

Validated engine oils for WinGD engines

Version 17

March 2025



WIN GD

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This document must be read and used in conjunction with the WinGD document “Lubricants” [Link](#)

Engine types

The oil lists are valid for the following engine types:

WinGD X, WinGD X-DF, WinGD X-DF-A, WinGD X-DF-M, WinGD RT-flex, WinGD RT-flex-DF, Wärtsilä RTA, Wärtsilä RT-flex and Wärtsilä X engines as well as in Sulzer 2-stroke engines

Changes to version 16 – November 2024

New products added:

- ADNOC Voyager System Oil 306
- Castrol Cyltech 70f
- Castrol Cyltech 100f
- Castrol CDX 30r
- Lubmarine Talusia HD 40
- SINOPEC Marine Cylinder Oil 5040N (II)
- Idemitsu Kosan Daphne Seamaster A-50N
- Idemitsu Kosan Daphne Seamaster A-50NH

Products phased out:

- ARG ARGuard Marine ACC 5040
- ARG ARGuard Marine ACC 5070
- ARG ARGuard Marine ACC 5000
- ARG ARGuard Marine ASC 3005
- CPC Marilube Oil CO-700
- CPC Marilube Oil CO-1000 SP
- CPC Marilube Oil AC-30 SP

Changes on existing products:

- | | | |
|---|------------|-----------------------------|
| • ADNOC Marine System Oil 3006 | changed to | ADNOC Marine System Oil 306 |
| • Petromar DCL 4050 | changed to | Petron Petromar DCL 4050 |
| • Shell Alexia 40 XC now “LNG validated” | | |
| • Added “Marine” to all SINOPEC cylinder oils | | |

For additional information on any of the above products, please contact the respective oil company directly.

General amendments to this document:

- None

General remarks

LNG column

All cylinder lubricating oils shown under the LNG gas fuel column are allowed for general usage in gas mode.

- “LNG-validated” oils have passed a field validation trial running in gas mode. These oils have demonstrated a good ability to keep the piston running components clean while running in gas mode at optimised low feed rates.
- “General Usage” oils have passed a field validation trial running on liquid fuels only. Based on their performance, the usage of these oils in gas mode is also allowed.
- Oils which are not allowed to be used in gas mode have an empty field in the LNG gas fuel column.

Ammonia column

- “General Usage” oils have passed a field validation trial running in gas mode (LNG). Based on their performance, the usage of these oils in ammonia mode is also allowed.

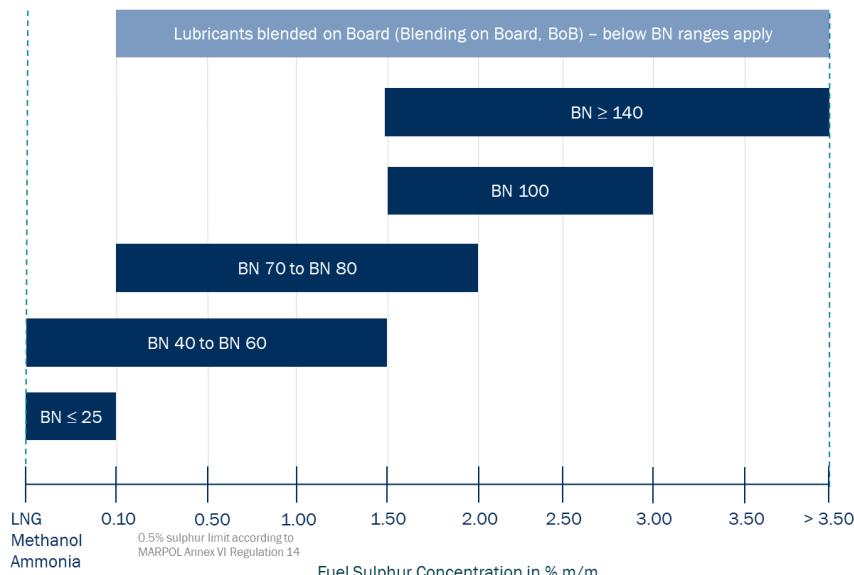
Methanol column

- “General Usage” oils have passed a field validation trial running on liquid fuels and/or in gas mode. Based on their performance, the usage of these oils in gas mode is also allowed.

