

PRODUCT STEWARDSHIP SUMMARY

INDUSTRIAL GEAR OIL ADDITIVES

Introduction

Afton's Industrial Gear Oil Additives are designed for the formulation of quality industrial gear oils, providing wear, corrosion, and oxidation protection. These additives are designed to meet or exceed all major OEM and industry organization specifications.

Uses and Advantages

Industrial Gear Oil Additives are developed to provide protection in industrial gearboxes while also reducing oil consumption, operating and workforce costs, and impact on the environment. The advantages of using these additives are:

- Clean-gear performance under high-temperature conditions
- EP protection and durability
- Retains phosphorus, ensuring extended wear protection
- Low chlorine content in blended industrial gear oils

Health Effects

Industrial Gear Oil additives can cause adverse health effects through skin contact or inhalation from breathing sprays, mist, fumes, or aerosols. Health effects vary depending on the specific components in the additive package but primarily include irritation or corrosion of eyes and skin. Some additive packages contain components that may cause skin sensitization or that may cause reproductive effects following exposure to high doses or for extended periods of time. A small number of additive packages are classified as carcinogenic due to impurities present in certain components. However, the majority of additive packages are not classified for carcinogenicity. These additive packages are not expected to be mutagenic or cause organ effects following long term exposure.

Environmental Effects

Because of the long-chain alkyl amines and alkyl phenol present in some of these additives, many are considered toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment. Some may contain components that may be persistent in the environment. However, they are unlikely to be bioaccumulative and are not classified as PBT (Persistent, Bioaccumulative and Toxic) or vPvB (very Persistent very Bioaccumulative).

Exposure

For industrial workers, the most common route of exposure is via skin contact during manufacturing and processing. The extent of exposure can depend on the type of manufacturing system (open or enclosed), adequacy of engineering controls, material handling practices, and use of personal protective equipment. Handling at elevated temperatures or generating vapors or mists can increase inhalation exposure which is otherwise not considered a significant route of exposure.

For professional use, the primary route of exposure is via skin contact with finished gear oils during maintenance and use. Exposure to the additives is less in the finished lubricant due to their reduced concentration. Many gear oils are either not classified as hazardous according to the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) or have relatively low hazard classifications compared to the additive package.

Risk Management

Industrial Gear Oil Additives are mainly targeted for the commercial sector. These are generally used in finished fluids and operate in a closed system. 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 safety data sheets. Appropriate engineering, administrative controls (work practices), and personal protective equipment are recommended to control exposures during manufacture and use.

Conclusion

Industrial gearboxes are increasing in power density, getting smaller in size while maintaining or increasing their output and performance. Protection technology is crucial. By providing improved resistance against pitting and general gear and bearing fatigue, Afton's Industrial Gear Oil Additives are extending the life and improving the efficiency of today's high-performance gearboxes. Afton is committed to providing its customers with the information they need to responsibly manage any safety, health, and environmental risks associated with the intended use of Afton products.

For additional information, contact us at:

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