

**Typical Properties**

Appearance	Clear Amber Liquid
Specific Gravity@25°C	0.900-1.000
Viscosity@40°C, cSt	40 - 60
Acid Value, mgKOH/g	< 8
Flash Point C.O.C., °C	> 200
Viscosity Index	> 140
Mineral Oil Content	Nil
5%ADDITIVE++95%SN150 PB/PD,kg+	44/100
5%ADDITIVE+5%SMART BASE 2517+90%SN150 PB/PD,kg+	76/315
Std Packaging (NW / GW, Kg)	212.0 / 195.0

**Product Description**

**SMART HMPE 9310** is a clear amber, high molecular weight polymeric ester that contains no sulfur, chlorine and phosphorous. Due to its unique molecular structure and high affinity characteristics, it can adhere tightly to the metal surfaces even at elevated temperatures, which performs outstanding anti-frictional and anti-wear properties of lubricants. It can be used in several operations like oil-based formulations, soluble oils and semi-synthetic systems.

**SMART HMPE 9310** has a high degree of saturation that can prevent contamination at contact points of tools and metal surfaces from oxidation.

**SMART HMPE 9310** has high temperature stability and hydrolytic stability, which can extend coolant life even at tough processing.

**SMART HMPE 9310** can replace sulfur, chlorine and phosphorous containing additives with similar performance. Moreover, it can avoid the reduction of product shininess due to the otherwise chemical reaction of the extreme additive with the metals during machining.

**SMART HMPE 9310** possesses high viscosity index and good shear stability; which can maintain the corresponding functions of lubrication, anti-wear and extreme pressure at elevated temperatures at contact points during machining.

**SMART HMPE 9310** is an ash-less additive and has no residue during high temperature operations. It exhibits no corrosion to non-ferrous metals and is suitable for cutting, drawing, and stamping operations on aluminum alloys.

**Applications****Suggested Treat Rates, %wt**

Threading / Tapping / Cold Head (Cut Side Only)	3 - 15
Drawing	5 - 15
Automatic Screw Machines / Stamping	2 - 5

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