General guideline for cylinder lubricating oil selection

Step 1: Choose a suitable BN range for cylinder lubricating oil from the following overview based on intended fuel usage.

Step 2: Refer to the table “List of validated cylinder lubricating oils” on the next pages to verify specific cylinder oil usage guidelines



Note: In all instances the information in this document takes precedence and should be regarded as the final approved guidelines by WinGD.

List of validated cylinder lubricating oils

Oil supplier	Oil name	BN	BN range	LNG	Ammonia	Methanol	Fuel sulphur concentration						
							0.00% to 0.10% S	0.10% to 0.50% S	0.50% to 1.50% S	1.50% to 2.00% S	2.00% to 2.50% S	2.50% to 3.00% S	3.00% to 3.50% S
ADNOC	Voyager	70	70 - 80				Monitor						
Aegean	Alfacylo 540 NG	40	40 - 60										
	Alfacylo 570	70	70 - 80				Monitor						
ARG	Alfacylo 570GII	70	70 - 80				Monitor						
	Marine Diesel Cylinder Lubricant	70	70 - 80				Monitor						
AVIN	Neptune 40 SAE 50	40	40 - 60										
	Neptune 70 SAE 50	70	70 - 80				Monitor						
	Neptune 100 SAE 50	100	80 - 100						Monitor				
Bardahl	Naval 50	70	70 - 80				Monitor						
	Cyltech 40	40	40 - 60	2)		2)							
	Cyltech 40 SX	40	40 - 60	LNG validated									
	Cyltech 40 XDC	40	40 - 60	LNG validated									
Castrol	Cyltech 70	70	70 - 80				Monitor						
	Cyltech 70f	70	70 - 80				Monitor						
	Cyltech 100	100	80 - 100						Monitor				
	Cyltech 100f	100	80 - 100						Monitor				
	Cyltech 140	140	≥ 140						Monitor				
	Gavia 4050	40	40 - 60										
	Gavia 7050	70	70 - 80				Monitor						
Chevron	Taro Ultra 20	20	15 - 25										
	Taro Ultra 40	40	40 - 60	2)		2)							
	Taro Ultra 40X	40	40 - 60										
	Taro Ultra Advanced 40	40	40 - 60	LNG validated									
	Taro Ultra 70	70	70 - 80				Monitor						
	Taro Ultra 70J	70	70 - 80				Monitor						
	Taro Ultra 70X	70	70 - 80				Monitor						
	Taro Ultra 100	100	80 - 100						Monitor				
	Taro Ultra 100J	100	80 - 100						Monitor				
	Taro Ultra 100X	100	80 - 100						Monitor				
Cosmo	Taro Ultra 140	140	≥ 140						Monitor				
	Marine 5040	40	40 - 60										
	Marine 5070S	70	70 - 80				Monitor						
	Marine 5100S	100	80 - 100						Monitor				

Oil supplier	Oil name	BN	BN range	LNG	Ammonia	Methanol	Fuel sulphur concentration							
							0.00% to 0.10% S	0.10% to 0.50% S	0.50% to 1.50% S	1.50% to 2.00% S	2.00% to 2.50% S	2.50% to 3.00% S	3.00% to 3.50% S	> 3.50% S
CPC	Marilube Oil CO-200 Plus	20	15 - 25											
	Marilube Oil CO-700 Plus	70	70 - 80					Monitor						
Cyclon Hellas	Marilube Oil CO-1000 Plus	100	80 - 100							Monitor				
	Nautilus LS	40	40 - 60											
ENEOS	Nautilus Heavy	70	70 - 80					Monitor						
	Nautilus Heavy XT	100	80 - 100							Monitor				
ENEOS	Marine C405	40	40 - 60											
	Marine C405S	40	40 - 60											
ENEOS	Marine C405Z	40	40 - 60											
	Marine C705	70	70 - 80					Monitor						
ENEOS	Marine C705S	70	70 - 80					Monitor						
	Marine C1005	100	80 - 100							Monitor				
ENI	Marine C1005S	100	80 - 100							Monitor				
	Punica 570	70	70 - 80					Monitor						
ENOC	STRATA CYL 540LS	40	40 - 60											
	STRATA CYL N 570	70	70 - 80					Monitor						
ExxonMobil	Mobilgard 540	40	40 - 60	2)			2)							
	Mobilgard 540 AC	40	40 - 60	LNG validated										
ExxonMobil	Mobilgard 570	70	70 - 80					Monitor						
	Mobilgard 5100	100	80 - 100							Monitor				
Formosa	Mobilgard 5145	145	≥ 140							Monitor				
	XCO5070	70	70 - 80					Monitor						
GazProm Neft	Ocean CCL 17 ULSF	17	15 - 25											
	Ocean CCL 70	70	70 - 80					Monitor						
GazProm Neft	Ocean CCL 100 HSF	100	80 - 100							Monitor				

