used to disperse the product. The degree of hydration therefore increases as mixing time, mixing intensity or water temperature increase. **VEEGUM Ultra** and **VANATURAL XGB** are relatively unaffected by changes in these mixing factors; adequate hydration can be achieved quickly using room temperature water and a low shear mixer.

The following table provides suggested minimum mixing times for the hydration of **VANATURAL** and **VEEGUM** products. Actual hydration times, in the laboratory or in production, will depend on the particular combination of batch size, mixer shear, and water temperature used. Whichever mixing conditions are used, it is very important that they be carefully controlled to achieve reproducible results in the final formulation.

Water Temp.	Mixer Type	Mixer Speed, rpm	Minimum Suggested Mixing Time		
			VEEGUM	VANATURAL VEEGUM Plus	VANATURAL XGB VEEGUM Ultra
25°C	Propeller	800	120 min.	30 min.	15 min.
75°C	Propeller	800	45 min.	20 min.	10 min.
25°C	Homogenizer	3000	30 min.	20 min.	10 min.
75°C	Homogenizer	3000	15 min.	10 min.	10 min.

RECOMMENDED GRADES FOR COLOR COSMETICS FORMULATIONS

Smectite Clays:

VANATURAL Rapidly hydrating high purity bentonite clay.
VANATURAL XGB A blend of natural bentonite and xanthan gum that hydrates very quickly.
VEEGUM Ultra A unique acidic smectite clay that is especially easy to hydrate.
VEEGUM R The standard grade for a wide range of applications.
VEEGUM Plus Fast hydrating blend of natural smectite clay and CMC.

Xanthan Gum:

VANZAN NF The standard personal care grade.

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FORMULARY

Liquid Foundation No. 602

Liquid Powder Foundation No. 577

Silky Smooth Emollient Liquid Makeup No. 460

Water-in-Oil Luxurious Makeup No. 332

Nonionic Liquid Makeup No. 349

Cream Matte Makeup No. 154

Water-Resistant Sport Tint No. 453

Eyeliner No. 107

Water-in-Oil Mascara No. 376

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VANDERBILT

Minerals Formula

Liquid Foundation No. 602

		Wt. %
A	VANATURAL[®] XGB Bentonite Clay (Bentonite (and) Xanthan Gum)	4.00
	Water	77.97
	Propanediol (Zemea [®] propandiol ¹)	5.00
B	Iron Oxides (and) Microcrystalline Cellulose (C2-5 Yellow LLXLO ²)	0.40
	Iron Oxide (C.I. 77491) (and) Cellulose (C2-5 Red R-516L ²)	0.10
	Iron Oxide (C.I. 77499) (and) Cellulose (C2-5 Black BL-100 ²)	0.03
	Titanium Dioxide (and) Cellulose (and) Alumina (C2-5 TiO ₂ CR-50 ²)	3.50
	Mica (and) Cellulose (C2-5 Sericite FSE ²)	4.00
C	Cetearyl Wheat Straw Glycosides (and) Cetearyl Alcohol (Xylance ^{TM3})	5.00
D	Preservative	q.s.

Procedure: While heating the water to 75°C, slowly add the **VANATURAL XGB** to the water agitated at maximum available shear. Mix until it is fully hydrated and add the propanediol. Combine the Part B ingredients, then add to Part A and mix until smooth. Maintain the water phase at 75°C. Heat Part C oil phase to 75°C. Add the oil phase to the water phase with good agitation; mix until uniform. Avoid incorporating air. Cool with mixing; add Part D when the emulsion is <30°C.

RAW MATERIAL SUPPLIERS

¹DuPont Tate & Lyle Bio Products Company, LLC, Wilmington, DE

²Kobo Products, Inc., South Plainfield, NJ

³Actives International, Allendale, NJ

TRADEMARKS

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Xylance is a trademark of Soliance.

Zemea is a registered trademark of DuPont Tate & Lyle Bio Products Company, LLC.

