



Vanderbilt Minerals, LLC

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

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FORMULARY
ANTI-AGING
No. 926



ANTI-AGING FORMULARY

VANATURAL® Bentonite Clay **VEEGUM®** Magnesium Aluminum Silicate **VANZAN®** Xanthan Gum

VANATURAL Bentonite Clay (INCI Name: Bentonite) and **VEEGUM** Magnesium Aluminum Silicate (INCI Name: Magnesium Aluminum Silicate) are water-washed smectite clays that provide a natural alternative to synthetic polymers for reliably stabilizing personal care emulsions and suspensions.

VANZAN (INCI Name: Xanthan Gum) is a natural high molecular weight exocellular polysaccharide derived from *Xanthomonas campestris*. Because of its protective function in nature, it is more resistant to shear, heat, bacterial, enzyme, and UV degradation than are most gums. **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 proper clay hydration and colloidal structure formation. 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. One grade, **VEEGUM Ultra**, is relatively unaffected by changes in these mixing factors; adequate hydration can be achieved quickly, using room temperature water and a simple, slow-speed propeller mixer.

The following table provides guidelines for the minimum amounts of time suggested 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 R	VANATURAL/MC	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

USING VANZAN XANTHAN GUM

VANZAN products are soluble in both cold and warm water. To dissolve quickly and completely, they must first be properly dispersed so that individual gum particles are surrounded by the aqueous medium. The individual particles then hydrate and dissolve. Good dispersion is promoted by high shear mixing, blending the gum particles into a water-miscible non-solvent such as glycol or alcohol before addition to the aqueous phase, or dry blending with other formula ingredients, such as co-thickeners, salts, acids, abrasives or pigments, before addition to the aqueous phase.

RECOMMENDED GRADES FOR SKIN CARE

Smectite Clays:

VANATURAL MC	Rapidly hydrating high purity bentonite clay for most personal care applications.
VANATURAL	ECOCERT/COSMOS listed rapidly hydrating high purity bentonite clay.
VEEGUM Ultra	A unique acidic smectite clay that is especially easy to hydrate.
VEEGUM R	The standard grade for a wide range of applications.

Xanthan Gum:

VANZAN NF	The standard grade for most personal care applications.
VANZAN NF-C	Produces clear solutions; used when product clarity is essential.



FORMULARY

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CC Cream No. 618	20

Nature's Defense Cream No. 572

		Wt. %
A	VANATURAL[®] or VANATURAL MC Bentonite Clay	2.0
	Water	76.5
	Pentylene Glycol (Hydrolite [®] -5 ¹)	5.0
B	Sucrose Stearate (Surfhope [®] SE Cosme C-1811 ²)	3.0
	Cetearyl Alcohol	2.5
	Isohexadecane (Arlamol [®] HD ³)	3.0
	Cetearyl Ethylhexanoate (Luvitol [®] EHO ⁴)	3.0
	Squalane, ubiquinone (Lipogard ^{™5})	4.0
	Dimethicone (Xiameter [®] PMX-200 Silicone Fluid 350cs ⁶)	1.0
C	Preservative	q.s.

Procedure: While heating the water to 70°C, slowly add the **VANATURAL[®]** or **VANATURAL MC** while mixing at maximum available shear. Mix until fully hydrated. Add the pentylene glycol, mixing until uniform. Maintain the water phase at 70°C. Blend the Part B oil phase ingredients and heat to 70-75°C. Add the oil phase to the water phase with good agitation; mix until uniform. Cool with mixing; add Part C when the emulsion is <30°C.

RAW MATERIAL SUPPLIERS

¹Symrise, Teterboro, NJ

²Lonza, Inc., Allendale, NJ

³Croda, Inc., Edison, NJ

⁴BASF Corp., Florham Park, NJ

⁵Pentapharm, Ltd., Basel,

Switzerland/Centerchem, Inc., Norwalk, CT

⁶Dow Corning Corporation, Midland, MI

TRADEMARKS

VANATURAL is a registered trademark of Vanderbilt Minerals, LLC.

Arlamol is a registered trademark of Uniqema Americas LLC.

Hydrolite is a registered trademark of Symrise GmbH.

Lipogard is a trademark of Pentapharm Ltd.

Luvitol is a registered trademark of BASF Aktiengesellschaft.

Surfhope is a registered trademark of Mitsubishi Chemical Corporation.

Xiameter is a registered trademark of Dow Corning Corporation.

Rev04/17/2017

Beauty Fluid with Collagen No. 587

		Wt. %
A	VANATURAL [®] or VANATURAL MC Bentonite Clay	2.50
	Water	73.00
	Avena Sativa (Oat) Kernel Flour (Tech [®] O #11-070 Oat Flour ¹)	0.50
	VANZAN [®] NF Xanthan Gum	0.50
	Sucrose Stearate (Surfhope [®] SE Cosme C-1811 ²)	1.25
B	Glycerin	6.00
	Soluble Collagen (and) Water (aqua) (Collasol [™] M ³)	5.00
	Allantoin	0.25
C	DEA-Oleth-3 Phosphate (Crodafos [™] O3D ³)	1.00
	Hydrogenated Polyisobutene (Parleam ^{®4})	4.00
	Mineral Oil (and) Lanolin Alcohol (Vilvanolin [™] L-101 ⁵)	3.00
	Cholesterol and Lanesterol Esters of C10-C30 Fatty Acids (Super Sterol Ester ³)	2.00
	Dimethicone (Xiameter [®] PMX-200 Silicone Fluid 350cs ⁶)	1.00
D	Preservative	q.s.
	Triethanolamine	q.s.

