

ENVIROMAX[®]

High-Performance Plant-Based
Hydraulic Fluid





Delivering Improved Performance & Energy Savings

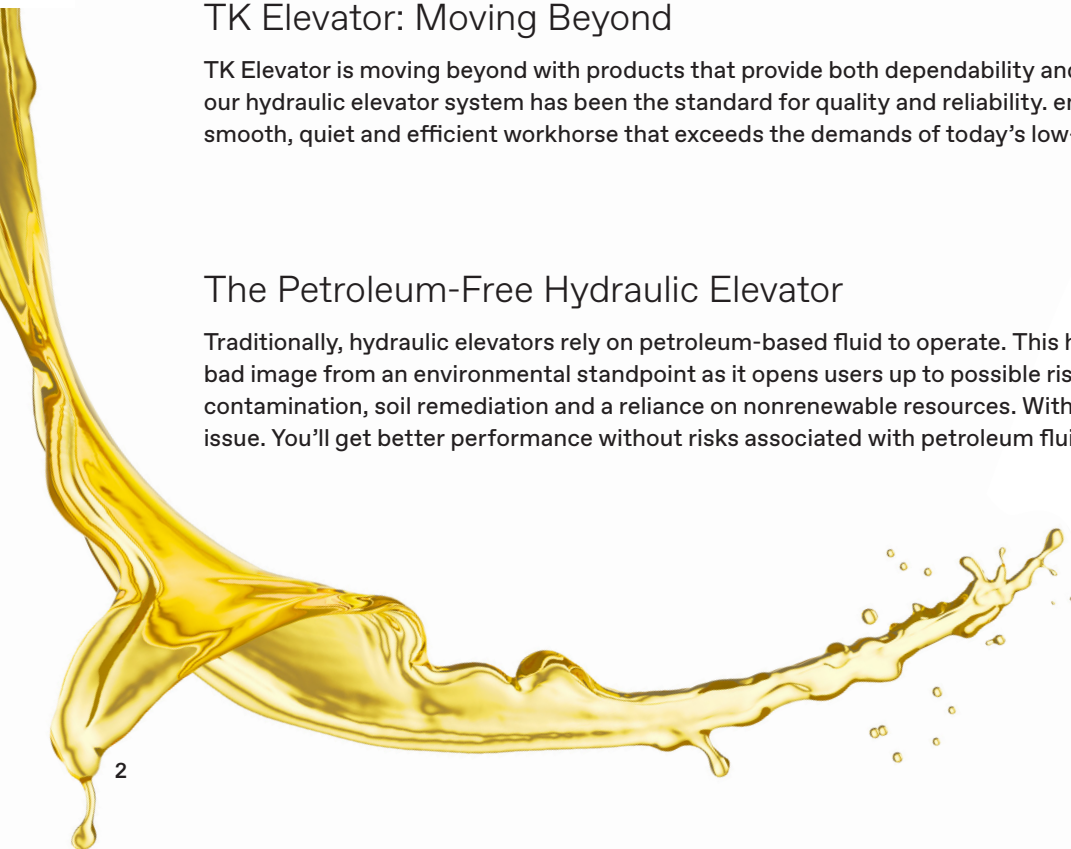


TK Elevator: Moving Beyond

TK Elevator is moving beyond with products that provide both dependability and innovative engineering. Since 1937, our hydraulic elevator system has been the standard for quality and reliability. endura continues that heritage as a smooth, quiet and efficient workhorse that exceeds the demands of today's low-rise buildings.

The Petroleum-Free Hydraulic Elevator

Traditionally, hydraulic elevators rely on petroleum-based fluid to operate. This has given the hydraulic elevator a bad image from an environmental standpoint as it opens users up to possible risks associated with groundwater contamination, soil remediation and a reliance on nonrenewable resources. With ENVIROMAX®, this is no longer an issue. You'll get better performance without risks associated with petroleum fluids and heavy metal additive packages.





The Partnership

In 2012, TK Elevator partnered with BioBlend Renewable Resources LLC to develop ENVIROMAX® — the elevator industry's first performance improving plant-based fluid for hydraulic elevators.

The Product

Formulated from rapidly renewable and readily biodegradable plant-base Natural Esters, ENVIROMAX® has minimal effects on the environment. When tested as an independent laboratory for aquatic toxicity, the results were well above government standards.

ENVIROMAX®



- + USDA BioPreferred with 96% Biobased Content
- + 97% petroleum free
- + 100% recyclable
- + Readily biodegradable
- + Rapidly renewable
- + Energy conserving and cost saving
- + Temperature stable
- + Made in North America
- + Contains no zinc
- + High lubricity and viscosity

Other Hydraulic fluids

- Made from crude oil
- May contaminate the environment
- Made from non-renewable resources
- Adversely affected by temperature
- Have a risk of groundwater contamination





High Performance. Low Impact.

The Definitions

Biodegradability: Ability to decompose back to natural elements, ENVIROMAX® is classified as “Readily Biodegradable” and exceeds the highest standards for biodegradability.

