

 **Vanderbilt Minerals, LLC**

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

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**FORMULARY
BABY CARE**

Formulations No. 929



BABY CARE FORMULARY

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 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, exocellular 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 proper hydration of the clay and the formation of the colloidal structure. 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 increases. With **VEEGUM Ultra** and **VANATURAL XGB**, adequate hydration can be achieved quickly using room temperature water and a low shear mixing.

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 BABY CARE FORMULATIONS

Smectite Clays:

VANATURAL®	Rapidly hydrating high purity bentonite clay.
VANATURAL MC	Rapidly hydrating high purity bentonite clay. Microbiology controlled.
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 HS	A fast-hydrating grade with maximum electrolyte stability

Xanthan Gum:

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



FORMULARY

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Organic Skin Lotion No. 594

	Wt. %
A	VANATURAL [®] Bentonite Clay 2.5
	VANZAN [®] NF Xanthan Gum 0.5
	Water 56.0
B	Aloe Vera Gel, from Aloe Vera Whole Leaf Powder Organic Spray Dried 100X ¹ (1% powder/99% water) 20.0
C	Cetearyl Wheat Straw Glycosides (and) Cetearyl Alcohol (Xyliance ^{™2}) 5.0
	Butyrospermum Parkii (Shea) Butter (Shea Butter-Ultra Refined [™] Certified Organic ³) 3.5
	Theobroma Cacao (Cocoa) Seed Butter (Cocoa Butter-Ultra Natural [™] Certified Organic ³) 3.5
	Persea Gratissima (Avocado) Oil (Avocado Oil Certified Organic ³) 6.0
	Simmondsia Chinensis (Jojoba) Seed Oil (Jojoba Oil-Natural Golden-Certified Organic ³) 3.0
D	Preservative q.s.

Procedure: While heating the water to 75°C, slowly add the **VANATURAL**[®] and **VANZAN**[®] NF (sequentially or as a dry blend) while mixing at maximum available shear. Mix until fully hydrated. Prepare Part B by dissolving aloe vera powder in water then add slowly to Part A. Maintain the water phase temperature at 75°C. Combine Part C ingredients and heat to 75°C. Add Part C oil phase to Part A/B water phase and mix thoroughly. Cool with mixing; add Part D when the emulsion is <30°C.

RAW MATERIAL SUPPLIERS
¹Terry Laboratories, Inc., Melbourne, FL

²Actives International, Allendale, NJ

³BioChemica Int'l, Inc., Melbourne, FL

TRADEMARKS

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Ultra Natural and Ultra Refined are trademarks of BioChemica International, Inc.

Xyliance is a trademark of Soliance.

Rev01/30/2013

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

²Gatefosse Corporation, Paramus, NJ

³Desert Whale Jojoba Co., Inc., Tucson, AZ

⁴Dow Corning Corporation, Midland, MI

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Abil is a registered trademark of Goldschmidt GmbH Corporation.

Emulium is a registered trademark of Gatefosse SAS.

Tegosoft is a registered trademark of Goldschmidt GmbH.

Xiameter is a registered trademark of Dow Corning Corporation.

rev04/17/2017

Oatmeal Lotion No. 586

	Wt. %	
A	VANATURAL [®] or VANATURAL MC Bentonite Clay	2.50
	Water	73.25
	Avena Sativa (Oat) Kernel Flour (Tech [®] O #11-070 Oat Flour ¹)	1.00
	VANZAN [®] NF Xanthan Gum	0.50
	Sucrose Stearate (Surfhope [®] SE Cosme C-1811 ²)	1.75
B	Sodium PCA (Ajidew [®] NL-50 ³)	3.00
	Glycerin, 96%	5.00
C	Glyceryl Stearate (and) PEG-100 Stearate (Arlacel [®] 165 ⁴)	2.00
	Hydrogenated Polyisobutene (Parleam ^{®5})	4.00
	Mineral Oil (and) Lanolin Alcohol (Vivanolin [™] L-101 ⁶)	3.00
	Cetyl Alcohol	2.00
	Isopropyl Myristate	2.00
D	Preservative	q.s.
	Citric Acid, 20%	q.s.

Procedure: While heating the water to 50-55°C, 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 and mix thoroughly. 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 preservative when the emulsion is <35°C. Adjust pH to 5.5 ± 0.5 with citric acid.

RAW MATERIAL SUPPLIERS
¹Beacon CMP Corporation, Kenilworth, NJ

²Lonza, Inc., Allendale, NJ

³Ajinimoto USA, Inc., Fort Lee, NJ

⁴Croda, Inc., Edison, NJ

⁵Rosow Cosmetiques-USA, Laurel, NY

⁶Lubrizol Advanced Materials, Inc., Cleveland, OH

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Ajidew is a registered trademark of Ajinomoto Company, Inc.

Arlacel is a registered trademark of Uniqema Americas LLC.

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

Surfhope is a registered trademark of Mitsubishi Chemical Corporation.

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

Vivanolin is a trademark of Lubrizol Advanced Materials, Inc.

rev04/17/2017

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 (Tomasia 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
¹Actives International, Allendale, NJ

²Croda, Inc., Edison, NJ

³Desert Whale Jojoba Co., Inc., Tucson, AZ

⁴Tri-K Industries, Inc., Northvale, NJ

⁵RITA Corporation, Crystal Lake, IL

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Cropure is a registered trademark of Croda, Inc.

Xyliance is a trademark of Soliance.