Procedure: Sift the **VANATURAL**[®] or **VANATURAL MC** into the water agitated at maximum available shear. Once dispersed, slowly sift in the oat flour. Mix until the **VANATURAL** or **VANATURAL MC** is fully hydrated and the oat flour is well dispersed. Add the **VANZAN**[®] NF and mix until dissolved. Add the sucrose stearate and mix until uniform. Add Part B ingredients in the order listed and mix until uniform. Combine Part C ingredients and mix until uniform. Add Part C to Part A/B and mix until uniform. Add the preservative and adjust pH to 6.5 ± 0.5 with triethanolamine.

RAW MATERIAL SUPPLIERS

¹Beacon CMP Corporation, Kenilworth, NJ

²Lonza, Inc., Allendale, NJ

³Croda, Inc., Edison, NJ

⁴Roscow Cosmetiques-USA, Laurel, NY

⁵Lubrizol Advanced Materials, Inc., Cleveland, OH

⁶Dow Corning Corporation, Midland, MI

TRADEMARKS

VANATURAL and **VANZAN** are registered trademarks of Vanderbilt Minerals, LLC.

Collasol and Crodafos are trademarks of Croda, Inc.

Parleam is a registered trademark of Roscow.

Surfhope is a registered trademark of Mitsubishi Chemical Corporation.

Tech-O is a registered trademark of Beacon CMP Corporation.

Vilvanolin is a trademark of Lubrizol Advanced Materials, Inc.

Xiameter is a registered trademark of Dow Corning Corporation.

Rev04/17/2017

Anti-Aging Skin Cream No. 578

		Wt.%
A	VEEGUM® Ultra Magnesium Aluminum Silicate	1.50
	VANZAN® NF Xanthan Gum	0.30
	Water	75.92
	Butylene Glycol	6.00
	Sucrose Stearate (Surfhope® SE Cosme C-1811 ¹)	3.00
B	Steareth-2 (Brij® S2 ²)	1.50
	Steareth-21 (Brij® S721 ²)	1.50
	Cetearyl Alcohol	3.00
	Caprylic/Capric Triglyceride (Neobee® M-5 Cosmetic ³)	2.50
	PPG-11 Stearyl Ether (Acconon® E ⁴)	2.50
	C12-15 Alkyl Benzoate (Finsolv® TN ⁵)	1.00
	Cyclmethicone (Xiameter® PMX-0345 Cyclosiloxane Blend ⁶)	1.00
	Cholesterol (Cholesterol NF ²)	0.10
	Linoleic Acid (Emersol® 315 ⁷)	0.10
	Ceramide 2 (TIC-001 Ceramide 2 ⁸)	0.025
C	Ceramide 3 (Ceramide III ⁹)	0.025
	Ceramide 6 II (Ceramide VI ⁹)	0.025
	Preservative	q.s.

Procedure: While heating the water to 85-90°C, 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. Add the butylene glycol and sucrose stearate, mixing until uniform. Maintain the water phase at 85-90°C. Blend the Part B oil phase ingredients and heat to 85-90°C. Add the oil phase to the water phase with good agitation; mix until uniform. Cool with mixing; add Part C when the emulsion is <30°C.

RAW MATERIAL SUPPLIERS

¹Lonza, Inc., Allendale, NJ
²Croda, Inc., Edison, NJ
³Stepan Company, Northfield, IL
⁴Abitec Corporation, Columbus, OH
⁵Innospec Active Chemicals, Edison, NJ
⁶Dow Corning Corporation, Midland, MI
⁷Emery Oleochemicals, LLC, Cincinnati, OH
⁸Takasago International Corp., Rockleigh, NJ
⁹Evonik Goldschmidt Chemical Corporation, Hopewell, VA

TRADEMARKS

VEEGUM and **VANZAN** are registered trademarks of Vanderbilt Minerals, LLC.
Acconon is a registered trademark of Abitec Corporation.
Brij is a registered trademark of Uniqema Americas LLC.
Emersol is a registered trademark of Cognis Corporation.
Finsolv is a registered trademark of Innospec Performance Chemicals Company.
Neobee is a registered trademark of Stepan Company.
Surfhope is a registered trademark of Mitsubishi Chemical Corporation.
Xiameter is a registered trademark of Dow Corning Corporation.