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VANDERBILT

Minerals Formula

Liquid Powder Foundation No. 577

		Wt. %
A	VANATURAL [®] Bentonite Clay (Bentonite)	3.00
	VANZAN [®] NF Xanthan Gum (Xanthan Gum)	0.70
	Water	81.27
	Pentylene Glycol (Hydrolite [®] -5 ¹)	5.00
B	Iron Oxides (and) Microcrystalline Cellulose (C2-5 Yellow LLXLO ²)	0.40
	Iron Oxide (C.I. 77491) (and) Cellulose (C2-5 Red R-516L ²)	0.10
	Iron Oxide (C.I. 77499) (and) Cellulose (C2-5 Black BL-100 ²)	0.03
	Titanium Dioxide (and) Cellulose (and) Alumina (C2-5 TiO ₂ CR-50 ²)	3.50
	Mica (and) Cellulose (C2-5 Sericite FSE ²)	4.00
C	PEG-14 Dimethicone (Abil [®] B 8843 ³)	2.00
D	Preservative	qs

Procedure: Slowly add the **VANATURAL** and **VANZAN NF** sequentially or as a dry blend to the water agitated at maximum available shear. Mix until fully hydrated. Add the pentylene glycol, mixing until uniform. Blend Part B and add to A and mix until smooth. Add Part C and Part D in order; mix after each until smooth.

RAW MATERIAL SUPPLIERS

¹Symrise, Teterboro, NJ

²Kobo Products, Inc., South Plainfield, NJ

³Evonik Goldschmidt Chemical Corporation,
Hopewell, VA

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Hydrolite is a registered trademark of Symrise GmbH.

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VANDERBILT

Minerals Formula

Silky Smooth Emollient Liquid Makeup No. 460

		Wt. %
	VEEGUM® PLUS Magnesium Aluminum Silicate (Magnesium Aluminum Silicate (and) Cellulose Gum)	1.00
A	Deionized Water	53.50
	Glycereth-26 (Liponic™ EG-1 ¹)	10.50
	Triethanolamine, 99%	0.75
B	Iron Oxides	1.29
	Talc	1.00
	Titanium Dioxide	3.00
C	Isopropyl Isostearate	9.06
	Mineral Oil (and) Lanolin Alcohol (Vilvanolin™ L-101 ²)	6.50
	Isopropyl Palmitate	4.00
	Isopropyl Myristate	2.50
	Hydrogenated Soy Glyceride	2.10
	Stearic Acid XXX	1.60
	Dioctyl Adipate (and) Octyl Stearate (and) Octyl Palmitate (Wickenol™ 161 ³)	1.10
	Octyl Stearate (and) Octyl Palmitate (and) Dioctyl Adipate (Wickenol™ 163 ³)	1.00
	Cocoyl Sarcosine	1.00
	Lithium Stearate	0.10
D	Preservative	q.s.

Procedure: While heating the water to 70-75°C, slowly add the **VEEGUM PLUS** to the water agitated at maximum available shear. Mix until fully hydrated. Add the remaining Part A ingredients. Mix the Part B ingredients thoroughly into Part A until uniform. Maintain the temperature at 70-75°C. Heat the Part C oil phase to 70-75°C. Add the oil phase to the water phase with good agitation; mix until uniform. Cool with mixing; add Part D when the emulsion is <40°C.

RAW MATERIAL SUPPLIERS

¹Lipo Chemicals, Paterson, NJ

²Lubrizol Advanced Materials, Inc.,
Cleveland, OH

³Alzo International Inc., Sayreville, NJ

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Vilvanolin is a trademark of Lubrizol Advanced Materials, Inc.

Wickenol is a trademark of Alzo International Inc.

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VANDERBILT

Minerals Formula

Water-in-Oil Luxurious Makeup No. 332

		Wt. %
A	VEEGUM® R Magnesium Aluminum Silicate (Magnesium Aluminum Silicate)	1.2
	Deionized Water	37.9
	Magnesium Sulfate	0.4
B	Talc	5.5
	Kaolin	1.5
	Titanium Dioxide	5.0
	Iron Oxides	3.0
C	Mineral Oil	15.0
	Hydrogenated Polyisobutylene (Parleam® ¹)	8.0
	Mineral Oil (and) Lanolin Alcohol (Vilvanolin™ L101 ²)	8.0
	Isopropyl Lanolate (and) Lecithin (Lanapene™ ³)	7.00
	Sorbitol, 70%	5.0
	Oleamide DEA (Schercomid™ ODA ²)	2.5
D	Preservative	q.s.

