



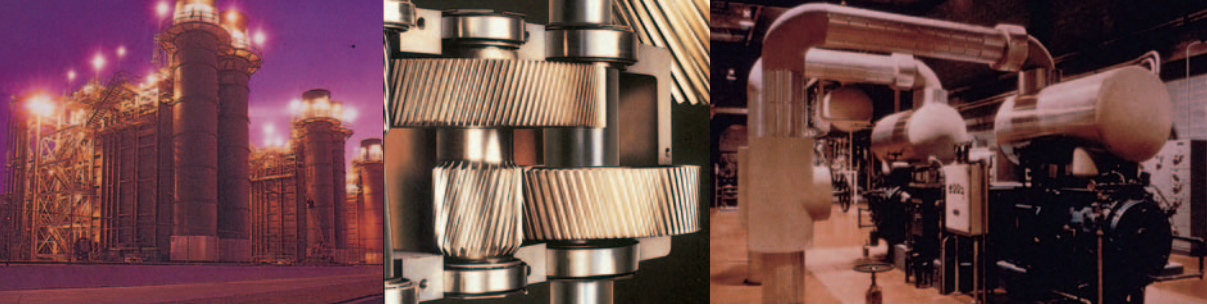
**ANDEROL**<sup>®</sup>

Specialty Lubricants

# Industrial Lubricants

TAILORED SOLUTIONS FOR CRITICAL APPLICATIONS





**ANDEROL®**

# Industrial Lubricants

For over sixty years, Anderol has been a leading innovator in the development of synthetic lubricant solutions for a wide range of applications and industries. Driven by our commitment to customer satisfaction, we have designed our products to meet

- Maximum Equipment Performance
- Reduce Down Time & Maintenance Costs
- Tailored Solutions for Critical Applications

or exceed the increasing demands of the industries we serve. Our products consistently deliver on the promise of

maximized equipment performance and reduced maintenance costs, as well as a variety of specific benefits tailored precisely for your critical application.

We have earned the confidence of our customers, largely due to the combination of our extensive Research and Development departments, our Technical Services staff, and our unique ability to offer the most cost effective solution for your application.

We welcome the opportunity to discuss our products and services with you.

## Typical Applications

- Air Compressors
- Vacuum Pumps
- Gear Boxes
- Bearings
- Hydraulics
- Wire Rope
- Chain
- Gas Turbines

Anderol and Royco are two of the most respected brands in the lubricants world. The products contained in this brochure represent a sampling of our products, all of which consistently deliver on the promise of improved equipment performance, as well as reduced downtime and maintenance costs; many under extreme load and environmental conditions. We are proud to offer them to you here.

## COMPRESSORS AND VACUUM PUMPS

More than fifty compressor and vacuum pump lubricants comprise the wide assortment of Anderol and Royco products formulated to meet the specific requirements of your application. Whatever your compressor type; rotary screw, vane, or reciprocating; our lubricants provide reduced maintenance costs and significant performance advantages. Extended drain intervals, decreased deposits, enhanced water separation, and superior film strength are just a few of the benefits that our compressor customers enjoy worldwide.

