

# Helping You Formulate For Them!





## ANIMAL CARE FORMULARY

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

The smectite clays, **VEEGUM** Magnesium Aluminum Silicate and **VANATURAL** Bentonite Clay, along with **VANZAN** Xanthan Gum, provide a natural solution to the challenge of effectively controlling the rheology and stability of animal care formulations. Dental pastes and gels extrude easily, cling to brush or finger, and spread easily on teeth. Topical emulsions remain stable even at elevated temperatures. Active ingredients remain uniformly suspended for exact dosing. Cleansing products are creamy and drip-free. In addition, **VANATURAL** Bentonite Clay is suitable for use in topical and cleansing preparations that are marketed as organic or as containing organic ingredients.

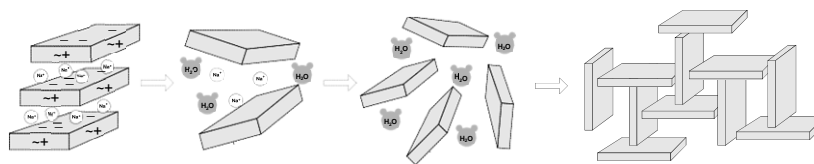
### VANATURAL AND VEEGUM CLAYS

<b>VANATURAL VANATURAL MC</b>	Rapidly hydrating, high purity bentonite clay for most animal care applications.
<b>VEEGUM Ultra</b>	A unique acidic smectite clay that is especially easy to hydrate.
<b>VEEGUM R</b>	The standard grade for a wide range of applications.
<b>VEEGUM HS</b>	The most electrolyte-tolerant grade. Purified Bentonite NF.

#### How They Work

Each clay granule is composed of millions of flake-shaped particles stacked in sandwich fashion with a layer of water between each. A single flake is one nanometer thick and up to several hundred nanometers across. The faces of these flakes carry a negative charge, while edges have a slightly positive charge. The net negative charge of the flake is balanced by sodium ions.

When clay and water are mixed, water penetrates between the flakes, forcing them further apart. Diffusion and osmosis then promote delamination until the flakes are completely separated. The speed with which platelet separation occurs is directly related to the amount of energy introduced during hydration. Both mechanical and thermal energy accelerate hydration: high shear mixing or warm water reduces hydration time. Once the clay is hydrated (i.e., the flakes are separated) the weakly positive flake edges are attracted to the negatively charged faces. A three dimensional colloidal structure forms that accounts for the characteristic stabilizing and thickening properties imparted by these clays.

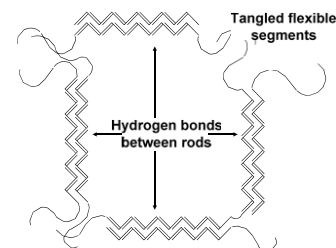


### VANZAN XANTHAN GUM

<b>VANZAN NF</b>	The standard grade for most animal care applications.
<b>VANZAN NF-C</b>	Produces clear solutions; used when product clarity is essential.

#### How They Work

The xanthan polymer's backbone is cellulose to which are attached trisaccharide side chains with carboxylate groups that give the gum its negative charge. In solutions of low ionic strength or at high temperature, the xanthan gum chains adopt a random coil configuration, because the anionic side chains are mutually repulsed. A small amount of electrolyte reduces this repulsion, allowing the side chains to wrap around and hydrogen bond to the backbone, forming a helical rod. At electrolyte concentrations  $>0.15M$ , the rigid helical rod is retained up to  $100^{\circ}C$ . A colloidal network forms, based on hydrogen bonding between the helical rods and polymer entanglement. This colloidal network makes xanthan gum an efficient thickener and stabilizer for water-based applications, and an effective synergist with **VANATURAL** and **VEEGUM** clays.





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**FORMULARY**

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Rubifacient Liniment No. A369

