



# Aviation, Marine, and Railroad Engine Oils

Aviation Engine oil 100 50 - Aviation Engine Oil 100 60  
Marine Engine Oil 16 TBN - Marine Engine Oil 30 TBN -- Marine Engine Oil 40 TBN  
Marine Engine Oil 50 TBN - Marine Engine Oil 70 TBN  
Rail Road Engine Oil 9 TBN – Rail Road Engine Oil 13 TBN – Rail Road Engine Oil 17 TBN

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## Aviation Engine Oils

**Value Tech Aviation Engine Oils** are single grade ashless dispersant oils specifically developed for aviation piston engines. They combine non-metallic additives with selected high viscosity index base oils to give exceptional stability, dispersancy and anti-foaming performance. These oils are offered in the most common grades, SAE 50 and SAE 60, which equates to common viscosity standards of 100 and 120 respectively. Value Tech Aviation Engine Oils are produced to meet the SAE specification J-1899.

**Value Tech Aviation Engine Oils** promote engine cleanliness. The formulation is designed and was developed to help eliminate the harmful combustion chamber deposits that occur during normal operation. This is enhanced through the use of high Viscosity Index Base Oils which maintain their viscosity and help protect engine components more effectively under the high shear stresses that an engine places on lubricants. These oils are compatible with other approved aircraft piston engine oils. These oils are extremely stable in storage, providing that they have been stored and handled correctly, prolonged storage does not have any effect on their quality, properties or performance.

## Marine Diesel Engine Oils

**Value Tech Marine Engine Oil 16 TBN** engine oils are high performance, high dispersancy engine oils for medium and high speed diesel engines operating on distillate and marine diesel oil (MDO) fuels. These advanced diesel lubricants are available in both SAE 30 and 40 grades to suit most marine engine viscosity requirements. As a result of a special balance of dispersant and detergent properties, these oils provide not only increased resistance to cylinder liner lacquer formation and in severe service applications but also assist in sludge and deposit removal. Continued use of Value Tech Marine Engine Oil 16 TBN protects against high oil consumption associated with cylinder liner lacquering, improves overall engine cleanliness and can increase time between engine overhaul. Superior load carrying properties minimize piston ring and liner wear, and also make these special lubricants suitable for marine gearing applications. Advantages experienced by our customers are found in the increased thermal and oxidation stability characteristic which results in improved engine cleanliness, reduced liner lacquering, reduced top deck sludge, reduced piston ring groove deposits and bore polishing. The superior wear protection extends the life of critical wear surfaces. Enhanced detergency and dispersancy capability leads to reduced deposits especially in the ring belt area. This has the advantage of extending time between cylinder overhauls and has the benefit of reduced oil consumption. In addition, the stay-in-grade shear stability reduces oil consumption and improves bearing protection. The high TBN levels prevent corrosive wear due to higher sulphur fuels. The excellent load carrying capability extends life of bearing surfaces.

In all, the broad range of engine applications, conserves inventory as it functions as the one severe service engine lubricant for all shipboard applications. Value Tech recommends using these marine engine oils in the following engines: MAN, BandW, and Caterpillar (3600 series), Deutz, and Wartsilla. These advanced diesel lubricants possess excellent water separation, rust and corrosion resistance properties. Marine Engine Oil 16 TBN may also be used where API CF performance level is recommended.

**Value Tech Marine Engine Oil 30 TBN** engine oils are marine engine oils that meet the requirement of medium speed trunk piston engines used as the main propulsion and auxiliary engines on deep-sea vessels, as main propulsion engines on coastal and river ships, and in stationary power applications. Value Tech marine engine oil 30 TBN are offered in SAE 30, SAE 40, and SAE 50 grades. They are designed to meet the needs of engines operating on heavy fuel. They are recommended for use in the latest model high power 2 and 4 cycle diesel engines. These oils are especially beneficial in engines having low crankcase oil consumption, or operating with low cylinder liner temperatures, and with fuels having moderate sulfur contents. These Value Tech 30 TBN marine engine oils are formulated to provide excellent resistance to thermal degradation, and to promote a high level of engine cleanliness and protection against wear. They have good resistance to oxidation and viscosity increases over long operating periods. Relatively high alkalinity reserves in the oils provide superior protection, neutralizing strong acids resulting from elevated sulfur fuels that find access to the crank case

to promote oil degradation, ring, cylinder, and bearing corrosion. These oils are formulated to eliminate under crown deposits, reduce piston ring belt deposits, and maintain camshaft spaces and crankcase cleanliness. It contains the industry leading thermal and oxidation stability for long oil life and good oil consumption control. These oils provide outstanding lube/fuel compatibility.