Application	ANDEROL	Base Fluid	Viscosity ISO VG	Description
Centrifugal/Rotary	S-32	Group III	32	Synthetic Quality Performance with a High Benefit to Cost Ratio
Rotary	S-46	Group III	46	
Rotary or Reciprocating	S-68	Group III	68	
Reciprocating	S-100	Group III	100	
Reciprocating	PQ-150	Group III	150	Break-In Lubricant for Splash Lubricated Compressors
Centrifugal/Rotary	495	Ester	32	Low Temperature Performance, Low Deposit Formation
Rotary	496	Ester	46	
Rotary or Reciprocating	497	Ester	68	
Reciprocating	500	Ester	100	Superior Valve Cleanliness for Bore Size <18" ID
	525	Ester	100	Reduced Flammability and Low Deposit Formation
	530	Ester	68	Multiviscosity for Wide Temperature Applications
	750	Ester	150	Superior Valve Cleanliness For Bore Size >18" ID
	817	Ester	125	Preservative Grade Run-In Fluid for Storage & Shipping
	555	Ester	100	Process Gas & Vacuum Pumps
	755	Ester	150	Process Gas, Cylinders for Bore Size >18" ID
	1200 or 1200 N	Ester	220/320	Designed for Dry Nitrogen Applications
	1255	Ester	320	Excellent Load Carrying Ability
Reciprocating	3100	PAO/Ester	100	General Purpose
	3150	PAO/Ester	150	
Centrifugal/Rotary	3032 M	PAO/Ester	32	Specialty Developed Additive Package Designed for Reduced Compressor Maintenance
Rotary	3046	PAO/Ester	46	
Rotary or Reciprocating	3068	PAO/Ester	68	
Centrifugal/Rotary	3432	PAO	32	Compatible with Most Materials of Construction and Designed for Process Gas Applications
Rotary	3446	PAO	46	
	3468	PAO	68	
Reciprocating	3486	PAO	100	Wide Temperature and Special Applications
Rotary	3057 M	PAO/Ester	46/68	
Vacuum Pump	3627	PAO	46	Low Volatility Excellent Demulsibility, Anti-wear Protection
Rotary	FGC 5	PAO	5	Synthetic Based Fluids Designed for Food and Beverage Industries with Enhanced Thermal Properties and Extended Drain Cycles
	FGC 10	PAO	32	
	FGC 20	PAO	46	
	FGC 30	PAO	68	
Reciprocating/Vane	FGC 40	PAO	100	
Reciprocating	FGC 50	PAO	150	
Rotary	BDC 46	Ester	46	Biodegradable Compressor Fluids for Extended Drain Intervals
	Premium Plus	Ester	46	High Temperature and Minimum Deposit Formation
Rotary	PG Supreme 32	PAG/POE	32	Designed for Applications Where PAG Based Coolants are Specified
	PG Supreme 46	PAG/POE	46	
	PG Supreme 68	PAG/POE	68	

## COMPRESSORS AND VACUUM PUMPS continued

Application	ROYCO	Base Fluid	Viscosity ISO VG	Description
Screw/Vane/Reciprocating Reciprocating Screw/Vane/Reciprocating	868	PAG	68	Specifically Designed to Minimize Oil/Gas Interaction during Compression and Reinjection
	880	PAG	220	
	886	PAG	68/100	
	889	PAG	150	
Refrigeration	2032	Alkyl Benzene	32	Refrigeration Lubricants Specifically Designed for Systems Charged with either HFC Refrigerants or HCFC Blended Refrigerants
	2068	Alkyl Benzene	68	
	2232	POE	32	
	2246	POE	46	
	2268	POE	68	
	2200	POE	100	

## GEAR AND BEARINGS

Our Gears and Bearings lubricants are designed to maintain a consistent barrier film on the metal surfaces it protects, in the presence of water, steam, and extreme temperatures. We have a variety of formulations specifically tailored to meet the demanding specifications for bearings, and open and sealed-for-life gearboxes, including several for Food Grade and Extreme Pressure applications.