Rev04/25/2013

Conditioning Skin Cream with Jojoba Oil No. 571

		Wt. %
A	VANATURAL[®] or VANATURAL MC Bentonite Clay	2.0
	Water	73.0
	Butylene Glycol	5.0
B	Bis-PEG/PPG-16/16 PEG/PPG-16/16 Dimethicone; Caprylic/capric triglyceride (Abil [®] Care 85 ¹)	1.5
	Cetyl Alcohol (and) Glyceryl Stearate (and) PEG-75 Stearate (and) Ceteth-20 (and) Steareth-20 (Emulium [®] Delta ²)	4.5
	Cetyl Rinoleate (Tegosoft [®] CR ¹)	2.0
	Simmondsia Chinesis (Jojoba) Seed Oil (Jojoba Oil Golden ³)	6.0
	Cyclomethicone (XIAMETER [®] PMX-0345 Cyclosiloxane Blend ⁴)	6.0
C	Preservative, Fragrance	q.s.

Procedure: While heating the water to 75°C, slowly add the **VANATURAL[®]** or **VANATURAL MC** while mixing at maximum available shear. Mix until fully hydrated. Add the butylene glycol, mixing until uniform. Maintain the water phase at 75°C. Blend the Part B oil phase ingredients and heat to 75-80°C. Add the oil phase to the water phase with good agitation; mix until uniform. Cool with mixing; add the Part C ingredients when the emulsion is <30°C.

RAW MATERIAL SUPPLIERS

- ¹Evonik Goldschmidt Chemical Company, Hopewell, VA
- ²Gattefosse Corporation, Paramus, NJ
- ³Desert Whale Jojoba Co., Inc., Tucson, AZ
- ⁴Dow Corning Corporation, Midland, MI

TRADEMARKS

- VANATURAL** is a registered trademark of Vanderbilt Minerals, LLC.
- Abil is a registered trademark of Goldschmidt GmbH Corporation.
- Emulium is a registered trademark of Gattefosse SAS.
- Tegosoft is a registered trademark of Goldschmidt GmbH.
- Xiameter is a registered trademark of Dow Corning Corporation.

Rev04/17/2017

Rejuvenating Lotion No. 574

		Wt. %
A	VANATURAL[®] or VANATURAL MC Bentonite Clay	2.0
	VANZAN[®] NF Xanthan Gum	0.5
	Water	72.5
	Butylene Glycol	3.0
B	Cyclomethicone (and) Dimethicone (and) Petrolatum (Gel Base BSM-PT ¹)	7.0
	C12-15 Alkyl Benzoate (Finsolv [®] TN ²)	4.0
	Cetearyl Alcohol	1.0
	Glyceryl Stearate (and) PEG-100 Stearate (Arlacel [®] 165 ³)	5.0
C	Water (and) Aloe Barbedensis Leaf Extract (and) Yeast (Sacchromyces)	5.0
	Extract (Betavera ^{®1})	
	Preservative	q.s.

Procedure: While heating the water to 70-75°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. Add the butylene glycol, mixing until uniform. Maintain the water phase at 70-75°C. Blend the Part B oil phase ingredients and heat to 70-75°C. Add the oil phase to the water phase with good agitation; mix until uniform. Cool with mixing; add the Part C ingredients in order when the emulsion is <30°C.

RAW MATERIAL SUPPLIERS

¹Arch Personal Care Products L.P., South Plainfield, NJ

²Innospec Active Chemicals, Edison, NJ

³Croda, Inc., Edison, NJ

TRADEMARKS

VANATURAL and **VANZAN** are registered trademarks of Vanderbilt Minerals, LLC.

Arlacel is a registered trademark of Uniqema Americas LLC.

Betavera is a registered trademark of Arch Personal Care Products L.P.

Finsolv is a registered trademark of Innospec Performance Chemicals Company.

Rev04/17/2017

Moisturizing Lotion with Sunscreen No. 567

		Wt.%
A	VEEGUM® <i>Ultra</i> Magnesium Aluminum Silicate	1.0
	Water	77.3
	Glycerin, 96%	2.7
	Zinc Oxide (Zinc Oxide Neutral ¹)	2.0
B	Glyceryl Stearate (and) Ceteareth-20 (and) Ceteareth-12 (and) Cetearyl Alcohol (and) Cetyl Palmitate (Emulgade® SE-PF ²)	6.0
	Glyceryl Stearate (Kessco™ GMS Pure ³)	2.0
	Caprylic/Capric Triglyceride (Neobee® M-5 ³)	5.0
	Mineral Oil, USP/NF Grade	2.0
	Octyl Methoxycinnamate (Neo Heliopan® AV ¹)	2.0
C	Preservative, Fragrance	q.s.

Procedure: While heating the water to 85°C, slowly add the **VEEGUM® *Ultra*** while mixing at maximum available shear. Mix until fully hydrated. Add the remaining water phase ingredients, mixing until the zinc oxide is uniformly dispersed. Maintain the water phase at 85°C. Blend the Part B oil phase ingredients and heat to 85°C. Add the oil phase to the water phase with good agitation; mix until uniform. Cool with mixing; add the Part C ingredients when the emulsion is <30°C.

RAW MATERIAL SUPPLIERS

- ¹Symrise, Teterboro, NJ
- ²BASF Care Creations, Florham Park, NJ
- ³Stepan Company, Northfield, IL

TRADEMARKS

- VEEGUM** is a registered trademark of Vanderbilt Minerals, LLC.
- Emulgade is a registered trademark of Cognis GmbH Corporation.
- Kessco is a trademark of Stepan Company.
- Neobee is a registered trademark of Stepan Company.
- Neo Heliopan is a registered trademark of Haarmann & Reimer GmbH.

