

31-January -2017

BIODEGRADABLE OIL (EAL) FOR STERNTUBE SEALS

BASE OIL	OIL MAKER	OIL BRAND	SEAL RING MATERIAL		
			FKM		FEPM / FKM for PAG BIO
			NORMAL	for ESTER BIO	
PAG	KEMEL (EAGLE INDUSTRY)	ST-83A	-	-	OK
	AMERICAN CHEMICAL TECHNOLOGIES	NEPTUNE AW-68	-	-	OK
		NEPTUNE 109	-	-	OK
ESTER BASE & OTHERS	BP/CASTROL	BIOSTAT 68	!	OK	-
		BIOSTAT 100	!	OK	-
		BIOSTAT 150	-	OK	-
	CHEVRON	CLARITY SYNTHETIC EA HYDRAULIC OIL 68	-	OK	-
		CLARITY SYNTHETIC EA HYDRAULIC OIL 100	-	OK	-
	COSMO OIL	COSMO TERRA STERN TUBE 100	-	OK	-
	EXXON MOBIL	MOBIL SHC AWARE ST 100	!	OK	-
	GULF OIL MARINE	GULFSEA BD STERNTUBE OIL 68	!	OK	-
		GULFSEA BD STERNTUBE OIL 100	!	OK	-
	KOREA HOUGHTON	TECTYL BIO OS 100	-	OK	-
	KLUBER	BIO RM 2-100	!	OK	-
		BIO RM 2-150	-	OK	-
		BIO EG 2-100	-	OK	-
		BIO EG 2-150	-	OK	-



: Fully Compatible



: Compatible with size limitation or application limit. Consult KEMEL for details.



: Compatible with temperature control & application limit. Consult KEMEL for details.

Provide ship's name, IMO No., oil grade, S/T piping diagram, shaft rpm, L.W.L. & tail shaft height above base line for consultation.

Remarks

- Listed oils are confirmed harmless to the seal elastomers in KEMEL's compatibility test. The test conforms to the standard; JIS K-6258; "ISO1817:1999 Rubber, vulcanized or thermoplastic - Determination of the effect of liquid".
- Other than the compatibility, all properties and characteristics of the each oil; including effects of dew, water or seawater inclusion, heat, mixture with residues of other oil grades replaced or used for shaft work & flushing, paint, dirt or water in tanks & pipes in initial oil filling, oil maintenance and storage etc. are out of KEMEL's scope. For proper operation of stern tube system, obtain information / instruction on these particulars from each oil makers.
- Oils are listed as "Biodegradable" according to oil maker's information. Confirm with the oil maker if the oil meets EAL requirements by the US rule VGP 2013.
- Follow ship builder's recommendation of oil viscosity if it is specified for stern tube bearing lubrication.
- Oil list will be revised without notice.

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ESTER BASE & OTHERS	LUKOIL (FUCHS)	PLANTOGEAR 100 S	⚠	OK	-
		PLANTOGEAR 150 S	-	OK	-
		PLANTOSYN 68 HVI	⚠	OK	-
	PANOLIN	STELLA MARIS 68	-	OK	-
		STELLA MARIS 100	-	OK	-
		HLP SYNTH 68	-	OK	-
		HLP SYNTH 100	-	OK	-
		STELLA MARIS NRT 68	-	OK	-
		STELLA MARIS NRT 100	-	OK	-
	RSC BIO SOLUTIONS	ENVIROLOGIC 3068	-	OK	-
		ENVIROLOGIC 3100	-	OK	-
		FUTERRA HF 68	-	OK	-
		FUTERRA HF 100	-	OK	-
	SHELL	NATURELLE S4 STERN TUBE FLUID 100	⚠	OK	-
		NATURELLE S4 GEAR FLUID 150	-	OK	-
	SINOPEC	EA STERNTUBE OIL 68	-	OK	-
		EA STERNTUBE OIL 100	-	OK	-
	SK LUBRICANTS	SK BIO ST	⚠	OK	-
		SK BIO ST 150	-	OK	-



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ESTER BASE & OTHERS	TOTAL LUBRICANTS	BIONEPTAN 100	⚠	⚠	-
		BIONEPTAN HT 100	⚠	OK	-
	VICKERS	HYDROX BIO 68	⚠	OK	-
		HYDROX BIO 100	⚠	OK	-
		HYDROX BIO 150	-	OK	-



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