Application	ANDEROL	Base Fluid	Viscosity ISO VG	AGMA Rating	Description
Sintered Bearing Oils: 400 series	401D	Ester	10/15	*	MIL-PRF-6085 Impregnation Fluid
	402	Ester	10/15	*	Low temperature
	423	Ester	5	*	Extreme Low Temperature
	456	Ester	32	*	Sintered & Anti-friction Bearings
	465	Ester	68	*	
	471	Ester	68/100	*	
Synthetic Bearing Oils: 4000 Series	4032	PAO	32	—	Multipurpose Synthetic Circulating and Bearing Oils - Non EP
	4046	PAO	46	1	
	4068	PAO	68	2	
	4100	PAO	100	3	
	4150	PAO	150	4	
Special Purpose Bearing Lubricant	Moly 2400	Specialty Chemistry	460	*	Plain & Sleeve Bearings in Larox Pressure Filters
General Purpose Bearing Lubricant	GP 68	Mineral Oil	68	*	General Purpose Tacky Lubricants
	GP 100	Mineral Oil	100	*	
Enclosed Gear Reducers	AGL 150	Mineral Oil	150	4 EP	Extreme Pressure and Antiwear Gear Oils
	AGL 220	Mineral Oil	220	5 EP	
	AGL 460	Mineral Oil	460	7 EP	
Gears 2000 XEP series	2150 XEP	Ester	150	4S	Improved Detergency with less Deposits
	2220 XEP	Ester	220	5S	
	2320 XEP	Ester	320	6S	
General Purpose Enclosed Gears: 4000 Series	4220	PAO	220	5	Synthetic Gear Oils Non-EP
	4320	PAO	320	6	
	4460	PAO	460	7	
	4680	PAO	680	8	
	4999	PAO	1000	8A*	
Pumpjack Gears	PumpJack 150	PAO	150	4S	Enhanced Pumpability and Resistance to Extreme Conditions

\*Contact our technical department to determine specific AGMA ratings.

## GEARS AND BEARINGS continued

Application	ANDEROL	Base Fluid	Viscosity ISO VG	AGMA Rating	Description
<b>General Purpose Enclosed Gears: 5000 Series</b>	5150	PAO	150	4S	Enhanced Service Life with Improved Oxidation Stability and EP Protection.
	5220	PAO	220	5S	
	5320	PAO	320	6S	
	5460	PAO	460	7S	
	5680	PAO	680	8S	
<b>High Shock Loaded Gears: 5000 XEP Series</b>	5220 XEP	PAO+	220	5S	Micropitting Resistant Gear Oils
	5320 XEP	PAO+	320	6S	
	5460 XEP	PAO+	460	7S	
<b>High Performance Worm Gears: 7000 Series</b>	7150	PAG	150	*	High Performance Gear Oils for Sealed for Life Applications
	7220	PAG	220	*	
	7460	PAG	460	*	
<b>Asphaltic Open Gear Lubricant</b>	Open Gear XL	Asphaltic	165	*	Solvent Cut-back Open Gear Lubricant
	Open Gear 600	Asphaltic	165	*	General Purpose Open Gear Lubricant
<b>Synthetic Open Gear Lubricant</b>	Polyguard 4100	Synthetic	22,000	*	Next Generation Open Gear Lubricant
<b>Grease for Open Gears</b>	Moly 29 or 29W	Grease	650/–	*	NLGI 3 and NLGI 1 Greases for Open Gears
<b>Food Grade Lubricants for Gears &amp; Bearings</b>	PQ AA 80	White Oil	68/100	*	High Performance White Oil Based Gear Oils with Enhanced Additive Technology that Offers Wear and mild EP Protection
	PQ AA 90	White Oil	150/220	4/5	
	PQ AA 85W-140	White Oil	320	6	
	PQ AA 140	White Oil	320/460	6/8	
	PQ AA 250	White Oil	680	8	
	PQ AA 1000	White Oil	1000	8A	
	6068	PAO	68	2S	Synthetic Food Grade Lubricants Designed for Wide Temperature Applications, Extended Drains, and Superior Wear Protection
	6100	PAO	100	3S	
	6150	PAO	150	4S	
	6220	PAO	220	5S	
	6320	PAO	320	6S	
	6460	PAO	460	7S	
	6680	PAO	680	8S	

\*Contact our technical department to determine specific AGMA ratings.



## HYDRAULICS

This versatile product line includes over thirty formulations designed to meet or exceed commercial and military specifications. In addition to general purpose hydraulic products, we also have a wide range of specialty products with unique characteristics including heat transfer, fire resistance, and biodegradability. Our MIL Spec products have undergone rigorous military testing, and have demonstrated exceptional resistance to severe load and temperature conditions; properties which are also beneficial to the construction and heavy industrial segments.