**Value Tech Marine Engine Oil 40 TBN** engine oils are marine engine oils that meet the requirement of medium speed trunk piston engines used as the main propulsion and auxiliary engines on deep-sea vessels, as main propulsion engines on coastal and river ships, and in stationary power applications. Value Tech marine engine oil 40 TBN are offered in SAE 30, SAE 40, and SAE 50 grades. They are designed to meet the needs of engines operating on heavy fuel. They are recommended for use in the latest model high power 2 and 4 cycle diesel engines. These oils are especially beneficial in engines having low crankcase oil consumption, or operating with low cylinder liner temperatures, and with fuels having high sulfur contents. These Value Tech 40 TBN marine engine oils are formulated to provide excellent resistance to thermal degradation, and to promote a high level of engine cleanliness and protection against wear. They have good resistance to oxidation and viscosity increases over long operating periods. Relatively high alkalinity reserves in the oils provide superior protection, neutralizing strong acids resulting from high sulfur fuels that find access to the crank case to promote oil degradation, ring, cylinder, and bearing corrosion.

Value Tech Marine Engine Oils 40 TBN provides the following benefits when used as recommended. These oils are formulated to eliminate under crown deposits, reduce piston ring belt deposits, and maintain camshaft spaces and crankcase cleanliness. It contains the industry leading thermal and oxidation stability for long oil life and good oil consumption control. These oils provide outstanding lube/fuel compatibility.

**Value Tech Marine Engine Oil 50 TBN** engine oils are marine engine oils that meet the requirement of medium speed trunk piston engines used as the main propulsion and auxiliary engines on deep-sea vessels, as main propulsion engines on coastal and river ships, and in stationary power applications. These oils are premium, extra high performance 50 TBN engine oils designed for use in the most severe residual-fuelled medium-speed diesel applications found in marine and stationary power industries. This diesel engine oil has been specially formulated to provide outstanding residual fuel compatibility characteristics for excellent engine cleanliness, especially in crankcase, camshaft areas, ring belt and piston undercrown. It provides excellent high temperature oxidation and thermal stability, low volatility, and high load carrying properties and corrosion protection. They are designed to meet the needs of engines operating on heavy fuel. They are recommended for use in the latest model high power 2 and 4 cycle diesel engines. These oils are especially beneficial in engines having low crankcase oil consumption, or operating with low cylinder liner temperatures, and with fuels having high sulfur contents. Value Tech marine engine oil 50 TBN are offered in SAE 30, SAE 40, and SAE 50 grades.

These Value Tech 50 TBN marine engine oils are formulated to provide excellent resistance to thermal degradation, and to promote a high level of engine cleanliness and protection against wear. They have good resistance to oxidation and viscosity increases over long operating periods. Relatively high alkalinity reserves in the oils provide superior protection, neutralizing strong acids resulting from high sulfur fuels that find access to the crank case to promote oil degradation, ring, cylinder, and bearing corrosion. Value Tech Marine Engine Oils 50 TBN provides the following benefits when used as recommended. These oils are formulated to eliminate under crown deposits, reduce piston ring belt deposits, and maintain camshaft spaces and crankcase cleanliness. It contains the industry leading thermal and oxidation stability for long oil life and good oil consumption control. These oils provide outstanding lube/fuel compatibility.

