



# Synergel<sup>®</sup> HB125

Innovative Non-polar Gelled Hydrocarbons  
For Spray Applications by *penreco*<sup>®</sup>

## A Better Way To Formulate



# SYNERGEL<sup>®</sup> HB 125 PRODUCT LINE

## Innovative Non-polar Gelled Hydrocarbons For Spray Applications

SYNERGEL HB 125 is a non-polar gelled hydrocarbon suitable for spray applications, especially furniture care products. The gel is very pure with an aromatic content of less than 0.5%. Of that, the benzene content is less than 1 ppm. Sulfur and nitrogen content is less than 1 ppm.

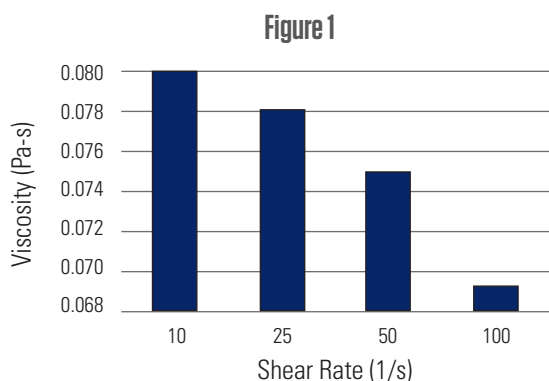
### SYNERGEL HB 125 TYPICAL PROPERTIES

	Viscosity @ 100 °F ASTM D-445 (SUS)	Specific Gravity @ 25 °C ASTM D-4052	Color ASTM D-156 (Saybolt)
SYNERGEL HB 125	125	0.852	+30

### RHEOLOGICAL PROPERTIES

All SYNERGEL products are thermally reversible. By applying a thermal stress, all the SYNERGEL products will drop in viscosity; however, this is a reversible phenomenon and this cycle can continue almost indefinitely.

In addition, SYNERGEL HB 125 exhibits an instantaneous and temporary decrease in viscosity with shear. When the shear is removed, the viscosity of the SYNERGEL HB 125 returns to its original value. Figure 1 shows the relationship of viscosity to shear stress of SYNERGEL HB 125



### PACKAGING

The mineral oil, which is the major constituent of the SYNERGEL HB 125, has a viscosity of 50 SUS at 100 °F. In general, cosmetic and household products containing an oil of this viscosity would need child-resistant packaging in accordance with 16 CFR 1700. By gelling this oil and thus increasing its viscosity to 250 SUS at 100 °F, child-resistant packaging is no longer required. Yet, the solvency of the oil is preserved.

### TOXICITY

SYNERGEL HB 125 is not considered hazardous according to the OSHA Hazardous Communication Standard, 29 CFR 1910.1200.

### BENEFITS

- Neat delivery package which does not run due to very low viscosity
- Excellent spraying properties
- No child-resistant packaging required
- Excellent film-forming properties; spreads easily to form continuous film
- Moisture barrier
- Water-white appearance
- Low toxicity

### FORMULATION PROCEDURE

There are four critical factors which impact the stability of finished products containing this gel:

- Mixing temperatures of 60 - 70 °C are recommended. Although this gel is quite stable, it can be oxidized if it is exposed to excessive temperatures over a long period of time. The product should be kept at elevated temperatures only long enough to accomplish mixing. When mixing small percentages of other ingredients (5% to 10%), the required mixing temperature may be lower.
- Mixing time depends upon the batch size and percentage of gel added. In general, the blend is complete when the blend has a homogeneous clear appearance, the blend does not separate once the mixing stops, and a consistent viscosity is obtained.
- The order of other chemicals added to the gels is important. Always add the ingredients with the least polarity first. If the gel needs to be diluted using the same solvent, then the solvent should be added first.

### HANDLING

SYNERGEL HB 125 is available in bulk and 330 lb. open head steel drums.

**FOR SAMPLES AND MORE INFORMATION CALL: 1-800-245-3952**  
**OR VISIT US ONLINE AT: [www.penreco.com/hydrocarbon-gel](http://www.penreco.com/hydrocarbon-gel)**

**penreco**<sup>®</sup>

138 Petrolia St., Karns City, PA 16041

Phone: 800-245-3952 or 724-756-0110 Fax: 724-756-1050

Email: [penreco@clmt.com](mailto:penreco@clmt.com) Web: [www.penreco.com/hydrocarbon-gel](http://www.penreco.com/hydrocarbon-gel)

Manufacturing specifications are confirmed upon request.

Product Specifications are subject to change.

All product sales are subject to the applicable terms and conditions.

Calumet Refining, LLC is a wholly owned subsidiary of Calumet Specialty Products Partners, L.P.

© 2019 Calumet Specialty Products Partners, L.P. All rights reserved.