



LUBE SOURCE CATALOGUE

INDUSTRY-LEADING PRODUCTS
FOR IMPROVED BUSINESS
PERFORMANCE



LUBRICANTS

AN HF SINCLAIR BRAND



LUBRICANTS

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LUBESOURCE INDEX

SELECTING THE RIGHT LUBRICANT

CAN SAVE YOU TIME, MONEY AND IMPROVE YOUR PERFORMANCE.

This catalogue has been compiled to assist in selecting the right lubricant, specialty fluid or grease for the intended application. Through a series of prompts and questions, these product ‘decision trees’ narrow the choice of lubricant to best serve your application.

Our extensive line up of lubricants and greases includes products that are environmentally sensitive, recyclable, virtually non-toxic, and biodegradable. We have an enviable reputation for high quality, long-lasting and value-added products.

This catalogue has been designed for both general applications and a selected number of specialized applications. Not all possible applications and conditions are represented in these pages. If you have a unique or specialized application or you wish to discuss your application in more detail, please contact a Petro-Canada Lubricants Representative or one of our many qualified Authorized Petro-Canada Lubricants Distributors.

We have made every effort to provide complete and accurate information with regard to our brand of lubricant products. As with all Petro-Canada Lubricants products, our standard No-Nonsense Lubricants Warranty applies. We accept no responsibility for the substitution of competitive products of a similar nature by an end user based on the recommendations found in this catalogue.

At the back of this catalogue, we have included a listing of lubricant product part numbers. There is a unique product part number for each individual product SKU that includes product name, grade and package size.

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INDUSTRY LEADING
AUTOMOTIVE LUBRICANTS
**THAT WORK AS
HARD AS YOU DO.**

Exceeding major manufacturers' performance requirements. Created with the world's purest base oils. Engineered to OEM standards, and beyond. Resisting corrosion, deposits and wear. Protecting engines for the long haul.

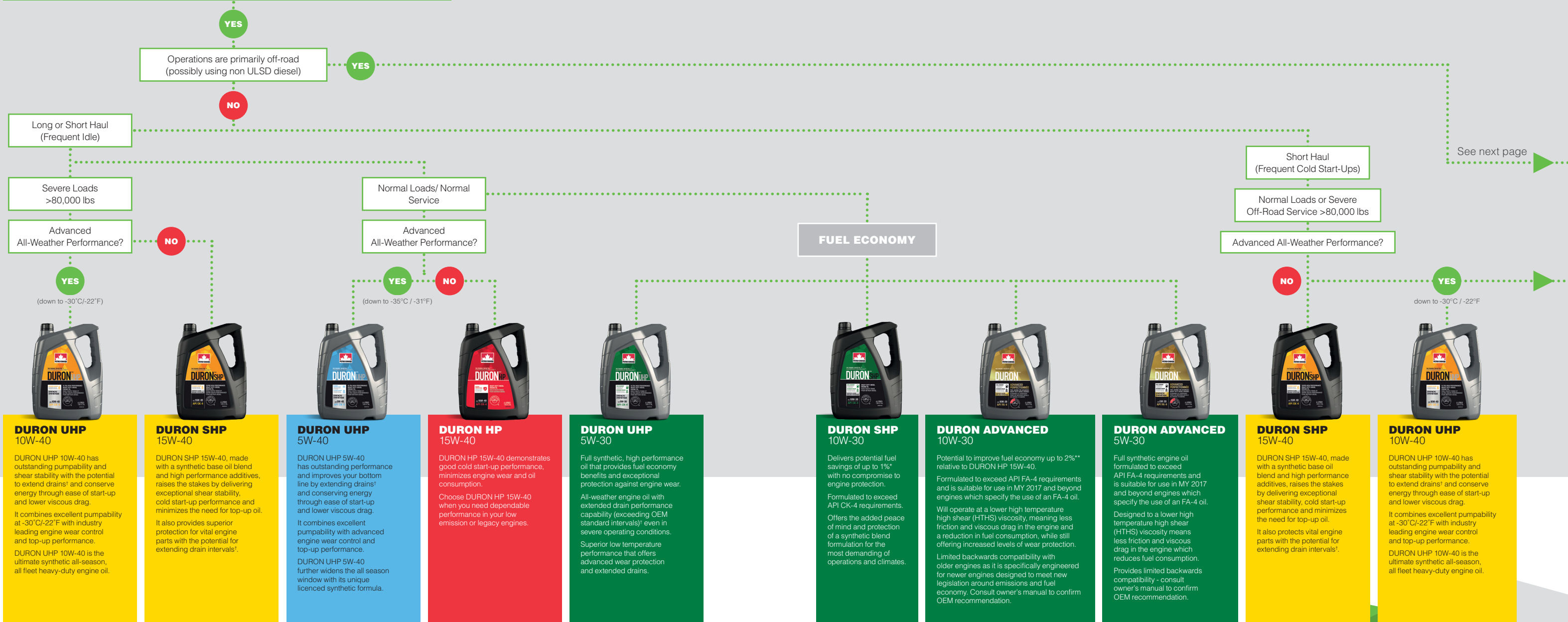
Visit lubricants.petro-canada.com to find out more.



AN HF SINCLAIR BRAND

HEAVY-DUTY DIESEL ENGINE OIL

FLEETS LOOKING TO EXTEND THE LIFE OF THEIR ENGINES



¹ Extending drain intervals should always be undertaken in conjunction with an oil analysis program.

PERFORMANCE BENEFITS

DURON™ line of premium performance multigrade diesel engine oils delivers industry leading protection against increased wear which can lead to lower productivity and impaired fuel economy. They're formulated to exceed API CK-4 requirements and are suitable for use in the latest low emission systems. DURON is back serviceable and carries the API service CJ-4, CI-4 Plus, CI-4, and CH-4 licenses required by pre-2010 diesel engines.

- DURON UHP 5W-30 is an Ultra High Performance Diesel engine oil formulated with synthetic base oils and high performance additives to deliver fuel economy benefits and exceptional protection against engine wear.
- DURON SHP 10W-30 is a Super High Performance synthetic blend heavy-duty engine oil that delivers advanced engine protection and all-weather performance. It provides optimal engine durability and can deliver up to 1%* fuel economy improvements.

- DURON UHP 10W-40 is an Ultra High Performance synthetic all-weather heavy-duty diesel engine oil. It is formulated to provide exceptional protection against engine wear and deliver extended drain performance (exceeding OEM standard intervals)¹ even in the harshest operating conditions.
- DURON UHP 5W-40 and 0W-40 are Ultra High Performance synthetic engine oils that provide all-season protection and performance, especially in low temperature environments. DURON UHP 5W-40 and 0W-40 help conserve energy and reduce engine wear through ease of cold weather start-up and lower viscous drag.
- DURON HP 15W-40 is a high performance heavy-duty engine oil that delivers all weather engine protection including dependable cold start up and exceptional shear stability. It can deliver extended drain capabilities (exceeding OEM standard intervals)¹.

See next page

*Comparing an SAE 15W-40 with 4.1cP HTHS vs a 10W-30 with 3.5cP HTHS. ** Comparing an SAE 15W-40 with 4.1cP HTHS vs a 10W-30 with 2.9cP HTHS. ¹Extending drain intervals should always be undertaken in conjunction with an oil analysis program. Refer to owner's manual or operations and maintenance manual for complete information.

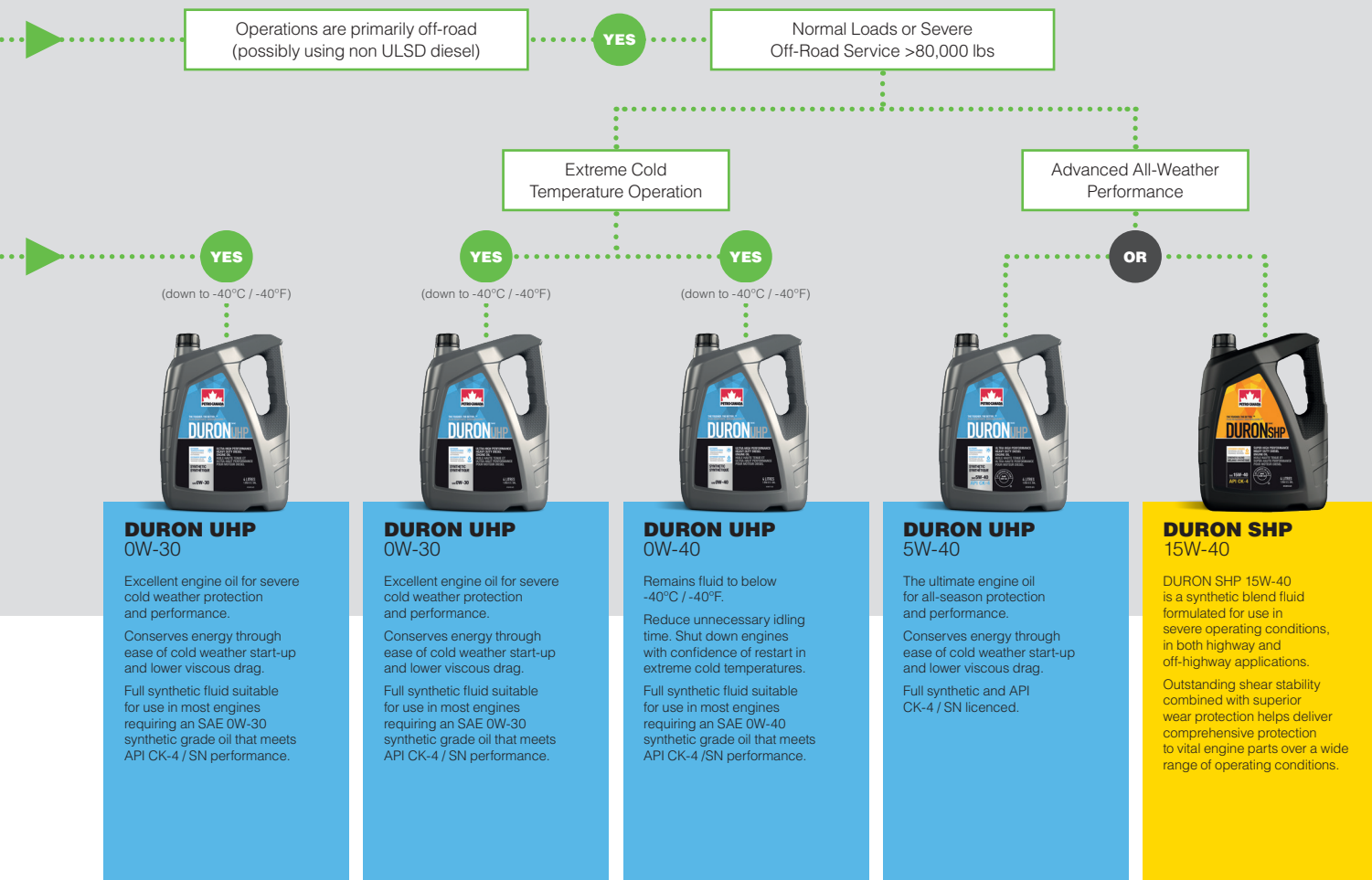
OTHER PRODUCTS

Product	Application and Performance
DURON™ UHP E6 10W-40 and 5W-30	<ul style="list-style-type: none"> Ultra High Performance synthetic diesel engine oil designed for longer engine life, better all weather performance and increased efficiency. Exceeds ACEA E4/E6/E7/E9 standards. Low SAPS (Sulphated Ash, Phosphorous, Sulphur).
DURON CLASSIC 15W-40 and 20W-50	<ul style="list-style-type: none"> Premium multigrade heavy-duty engine oils recommended for engines fueled by diesel, gasoline, propane, or compressed natural gas (CNG), where applications specify API CH-4 / SJ. Available in select countries.
DURON EXTRA 15W-40 and 20W-50	<ul style="list-style-type: none"> Premium multigrade heavy-duty engine oils recommended for engines fueled by diesel, gasoline, propane, or compressed natural gas (CNG), where applications specify API CJ-4 / SN. 15W-40 is licensed with API as CJ-4 / SN. Available in select countries.
DURON SAE 10W, 30, 40 and 50	<ul style="list-style-type: none"> Used in many applications such as older heavy-duty transmissions, older diesel engines, including 2-stroke Detroit Diesel models, and hydraulic systems needing a detergent-containing hydraulic oil. Meets former API level CF (SAE 10W). Meets former API level CF and CF-2 (SAE 30, 40, 50).
DURON GEO LD 15W-40 and 10W-30	<ul style="list-style-type: none"> Designed for Compressed Natural Gas/Liquefied Natural Gas (CNG/LNG) mobile engines and works in diesel and gasoline engine as well - a true mixed fleet fluid. Approved for Cummins CES 20092 and fully backserviceable to CES 20085 specifications. API CK-4/SN licensed and approved by other major diesel engine OEMs like Detroit Diesel, Mack, Volvo and Renault. Extended drain intervals in CNG/LNG engines without the risk of increased engine wear and sluggish performance.

RAILROAD INDUSTRY

The railroad industry is tough, and you need a strong lubricants partner who really understands this business. Like Petro-Canada Lubricants, Red Giant Oil™ is also an HF Sinclair brand. Their RGO locomotive engine oils have been built over a century-long legacy of rail industry expertise. As engines have evolved, becoming even stronger and more powerful, so have Red Giant Oil products. HF Sinclair has focused on this sector, developing engine oils that are as reliable as our commitment to this industry.

Product	Application and Performance
Railway Engine Oils:	Formulated for severe service in diesel engines, driving railroad locomotives, marine vessels and electric power generators.
Red Giant Locomotive Engine Oil 20W-40 G7	Multigrade 11 TBN, LMOA Generation 7 level engine oil that is approved by Progress Rail (formerly EMD) and Wabtec (formerly GE).
RALUBE™ 40 CFS	SAE 40, 14 TBN, LMOA Generation 5 engine oil that is SFU for Progress Rail, Wabtec, Caterpillar 3600 Series and 2-cycle Detroit Diesel engines, including Series 149.



¹ Extended periods of usage of high sulfur fuels will shorten the oil drain intervals. An oil analysis program is recommended.

POWER TRANSMISSION FLUIDS

HEAVY-DUTY AUTOMATIC TRANSMISSION FLUIDS

PERFORMANCE BENEFITS

- Specially formulated to perform under the demanding severe service operating conditions found in heavy-duty transmission systems.
- Designed for use in commercial applications where Severe Duty and Extended Drain Interval fluids are specified.
- Provide excellent wear protection and are suitable for heavy loading and high operating temperatures.

DuraDrive™ HD Synthetic 668	<ul style="list-style-type: none"> • Meets and exceeds the TES 668™ specification and is backwards compatible for every Allison transmission that currently requires approved TES 295® ATF*. • Formulated with excellent oxidation control, improved wear protection and component life and enhanced anti-shudder performance and torque control. • The first fluid to complete Allison's rigorous validation program, receive license approval, and be awarded Allison's global factory fill program. 	<ul style="list-style-type: none"> • Approved for factory fill and service fill on-highway Allison transmissions requiring TES 668™**. • Approved for Volvo STD 1273,41 - transmission oil 97341 (AT101). • Suitable for use for Voith H55.6335.xx(standard drain, 60K km), ZF TE-ML 14A (standard drain) and GM DEXRON®-III(H), -III(G), -II(E), or -II.
DuraDrive HD Synthetic Blend ATF	<ul style="list-style-type: none"> • Specially formulated for commercial and heavy-duty transmission systems. • Outstanding resistance to oxidative and thermal breakdown. • Offers extended drain intervals and multiple heavy-duty credentials. 	<ul style="list-style-type: none"> • Approved for Voith (H55.6336.xx VTI-DIWA Service Bulletin 013 & 118, formerly G1363) (120K km) and ZF TE-ML 14B extended drain applications. Also approved for Allison C4 (legacy), ZF TE-ML 03D, 04D, 16L and 17C. • Suitable for use where Caterpillar TO-2, MB 236.1/5/6/7, MAN 339 Typ Z2 & V2, Volvo STD 1273,41 - transmission oil 97341 (AT101) or MERCON®V is recommended. • May also be used in automatic transmissions where a fluid meeting the former DEXRON®-IIIH, -IIIG, -IIE, -II, or MERCON® specifications is recommended. Not to be used where MERCON®LV or MERCON®SP are required. • May also be used as a hydraulic or power steering fluid.
DuraDrive HD Long Drain ATF	<ul style="list-style-type: none"> • Formulated for heavy-duty transmissions. • Excellent wear protection, oxidation control and friction durability as demonstrated in extensive rig testing and field trials. • Enhanced thermal and oxidative stability together with improved high and low temperature properties. 	<ul style="list-style-type: none"> • Approved for Voith (150.014524.xx VTI-DIWA Service Bulletin 013 & 118) maximum drain, 180K kms. • Approved for ZF TE-ML 14C, 20C, 04D, 16M, 16S and 25C, MAN 339 Typ V3, Z3, Z12, MB 236.9 and Volvo STD 1273,41 - transmission oil 97341.

*TES 668™ fluids are not recommended for Allison TC10® transmissions

DEXRON® is a registered trademark of General Motors LLC. MERCON® is a registered trademark of Ford Motor Company. TES 295®, TC10®, H 40/H 50 EP™, 1000-4000 series™, eGen Flex™ and TES 668™ are trademarks of Allison Transmission, Inc.

**Check technical data sheet for more information about the types of transmissions where TES 668™ fluids are required

LIGHT-DUTY TRANSMISSION FLUIDS

PERFORMANCE BENEFITS

- Petro-Canada Lubricants offers a full line of power transmission fluids that meet the latest performance credentials of the major car manufacturers.
- Offers outstanding wear protection to extend the life of power transmissions.
- Offers exceptional low temperature performance.

