



Ashless and environmentally friendly antiwear lubricant additives

UTA (12-28)

Technology Need:

Given the significant increase in the world vehicle population there is a growing concern over the environmental impacts of automotive lubricants and other engine additives. The formulation of efficient and high performing additive systems is becoming increasingly more complex as engines and emission control systems evolve to meet the stringent environmental regulatory requirements. Traditional antiwear additives such as ZDDP are prone to ash generation which has adverse effects on engine life and the durability of exhaust treatment systems that are vital in reducing undesired emissions, mainly carbon monoxide, unburned hydrocarbons and oxides of nitrogen, generated in the engine.

Solution/ Offering:

Researchers at UT Arlington have developed new ashless anti-wear and friction reducing formulations that provide superior wear performance in comparison to the traditional antiwear additive, ZDDP. The mixtures have the potential to replace ZDDP as they are ashless in nature, stable and compatible with existing additive packages. The mixtures are compatible with traditional additives used in engine oil such as antioxidants and detergents.



Value Proposition:

- ✓ Superior wear performance
- ✓ Ashless additive
- ✓ Eco-friendly

Industrial application:

- ✓ Lubricants
- ✓ Engine Additives

Patent Status:

- ✓ Patent filed
[US20130331305 A1](#)

Current Stage:

- ✓ Prototyped & Tested
- ✓ Looking for commercialization partners

Meet the Inventor



Dr. Aswath has over twenty five years of experience in the area of processing of advanced materials. His work in the area of synthesis of materials involves the design of new materials. He is currently working with Rebirth Partners and The State of Texas on a major initiative to develop a new class of environmentally friendly high performance lubricant additives for internal combustion engines and high load bearing lubrication application.

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