Lubricity: The measure of the reduction in friction of a lubricant. ENVIROMAX® has extremely high lubricity, resulting in less wear and tear than traditional hydraulic lubricants (oil).

Toxicity: The harmfulness of a substance. ENVIROMAX® meets congressional standards as a low-toxicity substance.

Viscosity: Extent to which a fluid resists the tendency to flow. ENVIROMAX®, unlike other hydraulic fluids, remains stable across a wide temperature range.



ENVIROMAX®

- 1 Consistent floor leveling over a greater range of temperatures
- 2 Improved equipment protection
- 3 Low odor
- 4 Improved two-stage jack operation
- 5 Improved lubrication
- 6 Less friction
- 7 Ultra-low toxicity in case of spill

The Performance



Unlike other hydraulic fluids, ENVIROMAX® optimizes performance because it operates consistently across a broad temperature range with its strong viscosity index. It uses high oleic oils to reduce the tendency to oxidize, which will decrease the effectiveness of oil.

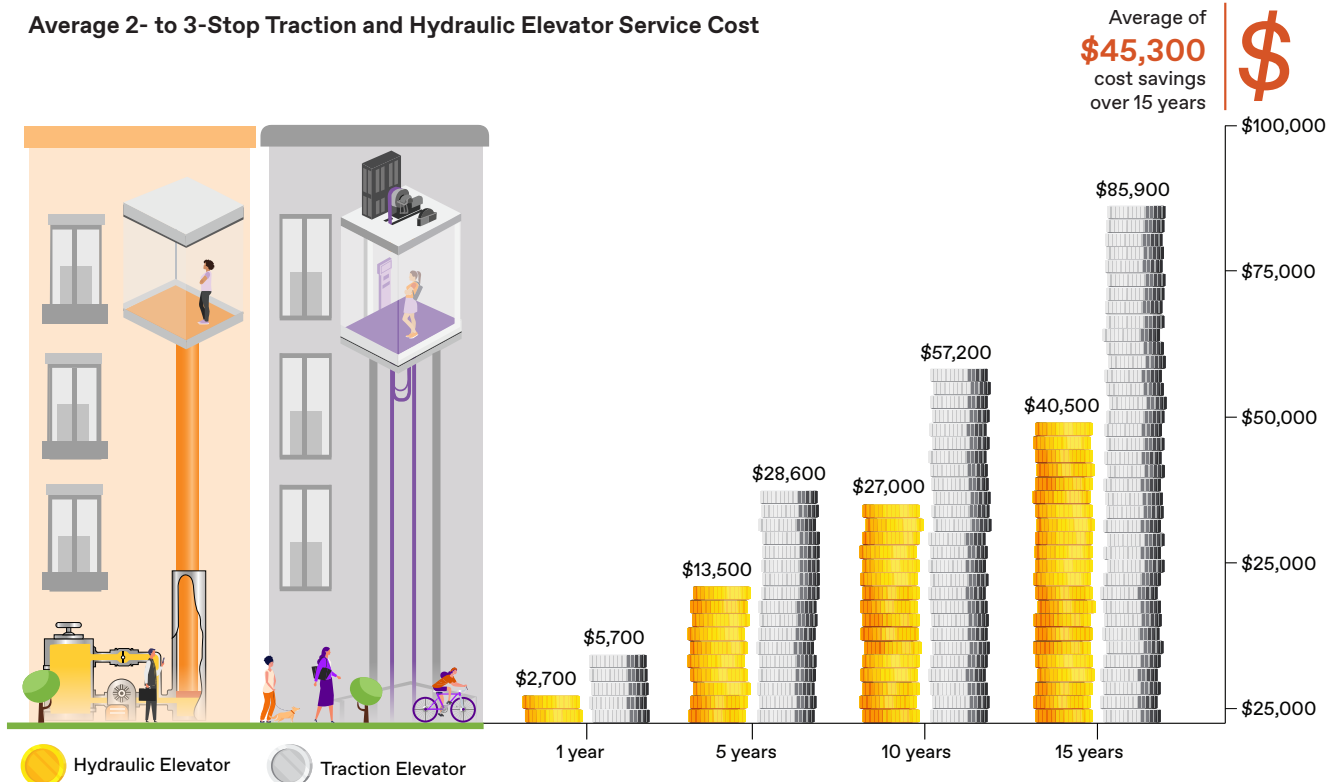
Unlike ENVIROMAX®, petroleum-based oils have a narrow threshold before their oil starts to either thicken or thin out which affects their valve performance. In comparison, ENVIROMAX® has a high viscosity index and less valve adjustments are necessary. This greatly reduces potential service calls.

ENVIROMAX® may eliminate the need for a mechanical oil cooler and/or heaters that keep oil at optimum temperatures to prevent thickening. These devices consume energy as they cycle on even when the elevator is not in operation.

Life cycle cost between Traction and Hydraulic Elevators

Over the course of its lifetime, hydraulic elevators can have a \$45,300 reduction in service costs when compared to traction applications – you could actually almost buy yourself an entirely new hydraulic elevator or pay for a significant elevator modernization with that money! The average numbers shown in the chart below illustrate the approximate prices of lifecycle costs in a two- to three-stop low-rise traction elevator vs hydraulic elevator.