Natural Anti-Irritant Liniment No. A558

Analgesic Liniment No. A360

Cleansing Liniment Gel No. A557

Instant Poultice No. A590

Instant Poultice No. A591

Hoof Cleaner No. A576

Veterinary Cream No. A545

Protectant Hoof Cream No. A490

Veterinary Cream No. A571

Spray Shampoo No. A500

Sensitive Skin Washing Cream No. A505

Washing Gel with Tea Tree Oil No. A556

Oatmeal & Aloe Vera Cream Pet Shampoo No. A585

Sulfur and Salicylic Acid Shampoo No. A583

Sulfur Shampoo No. A584

Pet Toothpaste No. A582

**Rubifacient Liniment No. A369**

		<b>Wt. %</b>
<b>A</b>	<b>VEEGUM® R</b> Magnesium Aluminum Silicate	1.5
	Water	54.7
	FG-10 Antifoam <sup>1</sup>	0.2
	Propylene Glycol	3.0
<b>B</b>	Methyl Salicylate	15.0
	Menthol	5.0
	Polysorbate 80 (Tween® 80 <sup>2</sup> )	0.6
	C18-C36 Acid (Syncrowax™ AW1-C <sup>2</sup> )	5.0
	Glyceryl Stearate (and) PEG-100 Stearate (Arlacel® 165 <sup>2</sup> )	15.0
<b>C</b>	Preservative	q.s.

**Procedure:** While heating the water to 75-80°C, slowly add the **VEEGUM® R** to the water agitated at maximum available shear. Mix until fully hydrated. Add the remaining Part A ingredients and mix until uniform. Maintain the water phase at 75-80°C. Blend the Part B oil phase ingredients and heat to 75-80°C. Add Part B to Part A with good agitation. Cool with mixing; add the preservative when the emulsion is <40°C.

**RAW MATERIAL SUPPLIERS**<sup>1</sup>Dow Corning Corporation, Midland, MI<sup>2</sup>Croda, Inc., Edison, NJ**TRADEMARKS**

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Arlacel and Tween are registered trademarks of Uniqema Americas LLC.  
Syncrowax is a trademark of Croda, Inc.

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**Natural Anti-Irritant Liniment No. A558**

		<b>Wt. %</b>
<b>A</b>	<b>VEEGUM<sup>®</sup> R</b> Magnesium Aluminum Silicate	1.0
	<b>VANZAN<sup>®</sup> NF-C</b> Xanthan Gum	0.5
	Water	93.1
<b>B</b>	Water (and) Triticum Vulgare (Wheat) Germ Extract (and) Saccharomyces Cerevisiae Extract (and) Sodium Hyaluronate (Eashave <sup>TM1</sup> )	4.0
	Bisabolol ((±)-alpha-Bisabolol Synthetic <sup>2</sup> )	0.2
	Aloe Barbadensis Leaf Juice (Aloe Vera Gel Regular 40X-AG046 <sup>3</sup> )	1.0
	Allantoin	0.2
<b>C</b>	Preservative	q.s.

**Procedure:** Slowly add the **VEEGUM<sup>®</sup> R** and **VANZAN<sup>®</sup> NF** sequentially or as a dry blend to the water agitated at maximum available shear. Mix until fully hydrated. Add the Part B ingredients in the order listed and mix until uniform. Add Part C and mix until uniform. Adjust as necessary to pH  $6.5 \pm 0.5$ .

**RAW MATERIAL SUPPLIERS**

<sup>1</sup>Pentapharm Ltd., Basel Switzerland/Centerchem, Inc., Norwalk, CT

<sup>2</sup>BASF Corporation, Florham Park, NJ

<sup>3</sup>Terry Laboratories, Inc., Melbourne, FL

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Eashave is a trademark of Pentapharm Ltd.

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**Analgesic Liniment No. A360**

		<b>Wt. %</b>
<b>A</b>	<b>VEEGUM® R</b> Magnesium Aluminum Silicate	1.5
	Water	56.8
	Propylene Glycol	3.0
	10% Silicone Emulsion (FG-10 Antifoam Emulsion <sup>1</sup> )	0.2
<b>B</b>	Mineral Oil, Light	10.0
	Acetylated Lanolin Alcohol (Acetulan <sup>®2</sup> )	7.0
	Menthol, USP	1.0
	Benzocaine, USP	5.0
	Polysorbate 60 (Tween <sup>®</sup> 60 <sup>3</sup> )	0.5
	C18-C36 Acid (Syncrowax™ AW1-C <sup>3</sup> )	3.0
Glyceryl Stearate (and) PEG-100 Stearate (Arlacel <sup>®</sup> 165 <sup>3</sup> )	12.0	
<b>C</b>	Preservative	q.s.

**Procedure:** While heating the water to 75-80°C, slowly add the **VEEGUM® R** to the water agitated at maximum available shear. Mix until fully hydrated. Add the remaining Part A ingredients and mix until uniform. Maintain the water phase at 75-80°C. Blend the Part B oil phase ingredients and heat to 75-80°C, keeping the benzocaine suspended. Add Part B to Part A with good agitation. Cool with mixing; add the preservative when the emulsion is <40°C.

