Working Group proposed for Biobased Greases

Biobased lubricants and greases have matured and are no longer considered experimental or entrepreneurial products. Advances in the chemical modification of seed oils, in genetic enhancements of oilseeds, and development of new additive technologies, along with commercial success of these products can attest to their viability for many applications. To date, considerable historical performance data as well as testimonials are complied, yet performance standards are still based on petroleum greases.

Source: Inc. Magazine, 10-27-07

The proposed working group will be focused primarily on PERFORMANCE related aspects of biobased greases. Environmental and non performance topics are covered by other working groups. Many lubricants developers rely on standards developed for petroleum products to evaluate biobased greases. The justification is that bioabsed lubricants are required to perform in the same applications as petroleum products, thus they should be evaluated with the same standards as petroleum products. There are many examples of standard test methods developed for petroleum products that simply are not suitable for differentiating between a poor performing and a superior performing bioabsed product.

For example, in the vegetable oil related fields the base vegetable oils are tested in oxidation stability instruments which are uniquely designed for the evaluation of vegetable oils providing a number, in hours, referred to as Oxidative Stability Index (OSI). The Oxidative Stability Instrument is not designed for and cannot be used to determine the stability of petroleum oils. Similarly, in the petroleum related fields, the Thin Film Oxygen Update (TFOUT) is used to determine the stability of base petroleum oils. Comparative tests have shown that TFOUT cannot differentiate between a stable and an unstable vegetable oil. Using an Oxidative Stability Instrument to evaluate petroleum base oils will result in numbers that are not reflective of the true stability of petroleum oils. Using TFOUT to test vegetable oils will return numbers that are not reflective of the true stability of vegetable oils. There are more examples like these that will be addressed in future publications.

Rationale for Formation of New Biobased Grease Working Group

Source: UNI-NABL Center

Biobased lubricants and greases are an inevitable mix of our product future. They are no longer viewed as something just environmental. In the United States they are part of a national strategy to reduce dependence on imported oils. Due to the fact that they are inherently different in make-up from petroleum products, they require special attention from our industry. ELGI is exploring the formation of a Biobased Performance Working Group
to engage those ELGI members who are involved in product development and/or are interested in increasing their knowledge of the performance of biobased products. Lou Honary has indicated his willingness to lead this working group and coordinate resources for increasing knowledge and awareness of the performance of biobased greases. Bio-Based would refer to products that are in part made from renewable hydrocarbons. These are products that are primarily vegetable oil derived and are based on indigenous crops in the members' regions. The group will address, among others, performance and relevant evaluation, testing and standards methods. Those interested in joining this working group should contact Carol Koopman at ELGI.

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