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Attention: Editor

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PRESS RELEASE



Premium Cortec® M-540 Additive Enables Bio-Based and Ester-Based Greases to Pass Rust Prevention Test in 5% Seawater

A good corrosion inhibiting additive can fundamentally boost the performance of grease used in equipment exposed to harsh conditions of humidity and salt spray. While greases themselves provide a measure of corrosion protection, bearings and gears are more vulnerable to corrosion during periods of inactivity when the grease is not circulating. At this time, water condensation and puddling can silently



initiate a corrosion site that may cause failure when the operator comes to restart equipment. The situation worsens if bearings fail on operational spares needed at a moment's notice. Protecting against corrosion provides insurance against the headaches and costs of rusted gears, bearings, and housings that must be repaired or replaced before equipment can be used again.



Developing an exceptional corrosion inhibiting grease for use even in harsh salt spray conditions is possible with Cortec's new M-540 premium quality additive. M-540 is formulated with proprietary technology to provide superior corrosion protection in bio-based and ester-based greases. It provides excellent long-term protection, even in humid and salt-containing environments, such as coastal and offshore conditions, where the

chance for condensation and corrosion increases. When tested according to ASTM D5969 for rust prevention, grease that failed to prevent rust in a 5% seawater solution was able to pass the same test after M-540 was added. This seawater performance makes M-540 an ideal additive for formulating greases used in marine conditions such as those on offshore rigs.

Another important advantage of M-540 is that it not only provides corrosion protection to metals in direct contact with the grease; it also provides corrosion protection to nearby metals in bearing housings not directly touching the grease. Normally, to provide full protection to the cavity surrounding a gear or bearing, the space must be completely flooded with lubricant to allow the maximum level of surface



contact possible with the corrosion inhibitor and minimize oxygen in the headspace. In contrast, M-540 contains Vapor phase Corrosion Inhibitors that vaporize and diffuse throughout the void space. These molecules form a protective layer on metals above the surface of the grease as well as those in direct contact with it. Only a standard amount of grease containing M-540 will be required for layup or intermittent use of equipment, yet void spaces where moisture might condense will also be protected.



M-540

TYPICAL PROPERTIES

Melting point: 35-40°C (95°-104°F)
 Appearance: Off-white paste
 Density: 0.94 kg/L (7.9 lb/gal) (43°C [113°F])

Test ID	Description	Base Grease	Base Grease + M-540
ASTM D4048	Copper strip test, 24h @ 100°C (212°F)	1b	1a
ASTM D5969	Rust prevention, 0% sea water	fail	pass

PRODUCT DESCRIPTION

M-540 is a premium quality additive formulated with proprietary technology to provide superior corrosion protection in bio-based and ester-based greases.

STORAGE AND PACKAGING

M-540 is available in 5 gallon (19 liter) pails, 55 gallon (208 liter) drums, and bulk. Shelf life is two years minimum.

FEATURES

- Excellent long term protection in humid and salt-containing environments
- Easily dilutable with a variety of bio-based or ester-based greases
- Compatible with copper
- Does not reduce dropping point
- Provides contact and vapor phase corrosion protection

APPLICATION

M-540 is recommended for use as an additive for ester-based greases. Dosage rates vary between 2-10% depending on the level of corrosion protection required. M-540 may be heated to 40 °C (104 °F) to lower viscosity and increase the ease of mixing.

METALS PROTECTED

- Carbon Steel

CORTEC CORPORATION
 Environmentally Safe VpCI® Technology

M-540 is an excellent choice for formulators who want to enhance the corrosion inhibiting power of their grease. M-540 is easily dilutable with a variety of bio-based or ester-based greases and is compatible with copper. Dosage rates range from 2-10% depending on the level of corrosion protection desired. M-540 does not reduce the dropping point of the grease to which it is added.

To find out more about M-540, please visit:

<https://www.cortecvci.com/Publications/PDS/M-540.pdf>

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