**RAW MATERIAL SUPPLIERS**<sup>1</sup>Dow Corning Corporation, Midland, MI<sup>2</sup>Lubrizol Advanced Materials, Inc., Cleveland, OH<sup>3</sup>Croda, Inc., Edison, NJ**TRADEMARKS**

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Acetulan is a registered trademark of The Lubrizol Corporation.

Arlacel and Tween are registered trademarks of Uniqema Americas LLC.

Syncrowax is a trademark of Croda, Inc.

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**Cleansing Liniment Gel No. A557**

		<b>Wt. %</b>
<b>A</b>	<b>VANZAN<sup>®</sup> NF-C</b> Xanthan Gum	1.00
	Water	80.74
	Disodium EDTA	0.05
<b>B</b>	Bisabolol (Alpha-Bisabolol Natural <sup>1</sup> )	0.20
	Ethanol, 96%	15.00
	Panthenol (and) Propylene Glycol (D-Panthenol 50P <sup>1</sup> )	1.00
	PEG-40 Hydrogenated Castor Oil (Cremophor <sup>®</sup> CO 40 <sup>1</sup> )	2.00
<b>C</b>	Preservative	q.s.

**Procedure:** Slowly add the **VANZAN<sup>®</sup> NF-C** to the water agitated at maximum available shear. Mix until fully dissolved. Add the disodium EDTA and mix until dissolved. Combine and mix the Part B ingredients until clear. Add Part B to Part A and mix until uniform. Add Part C and mix until uniform. Adjust as necessary to pH 6.5 ± 0.5.

**RAW MATERIAL SUPPLIERS**<sup>1</sup>BASF Corporation, Florham Park, NJ**TRADEMARKS**

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Cremophor is a registered trademark of BASF Aktiengesellschaft Corporation.

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**Instant Poultice No. A590**

	<b>Wt.%</b>
<b>VEEGUM® HS</b> Magnesium Aluminum Silicate	5
Kaolin USP	60
Sodium Bicarbonate	25
Avena Sativa (Oat) Kernel Flour (Tech-O® #11-070 Oat Flour <sup>1</sup> )	5
Precipitated Sulfur USP	5

**Procedure:** Dry blend all ingredients.

**Use:** By volume, mix about 1 part water or witch hazel into 4.5 parts of poultice powder and mix to form a smooth paste.

**RAW MATERIAL SUPPLIERS**

<sup>1</sup>Beacon CMP Corporation, Kenilworth, NJ

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

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**Instant Poultice No. A591**

	<b>Wt.%</b>
<b>VEEGUM<sup>®</sup> HS</b> Magnesium Aluminum Silicate	5.00
Kaolin USP	89.00
Aloe Barbadosensis Leaf Juice (and) Maltodextrin (Terra-Spray <sup>™</sup> Spray Dried	1.00
Aloe Vera Powder 100X <sup>1</sup> )	
Avena Sativa (Oat) Kernel Flour (Tech-O <sup>®</sup> #11-070 Oat Flour <sup>2</sup> )	5.00

**Procedure:** Dry blend all ingredients.

**Use:** By volume, mix about 1 part water, witch hazel or cider vinegar into 4 parts of poultice powder and mix to form a smooth paste.

**RAW MATERIAL SUPPLIERS**

<sup>1</sup>Terry Laboratories, Melbourne, FL

<sup>2</sup>Beacon CMP Corporation, Kenilworth, NJ

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Terra-Spray is a trademark of Terry Laboratories.

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

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**Hoof Cleaner No. A576**

	<b>Wt. %</b>
<b>A</b>   <b>VANATURAL</b> <sup>®</sup> Bentonite Clay	3.00
<b>VANZAN</b> <sup>®</sup> NF Xanthan Gum	0.75
Water	75.75
<b>B</b>   Decyl Glucoside (Plantaren <sup>®</sup> 2000N <sup>1</sup> )	7.00
<b>C</b>   Cocamidopropyl Betaine (Amphosol <sup>®</sup> CA <sup>2</sup> )	3.00
Propylene Glycol (and) Water (and) Mentha Piperita (Peppermint) Leaf	2.00
Extract (and) Mentha Piperita (Peppermint) Oil (Aromaphyte of Peppermint <sup>3</sup> )	
Water (and) Melaleuca Oil (and) Ethoxylated Castor Oil (and) Polysorbate 20	1.50
(Water-Soluble Tea Tree Oil <sup>4</sup> )	
<b>D</b>   Zea Mays (Corn) Cob Powder (Processed Corn Cob (60/100)) <sup>5</sup>	5.00
<b>E</b>   Cocamide DEA (Ninol <sup>®</sup> 40-CO <sup>2</sup> )	2.00
<b>F</b>   Preservative	q.s.