POWER TRANSMISSION FLUIDS

Product	Performance Features	Credentials
DEXRON®-VI	<ul style="list-style-type: none"> • Delivers 2X the service life of the former DEXRON-III (H) ATF fluids. • Offers enhanced performance in new and older General Motors transmissions. • Provides more consistent and responsive shift feel. • Extends life of transmission through improved oxidation resistance, wear protection and friction durability. 	<ul style="list-style-type: none"> • GM DEXRON®-VI licensed for Factory Fill and Service Fill applications. • Meets GM service fill specification GMW16444. • Petro-Canada DEXRON®-VI is suitable for use where Volvo specification 97342 is mandated. It is also suitable where Chrysler/Dodge/Jeep vehicles call for Part Number 68043742AA. • GM recommends the use of DEXRON®-VI for all GM automatic transmissions including where the former DEXRON®-IIIH, -IIIG, -IIE, or -II specification was recommended. • Approved for Voith standard drain intervals (H55.6335.xx DIWA Service Bulletin 013 & 118, formerly G1363). • Mercedes-Benz-Approval 236.41.
ATF+4®	<ul style="list-style-type: none"> • Offers optimized shift efficiency, improved oxidation and shear stability for use in Chrysler automatic transmissions. • Extensively tested and approved by Chrysler for their material specification, MS-9602. 	<ul style="list-style-type: none"> • Chrysler ATF+4® licensed. • Meets Chrysler material specification MS-9602. • Back-serviceable in transmissions where ATF+3® fluids or earlier versions were recommended.
ATF D3M	<ul style="list-style-type: none"> • Demonstrates outstanding oxidation and thermal stability, giving long service life under severe operating conditions. • Excellent low temperature protection and smoother shifting. 	<ul style="list-style-type: none"> • ATF D3M may be used in automatic transmissions where a fluid meeting the former DEXRON®-IIIH, -IIIG, -IIE, -II, or MERCON® specifications is recommended. • Approved against Allison TES 389 Rev.B. • Suitable for use where MB 236.1/5/6/7, Allison C-4, or Caterpillar TO-2 is recommended. • May also be used in hydraulic and power steering systems.
DuraDrive MV Synthetic ATF	<ul style="list-style-type: none"> • Petro-Canada Lubricants' full synthetic, high viscosity, Multi-Vehicle ATF. • Advanced performance over conventional ATF fluids. • Improved oxidative resistance, wear protection, shear stability. • Enhanced friction and anti-shudder durability. 	<ul style="list-style-type: none"> • Suitable for use in a wide range of North American, European and Asian vehicles. • Ford MERCON®-V licensed. • Exceeds JASO 1A requirements.
DuraDrive LV MV Synthetic ATF	<ul style="list-style-type: none"> • Full synthetic low viscosity formulation that offers true multi-vehicle performance, outstanding wear protection, and exceptional fluid life. • Provides the frictional properties, wear protection and viscometrics needed by most newer North American, Asian, and European automatic transmissions. • Benefits include excellent oxidation and shear stability, outstanding wear protection, and exceptional low temperature fluidity. 	<ul style="list-style-type: none"> • DuraDrive Low Viscosity MV Synthetic ATF is suitable for use in a wide range of North American, Asian, and European automatic transmissions. • Ford MERCON® LV Licensed. • GM DEXRON®-VI licensed for Service Fill applications.
DuraDrive CVT MV Synthetic	<ul style="list-style-type: none"> • Full synthetic high viscosity Continuously Variable Transmission Fluid that offers outstanding wear protection, and exceptional fluid life. • Excellent anti-shudder durability and high stable metal-to-metal friction properties. • Outstanding protection against wear. • Excellent resistance to oxidative and thermal breakdown. • Reliable low/high temperature fluid performance. 	<ul style="list-style-type: none"> • DuraDrive CVT MV Synthetic is suitable for use in a wide range of North American, Asian, and European continuously variable transmissions with belt/pulley or chain/pulley arrangements.
DuraDrive DCT MV Synthetic	<ul style="list-style-type: none"> • Synthetic transmission fluid for wet dual or double clutch transmissions. • Provides excellent gear wear and corrosion protection, extended anti-shudder durability and reliable low temperature fluidity. • Benefits include excellent thermal, oxidative and shear stability, outstanding wear protection, strong corrosion protection and reliable low temperature fluidity. 	<ul style="list-style-type: none"> • DuraDrive DCT MV Synthetic is suitable for use in a wide range of European, Asian, and North American wet dual or double clutch transmissions.

ATF+4® and ATF+3® are registered trademarks of FCA US LLC (formerly known as Chrysler Group LLC). DEXRON® is a registered trademark of General Motors LLC. MERCON® is a registered trademark of Ford Motor Company.

AUTOMOTIVE PASSENGER CAR MOTOR OILS

PERFORMANCE BENEFITS

- Petro-Canada Lubricants offers a full line of high quality passenger car motor oils.
- Meets the current warranty requirements of North American, European and Asian vehicles where the latest API Service Category SP or ILSAC GF-6 standard is required.
- Completely backwards compatible where earlier API S categories (or ILSAC engine oil standards, as applicable) are recommended. *SAE 0W-16 excluded.

PETRO-CANADA PASSENGER CAR MOTOR OILS

Product	SAE Viscosity Grade	Performance Features	Credentials
SUPREME™ Synthetic	0W-16 0W-20 0W-30 5W-20 5W-30	<ul style="list-style-type: none"> • Advanced formula for ultimate engine protection. • Outstanding resistance to thermal breakdown and oil thickening. • Reduced oil consumption; less top-up required. • Exceptional low temperature fluidity. • Assured protection against low speed pre-ignition (LSPI). 	<ul style="list-style-type: none"> • Licensed API Service Category SP and SP Resource Conserving. • Exceed ILSAC GF-6A or ILSAC GF-6B (0W-16 grade only) standard. • 5W-20 meets Ford WSS-M2C960-A1. • 5W-30 meets Ford WSS-M2C961-A1. • 0W-20 meets Ford WSS-M2C962-A1. • 0W-30 meets Ford WSS-M2C963-A1. • 0W-20, 5W-20 and 5W-30 are suitable for use for Chrysler MS-6395. • Applicable SAE Viscosity Grades are suitable for use for Honda, Hyundai, Toyota, Kia and Mazda owner's manual recommended performance requirements. • 0W-20, 5W-20 and 5W-30 are GM dexos® 1 Gen 3 approved.
SUPREME Multigrade	5W-20 5W-30 10W-30 10W-40 20W-50	<ul style="list-style-type: none"> • Premium conventional motor oil that keeps engines protected. • Outstanding low temperature performance. • Excellent resistance to thermal breakdown. • LSPI protection. 	<ul style="list-style-type: none"> • 5W-20, 5W-30 and 10W-30 are API licensed API SP and SP Resource Conserving, ILSAC GF-6A. • 10W-40 and 20W-50 are API licensed API SP. • 5W-20 meets Ford WSS-M2C960-A1. • 5W-30 meets Ford WSS-M2C961-A1. • 5W-20, 5W-30 and 10W-30 are suitable for use for Chrysler MS-6395.
SUPREME High Mileage	0W-20 (Synthetic) 5W-20 5W-30 10W-30	<ul style="list-style-type: none"> • Contains REGEN Technology designed to clean up sludge in vehicles with high mileage. • Rejuvenates your engine's power that is lost due to blow-by. • Reduces the formation of new deposits on engine parts, resulting in a cleaner running engine. • Meets the latest industry standards. 	<ul style="list-style-type: none"> • Exceeds API SP and SP Resource Conserving as well the latest ILSAC GF-6A specification. • 0W-20, 5W-20, 5W-30, 10W-30 are suitable for use for Chrysler MS-6395. • 0W-20 meets Ford WSS-M2C962-A1. • 5W-20 meets Ford WSS-M2C960-A1. • 5W-30 meets Ford WSS-M2C961-A1. • Meets oil specification requirements for General Motors, Honda, Hyundai, Kia, Mazda and Toyota gasoline powered vehicles.
SUPREME Synthetic Hybrid	0W-16 0W-20	<ul style="list-style-type: none"> • Exceptional protection for internal combustion (IC) engines in a hybrid powertrain including: • Outstanding protection against wear, rust and corrosion during frequent stop/start cycles prevalent with hybrid vehicles, extending bearing and engine life. • Easier unaided cold weather starts and reduced wear during low temperature start-up and operation due to our best low temperature fluidity. • Our best resistance to high temperature thermal breakdown resulting in cleaner running engines. 	<ul style="list-style-type: none"> • Licensed API SP and SP Resource Conserving. • 0W-20 exceeds ILSAC GF-6A requirements and is GM dexos® 1 Gen 3 approved. • 0W-20 is suitable for use for Chrysler MS-6395. • 0W-20 meets Ford WSS-M2C962-A1. • Meets oil specification requirements for Honda, Hyundai, Kia, Mazda, and Toyota. • 0W-16 exceeds ILSAC GF-6B requirements.

The dexos® specification and trademark are exclusive to General Motors, LLC.

PETRO-CANADA PASSENGER CAR MOTOR OILS - OTHER PRODUCTS

Product	Application and Performance
SUPREME Synthetic 5W-40	<ul style="list-style-type: none"> • Premium advanced motor oil designed to lubricate the engines of today's gasoline and ethanol (up to E85) fuelled passenger cars, vans, CUVs, SUVs and light-duty trucks. • Exceptional resistance to high temperature thermal breakdown. • Exceeds the latest API Service Classification for gasoline engines, API SP.
SUPREME C3-X Synthetic 5W-40	<ul style="list-style-type: none"> • Fuel saving synthetic motor oil that is produced with high quality synthetic base oils and an advanced additive system. • Exceeds the ACEA C3 requirements for gasoline and light-duty diesel engines. • Meets the requirements of Mercedes-Benz 229.51, BMW LL-04, Porsche A40 and Ford M2C917-A. • AVAILABLE ONLY IN EUROPE AND OTHER SELECT GEOGRAPHIES.
SUPREME C3 Synthetic 5W-30	<ul style="list-style-type: none"> • High performance synthetic passenger car engine oil with a carefully balanced selection of synthetic base oils and advanced additive chemistry that protects gasoline catalytic converters and diesel particulate filters. • Meets the performance requirements of ACEA C3, API SN and is specially designed to support extended oil drain intervals of modern engines. • Exceeds the ACEA C3 requirements for fuel economy performance. • MB-Approval 229.31. • AVAILABLE ONLY IN EUROPE AND OTHER SELECT GEOGRAPHIES.
SUPREME C3-X Synthetic 5W-30	<ul style="list-style-type: none"> • Synthetic, top quality "Mid SAPS"™ passenger car motor oil that delivers outstanding performance and protection when lubricating today's modern engines. • Delivers exceptional resistance to thermal breakdown, outstanding low temperature fluidity and excellent engine protection at extreme operating temperatures. • Meets the performance requirements of ACEA C3, API SN, BMW LL-04 specifications. • MB-Approval 229.51. • Approved under VW Standard 504 00, VW Standard 507 00 and Porsche C30.
SUPREME EU-X Synthetic 5W-40	<ul style="list-style-type: none"> • A top quality "Full SAPS"™ passenger car motor oil that delivers excellent performance and protection when lubricating today's engines. • Meets ACEA A3/B4-16 and is also suitable for use where API SN is specified. • Suitable for use in vehicles which specify the following OEM specifications: BMW LL-01, MB 229.3 / 229.5, Porsche A40, Renault RN0700 / RN0710, Volkswagen 502 00 / 505 00.

*SAPS = Sulfated Ash, Phosphorus, Sulfur

AUTOMOTIVE GEAR OILS & AXLE FLUIDS

DOES YOUR APPLICATION REQUIRE AN SAE J2360 (API GL-5 OR MT-1) GEAR OIL?

YES

Do you require a synthetic HD axle fluid that has extended drain capability and is under the DANA RoadRanger or International/Navistar extended warranty program?

YES

NO

Does your application require higher viscosity grades such as #W-140?

YES

NO

Wider Temperature Range or Energy/Torque Efficiency required?

YES

Is Advanced Performance or Greater Potential Energy/Torque Efficiency required?

YES

Do you need a lower viscosity fluid for even higher energy efficiency and better low temperature performance?

NO



TRAXON 80W-90

TRAXON 80W-90 provides advanced, long-lasting protection for reduced downtime and maintenance costs.

Outstanding shear stability which can ensure retention of viscosity to protect equipment against metal-to-metal contact and wear.

Meets API GL-5, MT-1, Scania STO 1:0 (axle and gearbox/MT) and Meritor 0-76-D requirements.

Approved against SAE J2360 (MIL-PRF-2105E), ZF TE-ML lubricant class 05A, 12M, 16B, 17B, 19B, 21A [ZF003389] and Mack GO-J specifications.

TRAXON 80W-90 is MAN 342 Type M1 and M2 approved.



TRAXON XL SYNTHETIC BLEND 75W-90

TRAXON XL Synthetic Blend 75W-90 provides excellent low temperature protection and more efficient operating performance for lower energy consumption than conventional 80W-90 gear oil.

Provides shear stability and resistance to degradation.

Meets API GL-5, MT-1, Scania STO 1:0 (axle and gearbox/MT) specifications and Meritor 0-76-E requirements.

Approved against SAE J2360 (MIL-PRF-2105E), and Mack GO-J.



TRAXON SYNTHETIC 75W-85

TRAXON Synthetic 75W-85 provides excellent long lasting wear protection and efficiency.

Protection in extreme cold weather conditions which means easier start-ups and cold weather shifting.

Meets API GL-5, MT-1 and is suitable for use where Mack GO-J, John Deere J11E and J11G, Volvo 1273.10 (97310) or 1273.12 (97312), and Meritor 0-76-J specifications are required.



TRAXON SYNTHETIC 75W-90

TRAXON Synthetic 75W-90 provides outstanding low temperature protection and torque efficiency.

Protection in extreme cold weather conditions which means easier start-ups and cold weather shifting.

Provides excellent shear stability for extended drain applications.

Meets API GL-5, MT-1 and Scania STO 1:0 (axle and gearbox/MT) requirements.

Approved against the SAE J2360 Global Standard (formerly MIL-PRF-2105E), Mack GO-J, MAN 342 Type M1 and M2, approved/listed by ZF as TE-ML lubricant class 05A, 16B, 17B and 21A (ZF002212) and listed/approved for Meritor 0-76-E.

DO YOU HAVE AN AUTOMATED MANUAL TRANSMISSION (AMT) OR NEED AN API GL-4?

YES

See next page

NO

Non-EP MTF

Does your rear axle specify heavier grades?

YES

NO

Wider Temperature Range required?

YES

NO



TRAXON 85W-140

TRAXON 85W-140 provides outstanding shear stability and contains anti-wear/EP additives for tough, high-load, high-operating temperature conditions for extended equipment life.

Delivers excellent resistance to degradation and sludging.

Meets API GL-5, MT-1, Scania STO 1:0 (axle) specifications and Meritor 0-76-A requirements.

Approved against SAE J2360 (MIL-PRF-2105E), ZF TE-ML lubricant class 05A, 12M, 16D, 21A [ZF003390], specifications and Mack GO-J.



TRAXON XL SYNTHETIC BLEND 80W-140

TRAXON XL Synthetic Blend 80W-140 provides excellent shear stability for retention of viscosity to help protect equipment against metal-to-metal contact and wear.

Delivers advanced resistance to degradation and sludging and better torque and energy efficiency vs. conventional GL-5 85W-140 oils.

Meets API GL-5 and MT-1 requirements.

Approved against SAE J2360 (Formerly MIL-PRF-2105E) and Mack GO-J specifications.

Approved against ZF TE-ML lubricant class 05A, 12M, 16D, 21A [ZF002287].

Meets Meritor 0-76-B standard drain specification and Scania STO 1:0 requirements for axles only.



TRAXON E SYNTHETIC 80W-140

TRAXON E Synthetic 80W-140 contains extreme pressure additives for operation under a variety of load conditions with excellent resistance to oxidation for long lubricant life.

High viscosity index and good low temperature properties for excellent protection in cold weather.

Recommended for use in manual transmissions requiring EP-type oils, differentials including limited slip (top-up only) and transfer cases for heavy equipment, trucks and tractors.

Meets API GL-5, API MT-1, Mack GO-J, SAE J2360 (MIL-PRF-2105E), International TMS 6816 / Navistar MPAPS B-6816 Type I, Navistar MPAP 6821, and Meritor 0-76-B & 0-80 standard drain specification (in Meritor TP-9539 documents).

Approved against Dana - CVSD SHAES 429 Rev A (TCMT-0020) (Eaton Genuine Roadranger Lubricant).



TRAXON E SYNTHETIC 75W-90

TRAXON E Synthetic 75W-90 contains extreme pressure additives for operation under a variety of load conditions with excellent resistance to oxidation for long lubricant life.

New and improved formulation has demonstrated up to 1.5%* fuel efficiency benefits over the previous formulation.

High viscosity index and good low temperature properties for excellent protection in cold weather.

Recommended for use in manual transmissions requiring EP-type oils, differentials including limited slip and transfer cases for heavy equipment, trucks and tractors.

Meets API GL-5, API MT-1, Mack GO-J Plus, SAE J2360 (MIL-PRF-2105E), International TMS 6816 / Navistar MPAPS B-6816 Type I, and Meritor 0-76-N requirements.

Approved against Dana - CVSD SHAES 256 Rev E and SHAES 429 Rev A (TCMT-0020) (Eaton Genuine Roadranger Lubricant).

PERFORMANCE BENEFITS

- Designed for use in many manual transmissions, for passenger cars, trucks, and off-highway vehicles where mild extreme pressure (EP) type lubricants are recommended.
- TRAXON™ axle fluids meet API GL-5 and MT-1 requirements as well as SAE J2360 Global Standards.
- Suitable for most oil lubricated universal joints, wheel bearings, planetary gear sets, steering gears and industrial gear reducers requiring API GL-3 (inactive), GL-4 or GL-5 oils.
- Excellent thermal and oxidation stability resulting in superior gear cleanliness.
- TRAXON axle fluids are not for use in specific manual transmissions calling for the use of an API GL-4 rated oil only and a GL-5/MT-1 oil is not acceptable.

*Fuel Economy (FE) claims are based on improvements noted in both Industry and fleet testing, including SAE J1321, J1376 & J1526, versus previous formulation.

MANUAL TRANSMISSION FLUIDS

PERFORMANCE BENEFITS

- Specialized manual transmission TRAXON™ fluids such as (TRAXON Synthetic MTF 75W-80, TRAXON Synthetic CD-50 and TRAXON E Synthetic MTF) meet many specialized manual transmission requirements.

