



Vanderbilt Minerals, LLC

A Wholly Owned Subsidiary of R.T. Vanderbilt Holding Company, Inc.

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**FORMULARY
COLOR COSMETICS**

No. 907



Color Cosmetics Formulary

VANATURAL® Bentonite Clay

VEEGUM® Magnesium Aluminum Silicate

VANZAN® Xanthan Gum

VANATURAL and **VEEGUM** products are natural water-washed smectite clays that reliably enhance the stability and esthetics of color cosmetics.

VANZAN xanthan gum products are efficient thickeners as well as emulsion and suspension stabilizers. They provide useful synergism with **VANATURAL** and **VEEGUM** clays.

RECOMMENDED GRADES FOR COLOR COSMETICS

Smectite Clays

VANATURAL Fast hydrating ECOCERT/COSMOS grade bentonite clay.

VANATURAL MC Fast hydrating bacteria-controlled bentonite clay.

VANATURAL XGB Rapidly hydrating ECOCERT/COSMOS bentonite and xanthan gum blend.

VEEGUM Ultra A unique acidic smectite clay that is especially easy to hydrate.

VEEGUM R Classic grade for foundations.

Xanthan Gum

VANZAN NF Xanthan gum for all personal care applications

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.

The following table provides suggested minimum mixing times for the hydration of **VANATURAL** and **VEEGUM** clays. 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.

Minimum Suggested Hydration Times	Normal Hydrating VEEGUM R	Quick Hydrating VANATURAL VANATURAL MC	Ultra Hydrating VEEGUM Ultra VANATURAL XGB
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



FORMULARY

Cream Makeup No. 638	1
Liquid Foundation No. 602	2
Liquid Powder Foundation No. 577	3
Water-in-Oil Luxurious Makeup No. 332	4
Nonionic Liquid Makeup No. 349	5
Cream Matte Makeup No. 154	6
Silky Smooth Emollient Liquid Makeup No. 460	7
Leg Makeup No. 623	8
Water-Resistant Sport Tint No. 453	9
Eyeliner No. 107	10
Water-in-Oil Mascara No. 376	11
Light Coverage Foundation No. 644	12

Cream Makeup No. 638

	Wt. %
A	VANATURAL[®] or VANATURAL MC Bentonite Clay 3.20
	VANZAN[®] NF Xanthan Gum 0.80
	Water 70.36
	Propanediol (Zemea [®] Propandiol ¹) 5.00
B	Titanium Dioxide (and) Cellulose (and) Alumina (C2-5 TiO ₂ CR-50 ²) 5.00
	Talc (Imperial [™] 1886L BC ³) 4.30
	Yellow Iron Oxide (SunCROMA [®] Yellow Iron Oxide (C33-210) ⁴) 1.00
	Red Iron Oxide (SunCROMA [®] Red Iron Oxide (C33-128) ⁴) 0.26
	Black Iron Oxide (SunCROMA [®] Black Iron Oxide (C33-5000) ⁴) 0.08
Mica (Sericite GMS-4C ²) 2.00	
C	Cetearyl Wheat Straw Glycosides (and) Cetearyl Alcohol (Xyliance ^{™5}) 5.00
	Helianthus Annuus (Sunflower) Seed Oil (and) Glycine Soja (Soybean) Germ 3.00
	Extract (and) Zea Mays (Corn) Starch (and) Silica (and) Tocopherol (Vegetatum [®] Sunflower 1102 ⁶)
D	Preservative q.s.

Procedure: While heating the water to 75°C, slowly add the **VANATURAL[®]** or **VANATURAL MC** and **VANZAN[®] NF** sequentially or as a dry blend to the water agitated at maximum available shear. Mix until fully hydrated. Then, add and mix in the propanediol. Combine the Part B ingredients, then add to Part A and mix until smooth. Maintain the water phase at 75°C. Combine the Part C ingredients (oil phase) and heat 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

³Brenntag Specialties, Inc., South Plainfield, NJ

⁴Sun Chemical Corporation, Parsippany, NJ

⁵Givaudan Active Beauty, New York, NY

⁶Natunola Health, Inc., Winchester, ON, Canada

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SunCROMA is a registered trademark of Sun Chemicals Corporation.

