

THE LEADING EDGE



CORTEC
CORPORATION

Environmentally Safe VpCI®/MCI® Technologies



*Carissa Metzger (Scientist I)
explores processes at CST.*

FROM SMALL JARS TO SCALE-UP: CORTEC® R&D INVESTIGATES THE BIGGER PICTURE

Making a chemical reaction happen in a small jar is not the same as running a full-scale batch in one of Cortec's giant reactors or mixing tanks. That's why Cortec® R&D is investing significant time in understanding the manufacturing processes at multiple Cortec® plants.

At Cortec® World Headquarters, this translates into a team of R&D and Technical Service employees going from room to room on the production floor to learn the ins and outs of liquid, coating, and powder production with Production Manager Edgar De Alba. It also meant a recent trip to Cortec® Advanced Films (CAF) in Cambridge, Minnesota, to watch masterbatch processing, collect samples, observe bag-making, and



perform QC (quality control) testing and evaluation. On the aerosol side, Cortec® President Caleb Pheneger has been training the team on the ins and outs of spray can technology. This was supplemented by a site visit to Cortec® Spray Technologies (CST) in Spooner, Wisconsin, to watch the aerosol filling line in action and talk about the whole process with the plant's manager and with longtime aerosol Quality Technician Jay Johnson. Some team members also



visited Cortec® Coated Products (CCP) in Eau Claire, Wisconsin, for insight into VpCI® paper coating and converting.

Rebecca Guza, Ph.D., Cortec® Director of Innovations and Product Technologies, explained that these investigations will support the team's broader understanding of the technologies that Cortec® designs and produces. Understanding raw material blending, QC checks, packaging, and the many different aspects of formulation scale-up from a tiny R&D jar to a batch of

thousands of gallons gives R&D and Technical Service a better appreciation of what goes on once a new product leaves the initial development stage. Such knowledge will serve as an important resource for innovation and technical support, both to inform the R&D and scale-up process and better prepare Technical Service to troubleshoot unexpected challenges that arise during in-house production or customer distribution and use.



CST is the place to literally surround oneself with spray can technology.



Can't miss a photo op with the Spooner Cowboy at CST!

LABORATORY UPDATE

BIONETIX® LABORATORY PHAC LICENSE RENEWED

Early this year, Cortec® biosolutions subsidiary, Bionetix® International, celebrated PHAC license renewal for their onsite laboratory. As a facility that handles microorganisms, the Bionetix® lab is held to strict standards that require periodic audits and certifications by the Public Health Agency of Canada (similar to the US FDA). The Bionetix® laboratory was confirmed to be in full compliance with Containment Level 2 (CL2) conditions and was authorized to conduct research and experimental work with Biosafety Level 2 microorganisms and regulated biological materials, enabling advanced and high-complexity biological studies under strictly controlled conditions. David S. Llano (Bionetix® Product Manager), who has an extensive R&D background in microbiology, commented



Our Bionetix® lab team celebrated PHAC license renewal with a special breakfast.

that, "This accomplishment highlights the excellence of our infrastructure, procedures, and technical team, and strengthens our position as a fully compliant and trusted research facility."

RESEARCH DEVELOPMENTS

As a longtime innovator and researcher committed to ongoing growth in the corrosion control industry, Cortec® continues to contribute to the industry's body of knowledge through intensive research efforts. Two projects of special note for their

pioneering insights into key areas of corrosion control were part of the technical program at the AMPP Annual Conference + Expo last March.

ABOVEGROUND STORAGE TANK (AST) PROTECTION RESEARCH

For the last several years, Cortec® has been investing significant amounts of time and money into a groundbreaking study on VCI (Vapor Corrosion Inhibitor) protection of aboveground storage tank (AST) bottoms. Eric Uutala (Business Development Manager) has been heading up this massive undertaking along with substantial support from Cortec® R&D and Technical Service. The team has been facilitating testing in a giant “sandbox” at Cortec® World Headquarters as researcher Pavan Shukla of the Battelle Savannah River Alliance, in conjunction with a major midstream pipeline operator, studies the behavior of VCI in a simulated tank pad environment.

