

Supplier - SMART OIL  
**SmartPhos P7900**  
*Phosphate Ester*  
*Phosphate Containing Additives*

### Typical Properties

Appearance	Amber Liquid
Specific Gravity@25°C	0.950 - 1.150
Viscosity@40°C, cSt	1500 - 2200
Phosphorus Content, %wt	> 4
Acid Value, mgKOH/g	< 250
Flash Point C.O.C., °C	> 160
P <sub>B</sub> /P <sub>D</sub> , kg+	135 / 315

\*4 Ball Wear Test; 5% additive in SN150. Server Motor Speeds reach 1500rpm (P<sub>B</sub>) and 1760rpm (P<sub>D</sub>) in 0.03sec.

### Product Description

**SMARTPHOS P7900** is a light color phosphate ester, suitable for the use in soluble and neat oil formulations.

**SMARTPHOS P7900** can attain good synergistic effect when used together with EP additives such as sulfur and chlorine containing compounds; thus it can provide excellent lubricity, anti-wear and EP properties in cutting oils or cooling systems.

**SMARTPHOS P7900** has excellent performance in heavy-duty operations especially machining stainless steels such as 316 and 316L, or titanium alloys. In addition, due to its anti-wear property, it can effectively reduce the smoke produced during machining and improve the surface finishing of the workpieces.

Due to its high viscosity, **SMARTPHOS P7900** is specially suitable for stamping, drawing and forming operations. Meanwhile, it will not leave behind residue because it is easy emulsified.

**SMARTPHOS P7900** becomes translucent micro-emulsion when diluted with water. It can replace sulfur and chlorine EP additives to provide superior anti-wear and EP properties in water-based formulations, such as soluble oils, rolling oils and semi-synthetic fluids.

**SMARTPHOS P7900** is specially effective in protecting the yellow metals from staining, such as aluminum and magnesium.

#### **Applications**

Oil-Based Formulations  
 Water-Based Formulations

#### **Suggested Treat Rates, %wt**

2 - 5  
 1 - 2

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