**Value Tech Marine Engine Oil 70 TBN** engine oil is a premium crosshead cylinder oil for low-speed diesel engines normally operating at less than 350 rpm. It is recommended for applications where a premium grade cylinder lubricant is called for in use in all types of low speed crosshead diesel engines burning residual fuels with sulfur contents of up to 3.5% weight. It is ideally suited for the new generation of highly rated, fuel efficient, slow-speed marine diesel engines operating with higher pressures, higher temperatures and longer strokes. It is a blend of highly refined, high viscosity index base oils, and additives that incorporate premium additive technology. Recommended applications include low-speed marine diesel engines burning heavy fuel with a relatively high sulfur content of between 1.0 to 3.5% weight for slow speed marine diesel engine cylinders. The performance features of this unique formulation centers around and additive technology that imparts outstanding acid neutralizing properties to counter corrosive wear resulting from the use of high sulphur fuels. This results in minimum deposit formation on cylinder ports, pistons, piston rings, ring grooves and under piston spaces. Advantages also include low cylinder and piston ring wear rates, excellent engine cleanliness, extended interval between maintenance schedules. This premium oil is offered in SAE 50 viscosity grade.

## **Railroad Diesel Engine Oils**

**Value Tech Railroad Diesel Engine Oil 9 TBN** represents the latest advancement in zinc free railroad diesel engine oil technology. It is a unique formulation that is optimized to satisfy EPA emission requirements. The advanced technology provides superior liner scuffing protection, reduced rein wear, and reduced piston deposits. Improved thermal and oxidation stability minimizes oil degradation, reduces sludge formation. This provides longer drain intervals and improved filter life. This new oil is designed to meet the changing needs of today's railroad diesel engines in light of progressive emission standards and the use of low sulfur and ultra low sulfur fuels. It offers reduced SAPS (sulfated ash, phosphorous and sulfur), advanced detergency and dispersancy technology and increased yellow metal anti-wear protection critical to satisfactory operation and long component life of exhaust after treatment devices such as particulate filters and oxidation catalysts. The exceptional Total Base Number retention and oil consumption reduction characteristics of the oil are directly linked to its superior oxidation control, viscosity retention, shear stability, acid production control and wear protection. Value Tech Railroad Diesel 9 TBN SAE 40 Engine Oil offers the highest levels of oil performance and quality to insure superior engine productivity, maximum power utilization and reduced life-cycle maintenance costs. This oil is specifically designed for use in medium-speed two-cycle and four-cycle diesel engines such as those typically employed in railroad locomotives and certain marine applications. Recommended applications include Electro-Motive Diesel (EMD) generation V, LMOA Generation V, General Electric Generation 4 Long Life, Alco, Baldwin, and Fairbanks-Morse engines. Value Tech Railroad Diesel Engine Oil 9 TBN is offered in SAE 40 and SAE 20W40 viscosity grades.

**Value Tech Railroad Diesel Engine Oils 13 TBN** engine oils have outstanding high dispersancy and high alkalinity, for use in diesel engines used in railroad, power generation, oil well drilling, and marine and industrial service requiring a zinc-free oil and Generation 4 LL or Generation 5 lubricant characteristics. These oils represent the standard in oil technology for this type of service and satisfy the requirements of older as well as the newest engine technology. These Engine Oils are manufactured using the highest quality base oils and a non-chlorinated additive package that offers low engine wear and minimizes used oil disposal issues. New engine designs, aimed at reducing operating expenses, operate at higher combustion pressures and higher temperatures which require improved oxidation and viscosity control. Increased alkalinity reserve serves to control corrosive wear and deposit formation required by new piston and ring designs. This advanced formulation is designed to successfully handle these requirements by providing outstanding resistance to viscosity increase due to superior oxidation and thermal stability, and by providing a high alkalinity level (13 TBN by ASTM D 2896). Value Tech Railroad Diesel Engine Oil 13 TBN is offered in SAE 40 Viscosity range, and is recommended for use in all railroad-type diesel engines for locomotive, marine equipment, stationary electric generating plants, offshore drilling equipment, and many other applications where large medium-speed EMD or GE diesel engines are used for primary power. These oils are completely compatible with earlier railroad oils, miscible with competitive railroad type oils and additive systems consistent with engine manufacturers recommended practices. These oils provide excellent performance in older locomotive types such as Sulzer, Baldwin, and ALCO. In addition these oils are recommended for use in Caterpillar and other diesel engines operating where sulfated ash levels above 1% are acceptable and where DDC engines are used for auxiliary power. Detroit Diesel Corporation approves the use of Generation 4 and 5 zinc-free railroad engine oils in these applications.