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							0.00% to 0.10% S	0.10% to 0.50% S	0.50% to 1.50% S	1.50% to 2.00% S	2.00% to 2.50% S	2.50% to 3.00% S	3.00% to 3.50% S	> 3.50% S
Gulf Marine	GulfSea Cylcare ECA 50S	20	15 - 25											
	GulfSea Cylcare ECA 50X	17	15 - 25											
	GulfSea Cylcare 5040H	40	40 - 60											
	GulfSea Cylcare 5040X	40	40 - 60											
	GulfSea Cylcare XP 5040H	40	40 - 60	LNG validated										
	GulfSea Cylcare XP 5040X	40	40 - 60	LNG validated 4)	4)	4)	4)							
	GulfSea Cylcare 5070H	70	70 - 80											
	GulfSea Cylcare 5070S	70	70 - 80											
	GulfSea Cylcare 5070X	70	70 - 80											
	GulfSea Cylcare 50100S	100	80 - 100											
	GulfSea Cylcare 50100X1	100	80 - 100											
	GulfSea Cylcare XP 50100H	100	80 - 100											
	GulfSea Cylcare XP 50100X	100	80 - 100											
	GulfSea Cylcare 50140S	140	≥ 140											
	GulfSea Cylcare 50140X	140	≥ 140											
	GulfSea Cylcare XP 50140X	140	≥ 140											
Hyundai Oilbank	Xteer MCL 5040L	40	40 - 60	2)			2)							
	Xteer MCL 5070	70	70 - 80						Monitor					
	Xteer MCL 50100	100	80 - 100								Monitor			
Idemitsu Kosan	Daphne Seamount A-50LS	40	40 - 60	2)			2)							
	Daphne Seamount A-50N	70	70 - 80						Monitor					
	Daphne Seamount A-50NH	100	80 - 100								Monitor			
Indian Oil	Servo Marine 7050	70	70 - 80						Monitor					
	Servo Marine ME10050	100	80 - 100								Monitor			
	Servo Marine ME14050	140	≥ 140								Monitor			
LENOL	CLX 20	20	15 - 25	LNG validated										
	CLX 40	40	40 - 60											
	CL 40	40	40 - 60											
	CL 50	50	40 - 60											
	CL 70	70	70 - 80						Monitor					
LOTOS	CL 100	100	80 - 100								Monitor			
	Marinol RG 4050	40	40 - 60											
	Marinol RG 7050	70	70 - 80						Monitor					

Oil supplier	Oil name	BN	BN range	LNG	Ammonia	Methanol	Fuel sulphur concentration							
							0.00% to 0.10% S	0.10% to 0.50% S	0.50% to 1.50% S	1.50% to 2.00% S	2.00% to 2.50% S	2.50% to 3.00% S	3.00% to 3.50% S	> 3.50% S
Lubmarine (Total Energies)	Talusia LS 40	40	40 - 60											
	Talusia HD 40	40	40 - 60	LNG validated 4)	4)	4)	4)							
	Talusia Universal	57	40 - 60	LNG validated										
	Talusia HR 70	70	70 - 80					Monitor						
	Talusia Universal 100	100	80 - 100							Monitor				
	Talusia Optima	100	80 - 100				<300 h							
LUKOIL	Talusia HR 140	140	≥ 140							Monitor				
	Navigo MCL Ultra	20	15 - 25	LNG validated										
	Navigo MCL Extra	40	40 - 60											
	Navigo 70 MCL AW	70	70 - 80					Monitor						
	Navigo 100 MCL	100	80 - 100							Monitor				
	Blended Cylinder Oil (BN 60 to 100)	N/A	N/A											
Motor Oil Hellas	EMO Neptune 40 SAE 50	40	40 - 60											
	EMO Neptune 70 SAE 50	70	70 - 80					Monitor						
	EMO Neptune 100 SAE 50	100	80 - 100							Monitor				
Pertamina	Medripal 5040	40	40 - 60											
	Medripal 570	70	70 - 80					Monitor						
Petrobras	Marbrax CID-54-AP	40	40 - 60	LNG validated										
	Marbrax CID-55	50	40 - 60					Monitor						
	Marbrax CID-57	70	70 - 80						Monitor					
	Marbrax CID-5100	100	80 - 100							Monitor				
PetroChina	KunLun DCA 5070H	70	70 - 80					Monitor						
PetroGulf	Marine Cylinder Oil 5040	40	40 - 60											
	Marine Cylinder Oil 5070	70	70 - 80					Monitor						
	Marine Cylinder Oil 50100	100	80 - 100							Monitor				
Petron Petronas	Petromar DCL 4050	40	40 - 60											
	Silub 20 LS50	20	15 - 25											
Premier Six	Opt-Max Shieldguard 5040	40	40 - 60											
	Opt-Max Shieldguard 5070	70	70 - 80					Monitor						
	Opt-Max Shieldguard 50110	110	80 - 100							Monitor				
	Opt-Max BoB 300 ¹⁾ (BN 40 to 120)	N/A	N/A											

