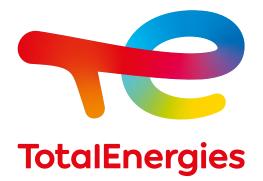


## Aviation industry

High performance lubricants for all applications

Dedicated solutions to enhance your productivity



## Summary

- → Aviation industry
- → Our complete range of aviation lubricants
- → The benefits offered by TotalEnergies lubrifiants : LubAnac & aviations fuels
- → Five good reasons for choosing TotalEnergies Lubrifiants

# **Aviation industry**

Discover our complete range of aviation lubricants and services operations





## **PISTON ENGINES LUBRICANTS**

PRODUCTS		SPECIFICATIONS*	APPLICATIONS		
SIVE	Aero 80	<ul> <li>FRANCE: AIR 3560/D grade SAE 40</li> <li>US, UK: SAE J 1966 SAE grade 40</li> </ul>	Pure mineral oils for the lubrication of piston engines operating under average		
NUN UISPEKSIVE	Aero 100	<ul> <li>FRANCE: AIR 3560/D grade SAE 50</li> <li>US, UK: SAE J 1966 SAE grade 50</li> </ul>	conditions.		
	Aero 120	• US: SAE J 1966 grade SAE 60	Lubrication of vintage aeroplanes (WWI and WWII warplanes).		
	Aero D 80	<ul> <li>FRANCE: AIR 3570 grade SAE 40</li> <li>US, UK: SAE J 1899 SAE grade 40</li> </ul>	. Ashless dispersive monograde		
	Aero D 100	<ul> <li>FRANCE: AIR 3570 grade SAE 50</li> <li>US, UK: SAE J 1899 SAE grade 50</li> </ul>	mineral oils for the lubrication of piston engines operating under severe and very severe		
	Aero D 120	<ul> <li>FRANCE: AIR 3570 grade SAE 60</li> <li>US, UK: SAE J 1899 SAE grade 60</li> </ul>	conditions.		
	Aero XPD 80	<ul> <li>FRANCE: AIR 3570 grade SAE 40</li> <li>US, UK: SAE J 1899 SAE grade 40</li> <li>FAA approved AD 80-04-03R2 paragraph b.1</li> <li>AVCO LYCOMING (310F) approved</li> </ul>	New generation ashless dispersive monograde mineral lubricants, specially developed		
DISFERSIVE	Aero XPD 100	<ul> <li>FRANCE: AIR 3570 grade SAE 50</li> <li>US, UK: SAE J 1899 SAE grade 50</li> <li>FAA approved AD 80-04-03R2 paragraph b.1</li> <li>AVCO LYCOMING (310F) approved</li> </ul>	to improve anti-wear and corrosion protection of your highly valued piston aviation engine.		
	Aero XPD 120	<ul> <li>FRANCE: AIR 3570 grade SAE 60</li> <li>US, UK: SAE J 1899 SAE grade 60</li> <li>FAA approved AD 80-04-03R2 paragraph b.1</li> <li>AVCO LYCOMING (301F) approved.</li> </ul>	These oils already contain an anti-wear additive similar to TEXTRON Lycoming LW 16702.		
	Aero DM 15W-50	<ul> <li>French Air Force approved (n°30330 STPA/MA)</li> <li>SAE J 1899</li> <li>FAA approved AD 80-04-03R2 paragraph b.1</li> <li>AVCO LYCOMING (310F) and TELEDYNE CONTINENTAL (MHS-24) approved</li> </ul>	Ashless dispersive multigrade oils for the lubrification of pistor engines operating under severe and very severe conditions.		
	Aero DM 20W-60	<ul> <li>SAE J 1899</li> <li>Meets the requirements of FAA AD 80-04- 03R2 paragraph b.1 from FAA</li> <li>Conform to 301F AVCO LYCOMING specification</li> </ul>	<ul> <li>Can be used throughout the year in any climate.</li> <li>These oils already contain an anti-wear additive similar to TEXTRON Lycoming LW 16702.</li> </ul>		