**Procedure:** Slowly add the **VANATURAL**<sup>®</sup> and **VANZAN**<sup>®</sup> NF sequentially or as a dry blend to the water agitated at maximum available shear. Mix until fully hydrated. Slowly add Parts B, C, D, E and F in order, mixing after each until smooth while avoiding air entrapment and foaming.

**RAW MATERIAL SUPPLIERS**
<sup>1</sup>BASF Care Creations, Florham Park, NJ

<sup>2</sup>Stepan Company, Northfield, IL

<sup>3</sup>Active Organics, Inc., Lewisville, TX

<sup>4</sup>Southern Cross Botanicals PTY Ltd, Lennox Head, NSW, Australia

<sup>5</sup>Mt. Pulaski Products, Inc., Mt. Pulaski, IL

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Amphosol is a registered trademark of Stepan Company.

Plantaren is a registered trademark of Cognis GmbH.

Ninol is a registered trademark of Stepan Company.

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**Veterinary Cream No. A545**

		<b>Wt.%</b>
<b>A</b>	<b>VEEGUM<sup>®</sup> R</b> Magnesium Aluminum Silicate	1.00
	<b>VANZAN<sup>®</sup> NF</b> Xanthan Gum	0.25
	Water	79.75
<b>B</b>	Butylene Glycol	5.00
	Disodium EDTA	0.20
	D-Panthenol USP	0.20
<b>C</b>	Macadamia Ternifolia Nut Oil (Australian Macadamia Nut Oil – Cosmetic Grade <sup>1</sup> )	4.50
	Polyglyceryl-3 Distearate (Cremophor <sup>®</sup> GS32 <sup>2</sup> )	3.00
	Cetareth-25 (Cremophor <sup>®</sup> A25 <sup>2</sup> )	1.50
	Cetearyl Alcohol	3.00
	Tocopherol Acetate (Vitamin E Acetate Oil USP, FCC <sup>2</sup> )	0.50
<b>D</b>	Retinyl Palmitate (Vitamin A Palmitate <sup>2</sup> )	0.10
<b>E</b>	Hyaluronic Acid (and) Water (Lipo Hyaluronic Acid 1% Solution <sup>3</sup> )	1.00
	Preservative	q.s.

**Procedure:** While heating the water to 60-65°C, slowly add the **VEEGUM<sup>®</sup> R** and **VANZAN<sup>®</sup> 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 uniform. Maintain the water phase at 60-65°C. Blend the Part C oil phase ingredients and heat to 60-65°C. Add Part C to Part A/B with good agitation. Cool with mixing. At 40-45°C add Part D. At 30°C add Part E. Adjust as necessary to pH 6.5 ± 0.5.

**RAW MATERIAL SUPPLIERS**
<sup>1</sup>Southern Cross Botanical PTY Ltd, Lennox Head, NSW, Australia

<sup>2</sup>BASF Corporation, Florham Park, NJ

<sup>3</sup>Vantage Specialty Ingredients, Chicago, IL

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Cremophor is a registered trademark of BASF Aktiengesellschaft.

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**Protectant Hoof Cream No. A490**

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

**Procedure:** Begin heating the water to 80°C. Slowly add the **VEEGUM<sup>®</sup> 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**
<sup>1</sup>Lubrizol Advanced Materials Inc., Cleveland, OH

<sup>2</sup>Stepan Company, Northfield, IL

<sup>3</sup>Innospec Active Chemicals, Edison, NJ

<sup>4</sup>Alzo International Inc., Sayreville, NJ

<sup>5</sup>Dow Corning Corporation, Midland, MI

<sup>6</sup>Croda, Inc., Edison, NJ

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Brij is a registered trademark of Uniqema Americas LLC.

Carbopol is a registered trademark of Lubrizol Advanced Materials, Inc.

Finester is a 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.

**Veterinary Cream No. A571**

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

**Procedure:** While heating the water to 75°C, slowly add the **VANATURAL**<sup>®</sup> 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**

<sup>1</sup>Evonik Goldschmidt Chemical Company, Hopewell, VA

<sup>2</sup>Gatefosse Corporation, Paramus, NJ

<sup>3</sup>Desert Whale Jojoba Co., Inc., Tucson, AZ

<sup>4</sup>Dow 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.

