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Comparing Nox-Rust VCI-10 to M-531 for Customer

To: Customer

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Reported by:

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Background: Customer currently uses Nox-Rust VCI-10 as a rust preventive oil additive. The rust preventive properties of this product will be tested and compared to Cortec M-531.

Sample Received: Two plastic bottles (~3 ounces each) of Nox-Rust VCI-10 liquid

Method: ASTM D-1748 Humidity (120F, >95% relative humidity)

Materials: Nox-Rust VCI-10
M-531 additive
1010 cold rolled carbon steel panels
Laboratory grade methanol

Procedure: The following procedure was used:

- 1) Three carbon steel panels were cleaned with methanol prior to testing.
- 2) After cleaning, the panels were prepared as follows
 - a. No treatment (control)
 - b. Dipped in Nox-Rust VCI-10 (neat)
 - c. Dipped in M-531 (neat)
- 3) After dipping, panels were hung to dry for 2 hours.
- 4) All panels were then hung in ASTM D-1748 humidity cabinet.
- 5) Panels were visually inspected periodically
- 6) After 480 hours, all panels were removed from ASTM D-1748 humidity cabinet.
- 7) All panels were visually inspected and photographed.

Results: The following results were found:

Panel Treatment	Time to Corrosion (Hours)
None (control)	<24
Nox-Rust VCI-10	96
M-531	480

Photos: See below.



Figure 1: Carbon steel panels, after 480 hours of ASTM D-1748 testing. From left to right: Control, Nox-Rust VCI-10, M-531.

Interpretations: After 480 hours in ASTM D-1748 humidity testing, M-531 provided 480 hours of corrosion protection, when compared to Nox-Rust VCI-10, which only provided 96 hours.