Average 2- to 3-Stop Traction and Hydraulic Elevator Service Cost



*This chart is based on national averages. Local labor rates, activity levels, capacity, landings, openings, and type of contract can significantly affect these approximate costs.



Frequently Asked Questions

Should I change the hydraulic fluid in my elevator?

Yes. If not changed, old hydraulic fluid will affect system performance. This can lead to wasted energy, leveling issues, increased potential for fall hazards and slower floor-to-floor times.

Will ENVIROMAX® improve the performance of the elevator?

Yes. It's more stable through load and temperature ranges, which results in a smoother ride. In our testing, we've found it to be more energy efficient than brand new petroleum oil.

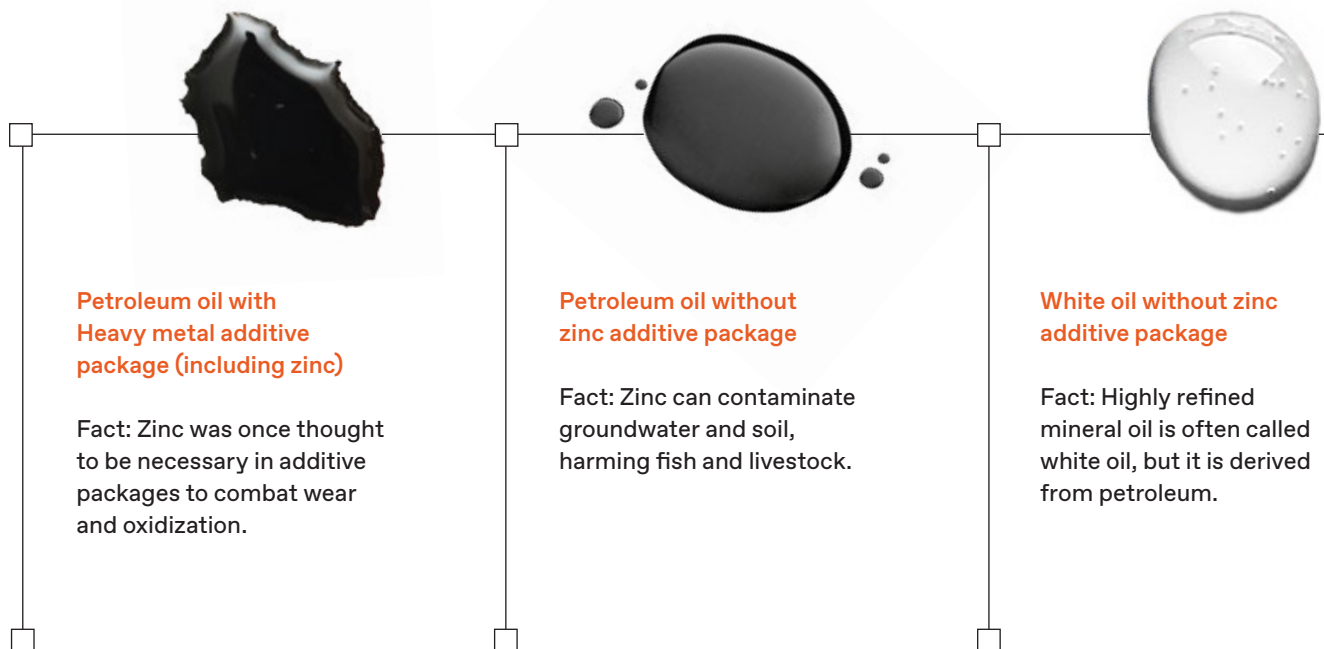
Why would I change my oil if it's still working fine?

It is important to think in terms of prevention. In the case of a catastrophic leak of traditional petroleum-based fluid, the Environmental Protection Agency (EPA) enforces removal and clean up at considerable costs to the building owner.

Why is ENVIROMAX® so much better for the environment?

ENVIROMAX® is readily biodegradable, 95 percent petroleum-free and 100 percent recyclable. It exceeds the highest standards for biodegradability. It only takes one year to regenerate instead of the tens of thousands of years required for petroleum-based fluid. In addition, it can be easily recycled and reused in a variety of products.

THE EVOLUTION OF OIL



Does ENVIROMAX® have a bad odor?

No. ENVIROMAX® is blended, so it does not entrap air or vaporize like other petroleum or plant-based products which can leave a rancid smell and/or oily film on walls and machinery.

Is this plant-based similar to ethanol?

Yes. ENVIROMAX® is High Oleic Natural Esters-based. In fact, it is the elevator industry's first high performing plant-based hydraulic fluid.

Does this product work with all hydraulic elevators? Old, new, TK Elevator, or foreign?

Yes. ENVIROMAX® has been tested on multiple valves and hydraulic systems without issues.

Does ENVIROMAX® adversely affect the operation of my elevator's valves, motor, pump, etc.?

No. ENVIROMAX® has a specifically formulated additive package that improves lubricity in the elevator system and reduces wear and tear on all components.



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