Oil supplier	Oil name	BN	BN range	LNG	Ammonia	Methanol	Fuel sulphur concentration							
							0.00% to 0.10% S	0.10% to 0.50% S	0.50% to 1.50% S	1.50% to 2.00% S	2.00% to 2.50% S	2.50% to 3.00% S	3.00% to 3.50% S	> 3.50% S
Puma Energy	Marine Cylinder Oil TBN 70 SAE 50	70	70 - 80					Monitor						
	Marine Cylinder Oil TBN 100 SAE 50	100	80 - 100							Monitor				
Repsol	Innocean Cylindex 40	40	40 - 60	2)		2)								
	Innocean Cylindex 70	70	70 - 80					Monitor						
	Innocean Cylindex 100	100	80 - 100							Monitor				
Shell	Alexia 40	40	40 - 60	LNG validated 3)		2)								
	Alexia 40 XC	40	40 - 60	LNG validated										
	Alexia 70	70	70 - 80					Monitor						
	Alexia 100	100	80 - 100							Monitor				
	Alexia 140	140	≥ 140							Monitor				
SINOPEC	Marine Cylinder Oil 5017	17	15 - 25											
	Marine Cylinder Oil 5040	40	40 - 60	2)		2)								
	Marine Cylinder Oil 5040N	40	40 - 60											
	Marine Cylinder Oil 5040N (II)	40	40 - 60	LNG validated 4)		4)		4)						
	Marine Cylinder Oil 5070N	70	70 - 80					Monitor						
	Marine Cylinder Oil 5070S	70	70 - 80					Monitor						
	Marine Cylinder Oil 5080S	80	70 - 80					Monitor						
	Marine Cylinder Oil 50100	100	80 - 100							Monitor				
	Marine Cylinder Oil 50100N	100	80 - 100							Monitor				
SK	Marine Cylinder Oil 50140N	140	≥ 140							Monitor				
	Supermar CYL 40 Plus	40	40 - 60	2)		2)								
	Supermar CYL 40	40	40 - 60											
	Supermar CYL 40L	40	40 - 60											
	Supermar CYL 70 Plus	70	70 - 80					Monitor						
	Supermar CYL 100	100	80 - 100							Monitor				

Oil supplier	Oil name	BN	BN range	LNG	Ammonia	Methanol	Fuel sulphur concentration						
							0.00% to 0.10% S	0.10% to 0.50% S	0.50% to 1.50% S	1.50% to 2.00% S	2.00% to 2.50% S	2.50% to 3.00% S	3.00% to 3.50% S
Texas Petro-chemical	Texmarine 700	70	70 - 80				Monitor						
	Texmarine 1000	100	80 - 100							Monitor			
United Oil company	U Star Lube Star Marine 570	70	70 - 80				Monitor						