Application	ANDEROL	Base Fluid	Viscosity ISO VG	Pour Point °C	Description
General Purpose Hydraulic Oil	HF 32	Mineral Oil	32	-33	General Purpose Mineral Hydraulic Oil
	HF 46	Mineral Oil	46	-33	
	HF 68	Mineral Oil	68	-30	
Mining, Manufacturing, Construction	HF 32 MG	Mineral Oil	32	-45	Antiwear Properties and Resistant to Thermal Degradation, Sludge Formation, and Oxidation
Pneumatic & Hydraulic Systems Multiple types of pumps	PQ AA-10	White Oil	32	-15	Multi Spectrum Food Grade Lubricant for a Wide Variety of Applications
	PQ AA-20	White Oil	46	-20	
	PQ AA-30	White Oil	100	-22	
	PQ AA-40	White Oil	150	-10	
Fire Resistant Hydraulic Oils	8722	PAO	22	-54	Fire Resistant Hydraulic Oils that can Operate over a Wide Temperature Range
	8732	PAO	32	<-54	
	8746	PAO	46	<-54	
	8768	PAO	68	<-54	
	FR 200	Water/Glycol	46	-40	Water based (HF-C) Fire Resistant
Food Grade Applications FGH Series	FGH 22	PAO	22	-75	Synthetic Lubricants for General Purpose Applications
	FGH 32	PAO	32	-75	
	FGH 46	PAO	46	-70	
	FGH 68	PAO	68	-65	
	FGH 100	PAO	100	-60	
Biodegradable Hydraulic Fluids	Royal Bio Guard 3032	POE	32	-54	Meets Most Biodegradable Standards and Survives Wide Temperature Range
	Royal Bio Guard 3046	POE	46	-54	
	Royal Bio Guard 3068	POE	68	-51	
<b>MILITARY SPECIFIED HYDRAULICS</b>					
Application	Royco	Base Fluid	Viscosity ISO VG	Pour Point °C	Description
Avionics Cooling Fluids	602	PAO	5	-38	Mil-PRF-87252C
Power Transmission	717	Mineral Oil	26	-55	Mil-F-17111
Super Clean Aerospace and All-Weather Industrial	756	Mineral Oil	15	-70	Mil-H-5606G
Aircraft, Missile, Ordnances, All-Weather Industrial	756A	Mineral Oil	15	-70	Mil-H-5606A
General Purpose Preservative and Lubricant	308CA	Mineral Oil	10	-66	Mil-PRF-32033
Military and Construction Equipment	783	Mineral Oil	15	-64	Mil-H-6083
Cleaner, Lubricant, and Preservative for Weapons Systems and Industrial Applications	634	Semi-synthetic Blend	10	-64	Mil-PRF-63460d (6)
Aerospace and Cryogenic	777	PAO / Ester	10	-67	Mil-H-87257
Military and Construction Equipment	770	PAO / Ester	15	-60	Mil-H-46170
Robotic systems	782	PAO / Ester	15	-62	Mil-H-83282

## CHAIN AND WIRE ROPE LUBRICANTS

Our specialized Chain Lubricants are formulated to perform under a variety of conditions including EP, exposure to corrosive contaminants and sudden changes in temperatures. Our Wire Rope products are designed for lubrication of conventional drum hoist ropes as well as friction winders and elevators, due to their resistance to wash-off and the ability to penetrate the Wire Rope to provide extra protection from fretting corrosion.

Application	ANDEROL	Base Fluid	Viscosity ISO VG	Description
Chain Lubricant	KCO 100	Mineral Oil	100	Moisture Resistant Chain Lubricant
Diester Based Chain Lubricants	650	Ester	150	General Purpose Synthetic Chain Lubricants with EP and AW Additive technology
	660	Ester	220	
High Temperature Chain Lubricant	2100 HTCL	Ester	100	Auto Feed Severe Heavy Duty and Extreme Ambient Conditions
	2150 HTCL	Ester	150	High Temp Severe Heavy Duty and Extreme Ambient Conditions
	2220 HTCL	Ester	220	
	2320 HTCL	Ester	320	
	2460 HTCL	Ester	460	
	Moly 23	Synthetic Hydrocarbon	100	Extreme High Temp and Flash Point
Chain Lubricants	HTC 220	PAO	220	General Purpose Chain Lubricants Offering Extreme Temperature Protection and Low Deposit Formation
	HTC 460	PAO	460	
	HTC PG 150	PAG	150	High Temperature Applications