Rev06/07/2017



**Spray Shampoo No. A500**

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

<sup>2</sup>Solvay Novecare, Bruxelles, Belgium

<sup>3</sup>Croda, Inc., Edison, NJ

<sup>4</sup>Floratech Americas, Chandler, AZ

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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.

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**Sensitive Skin Washing Cream No. A505**

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

**Procedure:** While heating the water to 60-65°C, slowly add the **VEEGUM<sup>®</sup> 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**<sup>1</sup>Innospec Active Chemicals, Edison, NJ<sup>2</sup>Solvay Novecare, Bruxelles, Belgium**TRADEMARKS**

Registered and pending trademarks appearing printed in bold in these materials are those of Vanderbilt Minerals, LLC. For a complete listing, please visit

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Pureact is a trademark of Innospec Performance Chemical Company.

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

Rev07/02/2013

**Washing Gel with Tea Tree Oil No. A556**

		<b>Wt. %</b>
<b>A</b>	<b>VANZAN<sup>®</sup> NF-C</b> Xanthan Gum	1.00
	Water	72.35
	Disodium EDTA	0.05
<b>B</b>	Cocamidopropyl Betaine (Amphosol <sup>®</sup> CA <sup>1</sup> )	10.00
	Decyl Glucoside (Plantaren <sup>®</sup> 2000 N <sup>2</sup> )	6.60
	Water (and) Melaleuca Oil (and) Ethoxylated Castor Oil (and) Polysorbate 20 (Water-Soluble Tea Tree Oil <sup>3</sup> )	10.00
	<b>C</b>   Preservative	q.s.

**Procedure:** Slowly add the **VANZAN<sup>®</sup> NF-C** to the water agitated at maximum available shear. Mix until fully dissolved. Add the disodium EDTA and mix until dissolved. Add the Part B ingredients in the order listed, mixing after each addition until uniform. Add Part C and mix until uniform. Adjust as necessary to pH 6.5 ± 0.5.

**RAW MATERIAL SUPPLIERS**<sup>1</sup>Stepan Company, Northfield, IL<sup>2</sup>BASF Care Creations, Florham Park, NJ<sup>3</sup>Southern Cross Botanical PTY Ltd, Lennox Head, NSW, Australia**TRADEMARKS**

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Amphosol is a registered trademark of Stepan Company.

Plantaren is a registered trademark of Cognis GmbH.

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**Oatmeal & Aloe Vera Cream Pet Shampoo No. A585**

		<b>Wt. %</b>
<b>A</b>	<b>VANATURAL<sup>®</sup></b> or <b>VANATURAL MC</b> Bentonite Clay	3.5
	Water	58.0
	Avena Sativa (Oat) Kernel Flour (Tech-O <sup>®</sup> #11-070 Oat Flour <sup>1</sup> )	1.0
<b>B</b>	Sodium Laureth Sulfate (Calfoam <sup>®</sup> ES-302 <sup>2</sup> )	25.0
	Cocamidopropyl Betaine (Caltaine <sup>®</sup> C-35 <sup>2</sup> )	9.0
	Modified Oleamide DEA (Calamide <sup>®</sup> F <sup>2</sup> )	2.5
	Aloe Barbadensis Leaf Juice (Aloe Vera Gel, Regular 40X <sup>3</sup> )	1.0
<b>C</b>	Preservative	q.s.
<b>D</b>	Citric Acid, 20%	q.s.

**Procedure:** Slowly add the **VANATURAL<sup>®</sup>** or **VANATURAL MC** to the water while mixing at maximum available shear. Once dispersed, slowly sift in the oat flour. Continue mixing until the **VANATURAL** is fully hydrated and the oat flour is well dispersed. Reduce the mixing speed to avoid air entrapment. Add the Part B ingredients in the order shown, mixing after each addition until smooth and uniform. Add Part C and adjust as necessary to pH 5.5 ± 0.5 with citric acid.

**RAW MATERIAL SUPPLIERS**
<sup>1</sup>Beacon CMP Corporation, Kenilworth, NJ

<sup>2</sup>Pilot Chemical Company, Cincinnati, OH

<sup>3</sup>Terry Laboratories, Melbourne, FL

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

Calfoam, Caltaine and Calamide are registered trademarks of Pilot Chemical Company.

