

Petvim V-1105 - Viscosity Index Improver in Bale Form

APPLICATION

V-1105 is a viscosity index (V.I.) improver polymer in concentrated bale 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

V-1105 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. V-1105 is supplied in polyethylene wrapped bales approx 36 Kgs in weight which need to be ground in suitable equipment before dissolving into the base oil (typically 150 solvent neutral). Plants not having suitable grinders may wish to consider V1104 which is supplied in crumb form.

HANDLING

V-1104 should be stored below 60°C, as higher temperatures may cause Polyethylene wrap to stick. It is not necessary to remove the wrap before grinding if the polymer dissolves at 80 C or higher. It is a non-hazardous material; see the current Material Safety Data Sheet. Dissolving is best accomplished by grinding into oil at a temperature of 85-110°C. (Higher temperatures will not affect V-1104, but may darken the diluent oil.)

PROPERTIES

	Typical Properties
Appearance	White Rubber Block
Specific Gravity	0.87
Thickening efficiency	11. cSt at 100°C (1.00% in 150 Solvent Neutral base oil)

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
V-1104	0.67	0.40 - 0.75	% by Wt.

An “oil treatment” additive may be prepared using about 4.5% V-1105 in a 200 SUS (ISO 46) oil, to give an additive with a viscosity of about 500 cst at 100°C.

