



Distributed in the Interest
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VANDERBILT *Minerals*

Baby Care Formulary No. 929



**Vanderbilt Minerals, LLC, 33 Winfield Street, P.O. Box 5150, Norwalk, CT 06856-5150
Telephone: (800) 562-2476 - Fax: (203) 855-1220 - Web Site: vanderbiltminerals.com**

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Baby Care Formulary No. 929

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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 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, 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.

The following table provides guidelines for the minimum amounts of time suggested for the hydration of **VANATURAL** and **VEEGUM** products. Actual hydration times 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 HS	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.

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 for most personal care applications.
- 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.

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Baby Care Formulary No. 929

FORMULARY

Organic Baby Lotion No. 594
Soothing Skin Cream with Jojoba Oil No. 571
Oatmeal Lotion No. 586
All Natural Shea Butter/Cocoa Butter Lotion No. 589
Natural Skin Cream No. 599
Aloe & Oatmeal Soothing Poultice No. 598
Skin Protectant Barrier Cream No. 490
Baby Washing Cream No. 505
Baby Wash No. 553

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VANDERBILT

Minerals Formula

Organic Baby Lotion No. 594

	Wt.%
A VANATURAL [®] Bentonite Clay (Bentonite)	2.50
VANZAN [®] NF Xanthan Gum	0.50
Water	56.0
B Aloe Vera Gel, from Aloe Vera Whole Leaf Powder Organic Spray Dried	20.0
100X ¹ (1% powder/99% water)	
C Cetearyl Wheat Straw Glycosides (and) Cetearyl Alcohol (Xyliance ^{TM2})	5.0
Butyrospermum Parkii (Shea) Butter (Shea Butter-Ultra Refined TM Certified Organic ³)	3.5
Theobroma cacao (cocoa) seed butter (Cocoa Butter-Ultra Natural TM 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

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VANDERBILT

Minerals Formula

Soothing Skin Cream with Jojoba Oil No. 571

	Wt. %
A VANATURAL [®] Bentonite Clay (Bentonite)	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
<i>Simmondsia Chinesis</i> (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** 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 Part C 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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VANDERBILT

Minerals Formula

Oatmeal Lotion No. 586

	Wt. %
A VANATURAL [®] Bentonite Clay (Bentonite)	2.50
Water	73.25
Avena Sativa (Oat) Kernel Flour (Tech-O [®] #11-070 Oat Flour ¹)	1.00
VANZAN [®] NF Xanthan Gum	0.5
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 VEG ⁴)	2.00
Hydrogenated Polyisobutylene (Parleam [®] ⁵)	4.00
Mineral Oil (and) Lanolin Alcohol (Vilvanolin [™] 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** into the water agitated at maximum available shear. Once dispersed, slowly sift in the oat flour. Mix until the **VANATURAL** 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
- ²Arch Personal Care Products L.P., South Plainfield, NJ
- ³Ajinimoto USA, Inc., Fort Lee, NJ
- ⁴Croda Inc., Edison, NJ
- ⁵Rossow Cosmetiques-USA, Matawan, NJ
- ⁶Lubrizol Advanced Materials, Inc., Cleveland, OH

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- Parleam is a registered trademark of Etablissements B. Rossow et Cie.
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- Tech-O is a registered trademark of Beacon CMP Corporation.
- Vilvanolin is a trademark of Lubrizol Advanced Materials, Inc.

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VANDERBILT

Minerals Formula

All Natural Shea Butter/Cocoa Butter Lotion No. 589

	Wt. %
A VANATURAL [®] Bentonite Clay (Bentonite)	2.5
VANZAN [®] NF Xanthan Gum	0.5
Water	78.0
B Cetearyl Wheat Straw Glycosides (and) Cetearyl Alcohol (Xyliance ^{TM1})	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 (Tomasa 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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VANDERBILT

Minerals Formula

Natural Skin Cream No. 599

	Wt. %
A VANATURAL[®] XGB Bentonite Clay (Bentonite (and) Xanthan Gum)	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 Vulgare (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

- ¹ Arch Personal Care Products L.P., South Plainfield, NJ
² Beacon CMP Corp., Kenilworth, NJ
³ DuPont Tate & Lyle Bio Products Company, LLC, Wilmington, DE
⁴ Desert Whale Jojoba Co., Inc., Tucson, AZ

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VANDERBILT

Minerals Formula

Aloe & Oatmeal Soothing Poultice No. 598

	Wt. %
VEEGUM[®] HS Magnesium Aluminum Silicate (Magnesium Aluminum Silicate)	5.0
Kaolin USP	89.0
Aloe Barbadosensis Leaf Juice (and) Maltodextrin (Terra-Spray [™] Spray Dried Aloe Vera Powder 100X ¹)	1.0
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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Minerals Formula

Skin Protectant Barrier Cream No. 490

		Wt. %
A	VEEGUM[®] Ultra Magnesium Aluminum Silicate (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
	C ₁₂₋₁₅ Octanoate (Finester [™] EH-25 ³)	2.00
	Castor Oil Polyurethane (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 at 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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VANDERBILT

Minerals Formula

Baby Washing Cream No. 505

		Wt. %
A	VEEGUM® <i>Ultra</i> 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

²Rhodia Inc., Cranbury, NJ

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

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VANDERBILT

Minerals Formula

Baby Wash No. 553

		Wt. %
A	VANZAN [®] NF Xanthan Gum	1.0
	Water	76.2
B	C12-15 Alkyl 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 SUPPLIERS

¹Innospec Active Chemicals, Edison, NJ

²Dow Corning Corporation, Midland, MI

³Stepan Chemical Co., Northfield, IL

⁴Cognis Corporation, Ambler, PA

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Dow Corning is a registered trademark of Dow Corning Corporation.

Finsolv is a registered trademark of Innospec Performance Chemicals Company.

Plantaren is a registered trademark of Cognis GmbH Corporation. rev07/02/2013

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