FUNCTIONAL PRODUCTS INC.

Innovative Chemistry for Lubricants

Technical Data Sheet

FUNCTIONAL V-870

Tackifier and Antimist Additive for Silicone Oils

APPLICATION:

FUNCTIONAL V-870 is a low treat tackifier/antimist additive for a variety of silicone lubricants and sprays that performs and handles similarly to standard petroleum oil tackifiers.

FUNCTIONAL V-870 adds viscoelasticity to prevent fling-off, drips, and misting under high speed or high energy applications. Unlike high viscosity PDMS, **FUNCTIONAL V-870** is compatible in blends of silicone and up to 50wt% of low viscosity mineral or white oil.

COMPOSITION:

FUNCTIONAL V-870 is a concentrated blend of specialty polysiloxanes.

Typical Properties	
Specific Gravity	0.93
Lbs per Gallon	7.7
Color (ASTM D1500)	Colorless to Slight Yellow (< 1.0)
Flash Point (ASTM D92)	>160°C (320°F)
Typical Kinematic Viscosity (ASTM D445)	8,500 cSt at 100°C 20,000 cSt at 40°C

TREATMENT LEVEL:

Treatment levels from 0.25 – 4wt% are typical in lubricants for tack and antimist behavior with limited effect on viscosity. See next page for antimist details. **FUNCTIONAL V-870** may be used at higher treat rates as a viscosity modifier.

Silicone base oil viscosity should be at least 50 – 100 cP before **FUNCTIONAL V-870** can provide visible tackiness and string to oil. Antimist behavior is still in effect even if no finger tack or strings are visible to the eye.

If blending silicone and mineral oils, add **FUNCTIONAL V-870** to silicone oil first before adding other base fluids.

HANDLING:

Due to the viscosity of **FUNCTIONAL V-870**, elevated temperature (up to approximately 90°C or 200°F) can facilitate handling. Safe handling precautions are the same as those to be taken with the base oil; see the current Safety Data Sheet.

Issue Date: 2022.06.23

Functional Products, Inc. 8282 Bavaria Rd. Macedonia, Ohio 44056
Ph: 330.963.3060 Fax: 330.963.3322

FUNCTIONAL PRODUCTS INC.

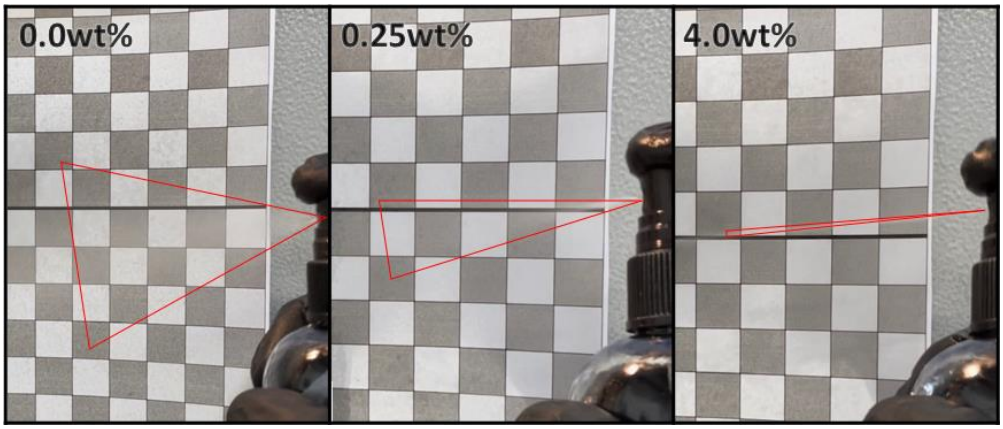
Innovative Chemistry for Lubricants

Technical Data Sheet

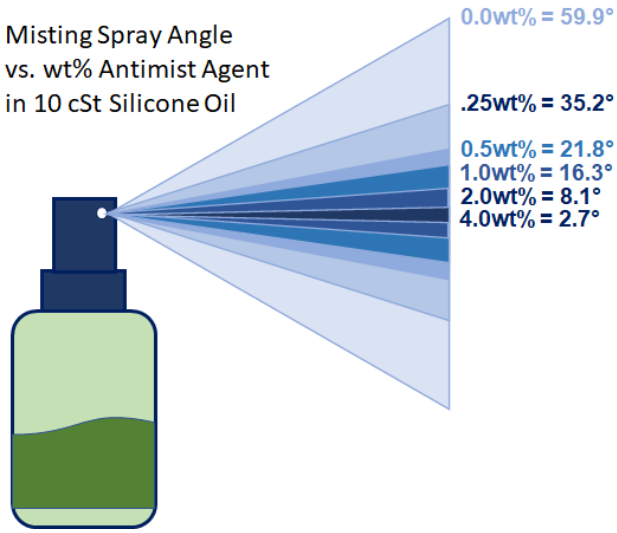
FORMULATION GUIDE:

FUNCTIONAL V-870 provides cohesion to silicone oils which tend to have high tendency to form mist. Mist reduction improves user safety, product retention, and operating cleanliness.

The study below correlates the wt% **FUNCTIONAL V-870** with the misting spray angle from a spray bottle of 10 cSt silicone oil.



wt% V-870	Visc @40C, (cSt)	Spray Angle (°)	Mist Volume (in^3) **	% Vol. Change **
0.00	7.66	59.9	2399	--
0.25	7.91	35.2	728	-70%
0.50	8.20	21.8	268	-89%
1.00	8.75	16.3	149	-93.8%
2.00	10.2	8.1	36.7	-98.5%
4.00	13.6	2.7	4.06	-99.8%



** Mist volume calculated based on conical shape of spray angle with 12” length.

Issue Date: 2022.06.23

Functional Products, Inc. 8282 Bavaria Rd. Macedonia, Ohio 44056
Ph: 330.963.3060 Fax: 330.963.3322