## **TURBINE ENGINES LUBRICANTS**

### SPECIFICATIONS\* PRODUCTS APPLICATIONS • FRANCE: AIR 3515/B lss.3 Mineral oil for lubrication • UK: DEF-STAN 91-99 lss. 2 of aviation turbine engines. • Joint Service Designatioin: OM-11 eroturbine 331 • NATO code: 0-135 Bearings and gearboxes. Turbomeca approved • FRANCE: AIR 3516/A lss. 2 urbonycoil 3516 • US: MIL-PRF-6081 D Grade 1010 Mineral based turbine engine oil. • NATO code: 0-133 • FRANCE: DCSEA 299/A • US: MIL-PRF-23699 F-STD Synthetic lubrication oil for • UK: DEF STAN 91-101 lss. 3 lubrication of gas turbine Turbonycoil 600 Joint Service Designation: 0X-27 / 0X-28 (type 5 cSt). • NATO code: 0-156 • SAE-AS 5780-SPC • UK: DEF STAN 91-100 lss. 3 Amd.1 Synthetic helicopter gearbox, Turbonycoil 699 • Joint Service Designation: OX-26 transmission and turbine • NATO code: 0-160 engine oil.

## **GEAR OILS**

PRODUCTS	SPECIFICATIONS*	APPLICATIONS
erogear 823	<ul> <li>FRANCE: DCSEA 255/A</li> <li>US: MIL-PRF-6086E (medium grade)</li> <li>UK: DEF STAN 91-112/1</li> <li>Joint Service Designation: OEP-70</li> <li>NATO code: 0-155</li> <li>EUROCOPTER approved</li> </ul>	Mineral oil for highly stressed gearboxes such as helicopter gearboxes.
erogear 1032	<ul> <li>AIR 3525/B approved</li> <li>US: MIL-PRF-6086E (medium grade)</li> <li>UK: DTD 581 C grade OEP-70</li> <li>Joint Service Designation: OEP-70</li> <li>NATO code: O-155</li> <li>EUROCOPTER ECS 2199 approved</li> </ul>	Mineral oil for highly stressed gearboxes such as the latest generation of Eurocopter helicopter gearboxes.

TotalEnergies Lubrifiants reserves the right to modify the formulation of its products without prior notice in order to improve their performance or comply with changing regulations.

TotalEnergies Lubrifiants is non exclusive distributor of NYCO Aviation lubricants and greases: Turbonycoil, Nycoprotec, Hydraunycoil et Nyco grease.

PRODUCTS	
Aeroprotective 219	<ul> <li>FRAN</li> <li>UK: D</li> <li>Joint</li> <li>NATC</li> </ul>

## **HYDRAULIC FLUIDS**

PRODUCTS	
Aerohydraulic 520	<ul> <li>FRANG</li> <li>US: MI</li> <li>UK: DE</li> <li>Joint S</li> <li>NATO</li> </ul>
Hydraunycoil FH 51	<ul> <li>FRANG</li> <li>US: MI</li> <li>UK: DE</li> <li>Joint S</li> <li>NATO</li> <li>Airbus</li> </ul>
Hydraunycoil FH 42	<ul> <li>US: MI</li> <li>NATO</li> <li>OX-538</li> <li>Airbus</li> </ul>
Hydraunycoil FH 2	<ul> <li>FRANG</li> <li>US: MI</li> <li>Joint S</li> <li>NATO</li> </ul>

## **GREASES**

PRODUCTS	
Ceran XM 220	<ul> <li>ISO6</li> <li>DIN</li> <li>DCS wate</li> </ul>
Nycogrease GN 22	<ul> <li>FRAM</li> <li>US: M</li> <li>UK: E</li> <li>Joint</li> <li>NAT(</li> </ul>

## **ENGINES PROTECTION LUBRICANT**

### SPECIFICATIONS\*

NCE: AIR 1503/B type A DEF STAN 91-40/2 t Service Designation: PX-27 0 code: C-615

