

Petvim V-114 - Viscosity Index Improver in Crumb Form

APPLICATION

Petvim V-114 is a viscosity index (V.I.) improver polymer in concentrated crumb form. It is dissolved in oil to prepare an economical additive for multigrade engine oils or an aftermarket “oil treatment” additive. It may also be used as an inexpensive thickener for oil, to avoid blending with expensive oils like bright stocks.

COMPOSITION

Petvim V-114 is an olefin copolymer, derived from ethylene and propylene, which has been used as a V.I. improver by major oil companies for fifteen years. A compatible release agent minimizes agglomeration without affecting the properties of the finished lubricant.

HANDLING

Petvim V-114 should be stored below about 100°F (40°C), as higher temperatures may cause agglomeration due to cold flow of particles. It is a non-hazardous material; see the current Material Safety Data Sheet. Dissolving is best accomplished with continuous agitation at temperatures of 180-230°F (85-110°C). (Higher temperatures will not affect Petvim V-114, but may darken the diluent oil.)

PROPERTIES

	Typical Properties
Appearance	White rubber granules
Specific Gravity	0.87
Thickening efficiency	10.3. cSt at 100°C (0.65% in 150 SUS paraffinic base oil)
Shear Stability	41% thickening loss (Military Spec. MIL-L-46152, 10-hr L-38 test)

TREATMENT LEVEL

The following starting formulations may be used in formulating multigrade motor oils. A 7% treatment level of a Detergent-inhibitor package was used.

SAE Grade	5W-30	10W-30	10W-40
Base Oil Viscosity	120	165 - 150	SUS
FUNCTIONAL V-114	0.67	0.40 - 0.75	% by Wt.

An “oil treatment” additive may be prepared using about 4.5% Petvim V-114 in a 200 SUS 9ISO 46) oil, to give an additive with a viscosity of about 500 cst at 100°C.

