

# Ethox HVB

## High Efficiency Thickener



### Ethox HVB—High Efficiency Thickener

- High performance thickener for all types of surfactant systems
- Ideal for hard to thicken systems such as Sulfate Free Surfactants
- Amide replacement
- Cost effective
- Improves stability
- Patent pending technology

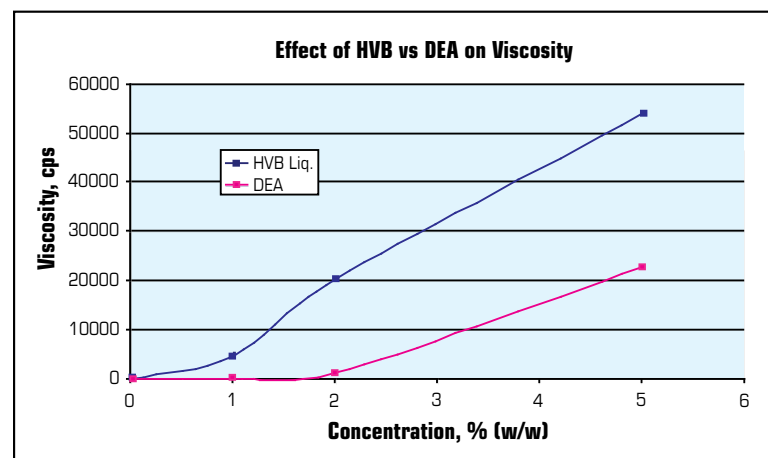
### DESCRIPTION

Ethox HVB is a 100% active thickener for all types of aqueous surfactants that outperforms other similar materials. Ideal for hard to thicken systems such as Sulfate-Free surfactant systems as well as conventional surfactants including the following:

- Alkyl Glucosides
- Alpha olefin sulfonates
- Sarcosinates
- Sultaines
- Betaines
- Sulfates and ether sulfates

### PROPERTIES

Ethox HVB is a white flaked solid that melts at about 55°C. Ethox HVB is the polyethylene glycol diester of isostearic acid and PEG-175. It functions as a replacement for amides helping increase foam stability as well as viscosity. For example, the figure demonstrates the superior performance of Ethox HVB versus cocamide DEA in an ALS (3% active)/ALES (10% active)/Cocamidopropyl betaine (2.5% active) based cleansing system. At concentrations of up to 5% active, Ethox HVB gives a viscosity 2–10 times greater than that with cocamide DEA. This means that Ethox HVB can be used at substantially lower concentrations than other thickeners resulting in significant formula cost savings.



Ethox HVB gives a viscosity 2–10 times greater than that with cocamide DEA.

### APPLICATION

Ethox HVB is an ideal thickener for hard to thicken systems such as Sulfate-Free surfactant systems as well as conventional surfactants as demonstrated in the table. Another advantage of Ethox HVB over other structurally similar materials is solubility. For example Ethox HVB at 10% in water alone is a clear solution while above 1% even in surfactants PEG-150 distearate tends to be insoluble resulting in opacity and instability. This means that compared to other thickeners, Ethox HVB can be used at higher levels while maintaining clarity to create novel forms with unique aesthetics and performance and with greater stability.

Composition	%, w/w	Appearance	Viscosity, cps
Water Ethox HVB	90 10	Clear	50,000
Decyl Glucoside Cocamidopropyl Betaine Ethox HVB	10 3 5/10	Clear	6,000/25,000
Sodium Alpha Olefin Sulfonate Cocamidopropyl Betaine Ethox HVB	18 3 8	Clear	15,000
Sodium Lauroyl Sarcosinate Cocamidopropyl Hydroxysultaine Ethox HVB	10 2.5 7	Clear	7,000
Cocamidopropyl Betaine Ethox HVB	10 5	Clear	20,000
Ammonium Laureth Sulfate Cocamidopropyl Betaine Ethox HVB	12 2.5 5	Clear	>500,000
Sodium Laureth Sulfate Cocamidopropyl Betaine Ethox HVB	12 2.5 5	Clear	>500,000

Ethox HVB is an ideal thickener for hard to thicken systems such as Sulfate-Free surfactant systems as well as conventional surfactants

Composition	Foam Height (mL)	
	Time = 0 minutes	Time = 5 minutes
Cleanser Base	48.0	47.0
Cleanser Base + 1.0% Ethox HVB Liquid	50.0	47.0
Cleanser Base + 5.0% Ethox HVB Liquid	50.0	47.0

Ethox HVB is an effective replacement for amides, highly effective in building viscosity and helping stabilize foam volume. The table demonstrates that Ethox HVB stabilizes foam volume.

Use levels are formulation dependent but are generally at a level of about 1–10%. The data in the following table compare the effect of various thickeners on an ALS/ALES/CPB surfactant

system. Clearly Ethox HVB is far more effective than Cocamide DEA; as much as 2–10X more effective. This means significant reductions in formula cost and potential irritation by using Ethox HVB.

Thickener, 2% active	Ethox HVB	Cocamide DEA	PEG-150 Distearate	Liquid Thickener
Viscosity, cps	20,400	1,400	11,200	18,000

Ethox HVB is comparable in efficacy to commercial liquid thickeners and compared to other structurally similar materials such as PEG-150 distearate, Ethox HVB is much more effective thickener. Ethox HVB improves product performance, increases formulation versatility, and reduces formulation and manufacturing costs.

### REGULATORY

INCI Name: PEG-175 Diisostearate

EINECS #: Polymer Excluded CAS #: 68958-56-5



# Ethox HVB

## High Efficiency Thickener



1801 Perimeter Road • Greenville, SC 29605  
Phone: 864-277-1620 • Fax: 864-277-8981  
[www.ethox.com](http://www.ethox.com)

Ethox Chemicals believes the information contained in this literature to be reliable, but it is only representative information. No warranty is given or implied as to accuracy, suitability for particular applications or the results to be obtained. No recommendation should be construed as inducement to infringe patents.

