



# The LEADING Edge

## Cortec® Laboratories Engages in NACE CORROSION 2019 Technical Symposium



Over the last year, Cortec® Laboratories was the site of important testing for papers presented at the NACE CORROSION 2019 technical symposium, March 24<sup>th</sup>-28<sup>th</sup> in Nashville, Tennessee.

As part of the Monday morning symposium on VCI/surface rust preventatives, John Wulterkens (Technical Service Supervisor) presented Paper No. 12905, "[Corrosion Protection in Oil Systems with Water Ingress by Use of Volatile Corrosion Inhibitors \(VCI\)](#)," coauthored by Sen Kang (Sr. Corrosion Engineer) and Casey Heurung (Technical Service Engineer).

The paper presented findings of immersion testing on a VCI (vapor corrosion inhibitor) oil additive. The point of the testing was to see how well the corrosion inhibitor would partition into water for times when water might leak into a vessel during preservation. The testing found that partitioning was possible and indicated the potential of using the said VCI oil additive to protect oil tanks that experience water ingress.

During the Wednesday symposium on transportation and infrastructure corrosion, Cortec® Technical Service Engineer Casey Heurung gave an excellent finale to Cortec's technical lineup with the presentation of Paper #13434, "[A New Method of Evaluating Corrosion-Inhibiting Admixtures](#)." The paper was coauthored by Sen Kang and Ming Shen (Director of Innovations and New Technologies). It shares how greater precision can be achieved through a more practical mode of testing corrosion inhibitor admixtures than current industry standards. The paper demonstrates how Cortec® is thinking outside the box to lead the admixture industry toward important new developments in corrosion inhibitor testing.

## Cortec® R&D Creates Next Generation Corrosion Inhibiting Fuel Additive

Earlier this year, Cortec® [announced the development](#) of its next generation corrosion inhibiting fuel additive: VpCI®-707. VpCI®-707 offers more potent corrosion protection of fuel systems without damaging copper and aluminum. VpCI®-707 also helps stabilize fuel and discourage sludge formation.

VpCI®-707 is a powerful option for keeping new and existing fuel tanks and systems in good condition during day-to-day operation and especially during vulnerable times such as intermittent operation, storage, or shipment. Other benefits of VpCI®-707 are its improved water handling and good injector-cleaning capabilities. VpCI®-707 does not contain trace metals, chlorides, chromates, nitrites, phosphates, or secondary amines.

Because of its combined contact-phase and vapor-phase action, VpCI®-707 effectively provides corrosion protection to metal surfaces not only in direct contact with the treated fuel, but also in the void space above the fuel line. This allows VpCI®-707 to be applied at a very low dose compared to the volume of the tank being protected. VpCI®-707 can be added directly to gasoline or diesel fuel in blending, storage, or vehicle tanks. It can also be fogged as a concentrate into dry fuel tanks before storage and shipment.



## Cortec® Laboratories Adds to its USDA BioPreferred® Portfolio!

Cortec® Laboratories continues to look for ways to provide “green” solutions to corrosion. One of these ways is to continue expanding its portfolio of USDA Certified Biobased Products, which meet or exceed the required percentage of plant-derived or other renewable content for specific product categories, and which are in the mandatory US Federal BioPreferred® Purchasing program (for more information, go to [www.biopreferred.gov](http://www.biopreferred.gov)).

Recently, Cortec® Laboratories received notification that its [EcoLine® Fifth Wheel Grease](#) has been granted the USDA Certified Biobased Product label confirming that it contains 91% USDA certified biobased content.

EcoLine® Fifth Wheel Grease is premium quality biodegradable grease formulated from vegetable oils and a lithium-based thickener. Its superior lubricity and advanced extreme pressure additives promote longer equipment life by reducing friction and wear. The grease shows good adhesion to resist water washout and has a wide range of operating temperatures.

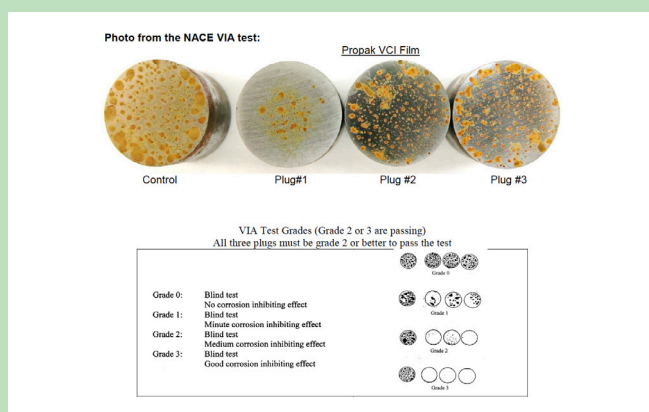
Stay tuned for more USDA Certified Biobased Products forthcoming!