Rev04/25/2013

All Natural Shea Butter/Cocoa Butter Lotion No. 589

		Wt. %
A	VANATURAL ® Bentonite Clay	2.5
	VANZAN ® NF Xanthan Gum	0.5
	Water	78.0
B	Cetearyl Wheat Straw Glycosides (and) Cetearyl Alcohol (Xyliance™ ¹)	5.0
	Orbignya Oleifera Seed Oil (Cropure® Babassu ²)	5.0
	Simmondsia Chinensis (Jojoba) Seed Oil (Jojoba Oil Golden ³)	5.0
	Butyrospermum Parkii (Shea) Butter (Tomaso Shea Butter ⁴)	2.0
	Theobroma Cacao (Cocoa) Seed Butter (Cocoa Butter NF ⁵)	2.0
C	Preservative	q.s.

Procedure: While heating the water to 70-75°C, 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. Maintain the water phase at 70-75°C. Blend the Part B oil phase ingredients and heat to 70-75°C. Add the oil phase to the water phase with good agitation; mix until uniform. Cool with mixing; add Part C when the emulsion is <30°C.

RAW MATERIAL SUPPLIERS

- ¹Givaudan Active Beauty, New York, NY
- ²Croda, Inc., Edison, NJ
- ³Desert Whale Jojoba Co., Inc., Tucson, AZ
- ⁴Tri-K Industries, Inc., Northvale, NJ
- ⁵RITA Corporation, Crystal Lake, IL

TRADEMARKS

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Cropure is a registered trademark of Croda, Inc.
Xyliance is a trademark of Soliance.

Rev01/21/2013

Super Moisturizing Lotion No. 437

		Wt. %
A	VEEGUM® R Magnesium Aluminum Silicate	1.0
	VANZAN® NF Xanthan Gum	0.5
	Water	74.5
B	Sodium PCA (Ajidew® N-50 ¹)	3.0
	Glycerin	5.0
C	Hydrogenated Polyisobutylene (Parleam® ²)	4.0
	Mineral Oil (and) Lanolin Alcohol (Vilvanolin™ L-101® ³)	3.0
	Cetyl Alcohol	2.0
	Isopropyl Myristate	2.0
	Sorbitan Palmitate	1.2
	Polysorbate 40 (Tween® 40 ⁴)	3.8
D	Citric Acid to pH 5.5	q.s.
	Preservative, Fragrance	q.s.

Procedure: While heating the water to 50-55°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 Part B and mix until dissolved. Maintain the water phase at 50-55°C. Blend the Part C oil phase ingredients and heat to 50-55°C. Add the oil phase to the water phase with good agitation; mix until uniform. Avoid incorporating air. Cool with mixing. Add the Part D ingredients when the emulsion is <30°C.

RAW MATERIAL SUPPLIERS

¹Ajinimoto USA, Inc., Fort Lee, NJ

²Rosow Cosmetiques – USA, Matawan, NJ

³Lubrizol Advanced Materials, Inc., Cleveland, OH

⁴Croda, Inc., Edison, NJ

TRADEMARKS

VEEGUM and **VANZAN** are registered trademarks of Vanderbilt Minerals, LLC.

Ajidew is a registered trademark of Ajinomoto Company, Inc.

Parleam is a registered trademark of Rosow.

Vilvanolin is a trademark of Lubrizol Advanced Materials, Inc.

Tween is a registered trademark of Uniqema Americas LLC.

Rev01/21/2013

Skin Renewal Cream No. 573

		Wt. %
A	VANATURAL[®] or VANATURAL MC Bentonite Clay	2.5
	Water	77.0
	Glycerin	5.0
B	Cetearyl Alcohol (and) PEG-40 Castor Oil (and) Sodium Cetearyl Sulfate (Emulgade [®] F ¹)	5.0
	Postassium Cetyl Phosphate (Crodafos [™] MCK ²)	0.5
	Dicaprylyl Carbonate (Cetiol [®] CC ¹)	5.0
	C12-15 Alkyl Ethylhexanoate (Finester [™] EH-25 ³)	5.0
C	Preservative	q.s.

Procedure: While heating the water to 80°C, slowly add the **VANATURAL[®]** or **VANATURAL MC** while mixing at maximum available shear. Mix until fully hydrated. Add the glycerin, mixing until uniform. Maintain the water phase at 80°C. Blend the Part B oil phase ingredients and heat to 80°C. Add the oil phase to the water phase with good agitation; mix until uniform. Cool with mixing; add Part C when the emulsion is <30°C.

RAW MATERIAL SUPPLIERS
¹BASF Corp., Florham Park, NJ
²Croda, Inc., Edison, NJ
³Innospec Active Chemicals, Edison, NJ

TRADEMARKS
VANATURAL is a registered trademark of Vanderbilt Minerals, LLC.
Cetiol is a registered trademark of Cognis GmbH.
Crodafos is a trademark of Croda, Inc.
Emulgade is a registered trademark of Cognis GmbH.
Finester is a trademark of Innospec Performance Chemicals Company.