DEXRON® GEAR OILS

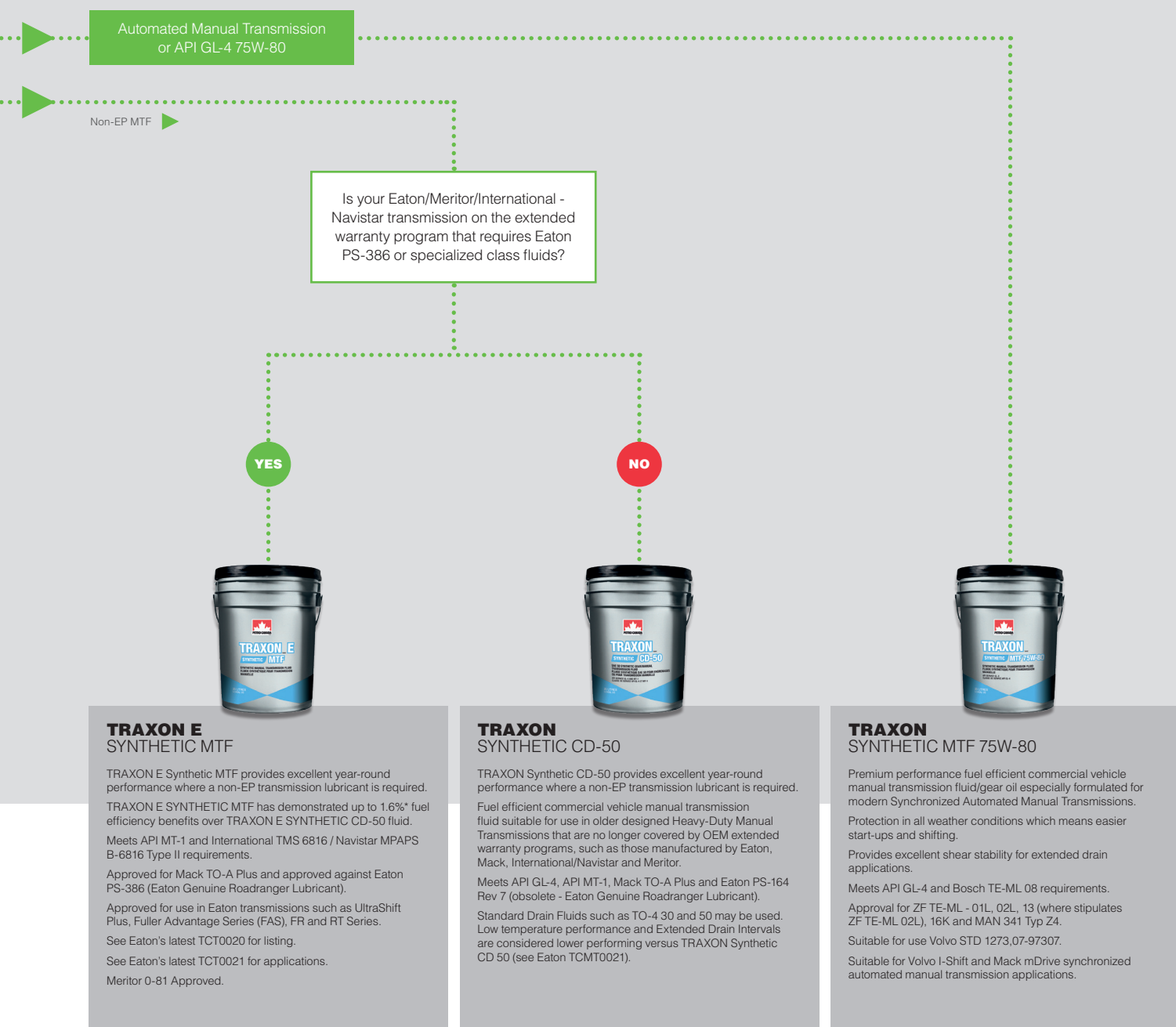
Product	Application and Performance
DEXRON® Gear Oil 75W-90 DEXRON® LS Gear Oil 75W-90	<ul style="list-style-type: none"> Synthetic extreme pressure automotive axle lubricant formulated for GM applications. Provides excellent long lasting wear protection to extend equipment life and reduce downtime and maintenance costs. DEXRON® LS Gear Oil 75W-90 contains added friction modifiers to perform in limited-slip differentials.



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WANT TO STAY ON THE ROAD FOR LONGER? GET END-TO-END PROTECTION.

From the cooling system to the rear axle – our product lines have a global reputation for outstanding performance. Everywhere we go, fleets **reduce their downtime, get more reliable and increase profits.**



*Fuel Economy (FE) claims are based on improvements noted in both SAE J1321 and fleet testing, versus TRAXON E SYNTHETIC CD-50. DEXRON® is a registered trademark of General Motors LLC.



COMMERCIAL TRANSPORTATION HYDRAULIC FLUIDS

PERFORMANCE BENEFITS

- HYDREX™ AW are premium performance, long-life anti-wear hydraulic fluids.
- HYDREX MV fluids are designed for use in wide temperature ranges.
- HYDREX XV All Season is recommended for year-round use in equipment that must perform in both low and high temperature ranges. Potential energy efficiencies could be realized with product versus monograde products.
- ENVIRON™ AW monograde hydraulic fluids are designed for use in equipment used primarily in environmentally sensitive areas.
- ENVIRON MV multigrade fluids are inherently biodegradable, designed for year-round use in equipment operating in wide temperature ranges.
- ENVIRON MV R multigrade fluids are readily biodegradable, designed for year-round use in both mobile and stationary hydraulic systems operating in wide temperature ranges, particularly in environmentally sensitive areas.
- Please refer to the Tech Data sheets for a complete listing of the OEM approvals for HYDREX and ENVIRON.

ARE THE HYDRAULICS USED IN AN ENVIRONMENTALLY SENSITIVE AREA?



TRACTOR HYDRAULIC FLUIDS

PERFORMANCE BENEFITS

- DURATRAN™ is a Tractor Hydraulic Fluid (THF)/Universal Tractor Transmission Oil (UTTO) designed for agriculture, mining, forestry and construction equipment with a common oil system for transmission, differential, hydraulic, power take-off, wet brake and power steering mechanisms.
- Meets field performance requirements of all North American and most global manufacturers.

DURATRAN

Application	Product	Recommended for the following Current Credentials/Specifications	Recommended for the following Obsolete Credentials/Specifications
DURATRAN Synthetic is designed for agriculture, mining, forestry and construction equipment. Designed specifically for true all-season performance, eliminates seasonal change-outs and has excellent oxidation stability.	DURATRAN Synthetic	<ul style="list-style-type: none"> • Surpasses John Deere OEM specification JDM J20C (summer) and JDM J20D (winter). • Suitable for use in applications that call for CNH (Case I.H., J.I. Case New Holland Group): MS-1209/MAT 3505, MS-1210/JIC-145/MAT 3506, MS-1230/CNH MAT 3509, ESN-M2C134-D/MAT 3525; White Farm (Oliver) Q-1826, Hydraulic Transmission Fluid (HTF), Massey-Ferguson M-1141, M-1135, M-1143; M-1145 (For UTTO application only. Do not use in STOU engine applications.); AGCO/Deutz-Allis/Allis: Power Fluid 821XL, 272843; GIMA MF CMS M1145 (Approved), GIMA MF CMS M1141; Valtra G2-98; New Holland 410B; Volvo Std 1273.03 - 97303 WB 101 (Approved); DANA UTTO-LV (Approved); Kubota UDT and Kubota UDT*; Steiger Hydraulic Transmission Fluid (SEMS 17001); Versatile ESN-M2C134-D; Komatsu KES 07.866; Landini (Tractor II Hydraulic Fluid); Hesston-Fiat (Oliofiat Tutela Multi-F). • Suitable for use in Mahindra farm tractors; Voith Heavy Industrial; Hitachi Heavy Industrial and AECON/Miller Equipment. • Suitable for use where Clark Lift Truck TA12, TA18; ZF Transmission TE-ML 03E, 05F, 21F (axles); Heist*; Kalmar*; Kessler*; Hyster* and Fantuzzi* industrial equipment requirements are called for. 	<ul style="list-style-type: none"> • Meets JDM J20A/B, JDM J14B/C, JD 303 Fluid • Suitable for use in applications that call for CNH (Case I.H., J.I. Case New Holland Group) older specifications (obsolete) such as MS-1207, MS-1206, MS-1205, MS-1204/JIC-185, B-6, B-5, JIC-144, JIC-143, FNHA-2-C-201.00, FNHA-2-C-201.00A (134-D), FNHA-2-C-200.00, ESN-M2C134-A/B/C, ESN-M2C86-B/C, ESN-M2C53-A, ESN-M2C48-B; White Farm (Oliver) Q-1802, Q-1766B, Q-1722, Q-1705; Massey-Ferguson M-1129-A, M-1127-A/B, M-1110; AGCO/Deutz-Allis/Allis 257541, 246634; Versatile Hydraulic/Gear Fluid Spec 24M and Spec 23M; Valtra G2-98; Hesston-Fiat AF-87; Sundstrand Hydrostatic Transmission Fluid; Dresser Construction Equipment, Transmission/Hydraulic Fluid. • Suitable for use against API GL-4 and Caterpillar TO-2. • Suitable for use where Clark HR 500, HR 600; Allison C-4 Fluid and C-3 Fluids requirements are called for.
DURATRAN XL Synthetic Blend is designed for agriculture, mining, forestry and construction equipment. Designed particularly for winter and shoulder season work with excellent oxidation stability.	DURATRAN XL Synthetic Blend	<ul style="list-style-type: none"> • Surpasses John Deere OEM specification JDM J20D. • Suitable for use in colder applications that call for CNH (Case I.H., J.I. Case New Holland Group): MS-1209/MAT 3505, MS-1210/JIC-145/MAT 3506, MS-1230/CNH MAT 3509, ESN-M2C134-D/MAT 3525; White Farm (Oliver) Q-1826, Hydraulic Transmission Fluid (HTF); Massey-Ferguson M-1141, M-1135, M-1143; AGCO/Deutz-Allis/Allis: Power Fluid 821XL, 272843; Kubota UDT*; Steiger Hydraulic/Transmission Fluid (SEMS 17001); Versatile ESN-M2C134-D; Landini (Tractor II Hydraulic Fluid winter only); Hesston-Fiat (Oliofiat Tutela Multi-F winter only). • Suitable for use in Voith Heavy Industrial (winter only); Hitachi Heavy Industrial (winter only); Kioti and Mahindra farm tractors. • Suitable for use where Clark Lift Truck TA12, TA18; Heist*; Kalmar*; Kessler*; Hyster*; and Fantuzzi* industrial equipment (winter only) requirements are called for. 	<ul style="list-style-type: none"> • Meets JDM J20B, JDM J14C, JD 303 Fluid • Suitable for use in applications that call for CNH (Case I.H., J.I. Case New Holland Group) older specifications (obsolete) such as MS-1207, MS-1206, MS-1205, MS-1204/JIC-185, B-6, B-5, JIC-144, JIC-143 FNHA-2-C-200.00, ESN-M2C134-A/B/C, ESN-M2C86-B/C, ESN-M2C53-A, ESN-M2C48-B; White Farm (Oliver) Q-1802, Q-1766B, Q-1722, Q-1705; Massey-Ferguson M-1129-A, M-1127-A/B, M-1110; AGCO/Deutz-Allis/Allis 257541, 246634; Versatile Hydraulic/Gear Fluid Spec 24M and Spec 23M; Hesston-Fiat AF-87; Sundstrand Hydrostatic Transmission Fluid; Dresser Construction Equipment, Transmission/Hydraulic Fluid. • Suitable for use against API GL-4 and Caterpillar TO-2. • Suitable for use where Clark HR 500; Allison C-4 Fluid and C-3 Fluid requirements are called for.
DURATRAN is designed for agriculture, mining, forestry and construction equipment and is designed to exceed the performance characteristics of summer grade THF fluids with outstanding oxidation stability.	DURATRAN	<ul style="list-style-type: none"> • Surpasses John Deere OEM specification JDM J20C. • Suitable for use in applications that call for CNH (Case I.H., J.I. Case New Holland Group): MS-1209/MAT 3505, MS-1210/JIC-145/MAT 3506, MS-1230/CNH MAT 3509, ESN-M2C134-D/MAT 3525, MAT 3540; White Farm (Oliver) Q-1826, Hydraulic Transmission Fluid (HTF); Massey-Ferguson M-1141, M-1135, M-1143; M-1145 (For UTTO applications only. Do not use in STOU engine applications.); AGCO/Deutz-Allis/Allis: Power Fluid 821XL, 272843; GIMA MF CMS M1145, GIMA MF CMS M1141; New Holland 410B; Volvo Std 1273.03 - 97303 WB 101 (Approved); Kubota UDT; Steiger Hydraulic/Transmission Fluid (SEMS 17001); Versatile ESN-M2C134-D; Landini (Tractor II Hydraulic Fluid); Komatsu KES 07.866; Hesston-Fiat (Oliofiat Tutela Multi-F). • Suitable for use in Mahindra farm tractors; Voith Heavy Industrial, Hitachi Heavy Industrial and AECON/Miller Equipment. • Suitable for use where Clark Lift Truck TA12, TA18; ZF Transmission TE-ML 03E, 05F, 06K, 21F (axles); Heist*; Kalmar*; Kessler*; Hyster*; and Fantuzzi* industrial equipment requirements are called for. 	<ul style="list-style-type: none"> • Meets JDM J20A, JDM J14B, JD 303 Fluid • Suitable for use in applications that call for CNH (Case I.H., J.I. Case New Holland Group) older specifications (obsolete) such as MS-1207, MS-1206, MS-1205, MS-1204/JIC-185, B-6, B-5, JIC-144, JIC-143 FNHA-2-C-201.00, ESN-M2C134-A/B/C, ESN-M2C86-B/C, ESN-M2C53-A, ESN-M2C48-B; White Farm (Oliver) Q-1802, Q-1766B, Q-1722, Q-1705; Massey-Ferguson M-1129-A, M-1127-A/B, M-1110; AGCO/Deutz-Allis/Allis 257541, 246634; Valtra G2-08 and G2-98; Volvo ESN-M2C 134-D; Versatile Hydraulic/Gear Fluid Spec 24M and Spec 23M; Hesston-Fiat AF-87; Sundstrand Hydrostatic Transmission Fluid; Dresser Construction Equipment, Transmission/Hydraulic Fluid. • Suitable for use against API GL-4 and Caterpillar TO-2. • Suitable for use where Clark HR 600; Allison C-4 Fluid and C-3 Fluid requirements are called for.

*Top treat may be required. Note: For UTTO applications only – do not use in engine application where Super Tractor Oil Universal (STOU) are recommended. Note: Many Tractor OEM's have since been consolidated to one Brand. Specifications have been noted to be the last known specification published for specific Tractor brand names. Check with your OEM supplier for the latest lubricant specification required for your equipment or your OEM Manual. NOTE: For full approval listing, see the tech data sheets.

TRANSMISSION DRIVE TRAIN OILS

PERFORMANCE BENEFITS

- PRODURO™ TO-4* oils are designed to meet and exceed Caterpillar TO-4 TDTO (Transmission Drive Train Oil) lubricant specifications.
- Provides excellent protection, long oil life, smooth operation and lower operational costs.
- PRODURO FD-1 oils are designed to meet Caterpillar FD-1 Final Drive lubricant specifications.

PRODURO

Application	Product	Performance Features	Credentials/Identification
Suitable for use in a variety of construction, mining and heavy-duty transmission/hydraulic/wet brake and final drive where higher quality synthetic wide operating temperature performance is desired.	PRODURO TO-4* Synthetic All Season	<ul style="list-style-type: none"> • May eliminate seasonal change-outs (see operating temp ranges for further details) and provides wider operation temperature ranges to TO-4* 10W and TO-4* 30. • Extends drain intervals. *see footnote. • Designed to maximize durability and equipment protection in cold and hot temperatures. • Maximizes life of frictional materials in Caterpillar powershift transmissions. Eliminates brake chatter and protects drive train gears against wear. • Outstanding anti-wear protection for hydraulic pumps and transmission systems. • Energy efficiencies could be realized versus monogrades. 	<ul style="list-style-type: none"> • Suitable for use where Caterpillar TO-4 lubricant specifications (TDTO) are required. • Suitable for use where Allison C-4 for transmission (obsolete) and ZF Transmission TE-ML 03C requirements are called for. • API Gear Lubricant Service GL-3 (inactive), API Category CD (obsolete). • Suitable for use in KOMATSU equipment which require the micro-clutch performance. • Suitable for use in Komatsu's KES 07.868.1, Komatsu-Dresser, Dana Power Shift, Tremac and Euclid equipment that call for a TO-4 Fluid.
Suitable for use in a variety of construction, mining and heavy-duty transmission/hydraulic/wet brake and final drive where Arctic temperature conditions are experienced.	PRODURO TO-4* XL Synthetic Blend Lo Temp	<ul style="list-style-type: none"> • Extends component life through better lubricant protection. • Extends drain intervals. *see footnote. • Provides wider operating temperature ranges than TO-4* 10W and suitable for Arctic conditions down to -45°C/-49°F. • Maximizes life of frictional materials in Caterpillar powershift transmissions. Eliminates brake chatter and protects drive train gears against wear. • Outstanding anti-wear protection for hydraulic pumps and transmission systems. 	<ul style="list-style-type: none"> • Suitable for use where Caterpillar TO-4 lubricant specifications (TDTO) and Allison C-4 for transmission (obsolete) are required. • Suitable for use in KOMATSU equipment which require the micro-clutch performance. • Suitable for use in Komatsu's KES 07.868.1, Komatsu-Dresser, Dana Power Shift, Tremac and Euclid equipment that call for a TO-4 fluid. • API Gear Lubricant Service GL-3 (inactive), API Category CD (obsolete).
Suitable for use in a variety of construction, mining and heavy-duty transmission/hydraulic/wet brake and final drive where higher performing monogrades are desired.	PRODURO TO-4* 10W, 30, 50 and 60 viscosity grades	<ul style="list-style-type: none"> • Provides effective lubrication resulting in better protection. • Reliable performance over a wider range of temperatures than traditional TO-4 fluids. • Maximizes life of frictional materials in Caterpillar powershift transmissions. Eliminates brake chatter and protects drive train gears against wear. • Excellent anti-wear protection for hydraulic pumps and transmission systems. 	<ul style="list-style-type: none"> • Designed to meet Caterpillar TO-4 lubricant specification, Caterpillar TO-2 (obsolete), API gear Lubricant Service GL-3 (inactive), Allison C-4 for transmission (obsolete), API category CD (obsolete) and Eaton/Vickers (M-2950/I-280-S) (obsolete). • Suitable for use where ZF Transmission TE-ML 03C (10W and 30 viscosity grades) and TE-ML 07F (30 grade only) fluid requirements are called for. • Suitable for use in Komatsu's KES 07.868.1, Komatsu-Dresser, Dana Power Shift, Tremac, and Euclid equipment that call for a TO-4 fluid. • Suitable for use in KOMATSU equipment which require the micro-clutch performance. • Suitable for use in Eaton manual transmissions under standard drain category as quoted in Eaton TCM T0021EN-US (30, 50, and 60 viscosity grades).
Suitable for use in a variety of construction, mining and heavy-duty equipment final drives and axles where higher performing monogrades and longer gear and bearing life are desired.	PRODURO FD-1 60	<ul style="list-style-type: none"> • Provides improved gear and bearing life in final drives and axles. • Extends drain intervals — allows a drain interval of up to 4,000 hours for off-highway trucks final drive and rear axles compared with a 2,000-hour drain interval typically recommended for TO-4 fluids*. Not for use in compartments containing friction material unless an FD-1 type product is specified. • Improves extreme-pressure (EP) performance compared to TO-4 fluids. NOT for use in engines, transmissions, hydraulics, or wet brakes. NOT for use in older designed Caterpillar final drives (789 series haul trucks). 	<ul style="list-style-type: none"> • Designed to meet Caterpillar FD-1 lubricant specifications for Caterpillar final drives and axles.
Suitable for use in a variety of construction, mining and heavy-duty equipment final drives and axles where a higher quality synthetic oil and wide operating temperature performance is desired.	PRODURO FD-1 Synthetic	<ul style="list-style-type: none"> • Protects gears and bearings against wear in severe duty applications. • Provides improved gear and bearing life in final drives and axles. • Improves extreme-pressure (EP) performance compared to TO-4 fluids. • Enhanced low-temperature performance compared to conventional CAT final drive and axle fluids. • Extends drain intervals — allows a drain interval of up to 6,000 hours for off-highway trucks final drive and rear axles compared with a 2,000-hour drain interval typically recommended for TO-4 fluids*. Not for use in compartments containing friction material unless an FD-1-type product is specified. Not for use in engines, transmissions, hydraulics, or wet brakes. Not for use in older designed Caterpillar final drives (789 series haul trucks). 	<ul style="list-style-type: none"> • Meets the performance attributes of the Caterpillar FD-1 lubricant specification for Caterpillar final drives and axles with added benefits of low temperature performance.