Vegetatum is a registered trademark of Natunola Health, Inc.

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

Rev06/13/2017

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 ^{™3})	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

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

Rev04/25/2013

Liquid Powder Foundation No. 577

	Wt. %
A	VANATURAL [®] Bentonite Clay 3.00
	VANZAN [®] NF 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 q.s.

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.

Rev04/25/2013

Water-in-Oil Luxurious Makeup No. 332

	Wt. %
A	VEEGUM® R 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) 7.0
	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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VEEGUM is a registered trademark of Vanderbilt Minerals, LLC.

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

Rev06/13/2019

Nonionic Liquid Makeup No. 349

	Wt. %	
A	VEEGUM® R Magnesium Aluminum Silicate	0.75
	VANZAN® NF 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

³Rossow Cosmetics – USA, Matawan, NJ

⁴Uniqema, New Castle, DE

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Rev04/25/2013

Cream Matte Makeup No. 154

	Wt. %
A	VEEGUM® R Magnesium Aluminum Silicate 2.60
	Cellulos 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.

Rev04/25/2013

Silky Smooth Emollient Liquid Makeup No. 460

	Wt. %	
A	VEEGUM® HV Magnesium Aluminum Silicate	0.80
	Cellulose Gum (Aqualon® CMC 7M8SF ¹)	0.18
	Deionized Water	53.49
	Glycereth-26 (Liponic™ EG-1 ²)	10.50
	Triethanolamine, 99%	0.75
B	Iron Oxides	1.29
	Talc	1.00
	Titanium Dioxide	3.03
C	Isopropyl Isostearate	9.06
	Mineral Oil (and) Lanolin Alcohol (Vilvanolin™ L-101 ³)	6.50
	Isopropyl Palmitate	4.00
	Isopropyl Myristate	2.50
	Hydrogenated Soy Glyceride	2.10
	Stearic Acid XXX	1.60
	Diocetyl Adipate (and) Octyl Stearate (and) Octyl Palmitate (Wickenol™ 161 ⁴)	1.10
	Octyl Stearate (and) Octyl Palmitate (and) Diocetyl Adipate (Wickenol™ 163 ⁴)	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® HV** and cellulose gum sequentially or as a dry blend 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

¹Asland Aqualon Functional Ingredients, Wilmington, DE

²Lipo Chemicals, Paterson, NJ

³Lubrizol Advanced Materials, Inc., Cleveland, OH

⁴Alzo 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.

Rev07/16/2014

Leg Makeup No. 623

	Wt. %
A	VEEGUM[®] Ultra Magnesium Aluminum Silicate 2.00
	VANZAN[®] NF Xanthan Gum 0.50
	Water 71.26
	Propanediol (Zemea [®] Propanediol ¹) 5.00
B	Yellow Iron Oxide (SunCROMA [®] Yellow Iron Oxide (C33-210) ²) 1.00
	Red Iron Oxide (SunCROMA Red Iron Oxide (C33-128) ²) 0.26
	Black Iron Oxide (SunCROMA Black Iron Oxide (C33-5000) ²) 0.08
	Talc (Imperial [™] 1886L BC ³) 4.30
	Titanium Dioxide (and) Cellulose (and) Alumina (C2-5 TiO ₂ CR-50 ⁴) 5.00
C	Isocetyl Alcohol (Jeecol [®] ICA ⁵) 3.00
	Ethyl Hexyl Methoxycinnamate (Escalol [®] 557 ⁶) 3.00
	Mineral Oil (and) Lanolin Alcohol (Vilvanolin [™] L101 ⁷) 2.00
	DEA-Oleth-3 Phosphate (Crodafos [™] O3D-LQ-MH ⁸) 2.20
D	Polyvinpyrrolidone (PVP K-90 ⁶) 0.40
E	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. Please review our [Preparations of Dispersions trifold](#). Then add the propanediol. Mix Part B and grind if necessary to break apart agglomerates until homogenous. Add Part B to Part A with mixing. Mix until uniform. Blend the Part C, oil phase ingredients and continue mixing until transfer. Add the Part C, oil phase to the water phase with good agitation; mix until uniform. Add Part D and mix until uniform. Switch to low shear mixing and cool while mixing to ~30°C. Add Part E and mix until uniform.

