The Case for Environmentally Acceptable Lubricants and Fluids in Land Applications and Equipment

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Choosing the Right EAL for Your Equipment and Application

There is a wide range of performance levels among both readily biodegradable and petroleum based lubricants. Customers have an array of options from lower performance lubricants to high end, high performing "fully synthetic" products. Care must be taken in choosing the appropriate product for the specific application and requirements.

Avoid Greenwashing

One of the most important distinctions in this choice is understanding biodegradation claims. Many products claim to be biodegradable and environmentally-friendly, but there are wide variances in the legitimacy of these claims.

Biodegradability is characterized by two other operational properties: inherent biodegradability and readily biodegradability. A compound is considered inherently biodegradable so long as it shows evidence of biodegradation in any test for biodegradability. Inherently biodegradable oils are products or base oils that show > 20% and < 60% degradation within 28 days.

Readily biodegradable products, however, are defined as degrading 60% or more within 28 days. This type of degradation is preferable because in most cases, the fluid will degrade long before environmental damage has occurred. Because of this, little is required in terms of long-term bio-remediation.

Many petroleum-based and conventional lubricants claim "inherent biodegradability" and refer to themselves as "Environmentally Safe". Inherent biodegradation simply means that they have the propensity to biodegrade, with no indication of timing or degree. These types of products can persist in the environment for years, continuing to cause substantial damage and require long-term remediation due to their environmental persistence.

Additional Considerations

A few other physical property attributes will have a major impact on your choice of EAL. These include:

- Operating temperature
- Operating pressure
- Emulsifying or demulsifying properties
- Fire-resistance
- Compatibility with other mineral oils
- Desired change-out intervals

Finally, the most critical factor in determining whether an EAL is right for you and deciding which type will work best for your needs is proven performance. Inconsistent performance claims from manufacturers can be confusing, so it is important to seek out products that have undergone extensive in-field and lab testing performed collaboratively with customers and independent laboratories to validate their effectiveness. Fluid manufacturers should also be able to provide references for those who have successfully used their products.

A Long-lasting Positive Impact

Spill and leaks can never be avoided entirely, not even by the most diligent and dedicated companies. Given the impact of a release into the environment, the best offense is a good defense. By making an informed decision to convert to bio-based fluids, heavy equipment and fleet-based industries have an excellent and easily implementable opportunity to protect their capital investments and the environment. In addition to experiencing a significant boost to their reputation as sustainability leaders, early adopters working with reputable vendors have been able to improve their environmental stewardship while improving their bottom line, empowering others to follow suit. By making smarter choices, we can create the ultimate win-win situation.

For more information on whether EALs are right for you, please visit www.rscbio.com.

About The Author

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Can the Uber Model Benefit Environmental Labs and Environmental Testing?

Environmental Laboratories

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Centrifuges
Decontamination systems
Environmental chambers
Evaporators
Laboratory baths
Mixers

Opportunity abounds

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Technology like KWIPPED is a good fit for our industry.

Environmental testing and related laboratory work require highly specialized and often expensive equipment. When renting the equipment is the best or only option, isn't it nice to know that our industry now has its very own online marketplace to make it easy and efficient to do so?

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