



Zemea[®] Liquid Laundry Detergent Performance Evaluation

Wt.%
4.0%
14.0%
5.0%
4.0%
4.0%
3.0%
0.1%
0.7%
0.2%
0.5%
2.0%%
62.5%
100.0%

Performance Evaluation

Soil and stain removal of a Zemea® propanediol detergent formulation and a similar propylene glycol detergent formulation were tested using cotton and cotton/polyester swatches. The standard soiled swatches were laundered under computer controlled laboratory test conditions. The swatches were read before and after laundering using a Hunter Colorimeter to calculate cleaning efficacy (% soil removed).

Soiled & Stained Cloths

• Ink

Cocoa

Grass

Dust / Sebum

Blood / Milk

Cosmetic Make-up

- Spagetti Sauce Coffee
- Clay
 - Motor Oil
 - Grape Juice

Physical Properties

pH, as is	8.5
Soluble Solids, 5 by refractometer	29.3
Residue on Drying, % by wt.	28
Viscosity, cPs @ 25°C	194
Visusl Viscosity	Water / Thin
Freeze/Thaw Stability (-15º/25ºC)	Pass
Heat Stability (50°C), 30 days	Pass

Conclusion

Zemea® propanediol can be successfully substituted for glycols in a laundry detergent formulation.

Zemea® propanediol formulations demonstrated comparable physical and performance (including soil and stain removal) properties.

Zemea® propanediol formulations were stable to freeze/ thaw and evaluated temperature (50°C) storage.

COVATIONBIO PDO

For additional information or samples, please contact Customer Service.

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