*Any drain interval extension beyond Caterpillar recommendations must be accompanied by an oil analysis program.

SMALL ENGINE OIL

PERFORMANCE BENEFITS

- Petro-Canada Lubricants' small engine oil is designed to give excellent performance in air-cooled 2-stroke cycle engines operating under all conditions.
- Contains high performance additives, which give excellent anti-scuff and anti-wear performance to ensure reliability, internal cleanliness and long engine life.
- The additive system used produces minimal spark plug, ring, piston and valve deposits allowing for good starting and continued efficient engine operation.

SMALL ENGINE OIL

Application	Product	Performance Features	Credentials/Identification
Two-Stroke Engines	SUPREME™ Synthetic Blend 2-Stroke Small Engine Oil	<ul style="list-style-type: none"> • For both oil-injected and pre-mixed gasoline/oil lubricated engines. • Controls deposit formation/ring-sticking. • Minimizes spark plug fouling and engine pre-ignition. • Provides excellent protection against rust and corrosion. • Mixes easily with gasoline and pumps down to -40°C/-40°F. • Very low smoke emissions and low ash levels. 	<ul style="list-style-type: none"> • Dyed blue-green for easy detection of gasoline/oil mixtures. • Certified against JASO FC. • Meets the requirements of ISO-L-EGC and API TC. • SAE Fluidity/Miscibility (F/M) Grade 4. • Recommended for use in motorcycles, mopeds, snowmobiles, chain saws, generators, lawn mowers, weed trimmers and other landscaping equipment. • Suitable for use in air-cooled applications where API TC quality oils are recommended such as Husqvarna, STIHL, Poulan, Weedeater, Lawn-Boy, Tecumseh, Toro, Ryobi, Briggs & Stratton and Yamaha. • For air-cooled and some liquid cooled snowmobiles where API TC quality oils are recommended, such as Bombardier, Arctic Cat, Polaris and Yamaha. Check your OEM manual for suitability.

CHAIN, PAPER
MACHINE AND
SAW GUIDE OILS.
**START PURE.
FINISH STRONG.**

Petro-Canada Lubricants provides a complete line of oils for your chain, paper machine and saw guide needs.

Visit lubricants.petro-canada.com to find out more.



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* The NMMA TC-W3 classification is registered by the National Marine Manufacturers Association.

CHAIN, PAPER MACHINE AND SAW GUIDE OILS

PERFORMANCE BENEFITS

- Petro-Canada Lubricants provides a complete line of oils for your chain, paper machine and saw guide needs.

CHAIN OILS

Application	Product	Performance Features
Chains, guide bars, journal bearings, sprockets and chain saws	DURATAC™ Chain Oil	<ul style="list-style-type: none"> • Economical, tacky. • Designed to reduce dripping and throw-off. • Can be used as a general purpose lubricant where oil control or tackiness is required. • Available in the following viscosity grades: 32 (dyed red), 68, 100, 150 (dyed red).
For use only in chain saws and timber harvester	Petro-Canada Bar and Chain Oils	<ul style="list-style-type: none"> • Contains LUBE-LOCK Technology designed for greater adherence/tackiness to bars and chains. • Available in 32 and 150 viscosity grades.

PAPER MACHINE OILS

Application	Product	Performance Features
Paper machine oil	SEPRO™ XL	<ul style="list-style-type: none"> • Long-lasting, zinc-free fluid that resists degradation, extends drain intervals and minimizes the need for change-outs. • Outstanding protection against wear for smooth and reliable operation, extended equipment life and reduced maintenance. • Excellent protection against rust and corrosion as well as good water separation and foaming resistance. • Available in ISO VG 150 and 220 and suitable for both dry and wet ends of paper machine circulating systems.
Paper machine oil	SEPRO PM	<ul style="list-style-type: none"> • Zinc-based fluid with excellent oxidative and thermal stability leading to longer oil life and extended drain interval. • Excellent anti-wear protection to reduce wear on loaded components. • Protects equipment longer for increased uptime and reliable operation. • Excellent resistance to foaming and excellent air release properties to provide a consistent lubrication film. • Available in the following viscosity grades: 150, 220.

SAW GUIDE OILS

Application	Product	Performance Features
Multi-blade, gang saws and edgers	PETROGLIDE™	<ul style="list-style-type: none"> • Less wash-off and better lubricity. • Greater recovery with excellent extreme pressure properties. • Pitch control additives and rust inhibitor keeps blades cleaner. • Free of heavy metals. • Reduces consumption of water and oil. • Less guide changes and less saw changes results in higher production. • Available in the following viscosity grades: 68, 100, 150.
Mist lubricated bandsaws	PETROGLIDE MC 32	<ul style="list-style-type: none"> • Lubricates without excessive spray mist to reduce oil usage. • Less wash-off resulting in reduced oil consumption. • Reduces friction. • Rust inhibitor and pitch control additive keeps blades cleaner. • Free of heavy metals. • Available in viscosity grade: 32.
Saw guides	PETROGLIDE ELV	<ul style="list-style-type: none"> • Helps to reduce saw guide deviation and improve on-spec board production. • Tested for multi-blade gang saws and edgers. • Anti-rust additive keeps blades cleaner helping to increase saw guide life and minimize wood losses. • Designed to emulsify with water for enhanced cooling efficiency.

PETRO-CANADA LUBRICANTS' GREASES HAVE **ALWAYS BEEN PIONEERS IN THE INDUSTRY.**

We understand that your equipment needs to perform on the surface or underground, in some of the world's toughest conditions. Our greases are formulated to deliver outstanding equipment protection under severe loads, over an extreme range of temperatures and environments.

Visit lubricants.petro-canada.com to find out more.



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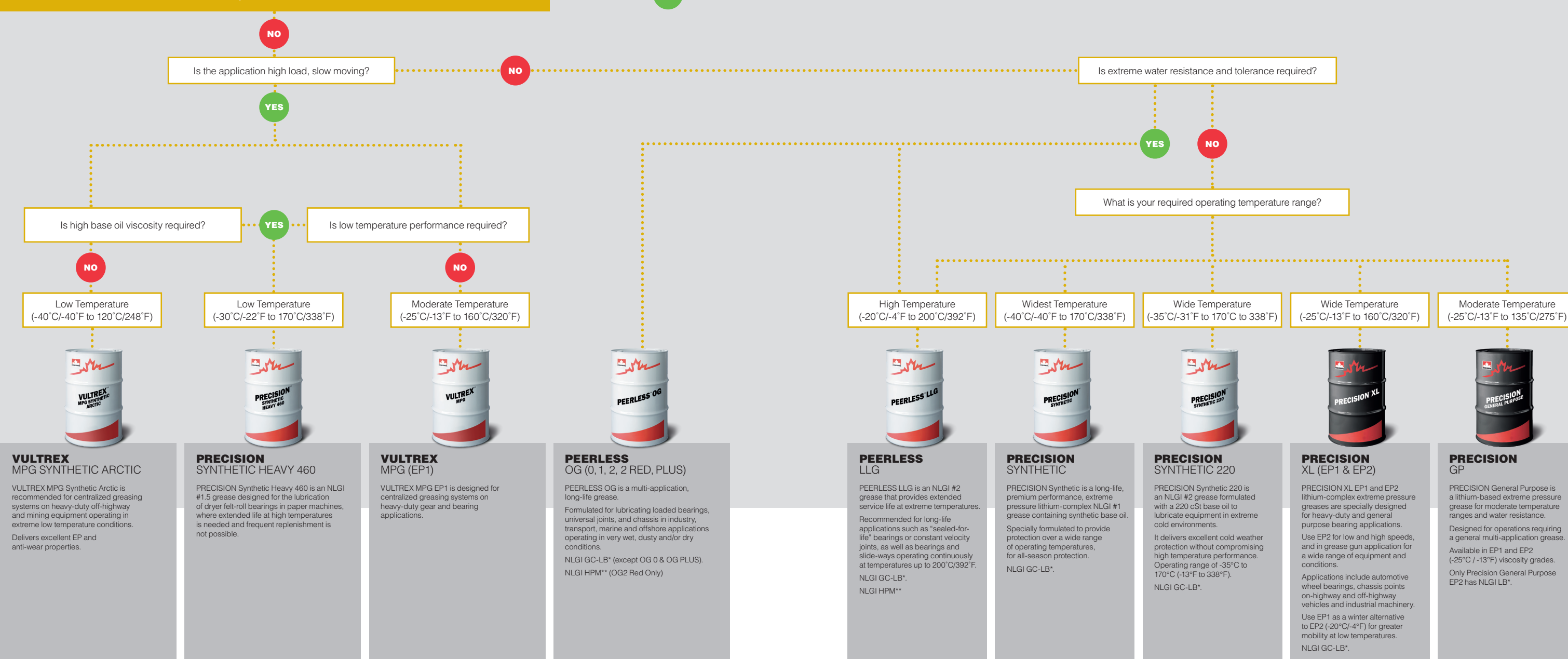
MULTI-APPLICATION GREASES

PERFORMANCE BENEFITS

- PRECISION™ Synthetic and XL greases can last up to 3 times longer in performance testing (ASTM D3527) than leading competitor brands, while providing advanced protection and helping to lower maintenance costs.
- PRECISION Synthetic greases deliver high performance in wide operating conditions for enhanced protection and savings.
- PRECISION XL greases are versatile, premium performance, long-life, lithium/lithium-complex greases.
- PRECISION XL Moly greases are lithium greases formulated with 3% and 5% molybdenum disulphide.
- PEERLESS LLG is a high-performance, calcium sulphonate complex grease, for high temperature, wet and very long-life applications.
- PEERLESS OG is formulated for the lubrication of loaded bearings, universal joints and chassis operating in very severe wet, dusty and/or dry conditions.
- VULTREX™ MPG grease provides excellent lubrication for off-road equipment in bearings or bushings subject to high pressures or heavy shock loading.
- VULTREX G-124 is a red tacky grease designed for visibility and to lubricate heavy-duty truck components such as wheel bearings, kingpins, and chassis points.
- VULTREX GEAR SHIELD®+ NC provides lubrication of open gear sets, including Autogenous, SAG, ball and rod mills.

DOES YOUR APPLICATION REQUIRE A GREASE FOR SHOCK LOADING?

See next page



VULTREX MPG SYNTHETIC ARCTIC
 VULTREX MPG Synthetic Arctic is recommended for centralized greasing systems on heavy-duty off-highway and mining equipment operating in extreme low temperature conditions. Delivers excellent EP and anti-wear properties.

PRECISION SYNTHETIC HEAVY 460
 PRECISION Synthetic Heavy 460 is an NLGI #1.5 grease designed for the lubrication of dryer felt-roll bearings in paper machines, where extended life at high temperatures is needed and frequent replenishment is not possible.

VULTREX MPG (EP1)
 VULTREX MPG EP1 is designed for centralized greasing systems on heavy-duty gear and bearing applications.

PEERLESS OG (0, 1, 2, 2 RED, PLUS)
 PEERLESS OG is a multi-application, long-life grease. Formulated for lubricating loaded bearings, universal joints, and chassis in industry, transport, marine and offshore applications operating in very wet, dusty and/or dry conditions. NLGI GC-LB* (except OG 0 & OG PLUS). NLGI HPM** (OG2 Red Only).

PEERLESS LLG
 PEERLESS LLG is an NLGI #2 grease that provides extended service life at extreme temperatures. Recommended for long-life applications such as "sealed-for-life" bearings or constant velocity joints, as well as bearings and slide-ways operating continuously at temperatures up to 200°C/392°F. NLGI GC-LB*. NLGI HPM**.

PRECISION SYNTHETIC
 PRECISION Synthetic is a long-life, premium performance, extreme pressure lithium-complex NLGI #1 grease containing synthetic base oil. Specially formulated to provide protection over a wide range of operating temperatures, for all-season protection. NLGI GC-LB*.

PRECISION SYNTHETIC 220
 PRECISION Synthetic 220 is an NLGI #2 grease formulated with a 220 cSt base oil to lubricate equipment in extreme cold environments. It delivers excellent cold weather protection without compromising high temperature performance. Operating range of -35°C to 170°C (-13°F to 338°F). NLGI GC-LB*.

PRECISION XL (EP1 & EP2)
 PRECISION XL EP1 and EP2 lithium-complex extreme pressure greases are specially designed for heavy-duty and general purpose bearing applications. Use EP2 for low and high speeds, and in grease gun application for a wide range of equipment and conditions. Applications include automotive wheel bearings, chassis points on-highway and off-highway vehicles and industrial machinery. Use EP1 as a winter alternative to EP2 (-20°C/-4°F) for greater mobility at low temperatures. NLGI GC-LB*.

PRECISION GP
 PRECISION General Purpose is a lithium-based extreme pressure grease for moderate temperature ranges and water resistance. Designed for operations requiring a general multi-application grease. Available in EP1 and EP2 (-25°C/-13°F) viscosity grades. Only Precision General Purpose EP2 has NLGI LB*.

* These greases meet the NLGI Automotive Service Classification GC-LB for wheel bearing and chassis lubrication.

** These Greases have earned the NLGI High-Performance Multiuse (HPM) Core grease certification.

* These greases meet the NLGI Automotive Service Classification GC-LB for wheel bearing and chassis lubrication.

** These Greases have earned the NLGI High-Performance Multiuse (HPM) Core grease certification.

Note: Temperature ranges listed are *operating temperatures.*

Do you have a 5% Moly requirement?

YES

NO

What is your required operating temperature range?

Widest Temperature
(-40°C/-40°F to 170°C/338°F)
and hardy shock-loading capacity

Wide Temperature
(-25°C/-13°F to 135°C/275°F)
and hardest shock-loading capacity

Wide Temperature
(-30°C/-22°F to 135°C/275°F)
and hardest shock-loading capacity



**PRECISION
SYNTHETIC MOLY**

PRECISION Synthetic Moly is an NLGI #1 grease compounded with 3% molybdenum disulphide.
Formulated to provide excellent protection over a wide range of operating temperatures.
Outstanding cold weather performance.
Excellent high temperature lubrication.



**PRECISION
XL 3 MOLY**

PRECISION XL 3 Moly greases are lithium-based greases compounded with 3% molybdenum disulphide.
Suited for tough, heavy-duty shock loaded equipment in industrial and off-highway applications.
Suitable for truck fifth wheels, chassis, kingpins and linkages.
Medium to high viscosity grease.
Arctic (NLGI #1): -45°C/-49°F to 135°C/275°F
EP1: -25°C/-13°F to 135°C/275°F
EP2: -15°C/5°F to 135°C/275°F
EP1 and EP2 viscosity grades are on the Certified Lubricants Listing for the Caterpillar Global Mining (formerly Bucyrus International) SD 4711 specification.



**PRECISION
XL 5 MOLY**

PRECISION XL 5 Moly greases are compounded with 5% molybdenum disulphide.
Designed to meet Caterpillar lubricant specifications for their 5130 (7TJ & 5ZL), 5230 (7LL) model Mining Excavators and 994 (9YF) model Wheel Loaders.
Medium viscosity grease.
EP0: -50°C/-58°F to 120°C/248°F
EP1: -30°C/-22°F to 135°C/275°F
EP2: -25°C/-13°F to 135°C/275°F
EP0 is on the Certified Lubricants Listing for the Caterpillar Global Mining (formerly Bucyrus International) SD 4711 specification.

Note: Temperature ranges listed are *operating temperatures.*

GET YOUR GREASES RIGHT. KEEP YOUR BUSINESS MOVING.

