

PRODUCT STEWARDSHIP SUMMARY

GEAR OIL & MANUAL TRANSMISSION FLUID ADDITIVES**Introduction**

Afton Chemical Corporation's family of driveline additives includes gear oil additives designed to optimize performance in both rear-axles and manual transmissions. They're formulated to meet specific needs for quality, performance, marketable claims, base stock compatibility, environmental responsibility and cost efficiency. In addition to meeting specifications, Afton gear oil additives also meet the latest requirements for extended drain, fuel economy and temperature stability. Our products help to protect parts for longevity and maximize up-time on the road.

Uses and Advantages

Afton Chemical Corporation's axle and manual transmission additives are designed to formulate fluids that meet the needs of the hardware used in modern commercial and passenger vehicles. The robust sulfur and phosphorous chemistry safeguards the gears against extreme pressure and wear under severely loaded operating conditions. Sludge and varnish formation is reduced in order to keep the moving parts clean in the presence of elevated temperatures and during severe, long term operation. The additives are also designed to eliminate rust, corrosion and the formation of deposits that may compromise performance of the axle or transmission. Afton also has friction modifiers for use in limited slip differentials found in many SUVs, light duty trucks and high performance passenger cars. These friction modifiers are necessary in these high horsepower vehicles to provide unsurpassed frictional durability and decrease the potential for noise, vibration, and harshness in the limited slip differential.

- Gear protection under extreme pressure
- Excellent antiwear performance
- Resists deposit formation and breakdown from Heat and Oxidation
- Compatible with Commonly used Seal Materials
- Optimized Friction Modifiers for High Horsepower Vehicles
- Highly Stable and Effective in the Presence of Heat and Water
- Protects against yellow metal corrosion
- Potential for extended drain intervals
- Excellent thermal and oxidative stability
- Very good handling and pumpability
- Good foam suppression
- Some are multifunctional to provide industrial gear performance

Health Effects

Gear oil additives health effects vary depending on the specific components in the additive, but primarily include irritation and sensitization. Health problems such as irritation of the skin and eyes, and sensitization of the skin are associated with excessive skin and airborne exposures to the additives.

Environmental Effects

Gear oil additives generally range from non-toxic to toxic to the aquatic environment. They may cause long-term adverse effects in the aquatic environment; some contain components which may be persistent in the environment.

Exposure

The extent of exposure can depend on the type of system (open or enclosed), adequacy of engineering controls, adequacy of fluid management measures and other workplace practices. Methods of avoiding direct contact with automotive gear additives include wearing chemical resistant gloves, boots, safety eyewear, and appropriate respiratory protection as necessary. Adequate exhaust ventilation or other engineering controls should be provided to keep airborne concentrations of fumes, mists and vapors below their respective threshold limit value.

Risk Management

Gear Oil Additives are formulated to meet a wide range of performance requirements. The health and environmental risks of these products can vary depending on the product as well as the conditions encountered during their use. Information on the safe handling of these products is provided to users through the provision of safety data sheets. Appropriate engineering controls, work practices and personal protective equipment are needed to control exposures during manufacture and use.

Conclusion

Afton's additives deliver superior performance across driveline applications by reducing end user costs, enhancing reliability and increasing durability of their gear oil additives. Afton is committed to providing its customers with the information they need to responsibly manage any health and environmental risks associated with the intended use of Afton products.

For additional information, contact us at:

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