

## Base Oil Definitions

Group	Sulfur, Wt %		Saturates	V.I.
I	>0.03	and/or	<90	80-119
II	≤ 0.03	and	≥ 90	80-119
III	≤ 0.03	and	≥ 90	≥ 120
IV	All Polyalphaolefins (PAOs)			
V	All Stocks Not Included in Groups I-IV (Naphthenic Oils and Non-PAO Synthetics)			

**Group I** — These base oils are commonly called solvent refined base oils because nearly all of them are manufactured using solvent extraction and solvent dewaxing.

**Group II** — These base oils are hydroprocessed which give them significantly lower levels of impurities than Group I base oils.

**Group III** — These base oils are also hydroprocessed but have significantly higher VI than Group II base oils. They are now generally regarded as “synthetic” in the USA.

**Group IV** — Polyalphaolefin (PAO) base oils are manufactured from olefins, a specific type of chemical feedstock. They predate Group III base oils and are sometimes referred to as traditional synthetics.

**Group V** — This category is a catch-all for all other base oils not included in categories I-IV. It includes low VI base oils like naphthenic base oils (also called pale oils) and high VI non-PAO synthetics like esters.