Rev04/17/2017

Dry Skin Treatment Lotion No. 362

		Wt. %
A	VEEGUM® R Magnesium Aluminum Silicate	1.40
	VANZAN® NF Xanthan Gum	0.35
	Water	72.25
	Glycerin	4.00
B	Cetyl Acetate (and) Acetylated Lanolin Alcohol (Acetulan® ¹)	4.00
	C12-15 Alkyl Benzoate (Finsolv® TN ²)	4.00
	Hydrogenated Polyisobutylene (Parleam® ³)	3.00
	Cocoa Butter	4.00
	Petrolatum	2.00
	Glyceryl Stearate (and) PEG-100 Stearate (Arlacel® 165 VEG ⁴)	5.00
C	Preservative, Fragrance	q.s.

Procedure: While heating the water to 70-75°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, mixing until uniform. Maintain the water phase at 70-75°C. Blend the Part B oil phase ingredients and heat to 70-75°C. Add the oil phase to the water phase with good agitation; mix until uniform. Cool with mixing; add the Part C ingredients in order when the emulsion is <30°C.

RAW MATERIAL SUPPLIERS

- ¹Lubrizol Advanced Materials, Inc., Cleveland, OH
- ²Innospec Active Chemicals, Edison, NJ
- ³Rossow Cosmetiuges – USA, Matawan, NJ
- ⁴Croda, Inc., Edison, NJ

TRADEMARKS

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Acetulan is a registered trademark of The Lubrizol Corporation.
Arlacel is a registered trademark of Uniqema Americas LLC.
Finsolv is a registered trademark of Innospec Performance Chemicals Company.
Parleam is a registered trademark of Rossow.

Rev01/21/2013

Green Tea Instant Face Mask No. 626

	Wt. %
VEEGUM® CH Magnesium Aluminum Silicate	5
Kaolin Clay, Cosmetic Grade	67
Zinc Oxide or Calamine, USP	20
Polyvinylpyrrolidone (PVP K-30 ¹)	5
Allantoin	2
Camellia Sinensis Leaf Extract (Green Tea Extract ²)	1

Procedure: Mix powders until uniformly blended.

Use: Mix powder with sufficient water, witch hazel or honey to make a spreadable paste.

RAW MATERIAL SUPPLIERS	TRADEMARKS
¹ Ashland Specialty Ingredients, Wilmington, DE	VEEGUM is a registered trademark of Vanderbilt Minerals, LLC.
² Greentech USA, Yarmouth, ME	

Rev06/13/2016

Moisturizing Cream with Sunscreen No. 568

		Wt.%
A	VEEGUM® <i>Ultra</i> Magnesium Aluminum Silicate	1.5
	Water	74.5
	Glycerin, 96%	4.0
	Zinc Oxide (Zinc Oxide Neutral ¹)	2.0
B	Emulsifying Wax NF (Polawax™ NF ²)	12.0
	PPG-2 Myristyl Ether Propionate (Crodamol™ PMP ²)	4.0
	Octyl Methoxycinnamate (Neo Heliopan® AV ¹)	2.0
C	Preservative	q.s.

Procedure: While heating the water to 75-80°C, slowly add the **VEEGUM® *Ultra*** while mixing at maximum available shear. Mix until fully hydrated. Add the remaining water phase ingredients, mixing until the zinc oxide is uniformly dispersed. Maintain the water phase at 75-80°C. Blend the Part B oil phase ingredients and heat to 75-80°C. Add the oil phase to the water phase with good agitation; mix until uniform. Cool with mixing; add Part C when the emulsion is <30°C.

RAW MATERIAL SUPPLIERS

¹Symrise, Teterboro, NJ
²Croda, Inc., Edison, NJ

TRADEMARKS

VEEGUM is a registered trademark of Vanderbilt Minerals, LLC.
Crodamol and Polawax are trademarks of Croda, Inc.
Neo Heliopan is a registered trademark of Haarmann & Reimer GmbH.

Rev04/25/2013

Sun Protection Cream No. 566

		Wt. %
A	VEEGUM® <i>Ultra</i> Magnesium Aluminum Silicate	1.0
	Water	57.8
	Glycerin, 96%	2.7
	Zinc Oxide (Zinc Oxide Neutral ¹)	10.0
B	Glyceryl Stearate (and) PEG-100 Stearate (Arlacel® 165 ²)	4.0
	Cetareth-20 (Eumulgin® B-2 ³)	1.0
	Cetearyl Alcohol	3.0
	Caprylic/Capric Triglyceride (Neobee® M-5 ⁴)	4.0
	Dicaprylyl Ether (Cetiol® OE ³)	3.0
	Dimethicone (Xiameter® PMX-200 Silicone Fluid 350cs ⁵)	1.0
	Octyl Salicylate (Neo Heliopan® OS ¹)	5.0
	Octyl Methoxycinnamate (Neo Helipan® AV ¹)	7.5
C	Preservative, Fragrance	q.s.