Rev06/07/2017

**Sulfur and Salicylic Acid Shampoo No. A583**

		<b>Wt. %</b>
<b>A</b>	<b>VEEGUM<sup>®</sup> HS</b> Magnesium Aluminum Silicate	2.00
	<b>VANZAN<sup>®</sup> NF</b> Xanthan Gum	0.50
	Water	76.75
<b>B</b>	Sucrose Stearate (Surfhope <sup>®</sup> SE Cosme C-1811 <sup>1</sup> )	1.25
	Cetyl Alcohol	1.00
<b>C</b>	Glycerin	4.00
	Sulfur (Yellow Jacket <sup>®</sup> Wettable Sulfur II <sup>2</sup> )	2.00
	Sodium Laureth Sulfate	10.00
	Salicylic Acid, USP	2.00
<b>D</b>	Preservative	q.s.
	Sodium Hydroxide, 50%	q.s.

**Procedure:** While heating the water to 65°C, slowly add the **VEEGUM<sup>®</sup> HS** and **VANZAN<sup>®</sup> NF** sequentially or as a dry blend to the water agitated at maximum available shear. Mix until fully hydrated. Maintaining temperature at 65°C, add Part B ingredients in order, mixing after each addition until uniform. Cool with stirring to ambient temperature. Slowly add the Part C and Part D ingredients in the order listed, mixing after each addition until uniform. Avoid the incorporation of air. Adjust to approximately pH 4.5 with sodium hydroxide solution.

**RAW MATERIAL SUPPLIERS**<sup>1</sup>Lonza, Inc., Allendale, NJ<sup>2</sup>Georgia Gulf Sulfur Corp., Valdosta, GA**TRADEMARKS**

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**Sulfur Shampoo No. A584**

		<b>Wt. %</b>
<b>A</b>	<b>VEEGUM<sup>®</sup> HS</b> Magnesium Aluminum Silicate	2.00
	<b>VANZAN<sup>®</sup> NF</b> Xanthan Gum	0.50
	Water	79.25
<b>B</b>	Sucrose Stearate (Surfhope <sup>®</sup> SE Cosme C-1811 <sup>1</sup> )	1.25
	Cetyl Alcohol	1.00
<b>C</b>	Glycerin	4.00
	Wettable Sulfur (Yellow Jacket <sup>®</sup> Wettable Sulfur II <sup>2</sup> )	2.00
	Sodium Laureth Sulfate	10.00
<b>D</b>	Preservative	q.s.

**Procedure:** While heating the water to 65°C, slowly add the **VEEGUM<sup>®</sup> HS** and **VANZAN<sup>®</sup> NF** sequentially or as a dry blend to the water agitated at maximum available shear. Mix until fully hydrated. Maintaining temperature at 65°C, add Part B ingredients in order, mixing after each addition until uniform. Cool with stirring to ambient temperature. Slowly add the Part C and Part D ingredients in the order listed, mixing after each addition until uniform. Avoid the incorporation of air.

**RAW MATERIAL SUPPLIERS**<sup>1</sup>Lonza, Inc., Allendale, NJ<sup>2</sup>Georgia Gulf Sulfur Corp., Valdosta, GA**TRADEMARKS**

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**Pet Toothpaste No. A582**

		<b>Wt. %</b>
<b>A</b>	<b>VANATURAL<sup>®</sup></b> or <b>VANATURAL MC</b> Bentonite Clay	1.00
	<b>VANZAN<sup>®</sup> NF</b> Xanthan Gum	0.50
	Water	47.25
<b>B</b>	Tetrasodium Pyrophosphate, Food Grade	1.00
	Methyl Paraben, NF	0.20
	Propyl Paraben, NF	0.05
	Sorbitol, 70%	10.00
	Glycerin	10.00
	Hydrated Silica (Zeodent <sup>®</sup> 113 <sup>1</sup> )	30.00

**Procedure:** Slowly add the **VANATURAL<sup>®</sup>** or **VANATURAL MC** and **VANZAN<sup>®</sup> NF** sequentially or as a dry blend to the water agitated at maximum available shear. Mix until fully hydrated. Add the Part B ingredients in the order listed, mixing thoroughly after each until uniform.

**RAW MATERIAL SUPPLIERS**<sup>1</sup>J.M. Huber Corporation, Havre de Grace, MD**TRADEMARKS**

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Zeodent is a registered trademark of J.M. Huber Corporation.

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