Procedure: Slowly add the **VEEGUM R** to the water agitated at maximum available shear. Mix until fully hydrated. Add the Magnesium Sulfate and mix until smooth. Grind Part B and add to Part A, mixing until uniform. Add Parts A+B to Part C. Mix until uniform and smooth. Add Part D and mix until uniform.

RAW MATERIAL SUPPLIERS

¹Rossow Cosmetics - USA, Matawan, NJ

²Lubrizol Advanced Materials, Inc.,
Cleveland, OH

³Lanaetex Products Inc., Elizabeth, NJ

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Lanapene is a trademark of Lanaetex Products Inc.

Parleam is a registered trademark of Etablissements B. Rossow et Cie.

Schercomid and Vilvanolin are trademarks of Lubrizol Advanced Materials, Inc.

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Minerals Formula

Nonionic Liquid Makeup No. 349

		Wt. %
A	VEEGUM® R Magnesium Aluminum Silicate (Magnesium Aluminum Silicate)	0.75
	VANZAN NF¹ Xanthan Gum (Xanthan Gum)	0.15
	Deionized Water	67.10
	Glycerin	4.00
	Citric Acid	0.30
B	Talc	5.00
	Titanium Dioxide	5.00
	Iron Oxides	3.70
C	Mineral Oil (and) Lanolin Alcohol (Vilvanolin™ L101 ¹)	5.00
	Myristyl Myristate (Crodamol™ MM ²)	2.50
	Hydrogenated Polyisobutylene (Parleam® ³)	2.00
	Oleyl Alcohol	2.00
	Cetearyl Alcohol (and) Ceteareth-20 (Cosmowax™ D ²)	2.00
	Polysorbate 85 (Tween 85 ⁴)	0.50
D	Preservative	q.s.

Procedure: While heating the water to 60-65°C, slowly add the **VEEGUM R** and **VANZAN NF** sequentially or as a dry blend to the water agitated at maximum available shear. Mix until fully hydrated. Add the glycerin and citric acid. Mix Part B (grind if necessary) until homogenous and add to Part A. Maintain the water phase at 60-65°C. Blend the Part C oil phase ingredients and heat to 60-65°C. Add the Part C oil phase to the water phase with good agitation; mix until uniform. Cool with mixing; add Part D when the emulsion is <40°C.

RAW MATERIAL SUPPLIERS

¹Lubrizol Advanced Materials, Inc.,
Cleveland, OH

²Croda Inc., Edison, NJ

³Rosow Cosmetics - USA, Matawan, NJ

⁴Uniqema, New Castle, DE

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Tween is a registered trademark of Uniqema Americas LLC.

Vilvanolin is a trademark of Lubrizol Advanced Materials, Inc.

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Minerals Formula

Cream Matte Makeup No. 154

		Wt. %
A	VEEGUM® R Magnesium Aluminum Silicate (Magnesium Aluminum Silicate)	2.60
	Cellulose Gum (Aqualon® CMC 7LF ¹)	0.40
	Water	42.70
B	Propylene Glycol	5.00
	Deionized Water	12.30
C	Talc	18.50
	Kaolin Clay	1.30
	Titanium Dioxide	3.70
	Iron Oxides	1.50
D	Isopropyl Myristate	5.00
	Sorbitan Laurate (Arlacel® 20 ²)	0.75
	Polysorbate 20 (Tween® 20 ²)	2.25
	Stearyl Alcohol	2.00
	Mineral Oil (and) Lanolin Alcohol (Vilvanolin™ L101 ³)	2.00
E	Preservative	q.s.

Procedure: While heating the water to 65-70°C, slowly add the **VEEGUM R** and CMC sequentially or as a dry blend to the water agitated at maximum available shear. Mix until fully hydrated. Add Part B with mixing.. Mix Part C (grind if necessary) until homogenous and add to Part A+B. Maintain the water phase at 65-70°C. Blend the Part D oil phase ingredients and heat to 65-70°C. Add the Part D oil phase to the water phase with good agitation; mix until uniform. Cool with mixing. Add Part E when the emulsion is <40°C.

RAW MATERIAL SUPPLIERS

¹Ashland, Inc., Covington, KY

²Uniqema, New Castle, DE

³Lubrizol Advanced Materials, Inc.,
Cleveland, OH

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Vilvanolin is a trademark of Lubrizol Advanced Materials, Inc.

