

SUPER MACHINE LUBE P

HIGH-PERFORMANCE MULTIPURPOSE LUBRICATING OIL FOR INDUSTRIAL MACHINERY

SUPER MACHINE LUBE P which has flash points above 250 °C is a high-grade multipurpose industrial lubricating oil. Its outstanding performance meets the requirements for bearing oils, hydraulic oils and slideway oils for general-purpose industrial machinery, and it has extreme-pressure performance equivalent to gear oils. Three ISO Viscosity grades (32,46 and 68) of SUPER MACHINE LUBE P formulated with highly refined mineral base oil have superior thermal stabilities equivalent to synthetic oils. Because SUPER MACHINE LUBE P (Flash point: 250 °C min.) is a multipurpose industrial oil, it is ideal for streamlining lubrication management in factories.

● **SPECIAL FEATURES**

1. **Guaranteed Flash Points above 250 °C**
SUPER MACHINE LUBE P has guaranteed flash points above 250 °C.
2. **Excellent Lubrication**
SUPER MACHINE LUBE P is blended with superb extreme-pressure SP(Sulfur-Phosphorus) agents that provide extreme-pressure performance equal to or better than passing stage 12 of the FZG gear test. SUPER MACHINE LUBE P provides extreme-pressure performance equivalent to gear oils.
3. **Prevention of Oil Temperature Increase**
Since SUPER MACHINE LUBE P is blended from excellent friction modifiers, it suppresses generation of heat at boundary lubrication of metal surfaces.
4. **Outstanding Oxidative and Thermal Stability**
Since SUPER MACHINE LUBE P(ISO VG Grades 32,46 and 68) is blended from highly refined based oils with outstanding oxidative and thermal stability as well as carefully selected oxidation inhibitors, it suffers very little oxidative degradation or sludge formation even when used for long periods of time. It provides especially good oxidative stability at high temperatures equivalent to synthetic oils.
5. **Excellent Separation from Water and from Water-soluble Cutting Fluids**
Thanks to SUPER MACHINE LUBE P's excellent ability to separate water, it is easy to remove a moderate amount of water from the oil by letting the oil stand or by using a centrifugal

separator.

6. **Outstanding Rust Prevention**
SUPER MACHINE LUBE P is blended with top-quality antirust additives, so it prevents rust and corrosion in the lubrication system even when moisture becomes mixed with the oil.
7. **Excellent Antifoaming Performance**
SUPER MACHINE LUBE P is also blended with high-performance deforming agents, so it prevents circulation problems caused by foaming.

● **GRADES**

SUPER MACHINE LUBE P comes in eight ISO viscosity grades: 32, 46, 68, 100, 150, 220, 320 and 460. The VG 460 is the product produced by the custom order. This wide range of viscosity grades means that SUPER MACHINE LUBE P is available in the proper viscosity for any application.

● **Handling requirements for liquids (flash point:250°C min.) under Japan's Fire Service Law**

1. Under the Fire Service Law, when liquids (flash point:250 °C min.) are stored together with hazardous materials, they must be kept at least one meter apart.
2. In quantities of 2 kL and above, liquids (flash point:250 °C min.) are considered "Designated Hazardous Materials" and are subject to municipal regulations (in Japan); be sure to familiarize yourself with rules and regulations in your area.

● **APPLICATIONS**

1. Many types of lubrication for machine tools (bearings, gears, hydraulics, slideways)
2. Lubrication of bearings that are susceptible to rust and oil degradation
3. Lubrication of many types of hydraulic systems
4. General lubrication of wet parts and calender parts in paper machines
5. Lubrication of bearings for calender rolls to enlarge rubber and resin

6. Lubrication of bearings for steel and nonferrous metal rolling mills
7. Lubrication of bearings for electric motors, generators, pumps, fans, etc.

● **SHIPPING CONTAINERS**

200-liter drums and 20-liter cans

TYPICAL PROPERTIES OF SUPER MACHINE LUBE P

ISO Viscosity grade	32	46	68	100	150	220	320	460
Color (ASTM)	L0.5	L0.5	L1.0	L1.0	L2.0	L2.0	L2.5	L3.0
Density (15°C), g/cm ³	0.843	0.851	0.871	0.888	0.892	0.895	0.900	0.910
Kinematic viscosity (40°C), mm ² /s	34.7	44.7	65.7	104.1	157.0	226.3	331.4	458.3
	(100°C), mm ² /s	6.4	7.4	9.0	11.5	15.2	19.4	24.9
Viscosity index	138	131	113	97	97	97	97	97
Flash point (COC), °C	256	262	266	268	278	284	288	320
Pour point, °C	-32.5	-32.5	-30.0	-22.5	-17.5	-12.5	-12.5	-12.5
Copper strip corrosion (100°C, 3 h)	1	1	1	1	1	1	1	1
Rust prevention (distilled water, 60°C, 24 h)	No rust	No rust	No rust	No rust	No rust	No rust	No rust	No rust



**Handling
Precautions**

▼ **Follow these precautions when handling this product.**

Composition :	Base Oil, Additives
Precautionary pictograms:	Not applicable
Signal word:	Not applicable
Hazard Statement:	Not applicable
Precautionary Statements:	<ul style="list-style-type: none"> • Do not handle until all safety precautions have been read and understood. • Wear protective gloves/protective clothing/eye protection/face protection. • Do not allow the eyes to become exposed to the product. Do not swallow the product. • Wash hands thoroughly after handling. • Do not eat, drink or smoke when using this product.
Prevention	
Response	<ul style="list-style-type: none"> • IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. • IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. • If the eyes are exposed to the product: Rinse the eyes with plenty of running water and immediately contact a physician. • IF ON SKIN: Wash with plenty of soap and water.
Storage	<ul style="list-style-type: none"> • The product must be stored in a cool, well-ventilated location where it will not be exposed to direct sunlight. • Containers that have been opened must be tightly sealed.
Disposal	<ul style="list-style-type: none"> • Dispose of contents/container in accordance with local/regional/national/international regulations. • If there are any doubts about proper methods of handling the product, contact the point of purchase before proceeding with usage.