



Technical Brief

Resulting BN of Blended Trunk Piston Engine Oils

With the impending 2020 regulatory changes, many ship operators will have to switch to low sulphur fuel oil to ensure compliance with the new IMO sulphur emission limits.

As vessels switch to the low sulphur fuels, they would have to change their vessel engine lubricants to ensure that their lubricant's BN match the sulphur levels of the new fuels. Excessively high BN lubricants, relative to fuel sulphur content, can result in ash deposit accumulation on exhaust valves and result in possible valve distress.

Hence, as part of each vessel's transition plan, ship operators will need to manage their lubricant inventory on board in order to effect the change to the new lubricants.

There inevitably will be some mixing of lubricants between the previously used lubricant (likely a high BN lubricant) and the new lubricant (low BN lubricant). It is suggested to circulate the mix tank-to-tank to ensure thorough mixing of the two products to get a homogenous mix.

The tables will serve as useful guidance for ship operators during the transition period as they manage the switch to the compliant fuel.

GULFSEA POWER 4030/3030 VS GULFSEA POWER MDO 4015/3015

GULFSEA POWER 4030/3030	GULFSEA POWER MDO 4015/3015	Estimated TBN
10%	90%	17
20%	80%	18
30%	70%	20
40%	60%	21
50%	50%	23
60%	40%	24
70%	30%	26
80%	20%	27
90%	10%	29



GULFSEA POWER 4040/3040 VS GULFSEA POWER MDO 4015/3015

GULFSEA POWER 4040/3040	GULFSEA POWER MDO 4015/3015	Estimated TBN
10%	90%	18
20%	80%	20
30%	70%	23
40%	60%	25
50%	50%	28
60%	40%	30
70%	30%	33
80%	20%	35
90%	10%	38

GULFSEA POWER 4055/3055 VS GULFSEA POWER MDO 4015/3015

GULFSEA POWER 4055/3055	GULFSEA POWER MDO 4015/3015	Estimated TBN
10%	90%	19
20%	80%	23
30%	70%	27
40%	60%	31
50%	50%	35
60%	40%	39
70%	30%	43
80%	20%	47
90%	10%	51

[Updated on Nov 2019]