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Evaluating Liquid Samples

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Project #: 11-236-1825(bis)

Test conducted by:

A handwritten signature in black ink that reads "Eric Uutala".

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Approved by:

A handwritten signature in black ink that reads "M. Kharshan" followed by a horizontal line.

Margarita Kharshan
Laboratory Director

Date: December 20, 2011



Background: Liquid samples were sent to Cortec for comparison to similar Cortec products.

Sample Received: Metal Rescue
Ultra Clean NCE

Method: Rust removal - Immersion
Oil removal - Immersion

Materials: Metal Rescue
Ultra Clean NCE
1010 cold rolled carbon steel panels, new and pre-corroded
VpCI-422
VpCI-429
VpCI-418LM
Deionized (DI) water
50 mL plastic beakers

Procedure: The following procedure was used:

Rust Removal

- 1) Three pre-corroded carbon steel panels were immersed in the following solutions:
 - a. Metal Rescue (neat)
 - b. VpCI-422 (neat)
 - c. VpCI-429 (neat)
- 2) Panels were visually inspected every 30 minutes.
- 3) After 2 hours, panels were removed from solution, rinsed with DI water, and photographed.

Oil Removal

- 1) Two new carbon steel panels were dipped into VpCI-329D and hung to dry for 2 hours.
- 2) Panels were then immersed in one of the following:
 - a. Ultra Clean NCE (neat)
 - b. VpCI-418LM (7%)
- 3) Panels were immersed for 10 minutes.
- 4) Panels were then removed and visually inspected.

Results: Discussed in 'Interpretations' section below.

Photos:



Figure 1: Rust removal products after 2 hours of immersion.

Interpretations:

Metal Rescue removed a small amount of corrosion after 2 hours of immersion. VpCI-422 and 429 removed all corrosion from the carbon steel panels.

Both cleaners, Ultra Clean NCE and VpCI-418LM, effectively removed VpCI-329D from carbon steel.