



AR8100 BIOSYN SYNTHETIC BIODEGRADABLE GREASE

DESCRIPTION: NANOBORATE LUBRICATION TECHNOLOGY

AR8100 utilizes nanoborate in a pure PAO base for a low coefficient of friction and extreme pressure load protection. It is formulated to provide maximum lubricity, wear reduction, EP, and corrosion protection in heavy equipment, bearings and gears, even in extreme environments.

AR8100 is the latest development in the grease industry incorporating the most advanced solid boundary nanoborate lubricant offering properties surpassing previous boron lubricants and far exceeding traditional AW additives such as zinc, phosphorous and chlorinated paraffin's which are all toxic and become acidic and corrosive as they deplete. Nanoborate is also superior to EP additive packages found in specialty greases such as moly, graphite and boric acid.

NANOBORATE:

A new approach has been developed to incorporate boron-containing nanoparticles in a naturally occurring fatty acid ester matrix carrier. This ester has a high affinity for absorbing on the surface of metal and facilitates the movement of the borate nanoparticles to the surface. Boron technology was originally developed at Argonne National Laboratories under Ali Erdemir, an award winning Tribologist proving that boron is an advanced solid boundary lubricant exhibiting very low surface coefficient and extreme high pressure agent. This nanoborate lubrication technology provides three times the bearing load of any boron lubricant and many times that of any solid boundary lubricant. The surface friction coefficient exhibited a figure of 0.037 which is almost half of the 0.071 value of other boron lubricants.

AR8100 is formulated with Durasyn 148 high VI synthetic oil, a specialized additive package and fumed silica thickeners to withstand high temperatures.

AR8100 is completely shear stable. There is no loss of thickening power over 100,000 cycles in a grease working test. This offers long re-greasing intervals in high speed bearings.

AR8100 offers a very high dropping point. It can be used in any high temperature applications suitable for petroleum base grease. High polymer content equals exceptional water washout of 0.05, water spray off protection and excellent EP properties.

AR8100 can withstand the toughest load conditions offered by manufacturing equipment, off road machinery and is perfect for chassis lubrication on heavy trucks. Nanoborate replaces and exceeds the toxic and acidic EP/AW additive packages found in most lubricants. It contains no heavy metals, PTFE, moly, sulfur, graphite, boric acid, chlorinated paraffin, zinc, phosphorous, barium, phenols, antimony or lead.

Features/Benefits:

- Nano lubrication technology - nanoborate
- Extremely low friction surface coefficient of 0.037
- Highest load bearing protection of 4000 lbs
- Excellent corrosion protection in marine environments
- Shear stability over thousands of cycles
- Very high dropping point (-35F to 550F)
- Nanoborate replaces all AW/EP additive packages in oil
- A true premium quality multi-purpose grease
- Far superior to moly, graphite or boric acid
- Compatible with water
- Readily biodegradable & non-toxic
- Low water washout of 0.05

APPLICATIONS:

Applications include ‘O’ ring gaskets, bearings, gears, valves, universal joints, electric motor bearings, fifth wheels, wheel bearings, pump bearings, heavy equipment, industrial, commercial fleet, railroad, racing, industrial gearboxes, marine, wire rope, threads, etc.

PACKAGING:

100gm, 400gm, 35lb, 208 litre drum

TYPICAL PROPERTIES

NLGI Grade.....	2
Thickener Type	Inorganic
Texture-----	Slightly Tacky
Color-----	Pale Yellow
Worked Penetration, ASTM D 217, 60 strokes	265-295
Dropping Point, ASTM D 2265, °F (°C).....	>550(>288)
4-Ball EP test, ASTM D 2596	
Weld point, kgf, min.....	200
Water washout @175F ASTM D1264-----	0.05%

Base Fluid Characteristics

Viscosity @ 40°C, cSt. ...	49
Viscosity @ 100° C, cSt.....	7.8
Viscosity @ 100° F, SUS.....	52
Viscosity @ 200° F, SUS	225
Viscosity Index.....	147