Whatever industry you're in, we'll deliver on our promises. We've got a comprehensive line-up that's proven to give outstanding results – even in the most extreme environments. You'll get **better reliability, less maintenance and more profits.**



LUBRICANTS

AN HF SINCLAIR BRAND



MINING GREASES

PERFORMANCE BENEFITS

- VULTREX™ OGL is perfect for large, heavy-duty, open and enclosed gear drives, as well as bearings and exposed sliding surfaces – commonly found in open pit mining.
- VULTREX MPG and G-124 greases provide excellent lubrication for off-road equipment, resulting in outstanding service life and longer equipment protection.
- VULTREX GEAR SHIELD⁺® NC provides lubrication of open gear sets, including Autogenous, SAG, ball and rod mills.

- PRECISION™ greases can last up to 3 times longer in performance tests (according to standard test method for Life Performance of Automotive Wheel Bearing Grease ASTM D3527) than leading competitor brands, while providing advanced protection and helping to lower maintenance costs.
- PRECISION XL EP1 and EP2 greases are versatile, premium performance, long-life, lithium-complex greases.

¹® Gear Shield is a registered trademark of Petron® Corp.; Petro-Canada Lubricants is a registered user.

DO YOU REQUIRE A GREASE FOR AN OPEN GEAR APPLICATION? **YES**

See next page

NO DOES YOUR APPLICATION REQUIRE A GREASE FOR HEAVY LOADING OR SHOCK LOADING? **YES**

Do you have a 5% Moly requirement? **YES**

NO

Is the application high load, slow moving? **NO**

What is your required operating temperature range? **NO**

What is your required operating temperature range? **NO**

YES

Is low temperature performance required? **YES**

Is high base oil viscosity required? **NO**

NO

Low Temperature
(-40°C/-40°F to 12°C/24°F)

Low Temperature
(-30°C/-22°F to 170°C/338°F)

Moderate Temperature
(-25°C/-13°F to 160°C/320°F)

Widest Temperature
(-40°C/-40°F to 170°C/338°F)

Wide Temperature
(-25°C/-13°F to 160°C/320°F)

Moderate Temperature
(-25°C/-13°F to 135°C/275°F)

Widest Temperature
(-40°C/-40°F to 170°C/338°F)

Wide Temperature
(-25°C/-13°F to 135°C/275°F)



VULTRIX MPG SYNTHETIC ARCTIC

VULTRIX MPG Synthetic Arctic is recommended for centralized greasing systems on heavy-duty off-highway and mining equipment, operating in extreme low temperature conditions. Delivers excellent EP and anti-wear properties.

PRECISION SYNTHETIC HEAVY 460

PRECISION Synthetic Heavy 460 is an NLGI #1.5 grade grease designed for bearings operating at low to moderate speeds, heavy loads and high temperatures; conditions encountered in steel mills, paper machine dry ends, mining, construction and forestry applications.

VULTRIX MPG (EP1)

VULTRIX MPG EP1 is designed for centralized greasing systems on heavy-duty gear and bearing applications.

PRECISION SYNTHETIC

PRECISION Synthetic is a long-life, premium performance, extreme pressure lithium-complex NLGI #1 grease containing synthetic base oil. Specially formulated to provide protection over a wide range of operating temperatures, for all-season protection. NLGI GC-LB*.

PRECISION XL (EP1 & EP2)

PRECISION XL EP1 and EP2 lithium-complex extreme pressure greases are designed for heavy-duty and general purpose bearing applications. Use EP2 for low and high speeds, and in grease gun application for a wide range of equipment and conditions. Applications include automotive wheel bearings, chassis points on-highway and off-highway vehicles and industrial machinery, such as mining, mills and crushers. Use EP1 as a winter alternative to EP2 (-20°C/-4°F) for greater mobility at low temperatures. NLGI GC-LB*.

PRECISION GP

PRECISION GP is a lithium-based extreme pressure grease for moderate temperature ranges and water resistance. Designed for operations requiring a general multi-application grease. Available in EP1 and EP2 (-25°C/-13°F) viscosity grades.

PRECISION SYNTHETIC MOLY

PRECISION Synthetic Moly is an NLGI #1 grease compounded with 3% molybdenum disulphide. Formulated to provide excellent protection over a wide range of operating temperatures. Outstanding cold weather performance. Excellent high temperature lubrication.

PRECISION XL 3 MOLY

PRECISION XL 3 Moly greases are lithium-based greases compounded with 3% molybdenum disulphide. Suited for tough, heavy-duty shock loaded equipment in industrial and off-highway applications. Suitable for truck fifth wheels, chassis, kingpins and linkages. Medium to high viscosity grease. Arctic (NLGI #1): -45°C/-49°F to 135°C/275°F EP1: -25°C/-13°F to 135°C/275°F EP2: -15°C/5°F to 135°C/275°F EP1 and EP2 viscosity grades are on the Certified Lubricants Listing for the Caterpillar Global Mining (formerly Bucyrus International) SD 4711 specification.

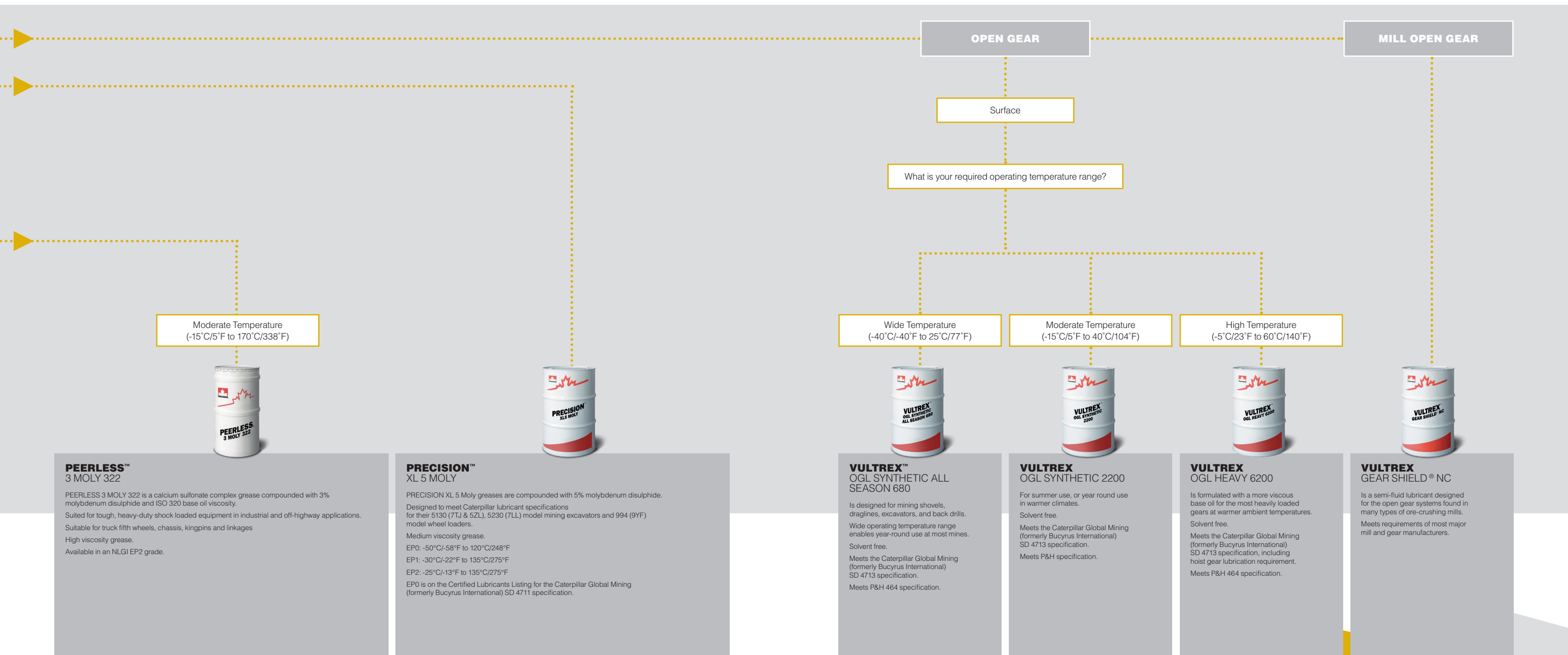


* These greases meet the NLGI Automotive Service Classification GC-LB for wheel bearing and chassis lubrication.



* These greases meet the NLGI Automotive Service Classification GC-LB for wheel bearing and chassis lubrication.

Note: Temperature ranges listed are *operating temperatures.*



**PEERLESS™
3 MOLY 322**

PEERLESS 3 MOLY 322 is a calcium sulfonate complex grease compounded with 3% molybdenum disulphide and ISO 320 base oil viscosity.

Suited for tough, heavy-duty shock loaded equipment in industrial and off-highway applications.

Suitable for truck fifth wheels, chassis, kingpins and linkages

High viscosity grease.

Available in an NLGI EP2 grade.

**PRECISION™
XL 5 MOLY**

PRECISION XL 5 Moly greases are compounded with 5% molybdenum disulphide.

Designed to meet Caterpillar lubricant specifications for their 5130 (7TJ & 5ZL), 5230 (7LL) model mining excavators and 994 (9YF) model wheel loaders.

Medium viscosity grease.

EP0: -50°C/-58°F to 120°C/248°F
 EP1: -30°C/-22°F to 135°C/275°F
 EP2: -25°C/-13°F to 135°C/275°F

EP0 is on the Certified Lubricants Listing for the Caterpillar Global Mining (formerly Bucyrus International) SD 4711 specification.

**VULTREX™
OGL SYNTHETIC ALL SEASON 680**

Is designed for mining shovels, draglines, excavators, and back drills.

Wide operating temperature range enables year-round use at most mines.

Solvent free.

Meets the Caterpillar Global Mining (formerly Bucyrus International) SD 4713 specification.

Meets P&H 464 specification.

**VULTREX™
OGL SYNTHETIC 2200**

For summer use, or year round use in warmer climates.

Solvent free.

Meets the Caterpillar Global Mining (formerly Bucyrus International) SD 4713 specification.

Meets P&H specification.

**VULTREX™
OGL HEAVY 6200**

Is formulated with a more viscous base oil for the most heavily loaded gears at warmer ambient temperatures.

Solvent free.

Meets the Caterpillar Global Mining (formerly Bucyrus International) SD 4713 specification, including hoist gear lubrication requirement.

Meets P&H 464 specification.

**VULTREX™
GEAR SHIELD® NC**

Is a semi-fluid lubricant designed for the open gear systems found in many types of ore-crushing mills.

Meets requirements of most major mill and gear manufacturers.

Note: Temperature ranges listed are *operating temperatures.*

SPECIALTY GREASES

ROCK DRILL FLUIDS + DRILLING GREASES

Application	Product	Color	Performance Features	Operating Temperature
Air-operated rock drills	VULTREX Rock Drill EP000		<ul style="list-style-type: none"> Lithium semi-fluid grease specially formulated for mist-free operation when used to lubricate air-operated rock drills and similar mining equipment. Reduces lubricant consumption and increases drill torque compared to rock drill oil. Meets the requirements of rock drill manufacturers such as Ingersoll-Rand, Joy, Parts Headquarters and other manufacturers. 	-20°C/4°F to 100°C/212°F
Diamond drill rods	VULTREX Drill Rod Heavy Grease		<ul style="list-style-type: none"> Barium-complex grease recommended for use on diamond drill rods where it reduces friction between the rod and rock strata. Outstanding grease tenacity enables successful lubrication to more than 2,000 foot drill depths without wash-off or wipe-off. 	-12°C/10°F to 135°C/275°F

Application	Product	Performance Features
Air-operated rock drills	ARDEE™ Rock Drill Oils	<ul style="list-style-type: none"> Ideal for use in equipment running at high air flow rates and high piston temperatures. Designed for low and high temperature conditions. Meets or surpasses major equipment manufacturers' specifications. ISO VG 32 is used for winter conditions. ISO VG 32 is recommended for use in plant air-line lubricators, especially where the air is water laden. ISO VG 46 is an all-season solution for the drilling industry designed to consolidate inventory and provide protection year round. ISO VG 68, 100 and 150 are used in underground mining operations to reduce oil consumption and misting. ISO VG 150 is recommended for Secan drills and in mining operations trying to reduce oil consumption and misting. ISO VG 220 is used in summer in large bore drills (greater than 10 cm/4 inch) in surface mines.

SPECIALTY GREASES FOR HIGH TEMPERATURES

Application	Product	Color	Performance Features	Operating Temperature
Rail curves	PRECISION XL RAIL CURVE		<ul style="list-style-type: none"> Rail curve grease is a water-resistant, graphite grease suitable for all-season use in mechanical applicators of trackside lubrication systems (Portec, Lincoln) as well as on-board lubrication systems, such as the Clicomatic system. 	-45°C/-49°F to 120°C/248°F

PERFORMANCE BENEFITS

- PRECISION™ greases can last up to 3 times longer in performance tests (according to standard test method for Life Performance of Automotive Wheel Bearing Grease ASTM D3527) than leading competitor brands, while providing advanced protection and helping to lower maintenance costs.
- PEERLESS™ is formulated for the lubrication of loaded bearings, universal joints and chassis operating in very severe wet, dusty and/or dry conditions.
- VULTREX™ MPG and G-124 greases provide excellent lubrication for off-road equipment, resulting in outstanding service life and longer equipment protection.
- VULTREX ROCK DRILL EP000 is designed for mist-free lubrication of rock drills and in-line pneumatic systems.
- VULTREX DRILL ROD HEAVY is specially designed for use on diamond drill rods to reduce friction between the rod and rock strata.

GENERAL MANUFACTURING

Application	Product	Color	Performance Features	Operating Temperature
Dryer felt-roll bearings in paper mills	PRECISION SYNTHETIC HEAVY 460		<ul style="list-style-type: none"> Synthetic high temperature long-life EP lithium-complex grease is specially formulated for dryer felt-roll bearings in paper machines. 	-30°C/-22°F to 170°C/338°F
Electric motor bearings	PRECISION SYNTHETIC EMB		<ul style="list-style-type: none"> Recommended for electric motor applications that are exposed to wider temperature range. 	-40°C/-40°F to 170°C/338°F
	PEERLESS POLY EMB		<ul style="list-style-type: none"> Premium performance, long life multi-application polyurea grease formulated to reduce operating costs and provide long service protection over a wide range of operating temperatures. 	-25°C/-13°F to 163°C/325°F
	PEERLESS LLG		<ul style="list-style-type: none"> Calcium Sulfonate Complex grease for high temperatures and long life applications. 	-20°C/-4°F to 200°C/392°F
High-speed flexible couplings	PEERLESS XCG FLEX		<ul style="list-style-type: none"> An ideal choice for use in high-speed flexible couplings, where severe centrifugal forces are generated. Meets AGMA coupling grease specifications CG-1 and CG-2. 	-20°C/-4°F to 163°C/325°F
Internal parts of valves used in natural gas plants	PEERLESS SVG 102		<ul style="list-style-type: none"> Specially formulated for the lubrication of internal parts of valves employed in the production and distribution of sour gas in natural gas plants 	-35°C/-31°F to 163°C/325°F
Poorly sealed enclosed gearboxes	PRECISION XL EP000		<ul style="list-style-type: none"> Formulated for poorly sealed enclosed gearboxes, e.g. continuous miner. 	-25°C/-13°F to 100°C/212°F
On-board lubrication systems	PRECISION XL EP00		<ul style="list-style-type: none"> Semi-fluid lithium grease designed for on-board lubrication systems. Handles auto-greasing points on a truck. 	-35°C/-31°F to 100°C/212°F
Tough, heavy-duty shock loaded equipment in industrial and off-highway applications.	PEERLESS 3 MOLY 322		<ul style="list-style-type: none"> Calcium sulphonate complex grease with 3% molybdenum disulphide that is specifically formatted for truck fifth wheels, chassis and kingpins. 	-15°C/5°F to 170°C/338°F
Internal parts of valves used in natural gas plants	PEERLESS SVG 102		<ul style="list-style-type: none"> Specially formulated for the lubrication of internal parts of valves employed in the production and distribution of sour gas in natural gas plants. 	-35°C/-31°F to 163°C/325°F

TRUCKS/AUTOMOTIVE

Application	Product	Color	Performance Features	Operating Temperature
Trailer end hub axle bearings	PRECISION SYNTHETIC EP00		<ul style="list-style-type: none"> Specially formulated for rear end assemblies on trailers. 	-40°C/-40°F to 170°C/338°F
Heavy-duty truck components	VULTREX G-124		<ul style="list-style-type: none"> Is a red tacky greases designed to lubricate heavy-duty truck components, such as wheel bearings, bushings, kingpins and chassis points found on vehicles operated by the mining, forestry and transportation industries. 	-20°C/-4°F to 160°C/320°F

A PRODUCT FOR EVERY NEED.

Helping you extend maintenance intervals, prolong the life of your equipment and simplify your lubricant requirements. Because more uptime means more profitability.