The project has multiple purposes, key of which is gathering additional data that will support the development of further

testing protocols and industry specifications. A first batch of data was released in March at the AMPP Annual Conference + Expo in a whitepaper presented by Pavan Shukla, et al., entitled, “[Determining Vapor Corrosion Inhibitor Dispersion Range Under the Tank Pad Conditions.](#)” The main focus of this paper was to determine the distance that VCI can reasonably be expected to migrate through a corrosive sand matrix. This paper reports just one aspect of the data gathered from the Cortec® sandbox testing. Additional data from this test is expected to be shared at AMPP next year, with other testing underway to better understand the true nature and behavior of VCI technology applied to AST bottoms. Keep watch for more details as Cortec® continues to make major investments in this pivotal research for the oil and gas industry and other tank owners.



Applying VCI to the sand test pad, aka, the Cortec® “sandbox.”



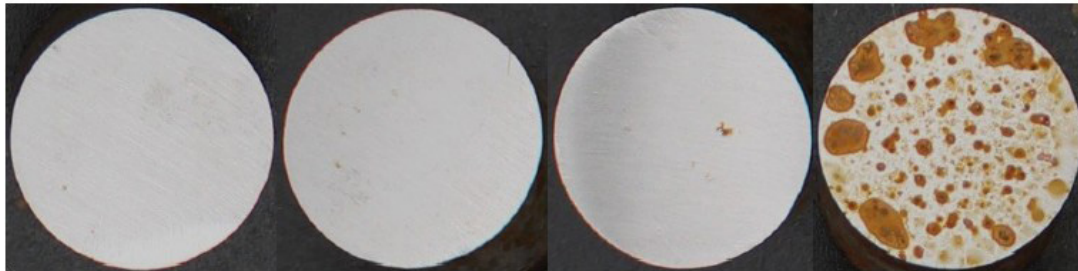
The giant “sandbox” in Cortec’s warehouse is part of a groundbreaking study on using VCIs for the protection of AST metal bottoms from corrosion.

NACE VIA GRADING AND TESTING OF FOGGING FLUIDS

Another AMPP paper, "[Enhancing NACE VIA TM 0208-2024 Through Mimicked Application Conditions and Quantitative Results](#)," reflected research done by Carissa Metzger and Colin Gardner, members of the Cortec® R&D team. The research looked at two key areas of NACE VIA TM 0208-2024 corrosion testing. The first subject under examination was the NACE VIA approach to testing VCI fogging fluids. Since NACE VIA TM 0208-2024 is geared toward testing the performance of VCI packaging materials, testing and fairly evaluating VCI fogging materials according to the same method has been challenging. The paper proposed a modified method that paralleled real-world VCI fogging conditions more closely. The second part of

the research focused on the grading of metal plugs for NACE VIA testing. This is a task that is very subjective and can be challenging for the person doing the testing. The research investigated how subjectivity can be removed by imaging and percentage grading of the plugs, creating a fairer, more balanced method of grading that is worth further investigation. The presentation generated much interest in this regard, and more data on the subject from Cortec® is expected to be forthcoming.

Both papers can be purchased for review on the AMPP website.



NACE VIA testing evaluates corrosion inhibitor performance based on the level of corrosion on steel plugs. Shown here, left to right, grades 3, 3, 2, and 0.

NEW ESD (ELECTROSTATIC DISCHARGE) TESTING EQUIPMENT SUPPORTS R&D AND QUALITY ASSURANCE

Have you ever noticed more static on your clothes and hair in the winter than in the summer? That's because relative humidity levels affect the likelihood of static activity. These constantly fluctuating environmental conditions make it critical to follow industry standards where testing must be performed at specific humidity levels. If the humidity level is either too low or too high, results from different sources cannot be compared to discern performance.

With Cortec® continuing to invest in the development of cutting-edge ESD protective packaging materials, the R&D team at Cortec® Headquarters acquired special equipment last fall to allow them to maintain a consistent testing environment in accordance with ANSI/ESD STM11.11 (Surface Resistance Measurement of Planar Materials), an important industry standard for electrostatic dissipative property measurement. The new equipment includes a surface resistance probe and a special chamber to ensure proper relative humidity according to the industry standard. This testing capability allows Cortec® to effectively develop new ESD products, as well as monitor the quality of various ESD products that Cortec® currently makes.

Cortec® Advanced Films (CAF) is equipped with this technology

for their ESD film production activities. The addition of similar equipment at Cortec® Headquarters expands these testing capabilities to allow corroboration and redundancy while primarily facilitating R&D research efforts for further ESD product development and quality assurance.

