PRODUCT TECH SHEET

AR9100 Potassium Nanoborate Friction Modifier

Archoil's patented Potassium Nanoborate lubrication technology dramatically reduces operating friction protecting equipment from wear, extending operating life, and reducing energy consumption.

Boron lubrication technology was initially developed at the Argonne National Laboratory for the US Dept. of Energy. Representing a ground-breaking advance in lubrication technology, boron was demonstrated to greatly enhance lubricity and protection through the formation of a nearly frictionless solid boundary layer.

Since 1990, when Dr. Ali Erdemir discovered that boron was the one of the lowest coefficient of friction element, tribologists have recognized the tremendous advancement boron lubricants represented. Initial efforts to commercialize boron lubricants were hampered by large boric acid particle sizes.

Archoil's revolutionary new potassium nanoborate formulation represents the second generation in boron tribology and another huge leap forward in lubrication with its unique ability to reduce boron size down to the more efficient 'nano' level and deliver it in a naturally occurring fatty acid ester matrix carrier. **AR9100's** proprietary ester carrier is specially formulated to facilitate the migration of the protective boron nanoparticles to surface metal.

AR9100's surface friction coefficient tests at 0.037. It is dramatically more lubricious than traditional lubrication oils and is capable of bearing loads many times that of other solid boundary lubricants.

FEATURES / BENEFITS

- Reduces surface friction by 60-80%
- Reduces operating energy requirements thus increasing fuel efficiency
- Reduces exhaust emissions
- Increases horsepower and torque
- Reduces wear by up to 90%
- Minimizes fluid oxidation and extends the oil drain cycle
- Reduces operating temperatures by up to 40%
- Cleans out pre-existing carbon and varnish build up
- Inhibits surface corrosion
- Extreme Pressure agent - absorbs shock loads of up to 4000 lbs
- Readily biodegradable (85% degradable in 28 days) and non-toxic

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SPECIFICATIONS

Color ..……..	Brown liquid
Base Fluid ..……..	Fatty acid ester
Viscosity……...	150 SUS at 100^{O}F
Specific Gravity ……...	1,000 at 25^{O}C
Nano variants……	Nanoborate (proprietary processing)
D.O.T. ……..	Unregulated
V.O.C. ……..	None
Biodegradable ……..	Yes

SUMMARY OF TEST RESULTS

Falex Pin & Vee Test ASTM D-3233
(3.5% in 100 neutral mineral oil):

Load	3750
Torque	47
COF	0.037 (*coefficient of friction*)

APPLICATIONS

For engine oil treat at a ratio of 28.5:1
For transmission oil treat at a ratio of 10:1
For hydraulic oil treat at a ratio of 10:1
For other applications please contact your nearest dealer

PACKAGING

250ml container
500ml container
1 Litre container
5 Litre container
20 Litre container
208 Litre drum
1000 Litre IBC