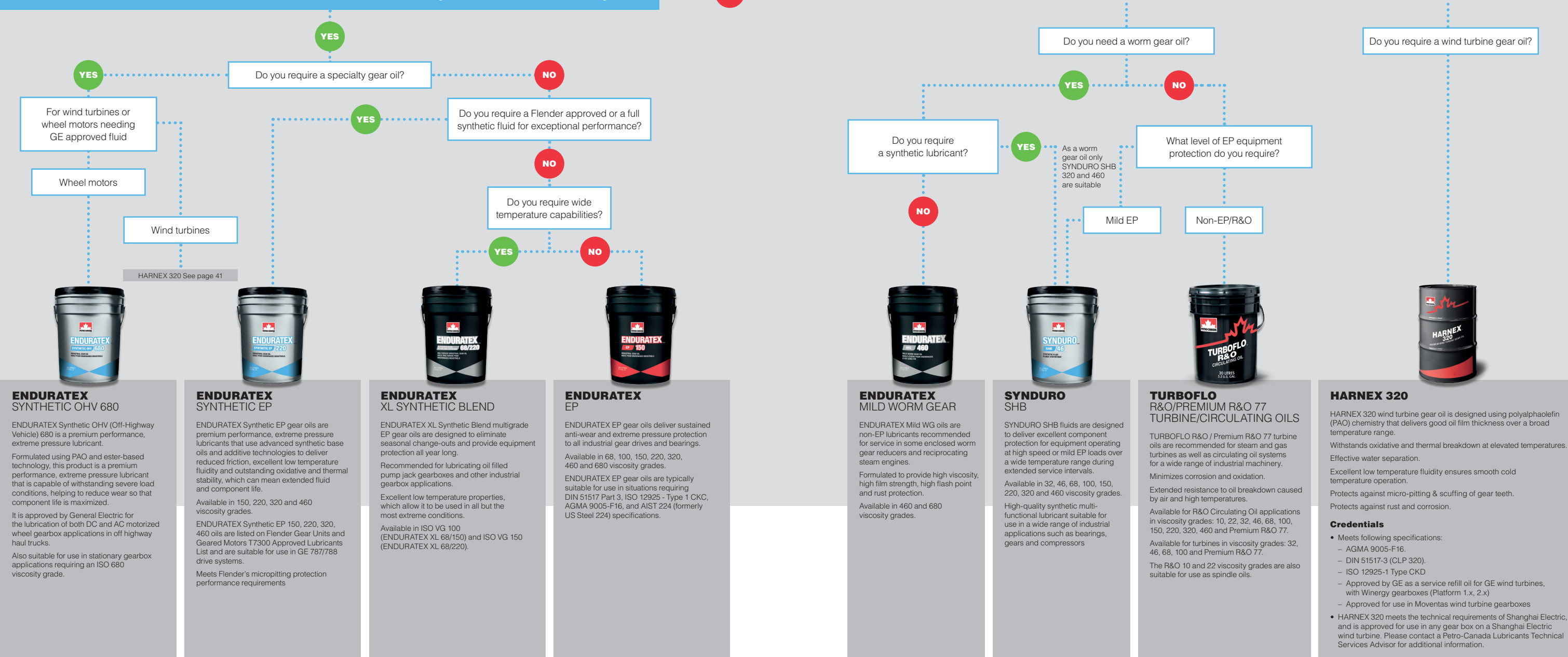
Visit lubricants.petro-canada.com to find out more.



AN HF SINCLAIR BRAND

INDUSTRIAL GEAR OILS

DOES THE OEM SPECIFICATION RECOMMEND A FULL EP (EXTREME PRESSURE) OIL?



PERFORMANCE BENEFITS

- SYNDURO™ SHB family of synthetic multifunctional fluids is formulated for lubricating air compressors, gears and bearings operating under mild EP loads over wide temperature ranges.
- TURBOFLO™ R&O oils are high quality lubricants designed for use in steam and hydro turbines, as well as circulating oil systems in a wide range of industrial machinery.
- ENDURATEX™ Synthetic EP gear oils are fully synthetic and specifically designed for enclosed gearboxes operating under very demanding conditions in wide temperature extremes.
- ENDURATEX EP gear oils are high quality, extreme pressure lubricants designed for use in enclosed industrial gear drives operating under normal, heavy or shock loading conditions.
- ENDURATEX OHV (Off-Highway Vehicle) 680 is a premium synthetic extreme pressure lubricant. It is designed to work in demanding temperature conditions and maintain exceptional lubricant film strength.
- HARNEX™ 320 is a premium synthetic wind turbine gear oil designed to provide exceptional anti-wear/EP protection and corrosion control.

INDUSTRIAL HYDRAULIC FLUIDS

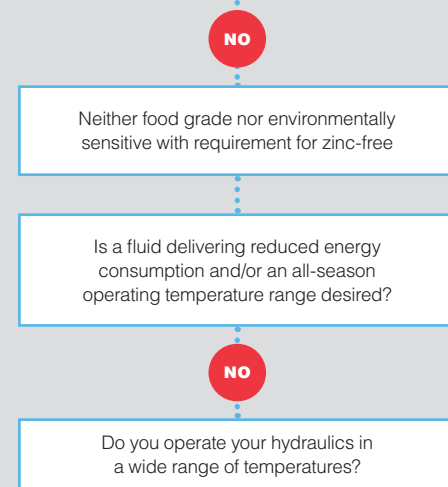
Although ENVIRON™ products are biodegradable it doesn't mean they can be used in food grade areas. They are not NSF H1 products.

PERFORMANCE BENEFITS

- HYDREX™ AW are premium performance, long-life anti-wear hydraulic fluids.
- HYDREX MV fluids are designed for use in wide temperature ranges.
- HYDREX XV All Season is recommended for year-round use in equipment that must perform in both low and high temperature ranges. Potential energy efficiencies could be realized with this product versus monograde products.
- ENVIRON AW monograde hydraulic fluids are designed for use in equipment used primarily in environmentally sensitive areas.

- ENVIRON MV multigrade fluids are inherently biodegradable, designed for year-round use in equipment operating in wide temperature ranges.
- ENVIRON MV R multigrade fluids are readily biodegradable, designed for year-round use in both mobile and stationary hydraulic systems operating in wide temperature ranges, particularly in environmentally sensitive areas.
- Please refer to the Tech Data sheets for a complete listing of the OEM approvals for HYDREX and ENVIRON.

ARE THE HYDRAULICS USED IN AN ENVIRONMENTALLY SENSITIVE OR FOOD GRADE AREA?



HYDREX AW

HYDREX AW is recommended for heavy-duty hydraulic applications requiring outstanding wear protection. HYDREX AW fluids have both excellent thermal stability and oxidation life, which could extend intervals between change-outs and offer excellent protection against corrosion and varnish.

Available in viscosity grades 22, 32, 46, 68, 80 and 100.



HYDREX MV

HYDREX MV is recommended for heavy-duty hydraulic applications operating at high pressures and in wide temperature range conditions. HYDREX MV fluids are ideally suited for piston gear and vane hydraulic pumps used in industrial, marine, woodlands, mining and other mobile hydraulic systems.

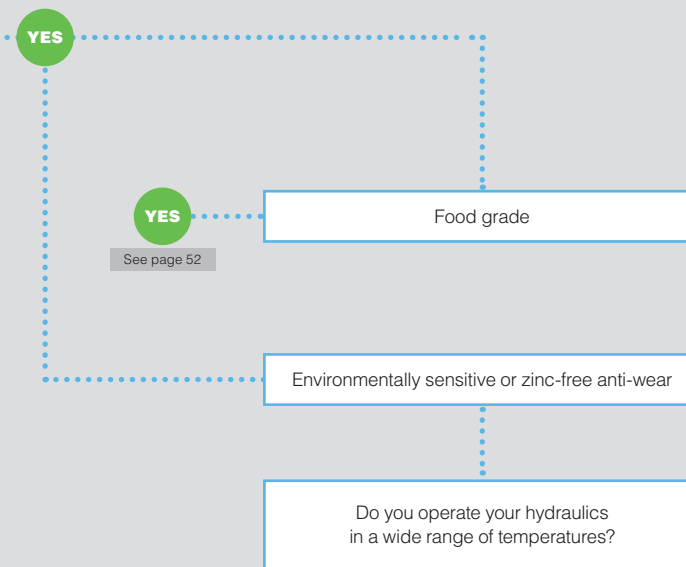
These fluids offer minimal fluid friction at low start-up temperatures and maintain optimum viscosity and excellent protection at high operating temperatures. Available in viscosity grades 22, 32, 46 and 68. Energy efficiencies could be realized.



HYDREX XV ALL SEASON

HYDREX XV All Season is recommended for year-round use in equipment that has to be started at temperatures as low as -34°C (-29°F) and it will continue to perform well at operating temperatures as high as 90°C (194°F).

HYDREX XV All Season performs exceedingly well in a wide range of industrial machinery and mobile equipment used in such industries as forestry, construction, mining, public utility and marine operations. Energy efficiencies could be realized.



ENVIRON AW

ENVIRON AW is ashless (free of zinc and other heavy metals), non-toxic, inherently biodegradable (according to OECD 301B test protocols) and recyclable.

It is designed to provide outstanding anti-wear protection to extend equipment life. Exceptional oxidation stability provides long oil life for fewer change-outs and minimizes sludge and varnish deposits. Available in viscosity grades 32, 46 and 68.



ENVIRON MV

ENVIRON MV is ashless (free of zinc and other heavy metals), non-toxic, inherently biodegradable (according to OECD 301B test protocol) and recyclable.

It is formulated to provide outstanding anti-wear protection for extended equipment life in both indoor and outdoor seasonal use. Exceptional oxidation stability provides long oil life for fewer change-outs and minimizes sludge and varnish deposits. Energy efficiencies could be realized. Available in viscosity grades 32 and 46.



ENVIRON MV R

ENVIRON MV R is ashless (free of zinc and other heavy metals), non-toxic, readily biodegradable (according to OECD 301B test protocols) and recyclable.

- It is formulated to provide outstanding anti-wear protection for extended equipment life in both indoor and outdoor seasonal use.
- Exceptional oxidation stability provides long oil life for fewer change-outs and minimizes sludge and varnish deposits.
- Energy efficiencies could be realized.

Available in viscosity grades 32 and 46.

OTHER PRODUCTS

Specialty Hydraulics	Application
HYDREX Extreme	<ul style="list-style-type: none"> • Designed for extremely wide temperature protection for high and severe low temperatures. For industrial machinery, the recommended operating temperature range is -35°C/-31°F to 60°C/140°F. • Oxidation stability helps extend drains and reduces sludge build-up and varnish deposits. • It is ashless (free of zinc and other heavy metals) and inherently biodegradable according to OECD 301B test protocol and recommended for vane, gear and axial piston hydraulic pumps used in marine, forestry, mining and other hydraulic systems. • HYDREX Extreme is suitable for use in Liebherr Cranes.
HYDREX MV Arctic 15	<ul style="list-style-type: none"> • Premium, high performance fluid designed for extremely cold temperature operations. • Readily biodegradable according to OECD 301B test protocol and recommended for use in arctic climates, allowing hydraulic systems to start at temperatures as low as -50°C/-58°F under no load conditions.
HYDREX DT 46	<ul style="list-style-type: none"> • Special anti-wear detergent/dispersant hydraulic fluid which provides thermal and oxidation stability similar to HYDREX AW. • For use in systems prone to contamination.

TURBINE FLUIDS & WIND TURBINE GEAR OIL

TURBINE FLUIDS

PERFORMANCE BENEFITS

- The TURBOFLO™ line of turbine and R&O fluids deliver excellent lubrication and cooling to steam, hydraulic and gas turbines and perform well as general purpose circulating oils in various industrial applications. They all exhibit excellent thermal and oxidative stability as well as excellent air and water separability.

Is your equipment a heavy-duty steam, hydraulic or gas turbine?

Does your heavy-duty turbine have a common gear and bearing lubrication system?

YES

NO



TURBOFLO HTS

TURBOFLO HTS 46 is designed to exceed the service requirements of steam and gas turbines in the most rigorous operating environments. It also exceeds stringent oxidative and thermal resistance requirements of OEMs for turbine oils. Exceptional thermal stability results in extremely low amount of deposits with no tendency to form film compared to three top MAN-ES approved competitors. With a Rotating Pressure Vessel Oxidation Test (RPVOT) result of more than 2,000 minutes, TURBOFLO HTS is proven to have excellent oxidation resistance. Strong protection against wear and scuffing to ensure longer component life and lower maintenance costs. Available in viscosity grade 46.

Credentials

- TURBOFLO HTS 46 is approved by MAN Energy Solutions for MAN Energy Solutions TED 10000494596.
- TURBOFLO EP fluids are suitable for use in steam and gas turbines requiring the following major manufacturer and industry specifications:
 - GEK 32568k, GEK 101941a, GEK 46506e
 - GE HTGD 90117
 - Siemens TLV 9013 04 and TLV 9013 05 (EP)
 - Solar ES 9-224
 - JIS K 2213 Type 2
 - Ansaldo Energia AD00020487 and TGO2-0171-E00000/J (EP)
 - ASTM Type I, II, and III (EP)
 - DIN 51515 Part 1 and 2

TURBOFLO EP

TURBOFLO EP is a premium turbine fluid designed to provide exceptional wear protection of geared heavy-duty turbines with common gear and bearing lubrication systems. Its outstanding thermal and oxidative stability also makes it an excellent choice for severe service gas and steam turbine applications. Excellent oxidation stability provides extended drain capabilities even in extreme conditions. Single fluid for steam and gas turbines in both geared and non-geared applications. Available in viscosity grades: 32 and 46.

Credentials

- TURBOFLO EP fluids are suitable for use in steam and gas turbines requiring the following major manufacturer and industry specifications:
 - GEK 32568k, GEK 101941a, GEK 46506e
 - GE HTGD 90117
 - Siemens TLV 9013 04 and TLV 9013 05 (EP)
 - Solar ES 9-224
 - JIS K 2213 Type 2
 - Ansaldo Energia AD00020487 and TGO2-0171-E00000/J (EP)
 - ASTM Type I, II, and III (EP)
 - DIN 51515 Part 1 and 2

TURBOFLO XL

TURBOFLO XL is a premium turbine fluid designed to lubricate and cool heavy-duty steam, hydraulic and gas turbines and deliver excellent lubrication to bearings operating in severe conditions. Excellent oxidation and thermal stability provides extended drain capabilities even in extreme conditions. Extremely rapid air and gas separation. Exceptional resistance to fluid breakdown caused by air and high temperatures. Available in viscosity grades: 32, 46 and 68.

Credentials

- TURBOFLO XL fluids are suitable for use in steam and gas turbines requiring the following manufacturer and industry specifications:
 - GEK 32568k and GEK 46506e
 - GE HTGD 90117
 - Siemens TLV 9013 04 and TLV 9013 05 (non EP)
 - Solar ES 9-224
 - JIS K 2213 Type 2
 - Ansaldo Energia AD00020487 and TGO2-0171-E00000/J
 - ASTM Type I and III
 - DIN 51515 Part 1 and 2

TURBOFLO LV

TURBOFLO LV is designed to lubricate and cool steam, gas and combined-cycle turbines and deliver excellent lubrication to bearings operating in severe conditions. Industry leading resistance to varnish and sludge formation which will contribute to optimum turbine performance and reliability. This product's outstanding resistance to oxidation and thermal stability minimizes fluid breakdown caused by air and high temperatures. Available in viscosity grades: 32 and 46.

Credentials

- TURBOFLO LV fluids are suitable for use in steam, gas and combined-cycle turbines requiring the following manufacturer and industry specifications:
 - GEK 32568k and GEK 46506e
 - GE HTGD 90117
 - Siemens TLV 9013 04 and TLV 9013 05 (non EP)
 - Solar ES 9-224
 - JIS K 2213 Type 2
 - Ansaldo Energia AD00020487 and TGO2-0171-E00000/J
 - ASTM Type I and III
 - DIN 51515 Part 1 and 2

TURBOFLO R&O, PREMIUM R&O 77

TURBOFLO R&O and PREMIUM R&O 77 are primarily recommended for steam and gas turbines, hydro turbines as well as circulating oil systems for a wide range of industrial machinery. Minimizes corrosion and oxidation. Extended resistance to oil breakdown caused by air and high temperatures. Turboflo R&O is the first choice for hydro turbines because of its excellent rust protection. Available for turbines in viscosity grades: 32, 46, 68 and Premium R&O 77.

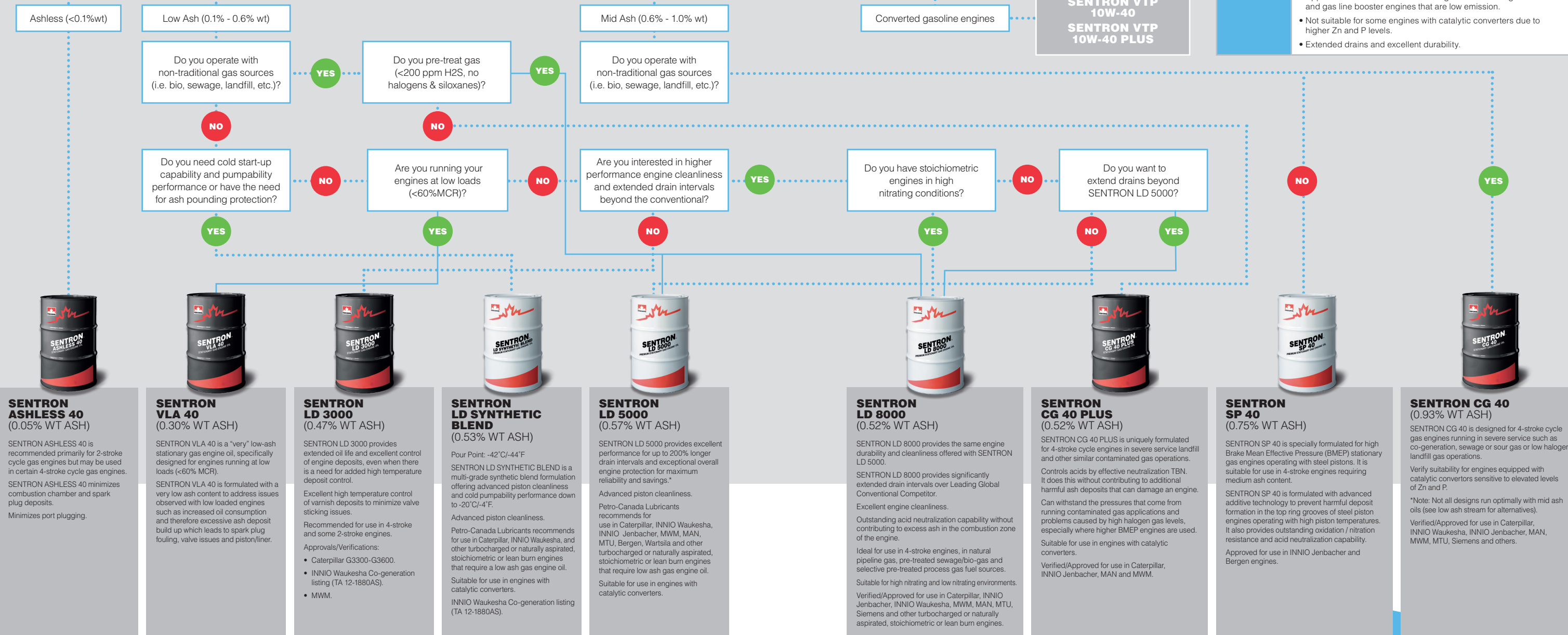
Credentials

- TURBOFLO R&O Oils 32, 46, 68 and Premium R&O 77 are suitable for use in various turbines requiring the following manufacturer and industry specifications:
 - GEK 32568k and GEK 46506e
 - GE HTGD 90117
 - Siemens TLV 9013 04 (non EP)
 - Solar ES 9-224
 - JIS K 2213 Type 2
 - Ansaldo Energia AD00020487 and TGO2-0171-E00000/J
 - ASTM Type I
- Premium R&O 77 meets National Defence Standard C-82-001-000/SF-001, Naval Steam Turbine and Main Gearing Lubrication Oil.

