FUNCTIONAL PRODUCTS INC.

Innovative Chemistry for Lubricants

Technical Data Sheet

FUNCTIONAL V-820

Viscosity Modifier for Aqueous Lubricants

APPLICATION:

FUNCTIONAL V-820 is a powder-form bio-based additive used to increase the viscosity of water-based products including water-soluble lubricants, emulsions, cleaning products, and cosmetics. At higher treat levels (1-2wt%), this product will contribute a thixotropic effect that allows the product to remain where it has been applied but yield under shear during mixing and use. For best results, use **FUNCTIONAL V-820** in distilled water.

COMPOSITION:

The active ingredient in **FUNCTIONAL V-820** is a non-ionic bio-based polymer.

Typical properties	
Appearance (Visual)	Beige Powder
Bulk Lb/Gallon	5.6
Bulk Density (g/mL)	0.6
Thickening Efficiency, 1wt% in water	3000 - 6000 cSt @ 40°C

TREATMENT LEVEL:

Since there are no standardized test methods for these properties, the user is responsible for determining an effective treat level. Typical treat levels range from 0.1 to 1wt% in water.

Typical Treat Rates of FUNCTIONAL V-820 in Pure Water for ISO 22 - 460

ISO VG	22	32	46	68	100	150	220	320	460
wt% V-820	0.3	0.35	0.4	0.45	0.5	0.55	0.6	0.65	0.7

Do not exceed 2wt% in water without extensive testing. **FUNCTIONAL V-820** becomes increasingly increasing viscous above 1wt% and will produce a gel at 2-3wt% in water which can be difficult to remove from mixing tanks. 2-3wt% **FUNCTIONAL V-820** can make assembly lubes, gels, and semi-fluid coatings.

HANDLING:

FUNCTIONAL V-820 is a powder. Replace container lid tightly after use to avoid moisture/water contamination. Aqueous solutions should be prepared by adding the polymer as a slow feed to a stirred solution at room temperature. This process may take 4-16 hours depending on concentration. Use appropriate methods to minimize evaporation of water during processing.

FUNCTIONAL V-820 has a shelf life of 1 year. See the current Safety Data Sheet.

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