< 300 hrs Monitor LNG validated	GENERAL USAGE: Allowed within WinGD general usage guidelines SPECIFIC USAGE: Allowed continuously for maximum time limit stated SPECIFIC USAGE: Allowed but with increased frequency of Piston Underside Inspections (PUIs) and Cylinder Scrape Down Oil Analysis. SPECIFIC USAGE: Allowed without restriction within WinGD general usage guidelines. Cylinder Oil has passed full validation trial running on LNG
NOTES: 1) Multiple blending combinations with different system oils are possible. Not all of them are validated. Speak to the supplier for more data about the validated products. NOTES: 2) Only valid for products formulated and blended with Gp. I base oils NOTES: 3) "LNG validated" only valid for products formulated and blended with Gp. I base oils NOTES: 4) Only valid for products formulated and blended with Gp. II base oils	

It is the responsibility of the NOL holder to apply for renewals of NOLs prior to expiry. Expired NOLs will be removed from the list if no renewal application has been made in good time. In this respect, the list will be reviewed annually and expired NOLs, and those not currently in reissuance process, will be removed.

List of validated system lubricating oils

Oil supplier	Oil name	BN
ADNOC	Marine System Oil 306	6
ADNOC	Voyager System Oil 306	6
Aegean	Alfasys 305	5
AVIN	Panoil M 530	5
Castrol	CDX 30	5
Castrol	CDX 30f	5
Castrol	CDX 30r	5
Cepsa	Ciconia 30	5
Chevron	Veritas 800 Marine 30	5
Chevron	Veritas 800a Marine 30	5
Cosmo	Marine 3005	5
CPC	Marilube Oil AC-30 Plus	5
Cyclon Hellas	Armor Medium SAE 30	5
Eneos	Marine S30	7
ENI	Cladium 50	5
ExxonMobil	Mobilgard 300 C	9
Formosa	XS03005	5
Four C Marine Lubricants	Athen Marine System Oil 3005	5
GasPromNeft	Ocean CSO 7	7
Gulf Marine	GulfSea Superbear 3006	6
Gulf Marine	GulfSea Superbear 3006 S	5
Gulf Marine	GulfSea Superbear 3008	8
Hyundai	Xteer SO 3005	5
IndianOil	Servo Marine 0530	5
Lenol	6 S 30	6
Lubmarine (TotalEnergies)	Atlanta Marine D 3005	5
LUKOIL	Navigo 6 CO	6
Motor Oil Hellas	EMO Panoil M 530	5
Pertamina	Medripal 307	7
Petrobras	Marbrax CAD-308	8
PetroChina	KunLun DCC3008	8
Petrogulf	Marine System Oil 3006	6
Petronas	DISROL 5 LS30	5
Premier Six	Opt-Max Shieldguard 3008	8
Puma Energy	Marine System Oil TBN 5 SAE 30	5
Shell	Melina S30	5

Oil supplier	Oil name	BN
SINOPEC	Marine System Oil 3005	5
SINOPEC	Marine System Oil 3005S	5
SINOPEC	Marine System Oil 3006	6
SINOPEC	Marine System Oil 3008	8
SINOPEC	Marine System Oil 3008N	8
SK	Supermar AS ¹⁾	5

NOTES: 1) Multiple formulations of this product are available. Not all of them are validated. Speak to the supplier for more data about the validated products.

Appendix

BN140/145 cylinder oils for fuels with a sulphur content higher than 3 %

Evidence from engines with a range of bore sizes shows that the performance limits of BN100 oils are being reached when used in combination with >3.00 % S fuels. This is mostly evidenced through lacquering and cold corrosion on liners.

- An increase in oil feed rate has shown little to no improvement in most cases.
- In some cases, maximum feed rate settings have been reached, and cannot be further increased.
- Furthermore, excessive feed rates may have negative effects over time:
 - On the piston running & other components (e.g. Ca deposits)
 - Wasting of cylinder oil for the customer where unused cylinder oil is scraped down into the piston underside
 - Scraping down large amounts of fresh oil makes the results of the scrape down oil analysis less useful
- WinGD has gathered information from field validation trials to support this
- Customers have worked with WinGD to monitor and assess the situation

Therefore, a cylinder oil with a higher BN has been considered necessary.

During oil validation trials of BN140/145 products WinGD confirmed that these lubricants perform very well. The main improvements when compared to BN100 oils is further increased cleanliness of the combustion chamber and substantially lower feed rates that are achieved. This presents in an overall benefit for the operators: cleaner components, lower risks for cold corrosion and lower feed rates for reduced OPEX costs.

Note: Engage with the supplier in advance to make sure the oil is available in time. Batches might be produced on demand only.