Turboflo R&O is also available in ISO VG 10, 22, 100, 150, 220, 320, & 460 for other applications.

STATIONARY GAS ENGINE OILS

ASH LEVEL REQUIRED?



PERFORMANCE BENEFITS

- SENTRON™ Stationary Gas Engine Oils are premium performance, long-life engine oils for stationary gas engines and compressors in a wide variety of applications.
- SENTRON LD 8000's extended drain intervals can result in lower maintenance costs, less used oil to dispose of and a more efficient and profitable operation.
- Outstanding wear protection prevents scoring of cylinder liners and piston ring wear, while reducing carbon build-up.

OTHER PRODUCTS

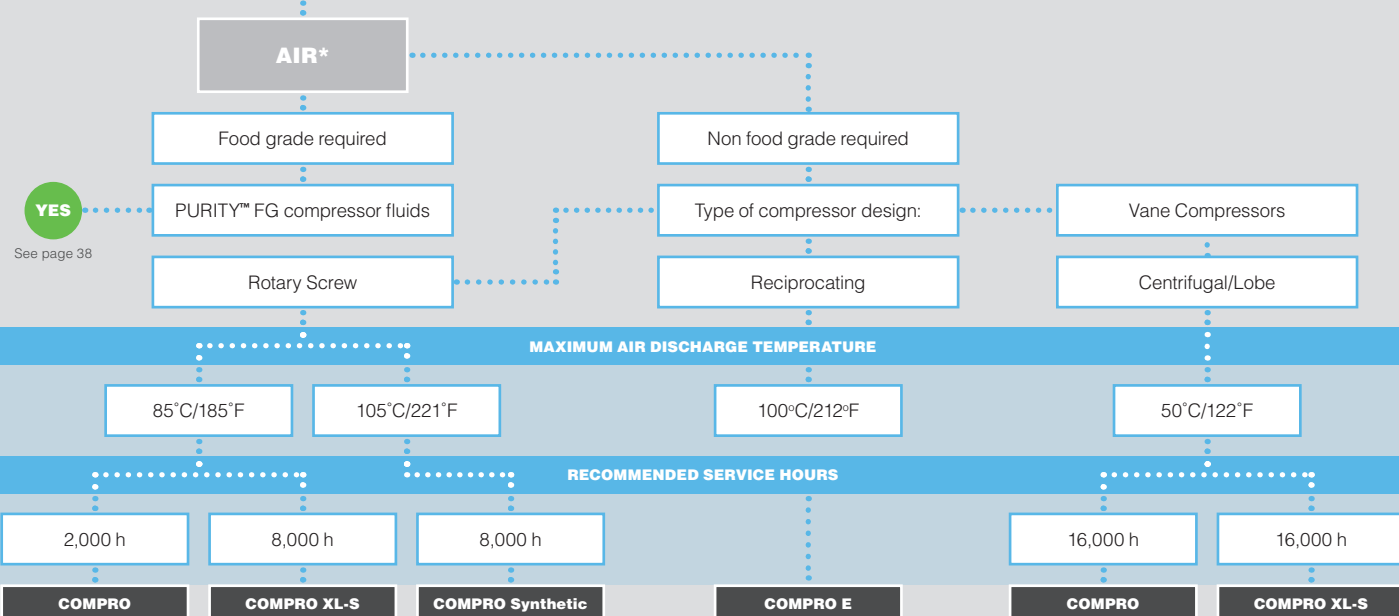
Product	Application
SENTRON VTP 10W-40	<ul style="list-style-type: none"> • 0.59% wt ash. • Recommended for use in gas fueled engines in oil and gas extraction and agricultural irrigation that require high zinc for improved valve train wear protection. • Excellent anti-wear properties for engines with sliding cam followers. • Minimizes combustion chamber and spark plug deposits. • Not recommended for certain engines fitted with catalytic converters; especially if catalyst is sensitive to elevated Zinc and Phosphorous versus conventional SGEO Zn and P levels.
SENTRON VTP 0W-30	<ul style="list-style-type: none"> • 0.58% wt ash. • All the features of SENTRON VTP 0W-30 formulated for use in cold climates. • Ideal for extreme cold starts/cold flow pumpability (<-35°C/-31°F). • Not recommended for certain engines fitted with catalytic converters; especially if catalyst is sensitive to elevated Zinc and Phosphorous versus conventional SGEO Zn and P levels.
SENTRON VTP 10W-40 PLUS	<ul style="list-style-type: none"> • 0.68% wt ash. • Designed for stationary gas applications that need additional anti-wear characteristics (ie. gasoline converted engines to natural gas) due to the valve train and/or for engines where extreme improved low temperature performance benefits are desired due to cyclic engine on-off cycles. • Applications include smaller remote gas well head engines and gas line booster engines that are low emission. • Not suitable for some engines with catalytic converters due to higher Zn and P levels. • Extended drains and excellent durability.

*Performance results may vary due to factors such as, but not limited to, engine optimization, load, fuel gas quality, proper maintenance, type of engine and application.

*In Caterpillar G3500TALE engines running in gas compression, with >90% loads and pipeline quality fuel.

COMPRESSOR FLUIDS

WHAT TYPE OF GAS IS BEING COMPRESSED?



COMPRO

COMPRO fluids are ashless air compressor fluids designed to provide long and highly reliable service life in industrial air compressor applications.

Available in viscosity grades 32 and 68.



COMPRO XL-S

COMPRO XL-S fluids resist oxidative breakdown better than some leading synthetic PAO based fluids.

Provides up to 8,000 hours of continuous service in rotary screw compressors.

Available in viscosity grades 32, 46, 68, 100 and 150.



COMPRO SYNTHETIC

COMPRO Synthetic fluids are specifically designed for compressors operating at very high or lower temperatures or in severe service applications.

Formulated from a custom blend of polyalkylene glycol (PAG) and ester fluids, combined with an effective inhibitor package.

Optimum viscosity grade for rotary screw air compressors is ISO VG 32. Reference Tech Bulletin TB-1217.



COMPRO E

COMPRO E fluids are fully synthetic, high performance ester based lubricants designed to provide superior protection in rotary screw, rotary vane, centrifugal, and reciprocating air compressors.

Ester based fluids that are compatible with mineral oil products and with standard rubbers/elastomers used in most compressor components.

Available in viscosity grades 46, 68, 100 and 150.

REFRIGERANT

Ammonia R717

CFC/HCFC (or ammonia systems previously operating on naphthenic fluid)



REFLO 46A & 68A

REFLO 46A and 68A are formulated from pure paraffinic base stocks and provide exceptional service in ammonia refrigeration systems.

With proper change-out procedures, may result in reduced oil carry over and lower fluid consumption.

Available in viscosity grades 46 and 68.



REFLO XL SYNTHETIC BLEND

REFLO XL Synthetic Blend delivers reliable, long-term performance in ammonia refrigeration systems.

Strong thermal and oxidation stability delivers reduced fluid breakdown, leading to longer fluid life for fewer change-outs and reduced costly downtime.

Delivers very strong low temperature fluidity and can be used in ammonia refrigeration systems where evaporator temperatures are greater than -42°C/-44°F.

Specially formulated with seal swell agent for reduced seal shrinkage. Improved anti-wear capabilities for longer equipment life.



REFLO SYNTHETIC 68A

REFLO Synthetic 68A is a PAO formulated to lubricate ammonia refrigeration compressors used in large commercial operations such as cold stores, marine systems and food processing plants. PAO, specially formulated with seal swell agent.

Excellent performance at extreme low temperatures such as in blast freezers that have very low evaporator temperatures (-51°C/-60°F or above).

Stability is improved over some competitive synthetic oils.

Product is compatible with common elastomers, paints and plastics.



REFLO CFC

REFLO CFC is a highly refined naphthenic oil formulated for use in systems using chlorinated fluorocarbon (CFC) refrigerants such as R11, R12, R-113, R-114, and R-115.

Can also be used in ammonia refrigeration systems where evaporating temperatures are as low as -31°C/-24°F.

PERFORMANCE BENEFITS

- COMPRO™ air compressor fluids provide long and highly reliable service life.
- Compressor Oils RP 268 and RP 460 natural gas compressor fluids provide excellent high temperature stability, good lubricity and wear protection.
- REFLO™ refrigeration compressor fluids ensure optimum performance in commercial refrigeration compressor systems.
- SPX™ 5000, 7000, 7100 and 7220 natural gas compressor fluids provide excellent lubrication and cooling for reciprocating and rotary screw compressors.
- NG™ CompOil AW 150 and 220 provide a non-detergent compressor fluid formulation with excellent water-separation properties.
- NG Screw CompOil 100 and 150 provide excellent performance and protection from corrosion in harsh natural gas streams.
- Consult a Technical Services Advisor to confirm the correct lubricant application.

See next page

HYDROCARBON GASES (NATURAL GAS)

Reciprocating Compressors

Force Feed Cylinder Lube Systems

Low pressure, light sweet Natural Gas Service

Sweet/Sour Hydrocarbon Gases

Rotary Screw Compressors

Compression of "Light Sweet" Hydrocarbon Gases, and Propane in refrigeration service

Compression of "Light Sweet" and "Light Sour" Hydrocarbon Gases



NG™ COMPOIL AW
 NG CompOil AW is for use in both the frame and cylinders / packings of reciprocating compressors, these products are intended for sweet, mostly light natural gas service at discharge pressures < 2000 psig.
 These fluids can also be used in the crankcase frame where an R&O type fluid is recommended by the OEM.
 Non-detergent formulation with excellent water separation properties.
 Available in ISO 150 and 220 viscosity grades.



SPX™ 7220
 SPX 7220 is recommended for compression of heavy hydrocarbon and water contaminated natural gas streams, as well as the compression of dry Natural gas with CO₂ and H₂S.
 Polyglycol synthetic lubricants provide a much lower gas solubility than standard mineral oils, which reduces viscosity dilution and greatly improves the separation of lubricant from the process gas.
 Available in ISO 220 grade.



SPX 7000
 SPX 7000 is recommended for compression of select hydrocarbon mixtures, sour natural gas and acid gas; use in gas re-injection service.
 Polyglycol synthetic lubricants provide a much lower gas solubility than standard mineral oils, which reduces viscosity dilution and greatly improves the separation of lubricant from the process gas.
 Available in ISO 150 grade.



COMPRESSOR OIL™ RP 268
 Compressor Oil RP 268 is recommended for use in compressing sour, wet or contaminated natural gas.
 Provides excellent high-temperature stability.
 Very good lubricity and wear protection.
 Minimizes deposit formation.



COMPRESSOR OIL RP 460
 Compressor Oil RP 460 is recommended for use in compressing sour, wet or contaminated natural gas.
 Suited for use in higher-pressure applications.
 Provides excellent high-temperature stability.
 Very good lubricity and wear protection.
 Minimizes deposit formation.



SPX 5000
 SPX 5000 is suitable for the compression of propane in refrigeration service.
 Effective lubrication of cylinders and packings in Mycom reciprocating refrigeration compressor.
 Recommended for compression of light sweet hydrocarbon gas mixtures.
 Available in ISO 150 viscosity grades.



SPX 7100 AND 7000
 SPX 7100 and 7000 are recommended for compression of select hydrocarbon mixtures, sour natural gas and acid gas; use in gas re-injection service.
 Polyglycol synthetic lubricants provide a much lower gas solubility than standard mineral oils, which reduces viscosity dilution and greatly improves the separation of lubricant from the process gas.
 Available in ISO 100 and ISO 150 viscosity grades.



NG SCREW COMPOIL
 NG Screw CompOil is designed for use in flooded screw compressors in natural gas production and service. The additive system is compatible with sour (H₂S) hydrocarbon gas systems.
 Recommended for compression of the lightest hydrocarbon gases (methane and ethane) where the expected dilution is <10 wt%, and discharge temperatures are moderate (<99 °C / 210 °F).
 Excellent performance and protection from corrosion in harsh natural gas streams.
 Available in ISO 100 and ISO 150 viscosity grades.

HEAT TRANSFER FLUIDS

DO YOU REQUIRE SYSTEM FLUSHING AND CLEANING?

NO

OPERATING TEMPERATURE

High temperature
up to 326°C/619°F

Low temperature
down to -48°C/-55°F

Wide temperature operating
range 5°C/40°F to 225°C/437°F
and start-up in ambient
temperatures as low as -40°C/-40°F

High temperature
up to 316°C/600°F

YES

HT1 food grade required

No food grade requirement

Resistance to oxidative
breakdown is critical

Economical service for mainstream
industrial systems in: forestry,
asphalt, marine applications
and natural gas production



CALFLO CLEANING FLUID CALFLO FLUSHING FLUID

CALFLO Cleaning Fluid and CALFLO Flushing Fluid are designed to clean fouled heat transfer systems of deposits, resins and sludge, and flush out system contaminants including residual fluids, process chemicals, water and debris. Proper cleaning and flushing with these products can help restore and maximize the efficiency of the heat transfer system, extend the life of the new fluid, and lower operating costs.

Refer to TB-1158: Guidelines for Cleaning And Flushing A Heat Transfer System.

CALFLO Cleaning Fluid is NSF HT1 registered.



PURITY FG HEAT TRANSFER FLUID

Suitable for non-pressurized, liquid phase, closed heat transfer application up to 326°C/619°F bulk temperature.

High thermal stability fluid formulated with specially selected additives to provide outstanding protection from oxidative breakdown.

Suitable for food related operations such as the manufacturing of food product packaging materials.

NSF HT1 registered.

ISO 21469.



CALFLO HTF

CALFLO HTF is a high temperature heat transfer fluid formulated to provide long service life.

Its unique chemistry does not have the same objectionable odours, workplace health and concerns of synthetic aromatic fluids.

It is recommended for use in non-pressurized, liquid phase, closed heat transfer systems operating at bulk temperatures up to 326°C/619°F.

Its low vapour pressure can minimize leakage from control valves and pipe flanges.

Typical applications include: chemical processing, power generation, die casting, resin manufacturing and metals plants.



CALFLO SYNTHETIC

CALFLO Synthetic is a synthetic heat transfer fluid that delivers outstanding protection at extreme low temperatures.

The formulation is virtually free of impurities and aromatic compounds that can be hazardous to workplace health and safety.

It is recommended for use in non-pressurized, liquid phase, closed heat transfer systems at a maximum bulk temperature of 216°C.

CALFLO Synthetic's breakthrough chemistry balances low temperature fluidity with outstanding oxidative stability and volatility control.



CALFLO LT

CALFLO LT is a synthetic blend heat transfer fluid recommended for non-pressurized, liquid phase, closed heat transfer systems that require high thermal efficiency over a wide temperature operating range, from 5°C/40°F to 225°C/437°F.

Its low temperature fluidity ensures good start-up and pumpability under extreme conditions. CALFLO LT eliminates the need for expensive heat tracing and insulation in outdoor applications with ambient temperatures down to -40°C/-40°F.

Typical applications include:

- Exothermic or endothermic reactions in chemical and pharmaceutical plants as well as refinery operations such as grease plants.
- Plastic molding systems where the fluid is used both as a heating medium and a cooling medium.



CALFLO AF

CALFLO AF is a highly efficient heat transfer fluid formulated for non-pressurized, liquid phase, closed heat transfer systems where fluid resistance to oxidative breakdown is critical.

It provides high thermal efficiency in non-pressurized, liquid phase, closed heat transfer systems operating at bulk fluid temperatures up to 316°C/600°F.

Its breakthrough chemistry demonstrates excellent oxidation stability.

Typical applications include: plastic extrusion, plastic moulding, rubber manufacturing and metal die-casting operations.



PETRO-THERM

PETRO-THERM is a heat transfer fluid developed for use in non-pressurized, liquid phase, closed heat transfer systems operating at bulk fluid temperatures up to 315°C/599°F.

Provides long, economical service in various industrial process applications.

PERFORMANCE BENEFITS

- CALFLO™ HTF is a premium high temperature heat transfer fluid recommended for systems operating with bulk temperatures up to 326°C/619°F.
- CALFLO AF is a highly efficient heat transfer fluid recommended for systems requiring a greater resistance to oxidation operating with bulk temperatures up to 316°C/600°F.
- CALFLO LT is a synthetic blend heat transfer fluid made with PAO and severely hydrocracked mineral oil. Suitable over a wide temperature operating range from 5°C/40°F to 225°C/437°F. Excellent low temperature pumpability allows cold start-up in ambient temperatures as low as -40°C/-40°F.
- CALFLO Synthetic is a synthetic heat transfer fluid that balances low temperature fluidity with outstanding oxidative stability and volatility control at extreme low temperatures down to -48°C/-55°F.
- PURITY™ FG Heat Transfer Fluid is a food grade, HT-1 registered heat transfer fluid for the food processing industry with systems operating at bulk temperatures up to 326°C/619°F.
- PETRO-THERM™ is a heat transfer fluid developed for use in non-pressurized, liquid phase, closed heat transfer systems operating at bulk fluid temperatures up to 315°C/599°F.



FOOD GRADE LUBRICANTS **PURITY YOU CAN COUNT ON.**

Specially formulated to deliver long life and excellent wear protection in food processing applications for fewer production disruptions and higher productivity.