RAW MATERIAL SUPPLIERS

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

²Sun Chemicals Corporation, Parsippany, NJ

³Brenntag Specialties, Inc., South Plainfield, NJ

⁴Kobo Products, Inc., South Plainfield, NJ

⁵Jeen, Fairfield, NJ

⁶Ashland Specialty Ingredients, Wilmington, DE

⁷Lubrizol Advanced Materials, Inc., Cleveland, OH

⁸Croda Inc., Edison, NJ

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Vilvanolin is a trademark of Lubrizol Advanced Materials, Inc.

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

Rev02/10/2016

Water-Resistant Sport Tint No. 453

	Wt. %
A	VEEGUM® Ultra Magnesium Aluminum Silicate 1.60
	VANZAN® NF 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-30 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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Vilvanolin is a trademark of Lubrizol Advanced Materials, Inc.

Rev04/25/2013

Eyeliner No. 107

		Wt. %
A	VEEGUM® R 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 SUPPLIERS¹International Specialty Products, Wayne, NJ**TRADEMARKS****VEEGUM** is a registered trademark of R.T. Vanderbilt Holding Company, Inc., or its respective wholly owned subsidiaries.

Rev04/25/2013

Water-in-Oil Mascara No. 376

	Wt. %
A VEEGUM® R 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 Black 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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Schercomid is a trademark of Lubrizol Advanced Materials, Inc.

Rev04/25/2013

Light Coverage Foundation No. 644

		Wt. %
A	VEEGUM® R Magnesium Aluminum Silicate	1.20
	Water	59.55
	Cellulose Gum (CMC 7LF ¹)	0.60
B	Butylene Glycol	6.00
	Triethanolamine, 99%	2.00
	Methylparaben ²	0.30
	Diazolidinyl Urea (Germall® II ¹)	0.20
C	Titanium Dioxide (Suncroma® Titanium Dioxide C47-051 ³)	5.62
	Suncroma Brown Iron Oxide C33-115 ³	1.00
	Suncroma Red Iron Oxide C33-128 ³	0.35
	Suncroma Black Iron Oxide C33-5000 ³	0.03
	Talc (Suprafino® H USP BC 3460H ⁴)	8.00
D	Glyceryl Stearate (Protachem™ GMS-450 ²)	1.00
	Isostearic Acid ⁵	2.00
	Stearic Acid XXX (Triple Pressed Stearic Acid FGK Flakes ⁶)	2.00
	Isopropyl Lanolate ⁷	5.00
	Propylene Glycol Dicaprylate/ Dicaprate (Liponate® PC ⁸)	5.00
	Propylparaben ²	0.15

Note: The iron oxide blend listed above is a suggested starting point.

(Formula Courtesy of Sun Chemical Corporation)

Procedure: Dry blend the **VEEGUM® R** and Cellulose Gum and add them to the water while mixing at maximum available shear. Mix until fully hydrated. Add the Part B ingredients in the order shown, and mix well after each. Add the Part C ingredients and mix until thoroughly dispersed. Begin heating to 75°C. Heat the Part D ingredients to 75°C. Add Part D to Parts A+B+C with good agitation; mix until uniform. Continue mixing slowly while cooling to room temperature.

RAW MATERIAL SUPPLIERS
¹Ashland Specialty Ingredients, Wilmington, DE

²Protameen Chemicals, Inc., Totowa, NJ

³Sun Chemical Corporation, Parsippany, NJ

⁴Brenntag Specialties, Inc., South Plainfield, NJ

⁵Universal Preserv-A-Chem, Somerset, NJ

⁶Acme Hardesty Co., Blue Bell, PA

⁷Zhejiang Garden Biochemical High-Tech Co., Ltd, Zhejiang Province, China

⁸Vantage Specialty Ingredients, Warren, NJ

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Rev03/22/18



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Driving Safety & Sustainability



DQS Inc.

VANDERBILT MINERALS, LLC
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10012164