## Lab Report Reminds Us Not All VCI Film Brands Are Equal

From time to time, Cortec® will test competitor film brands to see how they perform. One such test of a 3-mil competitor VCI film sample (received in 2017 and tested near the end of 2018) found that the VCI film did not pass testing for its ability to protect metal in direct contact with the film (Razor Blade Test, Cortec® test method CC-004) or its ability to emit corrosion inhibiting vapors that protect metal surfaces not in direct contact with the film (NACE TM0208-2008). The film also tested positive for nitrite and nitrate, and FTIR analysis suggested an absence of carboxylate-based corrosion inhibitors like those used in Cortec® VpCI® film. The report is a good reminder that not all films are made the same or have the same quality. However, Cortec® seeks to deliver high quality on its own VpCI® film by requiring all batches to pass razor blade and basic VIA testing before heading out the door to customers.

Read more: [https://www.cortecvci.com/whats\\_new/announcements/Propak-VCI-Film-NA.pdf](https://www.cortecvci.com/whats_new/announcements/Propak-VCI-Film-NA.pdf)



# Lab News

## Cortec® R&D Stays Ahead of EPA Methylene Chloride Ban

When the [EPA announced](#) its final rule banning methylene chloride from consumer paint stripper sales, Cortec® had already released an industrial paint stripper that does not contain the dangerous substance. Cortec's EcoLine® 4320/4330 are in fact USDA Certified Biobased Product paint strippers for the industrial market that do not contain either methylene chloride or N-methylpyrrolidone (NMP), another paint stripper chemical that has raised concern and prompted voluntary removal by several retailers.

[EcoLine® 4320 and 4330](#) answer both concerns and are formulated with renewable materials and recycled solvent. EcoLine® 4320 and 4330 contain 50% USDA certified biobased content. They are qualified products under the mandatory federal purchasing initiative of the USDA BioPreferred® Program.

EcoLine® 4320 and 4330 are VOC compliant to the California Regulation for Reducing Emission from Consumer Products.\* They do not contain any California Prop 65 components that cause cancer, birth defects, or other reproductive harm. They also do not contain chlorinated solvents, toluene, or acetone.

EcoLine® 4320 and 4330 paint strippers are designed to remove coatings, inks, and resins from metal, concrete, and wood surfaces. They are effective on a wide variety of paints and contain flash corrosion inhibitors to prevent rust and tarnishing throughout the stripping process. EcoLine® 4320 should be used in dip tanks and on horizontal surfaces. EcoLine® 4330 is a gelled version for use on vertical, overhead, or complex surfaces.

\*California Code of Regulations, Title 17, Division 3, Chapter 1, Subchapter 8.5, Article 2, Sections 94507-94517



## Patented CorroLogic® VpCI® Filler Underscores Cortec® R&D Intellectual Property Achievements

With more than 40 years of experience, Cortec® R&D has developed a wealth of intellectual property and accumulated a portfolio of more than 60 patents. Cortec's CorroLogic® VpCI® Filler is one of those patented innovative solution designed to address the insidious problem of corrosion at cased pipeline crossings. The US government recognized the uniqueness and innovation of this technology by granting US Patent #9,518,328 to Cortec® Corporation in December 2016. An additional patent affirming Cortec's intellectual property of the technology is pending.

CorroLogic® VpCI® Filler consists of two components that form a corrosion-inhibiting gel when injected into pipeline casings or other tubular void spaces. The liquid VpCI® component (Part A) can be diluted onsite to the appropriate concentration. The powder gelling agent (Part B) is added just prior to application and causes an increase in viscosity that ultimately forms a gel over a pre-determined time period (usually within a few hours).

CorroLogic® VpCI® Filler has several advantages over traditional methods of casing protection and has already been used by some major pipeline companies in North America and the Middle East.



Cortec® Middle East Sales Engineer Abdulatif demonstrates CorroLogic® VpCI® Filler to oil and gas industry engineers.



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Created: 05/2019

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