



Gulf Oil Marine Ltd.

Technical Brief

Lubricants Miscibility & Compatibility

Gulf Oil Marine Ltd. confirms that the below listed Gulf Oil Marine Lubricants, manufactured worldwide by Gulf Oil Marine Ltd. or by the Sealube Alliance members, as the case may be:

- GulfSea Cylcare marine cylinder lubricants for 2-stroke engines burning High Sulphur Heavy Fuel or Low Sulphur Heavy Fuel
 - GulfSea SuperBear 3006 for crankcase system of 2-stroke engines
 - GulfSea Power for 4-stroke engines burning Heavy Fuel Oil
 - GulfSea Power MDO for 4-stroke engines burning Marine Diesel Fuel
 - GulfSea Hydraulic HVI Plus, GulfSea Gear Oil, GulfSea Compressor Oil, GulfSea Turbine Oil, GulfSea HT Oil 32, GulfSea Power MX for ancillary equipment
- ✓ Fully comply with the specifications and descriptions contained within their respective Product Data Sheets and Material Safety Data Sheets
- ✓ Perform reliably and consistently, in their relevant applications, when used appropriately, and when following good engineering practise

GENERAL GUIDANCE

Gulf Oil Marine Lubricants are considered miscible and compatible with equivalent marine lubricant main grades, recommended for the same applications, by other major marine lubricant suppliers. *However, it is strongly recommended that customers should always consult Gulf Oil Marine before mixing products.* While mixing different mineral oils is generally considered to be low-risk, it is considered advisable, wherever possible, to minimise the quantities of competitive oils mixed.

It is good practice to limit the mixing of lubricants, from different suppliers, to the minimum. The general rule of mixing is 10/90 which translates to 10% of existing lubricant with 90% of new lubricant or vice-versa.



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For large fluid reservoirs on board (e.g. main engine system oils, trunk piston engines, large hydraulic systems & main gearboxes), existing, used, lubricants should be tested to ensure that they are in good condition, based upon the results of routine used oil analysis, before the new marine lubricant is to be filled on top of the existing lubricant.

For small systems, it is recommended to change-out the lubricant charge completely, if practicable to do so.

When changing from a mineral oil to a synthetic lubricant, ensure that the machine/system has been thoroughly drained before filling with new synthetic lubricant.

It is good engineering practice to always thoroughly remove all traces of the previous lubricant before changing grades and, especially, when changing synthetic lubricants.

For mixing of new Gulf Oil Marine lubricants with new or used competitor products:-

Marine Engine Cylinder Oils

Whenever possible, mixing of new cylinder lubricants from different suppliers should be avoided. It is good practice to completely consume the current product before commencing use of the new cylinder oil.

Marine Engine System Oils

It is good practice to reduce the quantity of the previous supplier's lubricant to the safe minimum, before adding new system oil to the storage tank.

Hydraulic, Gear, Turbine and Heat Transfer Oils

In general, it is recommended that top-up to these systems, at any one time, is limited to 10% of the existing amount of lubricant in the system or the top-up should be a maximum of 5% of the sump charge in any 24-hour period. Larger top-ups risk instability and deposit formation.

Mineral Oils with Synthetic Oils

Gulf Oil Marine does not recommend the mixing of mineral oils with synthetic oils, under any circumstances.

Synthetic Lubricants

Gulf Oil Marine does not recommend mixing of synthetic products.



Greases

If greases are of the same soap type, mixing should be acceptable. The Grease Compatibility Chart, below, should be referred to when changing from lithium-based greases to calcium sulfonate products.

General Guidelines	Aluminium Complex	Calcium Stearate	Calcium Sulfonate	Calcium 12 Hydroxystearate	Calcium Complex	Clay	Lithium Stearate	Lithium 12 Hydroxystearate	Lithium Complex	Polyurea	Sodium Soap
Aluminium Complex	C	I	I	I	I	I	I	I	C	I*	I
Calcium Stearate	I	C	C	C	I	I	C	B	C	I*	I
Calcium Sulfonate	I	C	C	C	C	I	C	C	C	I*	I
Calcium 12 Hydroxystearate	I	C	C	C	B	I	C	C	C	I*	I
Calcium Complex	I	I	C	B	C	I	I	I	C	C	I
Clay	I	I	I	I	I	C	I	I	I	I*	I
Lithium Stearate	I	C	C	C	I	I	C	C	C	I*	I
Lithium 12 Hydroxystearate	I	B	C	C	I	I	C	C	C	I*	I
Lithium Complex	C	C	C	C	C	I	C	C	C	I*	I
Polyurea	I*	I*	I*	I*	C	I*	I*	I*	I*	C	I
Sodium Soap	I	I	I	I	I	I	I	I	I	I	C

C	Compatible
B	Borderline
I	Incompatible
I*	Incompatible - Depends on Type

For further information or if you have any questions, please contact your local Gulf Oil Marine Technical advisor.

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