Rev01/21/2013

Natural Skin Cream No. 599

	Wt. %
A	VANATURAL[®] XGB Bentonite Clay 3.00
	Sucrose Stearate (Surfhope [®] SE Cosme C-1811 ¹) 1.25
	Avena Sativa (Oat) Kernal Flour (Tech-O [®] #11-070 Oat Flour ²) 1.00
	Water 81.75
B	Propanediol (Zemea [®] Propandiol ³) 5.00
C	Triticum Vulgar (Wheat) Germ Oil (Wheat Germ Oil ⁴) 5.00
	Cetearyl Alcohol 3.00
D	Preservative q.s.

Procedure: While heating the water to 60-65°C, slowly add the Part A ingredients sequentially or as a dry blend to the water agitated at maximum available shear. Mix until the **VANATURAL[®] XGB** is fully hydrated. Add Part B, and mix until uniform. Maintain the water phase at 60-65°C. Combine the oil phase ingredients in Part C and heat to 60-65°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

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

²Beacon CMP Corp., Kenilworth, NJ

³DuPont Tate & Lyle Bio Products Company, LLC, Wilmington, DE

⁴Desert Whale Jojoba Co., Inc., Tucson, AZ

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Surfhope is a registered trademark of Mitsubishi Chemical Corporation.

Tech_O is a registered trademark of Beacon CMP Corporation.

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

Rev07/02/2013

Aloe & Oatmeal Soothing Poultice No. 598

	Wt.%
VEEGUM[®] HS Magnesium Aluminum Silicate	5.0
Kaolin USP	89.0
Aloe Barbadosensis Leaf Juice (and) Maltodextrin (Terra-Spray [™] Spray Dried	1.0
Aloe Vera Powder 100X ¹)	
Avena Sativa (Oat) Kernel Flour (Tech-O [®] #11-070 Oat Flour ²)	5.0

Procedure: Dry blend all ingredients.

Use: By volume, mix about 1 part water into 4 parts of poultice powder and mix to form a smooth paste.

RAW MATERIAL SUPPLIERS

¹Terry Laboratories, Melbourne, FL

²Beacon CMP Corporation, Kenilworth, NJ

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

Terra-Spray is a trademark of Terry Laboratories.

Rev07/02/2013

Vitamin Enriched Barrier Cream No. 490

	Wt. %
A	VEEGUM[®] Ultra Magnesium Aluminum Silicate 0.80
	Carbomer (Carbopol [®] 934 ¹) 0.30
	Water 79.00
B	Glycerin 2.00
	Butylene Glycol 2.00
C	Cetyl Alcohol 0.50
	Glyceryl Monostearate SE 2.00
	Caprylic/Capric Triglyceride (Neobee [®] M-5 ²) 2.00
	C12-15 Octanoate (Finester [™] EH-25 ³) 2.00
	Castor Oil/IPDI Copolymer (Polyderm [™] PPI CO ⁴) 1.00
	Phenyl Dimethicone (DC 556 Fluid ⁵) 3.00
	Dimethicone (XIAMETER [®] PMX-200 Silicone Fluid 350cs ⁵) 1.00
	Bois Oil 0.50
	Steareth-2 (Brij [®] S2 ⁶) 0.95
Steareth-21 (Brij [®] S721 ⁶) 0.95	
D	Panthenol 1.00
	Vitamin E Acetate 0.50
	Vitamin A Palmitate 0.50
	Triethanolamine (to pH 5.8 ± 0.3) q.s.
E	Preservative, Fragrance q.s.

Procedure: Begin heating the water to 80°C. Slowly add the **VEEGUM[®] Ultra** and carbomer sequentially or as a dry blend to the water agitated at maximum available shear. Mix until fully hydrated. Add the remaining water phase ingredients from Part B, mixing until uniform. Maintain the water phase to 80°C. Blend the Part C oil phase ingredients and heat to 80°C. Add the oil phase to the water phase with good agitation; mix until uniform. Cool while mixing; add the Part D and Part E ingredients when the emulsion is <35°C. Adjust as necessary to pH 5.8 ± 0.3.

RAW MATERIAL SUPPLIERS
¹Lubrizol Advanced Materials Inc., Cleveland, OH

²Stepan Company, Northfield, IL

³Innospec Active Chemicals, Edison, NJ

⁴Alzo International Inc., Sayreville, NJ

⁵Dow Corning Corporation, Midland, MI

⁶Croda, Inc., Edison, NJ

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Finester is a registered trademark of Innospec Performance Chemicals Company.

Neobee is a registered trademark of Stepan Company.

Polyderm is a trademark of Alzo Investments.

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 SUPPLIERS¹Innospec Active Chemicals, Edison, NJ²Solvay Novecare, Bruxelles, Belgium**TRADEMARKS**

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

Pureact is a trademark of Innospec Performance Chemicals Company.

Rev01/31/2013

Baby Wash No. 553

		Wt. %
A	VANZAN[®] NF-C Xanthan Gum	1.0
	Water	76.2
B	C12-15 Alky Benzoate (Finsolv [®] TN ¹)	5.0
	PEG-14 Dimethicone (Dow Corning [®] 193 ²)	1.2
C	Cocamidopropyl Betaine (Amphosol [®] CA ³)	10.0
	Decyl Glucoside (Plantaren [®] 2000N ⁴)	6.6
D	Preservative	q.s.

Procedure: Sift the **VANZAN[®] NF** into the water agitated at maximum available shear. Mix until completely dissolved. Blend Part B ingredients, then add to Part A and mix thoroughly. Add Part C ingredients separately and mix thoroughly after each addition. Avoid air entrapment. Add the preservative and mix until uniform.

RAW MATERIAL SUPPLIERS¹Innospec Active Chemicals, Edison, NJ²Dow Corning Corporation, Midland, MI³Stepan Chemical Co., Northfield, IL⁴Cognis Corporation, Ambler, PA**TRADEMARKS**

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Rev07/01/2013



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Driving Safety & Sustainability



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