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Technical Data

VANATURAL[®] XGB Bentonite Clay

Bentonite and Xanthan Gum Blend

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VANATURAL[®] XGB

Bentonite Clay

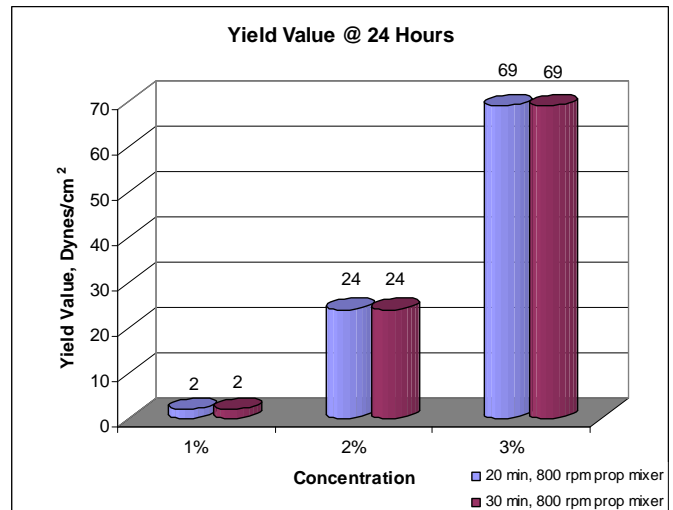
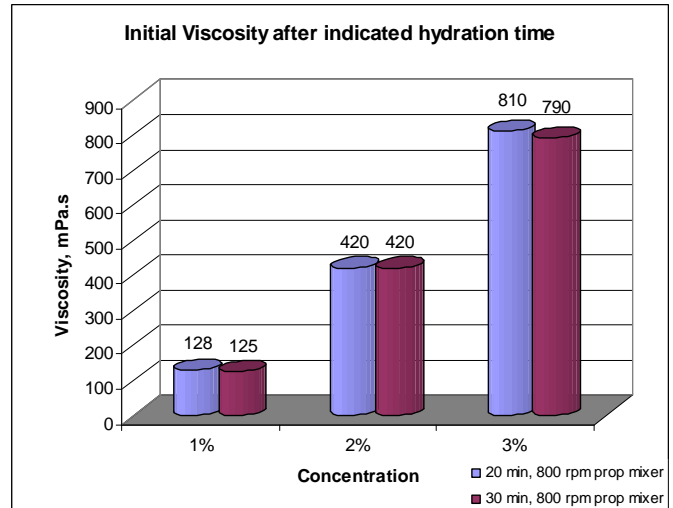
Bentonite and Xanthan Gum Blend

VANATURAL[®] XGB is a tailored blend of natural bentonite and xanthan gum that stabilizes topical suspensions and emulsions.

INCI Name: Bentonite (and) Xanthan gum

VANATURAL XGB features:

- **Rapid hydration** – Mix until smooth; when it looks done, it is done. Hydrates quickly with low shear mixing in unheated water.
- **High yield value** – The synergistic combination of bentonite and xanthan gum reliably stabilizes water-based suspensions and emulsions.
- **Fine rheology control** – Because the clay-gum synergism provides both efficient thickening and high yield value, stabilization is possible over a wide range of product viscosity.
- **Wide pH compatibility** – Suitable for use in most topicals. Not recommended for compositions containing oxidizers or more than pH-adjusting levels of alkaline caustics.
- **Broad temperature stability** – Stabilization of suspensions and emulsions in frigid to torrid storage conditions.
- **Superior esthetics** – Pleasant application feel.
- **High purity** – Made with pharmaceutical grade natural bentonite and pharmaceutical grade xanthan gum.



Typical Properties:

Viscosity, 2%	300-550 cps
pH, 2%	7-8.5
Moisture	8% maximum
Arsenic	3 ppm maximum
Lead	15 ppm maximum

VANATURAL XGB is especially recommended for difficult to stabilize suspensions and emulsions, and for processes where heated water or high shear mixing is not available. The following prototype formulas demonstrate the value of this natural stabilizer.

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.

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

²Beacon CMP Corporation, Kenilworth, NJ

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

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

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.

Cranberry Seed Face Scrub Cream No. 600

	Wt. %.	
A	VANATURAL® XGB , Bentonite (and) Xanthan Gum	5.0
	Water	63.5
	Glycerin	2.0
B	Carthamus Tinctorius (Safflower) Oleosomes/Glycerin/Water (Hydresia™ G2 ¹)	12.5
C	Decyl Glycocide (Plantaren® 2000 N UP ²)	7.0
	Cocamidopropyl betaine (Amphosol® CA ³)	3.0
D	Vaccinium Macrocarpon (Cranberry) Seed (ESP Cranberry Seeds 30+ ⁴)	5.0
E	Cocamide DEA (Ninol® 40-CO ³)	2.0
F	Preservative	q.s.

¹Botaneco, Bensalem, PA

²Cognis Corporation, Ambler, PA

³Stepan Company, Northfield, IL

⁴Earth Supplied Products, Naples, FL

Procedure: Add the **VANATURAL XGB** slowly to the water agitated at high speed. Mix until smooth. Add the glycerin and mix until uniform. With slow speed/low shear prop mixing, add Part B and mix until uniform. Refer to the manufacturer's specific recommendations for incorporating oleosomes. With slow speed mixing to avoid air incorporation, add Parts C, D, E and F in order, mixing until the batch is thickened and uniform.

Natural Moisturizing Lotion No. 601

	Wt. %	
A	VANATURAL® XGB , Bentonite (and) Xanthan Gum	5.0
	Water	77.5
	Carthamus Tinctorius (Safflower) Oleosomes/Glycerin/Water (Hydresia™ G2 ¹)	12.5
B	Crambe Abyssinica Seed Oil (Fancor® Abyssinian Oil ²)	5.0
C	Preservative	q.s.

¹Botaneco, Bensalem, PA

²Fancor (a subsidiary of The Fanning Corporation), Chicago, IL

Procedure: Add the **VANATURAL XGB** slowly to the water agitated at high speed. Mix until smooth. Combine and mix Part B ingredients with slow speed/low shear prop mixing until uniform. Refer to the manufacturer's specific recommendations for incorporating oleosomes. Slowly add Part B to Part A with slow to moderate speed, mixing until emulsified. Add Part C and mix at slow to moderate speed until uniform.

Liquid Foundation No. 602

	Wt. %	
A	VANATURAL® XGB , 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 (Xyliance™ ³)	5.00
	D	Preservative

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

²Kobo Products, Inc., South Plainfield, NJ

³Actives International, Allendale, NJ

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.

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