

PRODUCT STEWARDSHIP SUMMARY

INDUSTRIAL - 9-OCTADECENOIC ACID(Z)-, REACTION PRODUCTS WITH 3-(DODECENYL) DIHYDRO-, 2,5-FURANDIONE AND TRIETHYLENETETRAMINE**Introduction**

9-Octadecenoic acid(z)-, reaction products with 3-(dodecenyl) dihydro-, 2,5-furandione, and triethylenetetramine is a carboxy-imidazoline mixture that functions as a versatile ashless rust inhibitor for use in R&O, hydraulic oils, turbine oils, circulating oils, and a wide range of other industrial lubricants and greases.

Uses and Advantages

9-Octadecenoic acid(z)-, reaction products with 3-(dodecenyl) dihydro-, 2,5-furandione and triethylenetetramine has several key performance benefits:

- Excellent rust protection
- Water separation
- Enhanced oxidation stability
- Multifunctional – useful in many different lubricants and grease applications

Health Effects

Octadecenoic acid(z)-, reaction products with 3-(dodecenyl) dihydro-, 2,5-furandione, and triethylenetetramine has undergone extensive testing to determine the health and environmental effects. It is of low concern for acute oral, dermal, or inhalation toxicity. The substance is irritating to skin, although it is only mildly irritating when used in formulated products. It is not considered an eye irritant or skin sensitizer and is not expected to cause mutagenic or carcinogenic effects. The substance may cause reproductive and developmental effects following exposure to high doses or for extended periods of time.

Environmental Effects

In short-term aquatic toxicity testing, 9-Octadecenoic acid(z)-, reaction products with 3-(dodecenyl) dihydro-, 2,5-furandione, and triethylenetetramine may cause long-lasting harmful effects to aquatic life. It is not readily biodegradable but is not expected to be bioaccumulative. Therefore, it is not expected to be PBT (Persistent, Bioaccumulative and Toxic) or vPvB (very Persistent very Bioaccumulative). Precautions should be taken to ensure that this substance, alone or in a mixture, is not released into the sewer or the aquatic environment.

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 and commercial workers, the primary route of exposure is via skin contact with finished lubricants and greases during maintenance and use. Exposure to this substance is less in the finished lubricant due to its reduced concentration. Many lubricants 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

This substance is sold only to industrial users for manufacturing lubricants and greases targeted at the commercial sector. The health and environmental risks of these lubricants can vary depending on the product as well as the conditions encountered during their use. Information on the safe handling of this substance 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

9-Octadecenoic acid(z)-, reaction products with 3-(dodeceny) dihydro-, 2,5-furandione, and triethylenetetramine performs as a versatile ashless rust inhibitor in petroleum-based additives and fluids. Under normal conditions and with proper PPE, it is unlikely to present a risk to human health. Releases to the environment should be avoided. 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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