

Optimizing Work Truck Performance With Biobased Hydraulic Fluids

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Biobased chemicals offer innovative solutions to improve work truck performance, while delivering unique cost and environmental benefits.

TODAY'S BIOBASED CHEMICAL SOLUTIONS HAVE

succeeded in debunking the myth that “green” products fail to work effectively for work truck fleets in the waste management industry. Biobased hydraulic fluids not only meet or exceed the performance of conventional, petroleum-based fluids, but also help mitigate operating costs and improve environmental impacts. Biobased cleaners and functional fluids can prove to be a more cost-effective choice for waste management companies by lowering the threat of potential risks to employees and the environment, such as expensive spill response, remediation and fines a company incurs if hazardous fluids are spilled or leaked onto soil, pavement or water during use.

Of particular interest to fleet managers is outfitting waste management fleets with protective, long-wearing hydraulic fluids that optimize hydraulic system performance, help reduce downtime and improve productivity. The specific benefits that biobased products bring to the waste management industry (particularly hydraulic fluids) help managers achieve optimal work truck performance and boast unique advantages over their petroleum-based counterparts. Some of these benefits include:

- Improved equipment protection through superior oxidation stability
- Optimal performance and quick startup even in extreme temperatures
- Reduced wear and corrosion with strong hydrolytic stability and wear protection
- Reduced maintenance costs through increased change over intervals due to longer oil life compared to petroleum-based fluids
- Reduced spill remediation costs, fines due to improved environmental impact and alternative response options such fluids present

Environmentally Friendly Fluids

Municipalities and waste companies encounter a number of issues with their work truck hydraulic systems,

such as hose ruptures and fittings failures, that often result in spills or leaks of hydraulic fluid. If accidentally released into the environment while in use, petroleum-based chemicals can cause immediate and lasting damage to the soil and surrounding ecosystem. Readily biodegradable products are defined by ASTM 5864 as those which degrade by at least 80 percent within 28 days. As a result, it is possible to respond to biobased spills differently, which can positively impact spill response times, costs, repairs and operational productivity.

Biobased work truck cleaners also bring substantial value to work truck fleets, as water quality standards continue to become more strict and regulated. Biobased cleaners incorporate demulsifying technologies to keep oil and grime from trucks separate from the water, which is increasingly becoming a strict requirement of municipal water treatment facilities. Biobased products can be used daily, are effective in small quantities and can perform alongside the best petroleum-based products, lifting and removing grease and dirt while leaving surfaces unharmed. Fleet managers looking to reinforce their companies’ brands with a “green” focus certainly can look to biobased cleaners as a simple, cost-effective solution.

Creating a Safer Environment

Fleet managers who incorporate biobased hydraulic fluids and cleaners into their work truck operations also have a unique opportunity to build goodwill and further their Corporate Social Responsibility (CSR) programs. Waste management companies can market their use of biobased cleaners, degreasers and hydraulic fluids as a crucial component of their commitment to reducing their operations’ impact on the environment. Phasing out petroleum-based chemicals from fleet operations and replacing them with biobased, environmentally safe products reinforces a company’s commitment to creating a safer environment for residents of municipalities, which can help fleet managers earn goodwill for their brand and positively differentiate themselves for future contract bids with many municipalities and companies.



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Debunking Myths

Many professionals understand that biobased products are safer for the environment, but a great myth still exists that they represent a significantly higher cost. While many fleet managers are starting to see that safer options can work without a performance tradeoff, some still believe the cost is prohibitive. While it is difficult to generalize on comparative pricing and benefits because of the wide range of hydraulic fluid qualities in the marketplace today, we can say that the total operational benefits of biobased hydraulic fluids more than compensate for any difference on a cost per gallon basis.

Another misconception of some fleet managers is that biobased products don't work for their serious applications. Early forms of some vegetable-based fluids failed in extreme conditions like freezing temperatures and high pressures common in industrial hydraulic systems, but innovative base oils and additives have been commercial for years to overcome these early issues. The advanced formulas that make up biobased technology have proven today's safe, biodegradable alternatives do not have tradeoffs in performance. Formulators and raw material suppliers develop biobased products designed to improve safety and efficiency for users and, extensive lab tests and field demonstrations spanning years have proven these biobased options outperform traditional chemical products. For example, vegetable-based stocks offer superior lubricity and anti-wear characteristics, in addition to their being readily biodegradable and safer for employees. Today, biobased products are able to perform in some of the world's most demanding environments—operating equipment and fleets

in the extreme cold of Alaska, offshore marine platforms and wind turbines—to name a few.

Waste management companies can think of safer, readily biodegradable technology as a new solution for operational productivity and risk management. For many companies, using hazardous, petroleum-based products brings along a list of risks and liabilities: fines associated with an accidental spill, workers' compensation claims for employee chemical exposure, and the time and cost to clean up materials that are not readily biodegradable. Plus, hazardous materials cost more to ship, store and handle and regulations increasingly restrict options. When considering the performance advantages of biobased products—for example, the anti-wear characteristics of biobased lubricants allowing for longer intervals between fluid changeovers and cleaning formulas that can be used in a lower concentration and without negative impact to effluent water—the additional benefits are considerable. Waste management companies thrive off of new efficiencies in their work truck fleet operations. Biobased chemicals offer innovative solutions to improve work truck performance, while delivering unique cost and environmental benefits. | **WA**

Lisa Owen is RSC Bio Solutions' (Charlotte, NC) Business Development Director. She brings more than 16 years of industrial business to business commercial development experience including eight years with biobased solvents and renewable resource based plastics from her roles at NatureWorks LLC. Most recently, Lisa served as Business Director of Aftermarket Services for BAE Systems Global Combat Systems. Lisa can be reached at lowen@rscbrands.com.