Procedure: Begin heating the water to 75-80°C. Slowly add the **VEEGUM® *Ultra*** to the water agitated at maximum available shear. Mix until fully hydrated. Add the remaining water phase ingredients; mix until the zinc oxide is uniformly dispersed. Maintain the water phase at 75-80°C. Heat Part B to 75-80°C. Add Part B to Part A; homogenize for 5 minutes at 75-80°C. Cool while mixing slowly to 40°C. Add Part C and mix until homogeneous.

RAW MATERIAL SUPPLIERS

- ¹Symrise, Teterboro, NJ
- ²Croda, Inc., Edison, NJ
- ³BASF Care Creations, Florham Park, NJ
- ⁴Stepan Company, Northfield, IL
- ⁵Dow Corning Corporation, Midland, MI

TRADEMARKS

- VEEGUM** is a registered trademark of Vanderbilt Minerals, LLC.
- Arlacel is a registered trademark of Uniqema Americas LLC.
- Cetiol and Eumulgin are registered trademarks of Cognis GmbH Corporation.
- Neobee is a registered trademark of Stepan Company.
- Neo Heliopan is a registered trademark of Haarmann & Reimer GmbH.
- Xiameter is a registered trademark of Dow Corning Corporation.

Rev04/25/2013

Washing Cream for Sensitive Skin No. 505

		Wt. %
A	VEEGUM® Ultra Magnesium Aluminum Silicate	2.0
	Water	63.0
B	Sodium Cocoyl Isethionate (Pureact™ I-78 ¹)	25.0
	Cocamidopropyl Hydroxysultaine (Mirataine® CBS ²)	10.0
C	Preservative	q.s.

Procedure: While heating the water to 60-65°C, slowly add the **VEEGUM® Ultra** while agitating at maximum available shear. Continue mixing until fully hydrated. Maintaining temperature, slowly add Part B ingredients in the order shown, mixing after each addition until smooth and uniform. Cool with mixing to < 45°C and then add Part C. Adjust as necessary to pH 5.5 ± 0.5.

RAW MATERIAL SUPPLIERS

¹Innospec Active Chemicals, Edison, NJ

²Solvay Novecare, Bruxelles, Belgium

TRADEMARKS

VEEGUM is a registered trademark of Vanderbilt Minerals, LLC.

Mirataine is a registered trademark of Rhone-Poulenc, Inc.

Pureact is a trademark of Innospec Performance Chemicals Company.

Rev01/31/2013

Exfoliating Facial Scrub Containing Tea Tree Oil No. 555

		Wt. %
A	Water	71.13
	VANZAN® NF-C Xanthan Gum	1.10
	Disodium EDTA	0.05
B	Cocamidopropyl Betaine (Amphosol® CA ¹)	10.00
	Decyl Glucoside (Plantaren® 2000N ²)	6.60
	Water (and) Melaleuca Oil (and) Ethoxylated Castor Oil (and) Polysorbate 20 (Water-Soluble Tea Tree Oil ³)	10.00
	Melaleuca Alternifolia Leaf Powder (Melafresh® Exfol 100 ³)	1.00
C	Preservative	q.s.
	Triethanolamine	0.12

Procedure: Sift the **VANZAN® NF-C** into the water agitated at maximum available shear. Mix until completely dissolved. Add Part B ingredients separately, mixing after each until uniform. Avoid air entrapment. Add the preservative and mix until uniform. Add triethanolamine to adjust pH to 6.5 ± 0.5.

RAW MATERIAL SUPPLIERS

¹Stepan Company, Northfield, IL
²BASF Care Creations, Florham Park, NJ
³Southern Cross Botanicals PTY Ltd., Lennox Head, NSW, Australia

TRADEMARKS

VANZAN is a registered trademark of Vanderbilt Minerals, LLC.
Amphosol is a registered trademark of Stepan Company.
Melafresh is a registered trademark of Juldor Pty Ltd.
Plantaren is a registered trademark of Cognis GmbH.

Rev01/21/2013

Body Wash Spray No. 500

		Wt. %
A	VEEGUM® Ultra Magnesium Aluminum Silicate	2.0
	Water	58.5
B	Disodium Laureth Sulfosuccinate (Stepan Mild-SL3 ¹)	13.0
	Cocamidopropyl Hydroxysultaine (Mirataine® CBS ²)	5.0
	Polysorbate 20 (Tween® 20 ³)	1.5
	Cocaimdopropyl Betaine (Amphosol® CA ¹)	3.0
	Sodium Laureth Sulfate (Steol® CS-230 ¹)	14.0
	Jojoba Esters (Floresters™-15 ⁴)	3.0
C	Preservative, Fragrance	q.s.

Procedure: Slowly add the **VEEGUM® Ultra** to the water while mixing at maximum available shear. Mix until fully hydrated. At reduced mixing speed, very slowly add the Part B ingredients in the order shown, mixing after each addition until uniform. Add the Part C ingredients and adjust as necessary to pH 5.5 ± 0.5.