**Value Tech Railroad Diesel Engine Oils 17 TBN** engine oils have outstanding high dispersancy, high alkalinity, for use in diesel engines used in railroad, power generation, oil well drilling, and marine and industrial service requiring a zinc-free oil and Generation 4 LL or Generation 5 lubricant characteristics. These oils represent the standard in oil technology for this type of service and satisfy the requirements of older as well as the newest engine technology. These Engine Oils are manufactured using the highest quality base oils and a non-chlorinated additive package that offers low engine wear and minimizes used oil disposal issues. New engine designs, aimed at reducing operating expenses, operate at higher combustion pressures and higher temperatures which require improved oxidation and viscosity control. In addition, new piston and ring designs call for increased alkalinity reserve to control corrosive wear and deposit formation. This advanced formulation is designed to successfully handle these new requirements by providing outstanding resistance to viscosity increase due to superior oxidation and thermal stability, and by providing increased alkalinity level (17 TBN by ASTM D 2896). Value Tech Railroad Diesel Engine Oil 17 TBN is offered in SAE 40 and SAE 20W40 Viscosity ranges. Value Tech Railroad Diesel Engine Oil 17 TBN is recommended for use in all railroad-type diesel engines for locomotive, marine equipment, stationary electric generating plants, offshore drilling equipment, and many other applications where large medium-speed EMD or GE diesel engines are used for primary power. These oils are completely compatible with earlier railroad oils, miscible with competitive railroad type oils and additive systems consistent with engine manufacturers recommended practices. These oils provide excellent performance in older locomotive types such as Sulzer, Baldwin, and ALCO. In addition these oils are recommended for use in Caterpillar and other diesel engines operating where sulfated ash levels above 1% are acceptable and where DDC engines are used for auxiliary power. Detroit Diesel Corporation approves the use of Generation 4 and 5 zinc-free railroad engine oils in these applications.



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## TYPICAL INSPECTION DATA

<b>Value Tech Aviation Engine Oils</b>	API Gravity	Flash Point C.	Viscosity cSt @100C	Viscosity cSt @40C	VI	Pour Point, C.
Aviation Engine Oil 100 50						
SAE 50	27.9	280	17.5	185	100	-45
Aviation Engine Oil 100 60						
SAE 60	26.6	295	24.0	300	100	-45

<b>Value Tech Marine Diesel Engine Oils</b>	API Gravity	Flash Point C.	Viscosity cSt @100C	Viscosity cSt @40C	VI	Pour Point, C.	TBN (D-2896)	Sulfated Ash
Marine Engine Oil 16 TBN								
30	28.5	210	11.80	103.0	100	-15	16	2.2
40	28.0	220	14.60	141.0	100	-12	16	2.2
Marine Engine Oil 30 TBN								
30	28.5	210	11.50	102.0	100	-15	30	4.0
40	28.0	220	14.50	140.0	100	-12	30	4.0
50	27.5	230	18.00	190.0	100	-12	30	4.0
Marine Engine Oil 40 TBN								
30	28.5	210	11.80	103.0	100	-15	40	5.2
40	28.0	220	14.60	141.0	100	-12	40	5.2
50	27.5	230	17.90	189.0	100	-12	40	5.2
Marine Engine Oil 50 TBN								
30	28.5	210	11.75	102.0	100	-15	50	6.5
40	28.0	220	14.75	145.0	100	-12	50	6.5
50	27.5	230	17.80	185.0	100	-12	50	6.5
Marine Engine Oil 70 TBN								
50	27.5	230	17.90	189.0	100	-12	70	8.5

<b>Value Tech Railroad Diesel Engine Oils</b>	API Gravity	Flash Point C.	Viscosity cSt @100C	Viscosity cSt @40C	VI	Pour Point, C.	TBN (D-2896)	Sulfated Ash
Railroad Diesel Engine Oil 9 TBN								
40	28.0	220	14.60	141.0	100	-12	9	1.0
20W-40	30.0	210	15.25	100.0	120	-36	9	1.0
Railroad Diesel Engine Oil 13 TBN								
40	28.0	220	14.60	141.0	100	-12	13	1.3
Railroad Diesel Engine Oil 17TBN								
40	28.0	220	14.60	141.0	100	-12	17	2.5
20W-40	30.0	210	15.25	100.0	120	-36	17	2.5

