Special Issue

Lubricant Additives and Ash: Do We Know Enough?

Message from the Guest Editors

Dear colleagues, Friction, the resistance to motion, is ubiquitously present at the interface of surfaces in contact and is often a destructive force that causes significant wear and hardware durability issues. Understanding friction and its mitigation requires significant effort from industry and academia across many disciplines. It is estimated that roughly 10-30% of energy produced in internal combustion engines (dependent on many factors) is required to overcome friction and can be alleviated by low-viscosity lubricants and additive designs, combustion and engine designs, and materials and surface engineering strategies. Lubricant additives provide many vital functions to current lubricants, including (but not limited to) viscosity modifiers, friction modifiers, pour point depressants, anti-wear, detergents, dispersants, oxidation inhibitors/antioxidants, antifoam, corrosion inhibitors, extreme-pressure additives, and demulsifiers/emulsifiers. Additives aid by enhancing desirable or suppressing undesirable base oil properties or by adding new properties, and they are consumed via decomposition,

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About the Journal

Message from the Editor-in-Chief

Friction, wear, and lubrication are tribological phenomena that govern the behavior of interacting surfaces in a wide range of machine components. Understanding the physical and chemical nature of these phenomena is critical to achieving long component lifetime and economical operation. Research in the field of tribology is highly interdisciplinary, and encompasses the fields of physics, chemistry, engineering, and mathematical modeling. *Lubricants* invites contributions on new advances in all areas of tribology for publication as peer-reviewed research articles, reviews of current research, letters, and communications. We are committed to providing timely reviews of all articles submitted. Please consider sharing your work with the scientific community through publication in *Lubricants.*

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