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Minerals Formula

Water-Resistant Sport Tint No. 453

		Wt. %
A	VEEGUM Ultra ¹ Magnesium Aluminum Silicate (Magnesium Aluminum Silicate)	1.60
	VANZAN NF ¹ Xanthan Gum (Xanthan Gum)	0.40
	Deionized Water	70.40
	Propylene Glycol	5.00
B	Iron Oxides	0.67
	Manganese Violet	0.10
	Talc	4.27
	Titanium Dioxide	6.96
C	Isocetyl Alcohol	3.00
	Octyl Methoxycinnamate	3.00
	Mineral Oil (and) Lanolin Alcohol (Vilvanolin™ L101 ¹)	2.00
	DEA-Oleth-3 Phosphate (Crodafos™ N-3 Neutral ²)	2.20
D	Polyvinylpyrrolidone (PVP K-90 ³)	0.40
	Preservative	q.s.

Procedure: Slowly add the **VEEGUM Ultra** and **VANZAN NF** sequentially or as a dry blend to the water agitated at maximum available shear. Mix until fully hydrated and then add the propylene glycol. Add Part B with mixing. Mix Part B (grind if necessary) until homogenous and add to Part A. Mix until uniform. Blend the Part C oil phase ingredients. Add the Part C oil phase to the water phase with good agitation; mix until uniform. Add Part D and mix until uniform..

RAW MATERIAL SUPPLIERS

¹Lubrizol Advanced Materials, Inc.,
Cleveland, OH

²Croda Inc., Edison, NJ

³International Specialty Products, Wayne, NJ

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Crodafos is a trademark of Croda, Inc.

Vilvanolin is a trademark of Lubrizol Advanced Materials, Inc.

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VANDERBILT

Minerals Formula

Eyeliner No. 107

		Wt. %
A	VEEGUM® R Magnesium Aluminum Silicate (Magnesium Aluminum Silicate)	2.5
	Deionized Water	75.5
B	Polyvinylpyrrolidone (PVP K-30 ¹)	2.0
	Deionized Water	10.0
C	Iron Oxides	10.0
D	Preservative	q.s.

Procedure: Slowly add **VEEGUM** to the water while agitating at maximum available shear. Continue mixing until smooth. Dissolve the PVP in water using heat as necessary. Add Part B to Part A and mix until uniform. Add Part C and mix until smooth and uniform. Add Part D and mix until uniform.

RAW MATERIAL SUPPLIERS

¹International Specialty Products, Wayne, NJ

TRADEMARKS

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VANDERBILT

Minerals Formula

Water-in-Oil Mascara No. 376

	Wt. %
A VEEGUM® R Magnesium Aluminum Silicate (Magnesium Aluminum Silicate)	1.50
Deionized Water	31.28
Polyvinylpyrrolidone (PVP K-30 ¹)	0.22
Hydrolyzed Collagen (Crotein™ A ²)	1.00
Propylene Glycol	5.00
B Petrolatum	3.00
Petroleum Distillate (Odorless Mineral Spirits))	32.00
Carnauba Wax	5.00
Synthetic Beeswax	5.00
Candelilla Wax	3.00
Paraffin	2.50
Oleamide DEA (Schercomid™ ODA ³)	5.00
C Balck Iron Oxide (C-33-134 Cosmetic Black ⁴)	5.50
D Preservative	q.s.

Procedure: While heating the water to 75°C, slowly add the **VEEGUM R** to the water agitated at maximum available shear. Mix until fully hydrated. Add the remaining Part A ingredients. Maintain the temperature at 75°C. Heat the Part B oil phase to 75°C. Add the oil phase to the water phase with good agitation; mix until uniform. Add Part C slowly, mixing until uniform. Cool with mixing; add Part D when the emulsion is <40°C.

RAW MATERIAL SUPPLIERS

¹International Specialty Products, Wayne, NJ

²Croda Inc., Edison, NJ

³Lubrizol Advanced Materials, Inc.,
Cleveland, OH

⁴Sun Chemical Corporation, Parsippany, NJ

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Crotein is a trademark of Croda, Inc.

Schercomid is a trademark of Lubrizol Advanced Materials, Inc.

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