

PRODUCT STEWARDSHIP SUMMARY

INDUSTRIAL - S-ALKENYL-O,O-DIALKYL-DITHIOPHOSPHATES**Introduction**

S-Alkenyl-O,O-dialkyldithiophosphates is a yellow to amber liquid at room temperature and is used mainly as an antiwear component for Driveline & Industrial applications.

Uses and Advantages

S-Alkenyl-O,O-dialkyldithiophosphates mainly function as a phosphorus / sulfur antiwear component.

- Load carrying capability
- Secondary antioxidant performance

Health Effects

S-Alkenyl-O,O-dialkyldithiophosphates have undergone extensive testing to determine the health and environmental effects. The substance is of low concern for acute oral or dermal toxicity. It is not irritating to skin or a skin sensitizer, but it is mildly irritating to eyes (not GHS classified as an eye irritant). The substance is not expected to be harmful after prolonged oral or dermal exposure and is not expected to cause mutagenic effects.

Environmental Effects

Based on acute and chronic testing, S-Alkenyl-O,O-dialkyldithiophosphates was found to be very toxic to aquatic organisms, with long lasting effects. It was found to be not toxic to activated sludge bacteria. It is not readily biodegradable. Due to its low water solubility, it is expected to partition into the organic fractions of soil, sediment or sludge, in case of an environmental release. It is potentially bioaccumulative in fish. Precautions should be taken to ensure that this substance, or mixtures containing it, is not released into the sewer or into the aquatic environment.

Exposure

Typically, worker exposure is managed with the following:

Industrial Use Exposure:

- Exhaust ventilation or other engineering controls to keep airborne concentrations of fumes, mists and vapors below their respective threshold
- Safety glasses with side shields, chemical resistant gloves, appropriate respiratory protection
- Good industrial hygiene practices and management

Commercial Use Exposure:

S-Alkenyl-O,O-dialkyldithiophosphates should only be sold to chemical companies as a component in mixtures or as an intermediate in the production of other substances.

Risk Management

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels. Information on the safety data sheet (SDS) should be followed in the event of a spill.

Conclusion

S-Alkenyl-O,O-dialkyldithiophosphates performs as an efficient antiwear component 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 health and environmental risks associated with the intended use of Afton products.

For additional information, contact us at:

Afton Chemical Corporation • 500 Spring Street • Richmond VA 23219 • 804-788-5800



This information and these recommendations are offered in good faith and believed to be correct as of the date hereof. Information and recommendations are supplied upon the condition that the recipients will make their own decision as to safety and suitability for their purposes. No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature, are made with respect to the product or the information and recommendations. Afton makes no representation as to completeness or accuracy. In no event will Afton be responsible for damages of any nature whatsoever resulting from the use or reliance upon the information and recommendations.

© 2020. Afton Chemical Corporation is a wholly-owned subsidiary of NewMarket Corporation (NYSE: NEU). www.aftonchemical.com