PROTECTION.
PRODUCTIVITY.
POWER.
THAT'S LUMINOL.™

PETRO-CANADA™

LUBRICANTS

AN HF SINCLAIR BRAND

PROTECT THE WAY YOU POWER EVERYTHING.

Whether you need your electrical insulating oil to handle high operating temperatures or higher loads on transmission and distribution transformers, there's a Petro-Canada Lubricants LUMINOL™ product for you. Our high-performance line is also backed by a team that makes doing business easier, with expert advice and quality service, ensuring you stay confident at all times.

LONGER LIFE.

LUMINOL is an ultra-refined insulating oil with enhanced thermal and oxidative stability to better protect your paper insulation.

UNPARALLELED PERFORMANCE.

LUMINOL has a low pour point and viscosity at low temperatures to allow quick transformer startup in cold-weather conditions.

KEEP COOL.

LUMINOL is better at beating the heat because transformers containing LUMINOL operate cooler than transformers using conventional oil.

THE ULTIMATE MIXER.

LUMINOL is fully compatible with conventional oils. Even a small amount of LUMINOL in a top-off improves the chemical and electrical properties of what's currently in your transformer.

GO PURE.

LUMINOL is made of ultra-pure base oils. It is sulfur-free and will not corrode your equipment.

DIELECTRIC OILS KNOW-HOW.

Petro-Canada Lubricants, an HF Sinclair brand, has 20+ years of in-service experience with dielectric oils.

WANT PROTECTION? MEET THE FAMILY.

LUMINOL TRi

Our flagship premium product. Fully inhibited for Type II transformer oil applications.

LUMINOL LS

Fully inhibited and ideal for specialty dielectric and HV applications.

LUMINOL Di

Balanced performance and cost. Fully inhibited for Type II transformer oil applications.

LUMINOL™ IS A CLASS ABOVE. SEE HOW:

KEY CHARACTERISTICS	PROPERTIES			RESULTS
	TRi	**LS**	**Di**	
Description	Fully inhibited (Type II)—ideal for large power and distribution transformer applications	Fully inhibited (Type II)—ideal for specialty dielectric and HV applications	Fully inhibited (Type II)—ideal for distribution transformer applications	**N/A**
Classification	ASTM D3487 CSA C50 Class A Type II IEC 60296 High Grade Oil (Type A)	ASTM D3487 CSA C50 Class A Type II	ASTM D3487 CSA C50 Class B Type II	**N/A**
Thermal and Oxidative Stability	**Excellent** protection of solid insulating material at elevated temperatures **Exceeds** oxidation stability requirements of industry standards with significantly low sludge formation and very low acid number	**Excellent** protection of solid insulating material at elevated temperatures **Exceeds** oxidation stability requirements of industry standards with significantly low sludge formation and very low acid number	**Excellent** protection of solid insulating material at elevated temperatures **Exceeds** oxidation stability requirements of industry standards with significantly low sludge formation and very low acid number	**Leads to improved service life and reliability—reducing maintenance costs.**
Cold-temperature Properties	Pour point of -60°C (-76°F) Viscosity at -40°C (-40°F) of 1230 cSt	Pour point of -60°C (-76°F) Viscosity at -40°C (-40°F) of 1223 cSt	Pour point of <-40°C (-40°F) Viscosity at -40°C (-40°F) of ≤6000 cSt	**Better cold-temperature properties allow for quick transformer startup in cold-weather conditions.** Excellent low-temperature viscosity for LUMINOL Class A products: 1230 cSt at -40°C (-40°F) versus competing oils.
Flash Point	170°C (338°F)	171°C (340°F)	171°C (340°F)	**Higher flash point reduces the risk of fire, providing an extra margin of safety.** Most naphthenic oils have a flash point of 150°C (302°F).
Gassing Tendency* *Most naphthenic oils tested exhibit a positive gassing tendency. Negative gassing reduces hydrogen gas bubbles resulting from electrical and thermal fault conditions.	-10	11.7	23.6	**Lower gassing tendency reduces the risk of equipment failure. It also reduces the risk of explosion due to hydrogen evolving, providing an extra margin of safety.** Negative gassing reduces hydrogen gas bubbles resulting from electrical and thermal fault conditions.
Weight Savings	Lower specific gravity than conventional transformer mineral oils	Lower specific gravity than conventional transformer mineral oils	Lower specific gravity than conventional transformer mineral oils	**Can translate into reduced transportation costs.** 6,000 gallons weigh approximately 2,450 lbs. less than the same volume of naphthenic oil.
Electrical Properties	Power factor of <0.001 at 100°C (212°F) Dielectric breakdown voltage (ASTM D1816, 2.03 mm gap) of >50 kV Dielectric breakdown impulse (ASTM D3300) of >300 kV	Power factor of <0.001 at 100°C (212°F) Dielectric breakdown voltage (ASTM D1816, 2.03 mm gap) of >50 kV Dielectric breakdown impulse (ASTM D3300) of >300 kV	Power factor of <0.001 at 100°C (212°F) Dielectric breakdown voltage (ASTM D1816, 2.03 mm gap) of >50 kV Dielectric breakdown impulse (ASTM D3300) of >300 kV	**Higher dielectric breakdown provides better electrical insulating properties.**
Naphthenic Oil Compatibility	Fully compatible	Fully compatible	Fully compatible	**A small amount (as low as 5%) has been shown to enhance the chemical and electrical properties of naphthenic oils.**
Heat Transfer Properties	Excellent thermal conductivity and heat capacity	Excellent thermal conductivity and heat capacity	Excellent thermal conductivity and heat capacity	**Better thermal conductivity and heat capacity allow faster heat dissipation, increasing the life of paper insulation.**

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 manufacturer's and our recommendations."

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

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

Committed to the disciplined operation of our business.

CERTIFIED
ISO 9001: 2015
ISO 14001: 2015
IATF 16949: 2016

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