RAW MATERIAL SUPPLIERS

- ¹Stepan Company, Northfield, IL
- ²Solvay Novecare, Bruxelles, Belgium
- ³Croda, Inc., Edison, NJ
- ⁴Floratech Americas, Chandler, AZ

TRADEMARKS

VEEGUM is a registered trademark of Vanderbilt Minerals, LLC.
Amphosol and Steol are registered trademarks of Stepan Company.
Floresters is a trademark of International Flora Technologies, Ltd.
Mirataine is a registered trademark of Rhone-Poulenc, Inc.
Tween is a registered trademark of Uniqema Americas LLC

Rev04/25/2013

Clear After-Sun Moisturizing Gel No. 546

		Wt. %
A	Water	83.85
	VANZAN® NF-C Xanthan Gum	1.00
B	Glycerin (and) Water (and) Sodium Polyacrylate (and) PVM/MA Copolymer (Zilgel™ Oil ¹)	5.00
	Butylene Glycol (and) Water (and) Codium Tomentosum Extract (Codiavelane™ -BG/PF ²)	2.00
	Aloe Barbadensis Leaf Juice (Aloe Vera Gel, Regular 40X ³)	1.00
C	Glycerin	1.00
	Propylene Glycol (and) Diazolidinyl Urea (and) Methylparaben (and) Propylparaben (Germaben® II ⁴)	1.00
	Water	5.00
D	Triethanolamine	0.15
	Color (optional)	q.s.

Procedure: Sift the **VANZAN® NF-C** Xanthan Gum into an established vortex and mix until completely dissolved. Add Part B ingredients separately, mixing after each addition until homogeneous. Pre-mix Part C and heat to clarity. Add the pre-mix to the batch and mix until clear and homogeneous. Adjust pH to 6.5 ± 0.5 with triethanolamine and add color, if desired.

RAW MATERIAL SUPPLIERS

¹Presperse, Inc., Somerset, NJ
²Argan, Co., Northridge, CA
³Terry Laboratories, LLC, Melbourne, FL
⁴Ashland, Inc. (Ashland Specialty Ingredients), Wayne, NJ

TRADEMARKS

VANZAN is a registered trademark of Vanderbilt Minerals, LLC.
Codiavalene is a trademark of Argan, Co.
Germaben is a registered trademark of ISP Investments, Inc.
Zilgel is a trademark of Presperse, Inc.

Rev02/05/2013

Moisturizing Lotion with Hydractin® No. 551

		Wt.%
A	Water	88.00
	VEEGUM® R Magnesium Aluminum Silicate	2.00
	VANZAN® NF Xanthan Gum	1.00
B	Coco-Caprylate/Caprate (Cetiol® LC ¹)	5.00
	DEA-Oleth-3 Phosphate (Crodafos™ O3D ²)	1.00
C	Water (and) Glycerin (and) Disodium Adenosine Triphosphate (and) Algin (and) Carica (Papaya) Fruit Extract (Hydractin® ³)	3.00
D	Preservative	q.s.

Procedure: Dry blend the **VEEGUM® R** and **VANZAN® NF** and sift (or add sequentially) into an established vortex in the water. Mix at maximum available shear until fully hydrated. Pre-mix components of Part B and add to Part A. Mix thoroughly under maximum available shear. Add Part C and mix under maximum available shear until homogeneous. Reduce speed, add Part D and mix until homogeneous.

RAW MATERIAL SUPPLIERS

¹BASF Corporation, Florham Park, NJ

²Croda, Inc., Edison, NJ

³RAHN AG, Zurich, Switzerland

TRADEMARKS

VEEGUM and **VANZAN** are registered trademarks of Vanderbilt Minerals, LLC.

Cetiol is a registered trademark of Cognis GmbH.

Crodafos is a trademark of Croda, Inc.

Hydractin is a registered trademark of Rahn AG.

Rev07/17/2017

BB Cream No. 617

		Wt. %
A	VEEGUM® <i>Ultra</i> Magnesium Aluminum Silicate	1.50
	Water	59.62
	Propanediol (Zemea® Propanediol ¹)	5.00
	Disodium EDTA	0.20
	Panthenol and Propylene Glycol (D-Panthenol 50-P ²)	0.40
B	Iron Oxides (and) Microcrystalline Cellulose (C2-5 Yellow LLXLO ³)	0.40
	Iron Oxide (C.I. 77491) (and) Cellulose (C2-5 Red R-516L ³)	0.10
	Iron Oxide (C.I. 77499) (and) Cellulose (C2-5 Black BL-100 ³)	0.03
	Titanium Dioxide (and) Cellulose (and) Alumina (C2-5 TiO ₂ CR-50 ³)	3.50
C	Crambe Abyssinica Seed Oil (Fancor® Abyssinian Oil ⁴)	2.50
	Dimethicone (XIAMETER® PMX-200 Silicone Fluid 350cs ⁵)	1.00
	Polyglyceryl-3 distearate (Cremophor® GS 32 ²)	3.10
	Ceteareth-25 (Cremophor® A 25 ²)	1.50
	Cetearyl Alcohol	3.00
	Glyceryl Stearate (and) PEG-100 Stearate (Arlacel®165 VEG ⁶)	2.00
	Ethyl Hexyl Methoxycinnamate (Neo Heliopan® AV ⁷)	7.50
D	Mica (and) Titanium Dioxide (and) Ethylene/Methacrylate Copolymer (and) Isopropyl Titanium Triisostearate (SPC/KTZ Interval Gold-12 ³)	0.15
E	Preservative	q.s.
	Lactobacillus/Salix Alba Bark Ferment Filtrate (Prorevive BB Complex ⁸)	5.50
	Triethanolamine, 99%	q.s.

