

WÄRTSILÄ		Wärtsilä Finland Oy	Industrial Operations	
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Sinopec Corp. Att: Ms. Huiqing Yang

NO OBJECTION LETTER: SINOPEC TPEO SERIES LUBRICATING OILS

Dear Madam,

The Sinopec lubricating oil TPEO 4050, has gone through a 3978 -hour validation test on the Wärtsilä[®] 8L46 PAAE040544 engine on board the vessel M/V Africaborg. Based on the results of the engine inspection and lubricating oil analyses, Wärtsilä has no objection to the use of the following Sinopec products:

Product	roduct SAE grade Base Number Fuel category, ISO 821		Fuel category, ISO 8217:2010(E)
TPEO 3030	30	30	ISO-F-DMX, DMA, DMZ, DMB,
	1. 1. 1. N. 1.		ISO-F-RMA 10 – RMK 700, CRO **)
TPEO 4030	40	30	ISO-F-DMX, DMA, DMZ, DMB,
	ana dul sol la ren	भ राज प्रदेश महार म	ISO-F-RMA 10 – RMK 700, CRO **)
TPEO 3040	30	40	ISO-F-RMA 10 – RMK 700, CRO **)
TPEO 4040	40	40	ISO-F-RMA 10 – RMK 700, CRO **)
TPEO 3050	30	50	ISO-F-RMA 10 – RMK 700, CRO **)
TPEO 4050	40	50	ISO-F-RMA 10 – RMK 700, CRO **)

*) LBF stands for liquid bio fuel, for which fuel quality an internal fuel specification is released.

**) CRO stands for crude oil, for which fuel quality an internal fuel specification is released.

The statement is valid for the engine types Wärtsilä[®] Vasa 22 / 22/26, Wärtsilä[®] Vasa 32 / 32LN, Wärtsilä[®] 20, Wärtsilä[®] 26, Wärtsilä[®] 32, Wärtsilä[®] 38, Wärtsilä[®] 46, Wärtsilä[®] 46F, Wärtsilä[®] 64, Wärtsilä[®] 20DF, Wärtsilä[®] 32DF Wärtsilä[®] 34DF, Wärtsilä[®] 50DF and Sulzer[®] Z40 / ZA40 / ZA40S provided that fuel quality also fulfils the fuel specifications of Wärtsilä and that the engine type specific lubrication requirements are taken into account.

Instructions for other older engine types manufactured by Wärtsilä can be requested from Wärtsilä Services units being in response of a particular engine type in question.

Use of SAE 30 lubricating oils is allowed only in the engine types Wärtsilä[®] Vasa 22 / 22/26 and Wärtsilä[®] Vasa 32 / 32LN. In these engine types the suitability of SAE 40 grade lubricating oils

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depends on the capacity of the lubricating oil cooler used in the installation.

In the engine types Wärtsilä[®] Vasa 32, Wärtsilä[®] 20, Wärtsilä[®] 26, Wärtsilä[®] 32, Wärtsilä[®] 38, Wärtsilä[®] 46, Wärtsilä[®] 46F and Wärtsilä[®] 64 the use of BN 50-55 lubricants in heavy fuel installations is recommended in the first place, especially if fuel sulphur content is above 2,0 % mass. BN 40 lubricants can be used as well as if experience shows that the lubricating oil BN equilibrium remains at an acceptable level. BN 30 lubricants are recommended to be used only in special cases. Concerning the engine type Sulzer Z40 / ZA40 / ZA40S the use of BN 50-55 lubricating oils is recommended only in the engines being equipped with piston skirt lubrication and having the antipolishing rings installed.

In the first place on distillate fuel operation BN 10 - 20 lubricating oils are recommended to be used, but the use of BN 30 lubricating oils is also allowed.

These lubricating oils will be included in Wärtsilä's list of lubricating oils having passed Wärtsilä's lubrication oil testing criteria.

Sinopec Corp. undertakes all responsibility for the performance of the lubricating oils in service of the above mentioned engine types to the exclusion of any liability of any Wärtsilä company belonging to Wärtsilä group. Sinopec Corp. along with other possible manufacturers and distributors of the products in question shall indemnify, compensate and hold harmless Wärtsilä and companies belonging to Wärtsilä group from and against any claims, damages and losses caused by the lubricating oils in question.

Sinopec Corp. undertakes to inform the undersigned / responsible representatives of Wärtsilä of any subsequent changes in the formulation of the lubricating oil brands in question.

Yours faithfully,

Wärtsilä Finland Oy Industrial Operations / R&D

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Kai Juoperi Manager, Engine Fluids

Stefan Sec

Stefan Saario General Manager, T & P Expertise