



Taro® XL Series

Medium-speed engine oils

Product Data Sheet



Customer benefits

Wear Protection

High BN levels control cylinder liner wears effectively and protect bearings from corrosion. High-performance, antiwear additives provide excellent protection against adhesive wear for cams, camshaft and bearings. Taro XL Series lubricants also provide a high degree of water tolerance and antifoam properties.

Detergent/Dispersant Properties

The unique detergent and dispersant additive system provide outstanding piston cleanliness as well as control of fuel contaminants. This results in extreme reduction of both "hot" (piston lands and grooves, piston undercrown, purifier preheaters) and "cold" (crankcase, cambox, rocker area, fuel pumps, purifier bowl) deposits.

Oxidation Stability

Oxidation inhibitors protect the oil against high thermal stresses, protect engine parts from corrosion and reduce undercrown deposits while promoting extended lubricant life.

Rust Prevention

Prevents corrosion of engine parts when the engine is not in operation.

Balanced Additive Combination

Provides minimum maintenance and downtime, long engine life and economical operating costs.

Product features:

- **Taro XL** Series lubricants are high-performance, high-BN, diesel engine oils for medium-speed trunk piston diesel engines fueled by residual fuels to maximum Sulphur level of 4.5%.
- **Taro XL** Series lubricants are blended from high-quality base oils and additives that provide an extra margin of protection against ring sticking, piston deposits and wear under the most severe operating conditions.
- **Taro XL** Series lubricants have very good viscosity control when used in severe high- temperature service, and their excellent BN retention characteristics prevent corrosive wear over long periods of operation.
- **Taro XL** Series lubricants provide a high degree of water tolerance and have good water separation and base retention properties.



Applications

Taro XL Series lubricants are recommended for all types of trunk piston diesel engines burning residual fuels with a maximum sulphur level of 4.5%. Taro XL Series lubricants are approved by all major OEMs

Performance standards

Taro XL series approved and/or meets Majority of OEMs requirement**

- Wärtsilä
- MAN Energy Solution
- Daihatsu
- Hyundai Himsen
- MAK (Caterpillar)
- Mitsui
- Niigata
- Rolls-Royce (Bergen)
- Yanmar

** Refer to Chevron Technical Representative for more information

Typical key properties

TARO DP SERIES			
Product Name	Taro 40 XL 40*	Taro 50 XL 40*	Taro 60 XL 40*
SAE Viscosity Grade	40	40	40
Product Code	560062	560064	560065
Base number, mg KOH/g	40	50	60
Density, 15 °C, kg/l	0.91	0.92	0.92
Flash Point COC, °C	240	240	240
FZG test (A/8.3/90) failure load stage	12	12	12
Pour Point, °C	-12	-12	-12
Sulphated Ash, %mass	4.9	5.9	7.3
Viscosity Kinematic			
- at 40 °C, mm ² /s (cSt)	135	135	135
- at 100 °C, mm ² /s (cSt)	14.0	14.0	14.0
Viscosity index	100	100	100

*Taro XL series are fully compatible and miscible with or without (x) identifier.

2007

The information given in the typical data does not constitute a specification but is an indication based on current production and can be affected by allowable production tolerances. The right to make modifications is reserved. This supersedes all previous editions and information contained in them.



Service Consideration

BASE NUMBER (BN) SELECTION

Manufacturer's lubricant recommendations must be matched to the properties of the fuel and to the severity of the application. Use of an oil with a BN lower than required can result in rapid corrosive wear. Excessively high BN lubricants, relative to fuel sulfur content, can result in ash deposit accumulation on exhaust valves and result in possible valve distress.

FUEL QUALITY

Heavy residual fuels often have poorer combustion characteristics due to their asphaltene content and can result in greater loading of soot and unburned fuel in the lube oil. A higher detergency oil has a greater ability to contain these materials and minimize the formation of "black sludge" as well as piston deposits.

PURIFICATION SYSTEMS

Active purification systems continuously remove combustion contaminants from the oil, by use of centrifugal type separators and automatic back flushing type filtration systems. As a consequence, TPEOs are formulated to hold contaminants in suspension while in the engine and reserve tank, but release them in the purification system. At the same time, they must resist the loss of detergent/dispersant additives with the contaminants whilst undergoing purification. Because of this, they are formulated differently from automotive and railroad diesel engine oils that are designed for systems without active purification. Consequently, one type should never be substituted for the other. As a result of the need for TPEOs to release their contaminants in purification systems, the additive system must be extremely well balanced. This "detergency balance" can be easily disturbed if large amounts of top-up oil are added to a system oil containing a higher than normal loading of contaminants, such as can occur with faulty purifier operation. For this reason, it is recommended that oil levels be maintained daily and not fall below 95% of nominal capacity. In addition, top-ups with an oil of different detergent/dispersant characteristics will very likely cause a disturbance in dispersancy balance and will, therefore, require careful management of oil changeover procedures. Water can be centrifuged out with essentially no loss of additive. However, water washing of the oil is not recommended.

IN-SERVICE OIL ANALYSIS

Wherever possible, oil analysis should be carried out on a regular basis to determine when change-out of the oil should occur, in accordance with the manufacturer's guidelines

ENVIRONMENT, HEALTH and SAFETY

Information is available on this product in the Material Safety Data Sheet (MSDS) and Customer Safety Guide. Customers are encouraged to review this information, follow precautions and comply with laws and regulations concerning product use and disposal. To obtain a MSDS for this product, visit www.caltex.com

This bulletin was prepared in good faith from the best information available at the time of issue. While the values and characteristics are considered representative, some variation, not affecting performance, can be expected. It is the responsibility of the user to ensure that the products are used in the applications for which they are intended.

Produced by:
Chevron Global Lubricants
– Asia Pacific