

Supplier - SMART OIL  
**SmartPhos P7800**  
*Phosphate Ester*  
*Phosphate Containing Additives*

### Typical Properties

Appearance	Light Yellow To Amber Liquid
Specific Gravity@25°C	0.900 - 1.200
Viscosity@40°C, cSt	550 - 950
Phosphorus Content, %wt	> 4
Acid Value, mgKOH/g	< 240
Flash Point C.O.C., °C	> 180
P <sub>B</sub> /P <sub>D</sub> , kg+	128 / 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

**SMARPHOS P7800** is a superior light color and low odor phosphate ester, which can be formulated into both water-based or oil-based cutting fluids.

**SMARPHOS P7800** is a multifunctional additive that possesses anti-wear, anti-corrosion, wetting, emulsifying, detergency and dispersant characteristics. It is suitable for use in formulations of rolling oils, water-based cutting fluids, glass cutting and polishing lubricants.

**SMARPHOS P7800** can be blended with sulfur or chlorine compound to achieve the synergistic effect, to cover different stages of lubricating, anti-wear and extreme pressure during processing.

**SMARPHOS P7800** performs well in severe operations on difficult-to-machine metals. It can effectively reduce smog and improve surface finishing of the workpieces.

**SMARPHOS P7800** can be used as a main anti-corrosion additive in water-based formulations for the aluminium and magnesium alloy processing fluids. The dosage can be in the range of 0.5-6% in formulations.

**SMARPHOS P7800** becomes translucent 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.

#### Applications

Oil-Based Formulations  
 Water-Based Formulations

#### Suggested Treat Rates, %wt

2 - 5  
 1 - 2

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