SPECIFICATIONS*	APPLICATIONS
ICE: DCSEA 415/A (H-520) IIL-PRF-5606H EF STAN 91-48/1, standard grade Service Designation: OM-18 ) Code: H-520	<ul><li>Mineral hydraulic oil for systems operating under:</li><li>high pressure,</li><li>low and externely low temperatures.</li></ul>
ICE: DCSEA 415/A (H-515) IIL-PRF-5606H Amd.3 EF STAN 91-48 Iss. 2 Service Designation: OM-15 ) Code: H-515 s CML ref. 02BBB9	Microfiltered mineral hydrauli fluid operating under: • high pressure, • low and extremely low temperatures.
11L-PRF-87257B ) Code: H-538 38 s CML ref. 02EBA1	Synthetic fire resistant low temperature hydraulic fluid.
ICE: DCSEA 437/B 111 -PRF-83282 D Amd 1	Synthetic microfiltered fire

MIL-PRF-83282 D Amd. 1 t Service Designation: OX-19 O Code: H-537

Synthetic microfiltered fire resistant hydraulic fluid.

APPLICATIONS

Internal protective mineral oil

for piston engines.

### SPECIFICATIONS\*

6743-9: L-XCFIB1/2 51 502: KP1/2R-30 SEA 360 A specification related to sea er resistant grease codified NATO G-460

NCE: DCSEA 395/B MIL-PRF-81322G DEF STAN 91-52 lss. 1 Amd. 2 t Service Designation: XG-293 O Code: G-395

## APPLICATIONS

General purpose complex calcium sulphonate grease for high shocks loads, extreme pressures, high speeds, wide temperatures as well as excellent water wash out capabilities.

General purpose wide temperature range synthetic based grease.

# The benefits offered by **TotalEnergies Lubrifiants**

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**LubAnac** expert is our in depth, personalized diagnosis system for aircraft piston engines.

From a sample of oil, you can closely **monitor the natural wear** of your engine and identify the origin of abnormal wear, in order to define actions of preventive maintenance. The diagnosis report is available within 48 hours after the receipt of the oil sample in the lab.

You benefit from a personalized and safe access to your oil analyses results on the Internet. Through its extensive expertise, TotalEnergies has built up a large database with reference data of current aircraft piston engines.

You can have confidence in the diagnosis and comments established by our LubAnac technicians.







## **Aviation fuels**

TotalEnergies aviation is a major player in aviation fueling (SAF - Sustainable Aviation Fuel, JET A-1, AVGAS 100LL, AVGAS UL 91). TotalEnergies Aviation is also involved in the design and operation of airport facilities, and offers technical assistance agreements. TotalEnergies aviation supplies its customers, including over 250 airlines, at nearly 800 airports and airfields worldwide. Our diverse customer benefit from a personalized service offering tailored to their needs.

TotalEnergies aviation fuels are manufactured in compliance with the strictest quality controls and international standards. As a founding member of the JIG (Joint Inspection Group), TotalEnergies participates in the development and evolution of industry standards. With over 60 years' experience, TotalEnergies aviation is your local partner.



https://aviation.totalenergies.com

## A major player

With our production, supply chain and commercial presence in more than 160 countries, we deliver a full range of lubricants.

## Support and partnership

Thanks to local technical presence, we provide a high level of service to optimize your Total Cost of Ownership.

## References & OEMs

TotalEnergies Lubrifiants cooperates with equipment manufacturers to create high-technology products for optimal performance and production of your machinery.

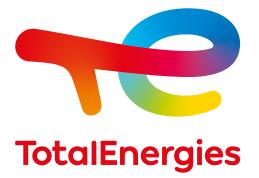
good reasons for choosing TotalEnergies Lubrifiants

## Innovation & Research

TotalEnergies Lubrifiants invests in biotechnologies to find the most suitable components to reach energy efficiency through formulations designed in our Research Centers.

## **Quality and environment**

TotalEnergies Lubrifiants ISO 9001 and 14001 Certifications are the guarantee of a long term commitment to quality and environment. From the initial design stage, our R&D teams seek to develop products that minimize toxicity risks and environmental impact.





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Safety Data Sheets are available at ms-sds.totalenergies.com

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