HDL90 Universal Advanced Synthetic Oil Additive

Extreme Pressure (EP) /Anti Wear (AW) additives:
Polarized AW, Friction Modifier and EP components provide unequaled protection in high load, high friction conditions.

Fluid strength increase allows for significant friction reduction and protection of gear and gearbox components. Polarized film of HDL90 remains on metal services protecting during start up conditions where 80% of wear is generated.

Oxidation Inhibitors and Acid Neutralizers:
Enhanced alkaline reserve prevents oil breakdown during service life. Increased stability and performance of the basic lubricating components of the oil.



Rust and Corrosion Inhibitors:
Protects against adverse effects of moisture and oil oxidation caused by free wear metals present in oil.

Viscosity Index (VI) Improvers:
Enhanced VI maintains lubricant flow and improves shear stability of the oil, especially at extreme temperatures.

Dispersants:
Maintains cleanliness and keeps contaminants in suspension. May remove varnish buildup in older equipment.

Seal Conditioners:
Reduces the long term effects of heat exposure to elastomer seals, keeping seals pliable.

HDL90 for engine oils is designed to be used with all traditional motor oils meeting API SP/ILSAC GF 6A /6B and CK-4 and earlier grades requiring low ash requirements at **5% HDL90 of oil volume.**

HDL90 for gear oils is intended for use in gear reducers, bearing housings, positive traction and limited slip differentials, cone and jaw crushers, pulverizing equipment, final drives and conveyor gear boxes, manual transmissions, drop boxes, rotary tables, tube and ball mills, chain drives, mud pumps, bull gear and pinion sets, oil bath hubs and other oil lubricated systems which call for extreme pressure gear oils.

Typical Effect on Oils

Typical Properties	ASTM Method	HDL90	5% in API Gasoline Engine Oils	5% in API Diesel Engine Oils	5% in GL-5 Gear Oils
Viscosity @40°C (cSt)	D445	82.31	N/C	Slight ↓	Slight ↓
Viscosity @100°C (cSt)	D445	9.85	N/C	Slight ↑	Slight ↑
Viscosity Index	D445	98	Slight ↑	Slight ↑	Slight ↑
Density@15°C (g/ml)	D445	0.99	N/C	N/C	N/C
Pour Point (°C)	D97	-30	Improves	Slight ↓	N/C
Flash Point COC (°C)	D92	202	Slight ↑	Slight ↑	Slight ↑
Fire Point COC (°C)	D92	214	Slight ↑	Slight ↑	Slight ↑
Acid Number (TAN) mg KOH/g	D664	1.39	N/C	N/C	N/C
Base Number (TBN) mgKOH/g	D2896	2.39	Slight ↓	Slight ↓	Slight ↓
Solid Particles (Zinc,Lead, PTFE, Graphite, MoS2)		None	N/C	N/C	N/C
Calcium (ppm)	ICP	4	N/C	N/C	N/C
Phosphorus (ppm)	ICP	0	N/C	N/C	N/C
Rust Prevention	D665	Pass	N/C	N/C	N/C
Copper Corrosion	D130	1A	N/C	N/C	N/C
Elastomer Compatibility (Nitrile,					
Neoprene, Fluorocarbon)	D4289	Pass	Pass	Pass	Pass

N/C no change

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HDL90

Universal Advanced Synthetic Oil Additive

Universal for: ☑ **Gears** ☑ **Gas Engines** ☑ **Diesel Engines**

A high purity **Universal Synthetic** formula providing exceptional flow characteristics and friction reduction technology for gear oils, gasoline, and diesel engine oils. HDL90 is designed to blend with all traditional engine and gear oils to enhance the protection of metal parts operating under severe service conditions.

HDL90 increases the ability of the oil to **neutralize contaminants** and acidic by-products, enhance shear stability and oxidation resistance and to improve wear protection using proprietary lubrication and additive technology.

HDL90 forms a tenacious boundary lubricant film, which results in **reduced energy and fuel consumption,** wear, and operating temperature.

HDL90 provides better **protection on startup** and in cold weather applications.

HDL90 is highly recommended for use in equipment with DPF (diesel particulate filter) systems. Can also be used for 2-stroke, natural gas, and propane engines. HDL90 is ideal for high mileage vehicles providing seal enhancement and cleaning capabilities.

HDL90 contains **no solid particles or heavy metals** and is compatible with manufacturer specifications requiring low-ash (SAPS) oil content.

Over the life of a fluid, the additive package depletes. HDL90 can extend fluid life and slow the process of oil degradation. Friction reduction in boundary or mixed lubrication regimes limit the effects of oil oxidation. HDL90 can also reduce the Total Acid Number (TAN) and can be used to re-additize oil that has lost crucial chemistry over its service life. Where the service life of the oil is being extended; oil testing and analysis is recommended.

Always ensure oil blends meet the minimum requirements as outlined by the OEM.
HDL90 is compatible with mineral based Group II and Group III Base oils as well as synthetic based polyalphaolefin (PAO) and diester base oils. HDL 90 is not recommended for use with water based fluids, phosphate esters or polyglycol fluids. HDL90 is not appropriate for food grade applications.

PERFORMANCE FOR TODAY & PROTECTION FOR TOMORROW

- Improves HP.
- Increases asset life.
- Improves energy efficiency, fuel economy and reduces carbon emissions.
- Integrates well with synthetic and conventional engine oils.
- Eliminates dry starts.
- Reduces Ultrasonic noise caused by internal friction and component wear.
- Extreme Pressure and shock load protection.
- Increases equipment availability; extends component life.
- Extends oil service life.
- Enhances film strength and improves shear resistance.
- Reduces power draw.



PRODUCT ID	UPC	PACK	SIZE
3104-300-1	813010001161	1	0.300 L
3104-300-24	813010001178	24	0.300 L
3104-1-1	813010000171	1	1 L
3104-1-12	813010000881	12	1 L
3104-4-1	813010000188	1	4 L

PRODUCT ID	UPC	PACK	SIZE
3104-4-4	813010000898	4	4 L
3104-10-1	813010000751	1	10 L
3104-10-2	813010001147	2	10 L
3104-20-1	813010000195	1	20 L
3104-205-1	813010000218	1	205 L

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Made in Canada

Manufactured to ISO 9001:2015 specifications.