Procedure: While heating the water to 70-75°C, slowly add the **VEEGUM® *Ultra*** while agitating at maximum available shear. Mix until fully hydrated. Add the remaining Part A water phase ingredients. Combine the Part B ingredients, then add to Part A and mix until smooth. Maintain the water phase at 70-75°C. Combine the Part C, oil phase ingredients and heat to 70-75°C. Add the oil phase to the water phase with good agitation; mix until uniform. Switch to low shear mixing, then add the SPC/KTZ Interval Gold-12 (Part D). Cool while mixing to 30-35°C, then add the preservative followed by the Prorevive BB complex to the emulsion, mixing after each addition until uniform. Adjust as necessary to pH 6.0 ± 0.5 with triethanolamine.

RAW MATERIAL SUPPLIERS

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

²BASF Corporation, Florham Park, NJ

³Kobo Products, Inc., South Plainfield, NJ

⁴Elementis Specialties, Hightstown, NJ

⁵Dow Corning Corporation, Midland, MI

⁶Croda, Inc., Edison, NJ

⁷Symrise, Teterboro, NJ

⁸Active Concepts, LLC, Lincolnton, NC

TRADEMARKS

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Arlacel is a registered trademark of Uniqema Americas LLC.

Cremophor is a registered trademark of BASF Aktiengesellschaft.

Fancor is a registered trademark of Elementis Specialties, Inc.

Neo Heliopan is a registered trademark of Haarmann & Reimer GmbH.

Xiameter is a registered trademark of Dow Corning Corporation.

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

CC Cream No. 618

		Wt.%
A	VEEGUM® <i>Ultra</i> Magnesium Aluminum Silicate	1.50
	Water	61.27
	Propanediol (Zemea® Propanediol ¹)	5.00
	Disodium EDTA	0.20
	Panthenol and Propylene Glycol (D-Panthenol 50-P ²)	0.40
B	Iron Oxides (and) Microcrystalline Cellulose (C2-5 Yellow LLXLO ³)	0.40
	Iron Oxide (C.I. 77491) (and) Cellulose (C2-5 Red R-516L ³)	0.10
	Iron Oxide (C.I. 77499) (and) Cellulose (C2-5 Black BL-100 ³)	0.03
	Titanium Dioxide (and) Cellulose (and) Alumina (C2-5 TiO ₂ CR-50 ³)	3.50
C	Crambe Abyssinica Seed Oil (Fancor® Abyssinian Oil ⁴)	2.50
	Dimethicone (Xiameter® PMX-200 Silicone Fluid 350cs ⁵)	1.00
	Polyglyceryl-3 distearate (Cremophor® GS 32 ²)	3.00
	Ceteareth-25 (Cremophor® A 25 ²)	1.50
	Cetearyl alcohol	3.00
	Tocopherol Acetate (Vitamin E Acetate Care DL-alpha-Tocopherol acetate ²)	0.50
	Glyceryl Stearate (and) PEG-100 Stearate (Arlacel®165 VEG ⁶)	2.00
	Ethyl Hexyl Methoxycinnamate (Neo Heliopan® AV ⁷)	7.50
	Mica (Sericite GMS-4C ³)	3.00
D	Glycyrrhizza Glabra (Licorice) Root Extract (Licorice Extract CG 4% ⁸)	0.50
	Ethanol, USP	3.00
E	Retinyl Palmitate (Vitamin A Palmitate 1.7 Mio I.E./g ²)	0.10
F	Preservative	q.s.
	Triethanolamine, 99%	q.s.

Procedure: While heating the water to 70-75°C, slowly add the **VEEGUM® *Ultra*** while agitating at maximum available shear. Mix until fully hydrated. Add the remaining Part A water phase ingredients. Combine the Part B ingredients, then add to Part A and mix until smooth. Maintain the water phase at 70-75°C. Combine the Part C, oil phase ingredients and heat to 70-75°C. Add the oil phase to the water phase with good agitation; mix until uniform. Cool while mixing to 40-45°C. Dissolve the licorice extract in the ethanol under agitation and then add Part D to the emulsion. Warm the retinyl palmitate to liquefy and make uniform prior to weighing out. Add the retinyl palmitate and mix until uniform. Continue to cool while mixing to 30-35°C, then add the preservative. Mix until uniform. Adjust as necessary to pH 6.0 ± 0.5 with triethanolamine.

RAW MATERIAL SUPPLIERS

- ¹DuPont Tate & Lyle Bio Products Company, LLC, Wilmington, DE
- ²BASF Corporation, Florham Park, NJ
- ³Kobo Products, Inc., South Plainfield, NJ
- ⁴Elementis Specialties, Hightstown, NJ
- ⁵Dow Corning Corporation, Midland, MI
- ⁶Croda, Inc., Edison, NJ
- ⁷Symrise, Teterboro, NJ
- ⁸Sabinsa Corporation, Piscataway, NJ

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



Vanderbilt Minerals, LLC

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