



## Silfluo LF-OHPV

Vinyl Hydroxyl Silicone Fluid

### Description:

Silfluo LF-OHPV is a vinyl-modified hydroxyl-terminated polysiloxane oligomer (CAS 67923-19-7), a bifunctional siloxane with silanol (Si - OH) end groups and pendant vinyl groups distributed along the backbone.

The two functional group types serve distinct roles in addition-cure silicone compounding: silanol groups interact with fumed silica surface silanols to reduce filler - polymer interaction, controlling compound viscosity and preventing crepe hardening during storage; vinyl groups participate in Pt-catalyzed hydrosilylation crosslinking, incorporating the fluid covalently into the elastomer network and preventing migration or bleed-out from the cured rubber.

Three grades — LF-OHPV-1, LF-OHPV-2.5, and LF-OHPV-10 — provide identical viscosity (35 mPa • s) and hydroxyl content (9.0 wt%) with increasing vinyl content (1.0, 2.5, and 11.5 wt%), allowing independent tuning of crosslink participation level without altering filler treatment performance.

### Typical Technical Properties:

Silfluo Code:	LF-OHPV-1	LF-OHPV-2.5	LF-OHPV-10
Chemical Name:	Vinyl-Modified Hydroxyl-Terminated Polysiloxane		
Synonyms:	Vinyl Hydroxy Silicone Oil; Hydroxy-Terminated Vinyl Siloxane		
CAS NO.	67923-19-7		
Molecular Formula:	HO-[Si(CH <sub>3</sub> ) <sub>2</sub> (CH=CH <sub>2</sub> )O] <sub>n</sub> -H		
Appearance	Colorless transparent liquid		
Viscosity(25°C, mPa.s)	35	35	35
Hydroxyl Content (wt%)	9.0	9.0	9.0
Vinyl Content (wt%):	1.0	2.5	11.5

Chemical Structure:

### Applications:

#### 1. Structure Control Agent — Anti-Crepe Hardening in LSR and HTV

Used in LSR and HTV silicone rubber compounding to treat fumed silica in-situ during mixing. Silanol groups react with and cap fumed silica surface hydroxyls, reducing filler network formation, lowering compound viscosity, and preventing crepe hardening during uncured rubber storage. Vinyl groups ensure the agent is incorporated into the cured network rather than acting as a free fluid. Grade selection (vinyl content) determines the degree of network participation relative to plasticizing effect; optimize addition level and grade via compound trials for target compound viscosity, cured hardness, and mechanical properties.

#### 2. Non-Bleeding Reactive Plasticizer

Used as reactive plasticizer in addition-cure LSR formulations where permanent reduction of compound

# Technical Data Sheet



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hardness, improvement of elongation at break, and tear strength are required without surface bleed or oil exudation in the cured part. Vinyl groups crosslink into the Pt-catalyzed network during cure, permanently anchoring the plasticizing siloxane segments. Ensure sufficient Si - H crosslinker (LF-H101H, LF-H101L, or LF-H101TS) is present to react with added vinyl content from LF-OHPV when calculating Si - H to vinyl stoichiometry.

### 3. Filler Surface Treatment for Addition-Cure Systems

Used as surface treatment agent for inorganic fillers and pigments incorporated into Pt-catalyzed addition-cure systems. Silanol groups anchor to filler surfaces; vinyl groups ensure compatibility with the addition-cure matrix without contributing Pt catalyst-inhibiting species. Verify absence of inhibitory contaminants in the filler before use.

### 4. Adhesion Promoter and Coupling Agent Intermediate

Used as bifunctional reactive building block for synthesizing silicone-based adhesion promoters and specialty coupling agents requiring both silanol anchoring and vinyl reactivity in the same molecule.

Grade	Vinyl Content	Recommended Use
LF-OHPV-1	1.0 wt%	Filler structure control primary; low crosslink network contribution
LF-OHPV-2.5	2.5 wt%	Balanced structure control and network participation; general LSR compounding
LF-OHPV-10	11.5 wt%	High vinyl crosslink participation; reactive plasticizer with significant network contribution; specialty addition-cure systems

### Package & Storage:

In 200kg/drum; 1000kg/IBC.

Keep in cool, dry and ventilated place. Keep away from sunlight and fire sources. Keep in unopened containers, shelf life is 24 months from the date of production. It is shipped as non-hazardous substance.

Storage beyond the shelf life does not necessarily mean that the product is no longer usable. In this case however, the properties required for the intended use must be checked for quality assurance reasons.