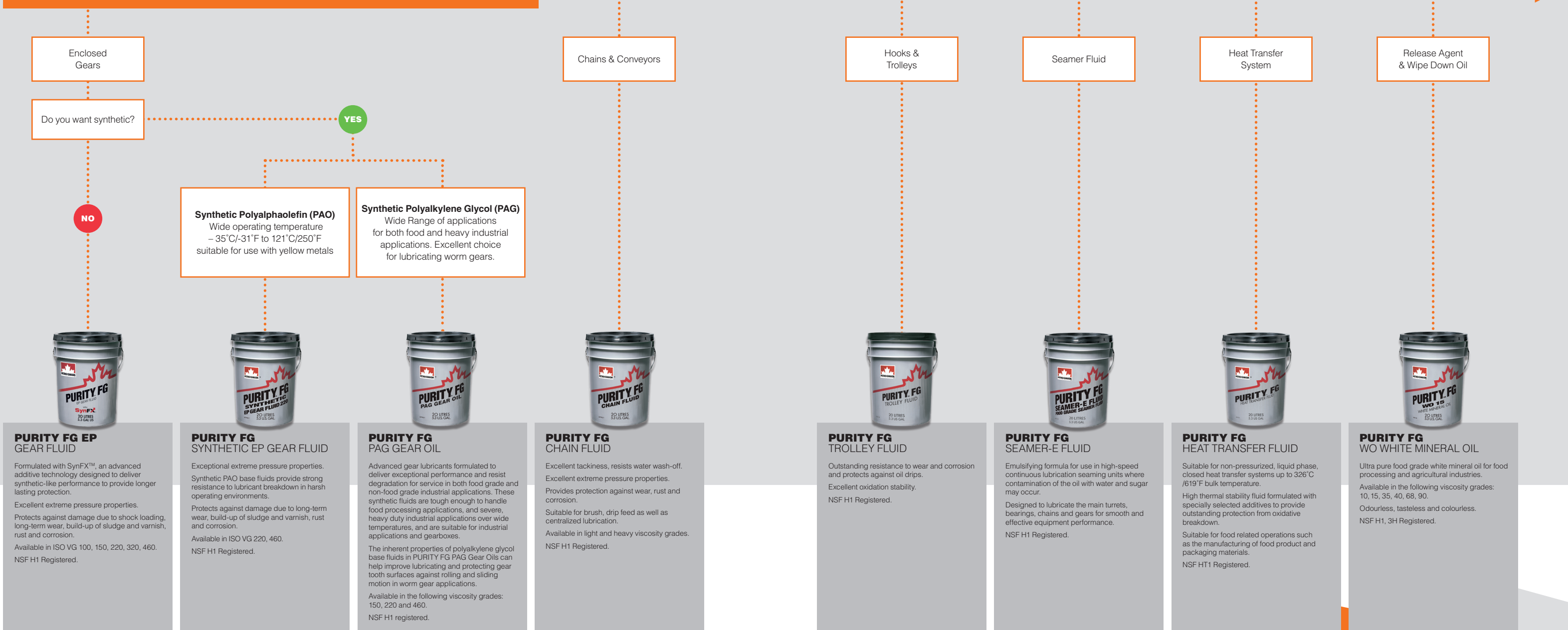
Visit lubricants.petro-canada.com to find out more.



AN HF SINCLAIR BRAND

FOOD GRADE LUBRICANTS

IN WHICH APPLICATION DO YOU REQUIRE A FOOD GRADE LUBRICANT?



PERFORMANCE BENEFITS

- PURITY™ FG lubricants are NSF registered for incidental food contact, acceptable for use in food processing facilities, and have Kosher Pareve and Halal certifications or permitted in Kosher food processing plants.
- PURITY FG lubricants are a perfect fit for Hazard Analysis and Critical Control Point (HACCP) and Good Manufacturing Practice (GMP) plans.
- Provides industrial strength lubricant protection in food processing operations throughout the plant, even in the most severe applications.
- Specially formulated to deliver long life and excellent wear protection in food processing applications for fewer production disruptions and higher productivity.
- Majority of products are certified ISO 21469.
- For a complete list of food industry registrations and credentials contact your local Petro-Canada Lubricants Representative.

FOOD GRADE LUBRICANTS

In which application do you require a food grade lubricant?

Hydraulic

Do you want longer fluid life and/or cold temperature performance?

NO

YES

Do you require a full synthetic?

NO

YES

Wide temperature up to 4000 hrs from -40°C/-40°F to 95°C/203°F

Compressors & Vacuum Pumps

Do you want a synthetic?

NO

Moderate temperature up to 4000 hrs @ 85°C/185°F

Mechanical Seals

Corrugate Slitting/Scoring



PURITY™ FG AW HYDRAULIC FLUID

Excellent resistance to breakdown from oxidation.
Available in ISO VG 32, 46, 68, 100.
NSF H1 Registered.



PURITY FG-X AW HYDRAULIC FLUID

Formulated with SynFX™, an advanced additive technology designed to deliver synthetic-like performance to provide longer lasting protection.
Resists oxidative breakdown from air exposure, high temperatures and water contamination that can lead to longer fluid and equipment life.
Available in ISO VG 46.
NSF H1 Registered.



PURITY FG SYNTHETIC FLUID

Synthetic PAO based product.
Extends service life up to 4000 hours service in rotary screw compressors at wide temperatures.
Outstanding oxidation resistance.
Controls sludge and varnish in pneumatic and hydraulic systems.
Available in ISO VG 46, 100.
NSF H1 Registered.



PURITY FG COMPRESSOR FLUID

Formulated with SynFX, an advanced additive technology designed to deliver synthetic-like performance to provide longer lasting protection.
Outstanding oxidation resistance.
4000 hour service in rotary screw compressors, and service per OEM guidelines in vane compressors.
Provides protection against rust and corrosion.
Available in ISO VG 46, 100.
NSF H1 Registered.



PURITY FG SYNTHETIC BARRIER FLUID

Advanced food grade barrier fluids formulated to deliver exceptional performance, by resisting degradation and deposit formation, and are also suitable for service in non-food grade industrial applications.
Available in the following viscosity grades: 5 and 32.
All components comply with FDA 21 CFR 178.3570 Lubricants with incidental food contact.
Certified Kosher Pareve by STAR-K.
Certified Halal by IFANCA.
Easily integrated into HACCP (Hazard Analysis and Critical Control Point) plans and GMP (Good Manufacturing Practice) programs.
NSF H1 registered.

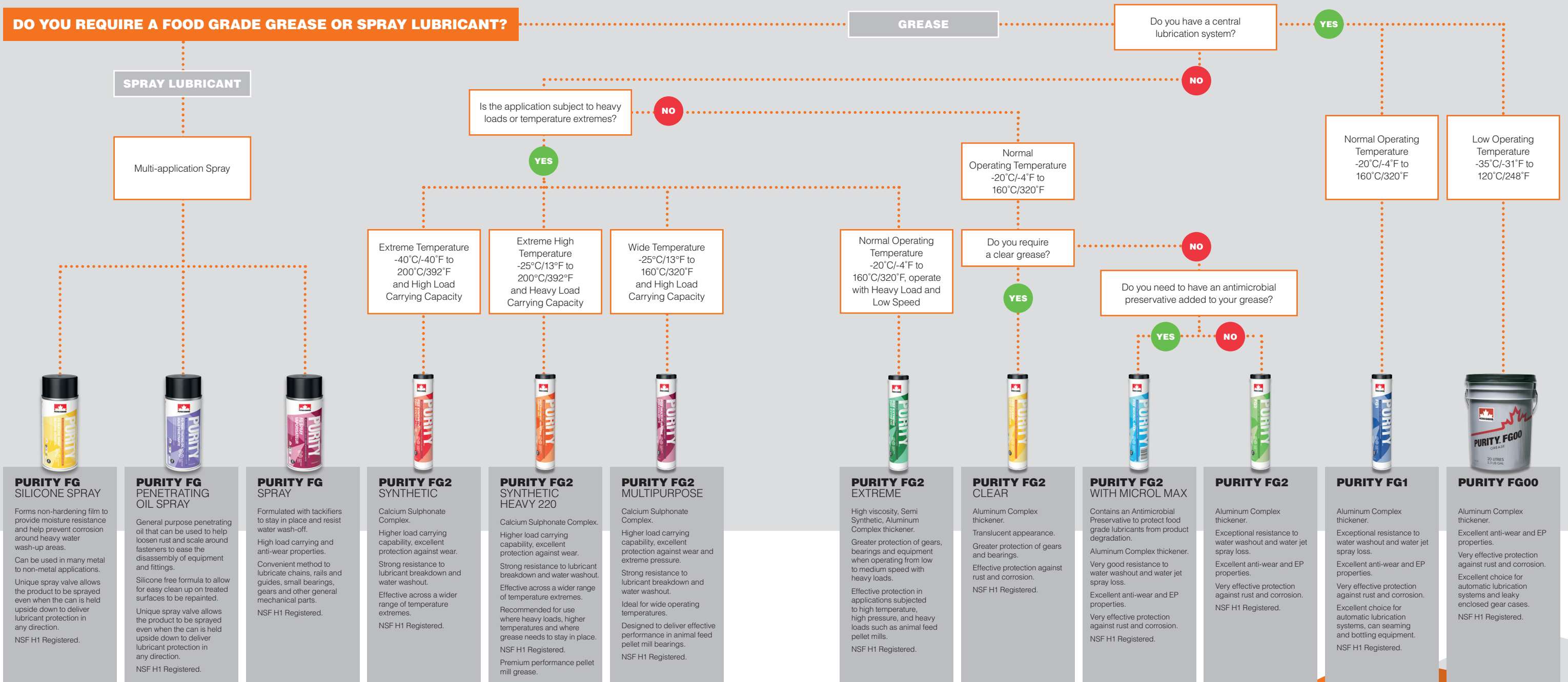


PURITY FG PURITY CORRCUT-E FLUID 15

Advanced food grade lubricant formulated to help improve slitter blade life. This product helps to provide optimal performance, less maintenance and longer service life for the cutting blades.
All fluid components comply with FDA 21 CFR 178.3570 Lubricants with incidental food contact.
Can be easily implemented into HACCP (Hazard Analysis and Critical Control Points) plans and GMP (Good Manufacturing Practice) programs.
NSF H1 registered.

FOOD GRADE LUBRICANTS

DO YOU REQUIRE A FOOD GRADE GREASE OR SPRAY LUBRICANT?



PERFORMANCE BENEFITS

- PURITY™ FG Greases resist water washout, water jet spray and most sterilizing chemicals used in cleaning.
- Products exhibit good low temperature pumpability.
- PURITY FG Greases have effective anti-wear and EP properties and protect against rust and corrosion.
- Specially formulated to deliver excellent performance and food grade purity (NSF H1) under the highly demanding conditions of food processing operations.
- PURITY FG2 Clear and PURITY FG1 are recommended for the greasing systems in canning and bottling operations found in the beverage industry.

MICROL™ MAX is an antimicrobial product preservative.



SLIDEWAY LUBRICANTS & MISCELLANEOUS FLUIDS.

Specifically formulated to lubricate the slideways of machine tools to reduce wear caused by metal-to-metal contact and maintain smooth, uninterrupted operation.

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MACHINE LUBRICANTS & FLUIDS

MACHINE TOOL AND SLIDEWAY LUBRICANTS

Application	Product	Performance Features	Credentials
Slideways of machine tools	ACCUFLO™ TK 68	<ul style="list-style-type: none"> Enables smooth motion, reduces friction. Improves workpiece finish and accuracy through reduced stick-slip chatter. Outstanding tackiness reduces wash-off by coolants and promotes excellent adhesion to metal surface. Recommended for horizontal slides and moderately loaded machine tools. Better adhesion can reduce product usage resulting in lower costs. Is light in colour. 	<ul style="list-style-type: none"> Passes Bijur's filtration test #2107. GM LS2. Fives (formerly MAG IAS/Cincinnati) P-47.
Vertical slides or heavy-duty machine tools such as planers and boring mills	ACCUFLO TK 220	<ul style="list-style-type: none"> Enables smooth motion, reduces friction. Improves workpiece finish and accuracy through reduced stick-slip chatter. Outstanding tackiness reduces wash-off by coolants and promotes excellent adhesion to metal surface. Recommended for vertical slides and heavy-duty machine tools. 	<ul style="list-style-type: none"> GM LS2. Fives (formerly MAG IAS/Cincinnati) P-50.
Slideways of machine tools	PC Waylube™ 68	<ul style="list-style-type: none"> Reduces stick-slip chatter. Reduces wear caused by metal-to-metal contact. Less tacky than ACCUFLO TK 68. Is a light coloured product. 	<ul style="list-style-type: none"> GM LS2. Fives (formerly MAG IAS/Cincinnati) P-47.

MISCELLANEOUS

Application	Product	Performance Features/Credentials
Vacuum pump fluids	SUPER VAC™ Fluid	<ul style="list-style-type: none"> Helps maximize pump vacuum efficiency with extremely low vapour pressures. Resistant to high temperature fluid break down. Performance like some synthetic products. Ashless formulation. Available in the following vacuum pump grades: 15, 19, 20, 70. NSF H2 Registered.
Slitter and scorer equipment	Purity™ FG Corrcut-E Fluid 15	<ul style="list-style-type: none"> Helps provide longer life for trim blades. Effectively removes starch from the blade surface allowing for better cutting performance. Improved felt absorption to help reduce excess oil clean-up. NSF H1 Registered.



ELECTRICAL
INSULATING OILS
**TRANSFORM THE
WAY YOU PROTECT
YOUR EQUIPMENT.**

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ELECTRICAL INSULATING OILS

PERFORMANCE BENEFITS

- LUMINOL™'s improved cold temperature properties keep your transformers operating at their best in the harshest conditions.
- LUMINOL's isoparaffinic base oil provides superior heat transfer properties compared to naphthenic oils, helping transformers operate cooler in hot ambient temperatures.
- Virtually sulfur-free, with no corrosive sulfur which can be harmful to transformer and load tap changer components.
- LUMINOL is made from an ultra-refined isoparaffinic base oil - unlike the conventional oil you're currently using — and offers improved transformer service life and reliability.
- LUMINOL is fully compatible with conventional oils. Even a small amount of LUMINOL in a top-off enhances the chemical and electrical properties of naphthenic oils.
- LUMINOL weighs less at the same volume than naphthenic oils. This can translate into reduced transportation costs.

LUMINOL

Application	Product	Performance Features	Credentials
Designed for Inhibited, Type II applications (Ideal for use in large power and distribution transformers operating at peak capacity, free-breathing units, and pole and pad mounted transformers)	LUMINOL TRI	<ul style="list-style-type: none"> Negative gassing tendency. Less dense than traditional mineral oils. Ultra-pure, inherently biodegradable in natural environments. Free of carcinogenic polynuclear aromatics (PNAs). Colourless. Fully compatible with existing mineral oils. Exceptional oxidation stability. PCB free. Exceptional cold weather properties. Excellent heat transfer capability. High dielectric impulse strength and low dielectric-loss. 	<ul style="list-style-type: none"> Meets or exceeds performance requirements of ASTM D3487 and CAN / CSA-C50-14 (R2018) (Class A and B) standard.. DOBLE TOPS. Meets the performance requirements of IEC 60296 general specifications for fully inhibited high grade oil (Type A). Meets CSA-C50-14 (R2018) upgraded oxidation stability Special Requirements for Type IV liquids. Rated non-corrosive as tested by ASTM D1275-15 (Formerly D1275B) and IEC 62535.
Designed for inhibited, Type II applications (Ideal for minimizing fluid smell produced during oil changing process with very hot transformer equipment, or with an equipment environment where there is limited ventilation)	LUMINOL LS	<ul style="list-style-type: none"> Fully compatible with existing mineral oils. Less dense than traditional mineral oils. Ultra-pure, free of carcinogenic polynuclear aromatics (PNAs). Colourless and low-scent. Low gassing tendency. Exceptional oxidation stability. PCB free. Exceptional cold weather properties. Excellent heat transfer capability. High dielectric impulse strength and low dielectric-loss. 	<ul style="list-style-type: none"> Meets or exceeds the performance requirements of CAN / CSA-C50-14 (R2018) (Class A and B). Meets or exceeds the performance requirements of ASTM D3487 standard. Rated non-corrosive as tested by ASTM D1275-15 (Formerly D1275B) and IEC 62535.
Designed for Inhibited, Type II applications (Ideal for use in distribution transformers)	LUMINOL Di	<ul style="list-style-type: none"> Fully compatible with existing mineral oils. Less dense than traditional mineral oils. Free of carcinogenic polynuclear aromatics (PNAs). Very good cold temperature properties. Good oxidation stability <ul style="list-style-type: none"> - PCB free. - Very good heat transfer capability - High dielectric impulse strength and low dielectric-loss 	<ul style="list-style-type: none"> Meets the performance requirements of CAN / CSA-C50-14 (R2018) (Class B). Meets the performance requirements of ASTM D3487 standard. Rated non-corrosive as tested by ASTM D1275-15 (Formerly D1275B) and IEC 62535.

360 SERVICE OFFER OUR COMPREHENSIVE SERVICE PROGRAM

Our holistic approach to excellence.

When you work with a customer-focused lubricants partner, you can be confident that we'll go above and beyond to make your life easier and your business more successful. Behind the exceptional performance of our products is a world of expertise and support to provide deeper knowledge of your operations and the widest range of services.

The knowledge, solutions, and tools you need are here to help you boost productivity, increase efficiency, reduce costs, and cut downtime.



PRODUCT SELECTOR

This tool helps you find the best lubricants for heavy-duty vehicles and mobile equipment. It provides end-to-end product recommendations including the ideal lubricant, capacity requirements, oil drain intervals and technical information. Find the right mix of lubricants that deliver maximum performance and longevity.



360 SERVICE OFFER SAVINGS SOLUTION

Our technical experts work with you to create a product roadmap to achieve:

- Improved equipment performance.
- Operational efficiencies.
- Sustainable cost savings.

By regularly measuring KPIs relevant to your business, our 360 Service Offer Savings Solution can track your results so you see the tangible savings we guarantee.



360 SERVICE OFFER OIL DIAGNOSTICS

Our oil diagnostics service combines our lubrication solutions with oil analysis recommendations to help maximize your equipment reliability and save cost:

- Register oil samples using your mobile device or computer.
- Receive an email alert when the report is complete.
- Log on to the 360 Service Offer Oil Diagnostics website to get your diagnosis to help maximize oil and equipment life.



**For more about 360 Service Offer services:
lubricants.petro-canada.com**



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OUR NO-NONSENSE LUBRICANTS WARRANTY

“We will repair equipment or replace equipment parts that are damaged due to defects of a Petro-Canada Lubricants product, as long as the lubricant is used in accordance with your equipment manufacturers and our recommendations.”

IT'S MORE THAN JUST A WARRANTY. IT'S A COMMITMENT.

To learn more about how Petro-Canada Lubricants can help your business, visit: lubricants.petro-canada.com or contact us at lubecsr@hfsinclair.com

Committed to the disciplined operation of our business.