Application	ANDEROL	Description
Wire Rope Dressing	FRD #2	Field Dressing for Locked Coil Ropes
	LCL Special	Designed for Lay-Up Lubrication of Locked Coil Wire Ropes
	WRD Complex Special	Wire Rope Dressing for Lay-Up and Field Dressing Lubrication
	WRD XL	Field Dressing Wire Rope Lubricant
	WRL 2000	Reactive Oil-Based Field Dressing Wire Rope Lubricant
	WR	Semi-Fluid Field Dressing Wire Rope Lubricant
	WRS	Semi-Fluid Field Dressing Wire Rope Lubricant

## GAS TURBINES

Originally designed for military, aerospace and marine applications, our Gas Turbine product line has also been used by the largest commercial gas turbines manufacturers in the world. A wide range of very demanding needs can be met with these products including high load carrying abilities, anti-foaming performance, low volatility and resistance to rust or corrosion.

Application	Spec. Ref	Royco	Base Fluid	Viscosity ISO VG	Description
Gas Turbine Lubricants	Mil-PRF-23699 STD	500	POE	22/32	5cSt @ 100 C for Aero, Marine and Industrial Gas Turbines
	DoD-L-85734	555	POE	22/32	5cSt @ 100 C for Enhanced Load Carrying Performance for Helicopter Transmissions
	Mil-PRF-23699 HTS	560	POE	22/32	5cSt @ 100 C for High Thermal Stability for Aero, Marine and Industrial Turbines
	Mil-PRF-7808 Gr 3	808	POE	10/15	3cSt @ 100 C for Aero, Marine and Industrial Gas Turbines
	Mil-PRF-23699F C/I	899	POE	22 /32	5cSt @ 100 C for Aero, Marine and Industrial Gas Turbines
	Mil-PRF-6081D Grade 1010	481	Mineral Oil	10 / 15	For use as a Flushing and Preservative Fluid in Aircraft Fuel Systems and Industrial Gas Turbines

Application	Spec. Ref	ANDEROL	Base Fluid	Viscosity ISO VG	Description
Land-Based Gas Turbine Lubricants	Meets Solar (Caterpillar) ES 9-224	3832	PAO	32	For Use In High Output Stationary Industrial Gas Turbines

## CONTACT ANDEROL® TODAY

ANDEROL can provide you with a source for high quality specialty lubricants. Our marketing and technical professionals are ready to assist you with your specific application needs. For additional information on any of our products, call or fax us today. Product data and MSDS sheets on our lubricants are available upon request.

Anderol markets a variety of synthetic and specialty lubricants under the ANDEROL®, ROYCO®, AOSyn®, and PQ® registered trademarks. These products are widely used in industrial, commercial, and military markets. Our compressor, aviation, gear, bearing, and food grade lubricants have earned an outstanding reputation for their more than 60 years of superior performance.

Warranty: All products purchased from Anderol Inc. and its global subsidiaries are subject to the terms and conditions set out in the sales contract, order acknowledgement, and/or bill of lading. Anderol Inc. warrants only that its products will meet those specifications designated as such herein or in other Anderol Inc. publications. All other information supplied by Anderol Inc. is believed to be accurate but is furnished upon the express condition that the customer or user shall make its own assessment to determine the product's suitability for a particular purpose. No Warranty is expressed or implied regarding such other information, the data upon which the same is based, or the results obtained from the use thereof, that any product shall be merchantable or fit for any particular purpose, or that the use of such other information or product will not infringe any patent. Before using any chemical, read its label and Material Safety Data Sheet.

**If you would like improved performance from your critical equipment, call us today. We are pleased to discuss our lubricants, provide additional technical data, and offer advice on specialty lubrication issues.**

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