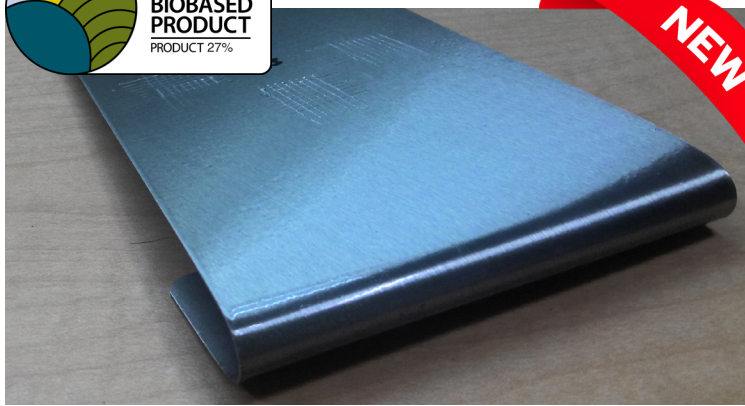


New testing equipment includes a surface resistance probe and a special chamber to ensure proper relative humidity according to the industry standard.

NEW PRODUCTS

Biobased Anticorrosion Coating

EcoLine® 3860 represents a sustainable step forward in the development of biobased anticorrosion coatings for metal. This water-based acrylic builds on Cortec's line of flagship VpCI®-386 water-based anticorrosion coatings, itself a milestone in the journey from solvent-based technologies that once dominated the market. EcoLine® 3860 contains 27% USDA certified biobased content and has low VOC, setting the stage for the development of more advanced biobased coatings to come.



Learn more: www.cortecvci.com/product-release-cortec-steps-into-the-future-with-biobased-acrylic-anticorrosion-coating/

Two Vertical/Overhead Water Repellents

MCI®-2018 V/O and **MCI®-2018 X V/O** are two vertical/overhead versions from Cortec's water repellent portfolio designed specifically to make application easier on walls and overhangs that are typically more difficult to protect on concrete structures. MCI®-2018 is a 100% silane water repellent enhanced with Migrating Corrosion Inhibitors that penetrate the concrete pore structure, adsorbing on metal surfaces to form a protective molecular layer. MCI®-2018 X V/O is the same 100% silane water repellent minus Migrating Corrosion Inhibitors for use in applications where only water repellent is needed. Both products are formulated for reduced sagging, dripping, and waste, promoting better overall application consistency on vertical or overhead surfaces such as building walls, bridge piers, and parking ramp beams.

Learn more about MCI®-2018 V/O: www.cortecvci.com/concrete-water-repellent-mci-2018-pro-tip/



Learn more about MCI®-2018 X V/O: www.cortecvci.com/anti-sag-silane-vertical-concrete-protection/

Biobased Paint Remover

EcoLine® Surface Reveal is a next-generation industrial paint remover that contains 77% USDA certified biobased content and is made with biodegradable materials. Building on Cortec's earlier biobased paint strippers, this upgraded formula delivers strong performance with improved user experience and significantly higher biobased content (up from 50%). During warehouse trials, Cortec® workers noticed improved odor and impressive performance. Like Cortec's previous biobased paint removers, EcoLine® Surface Reveal does not contain methylene chloride or NMP (N-methylpyrrolidone), two extremely dangerous paint removal chemicals only recently banned from consumer paint strippers by the EPA.



Learn more: www.cortecvci.com/ecoline-surface-reveal-fast-paint-removal/

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Five-Enzyme Detergent Platform

ENVIA CORE™ is the first in a new line of enzyme concentrates from Cortec® biosolutions subsidiary Bionetix® International. This platform of five “core” enzymes promises to bring enhanced cleaning and waste treatment power to laundry and automatic dishwashing detergent formulators, industrial cleaning professionals, and environmental remediation teams seeking more sustainable solutions. ENVIA CORE™ acts as a synergistic multienzyme hydrolysis platform, accelerating the breakdown of proteins, starches, fats, and complex polysaccharides into smaller, more manageable compounds thanks to the synergistic activity of five targeted enzymes.



Learn more: www.cortecvci.com/product-release-bionetix-announces-new-synergistic-five-enzyme-concentrate-for-detergent-and-industrial-cleaning-power/

Three-Enzyme Hard-Water Drain-Maintainer

ENVIA ESSENTIAL™ is a ready-to-use enzymatic concentrate designed to help food service, food processing, and waste processing facilities manage organic buildup in drain and disposal systems containing hard water. The three-enzyme formula targets the breakdown of fats, proteins, and starch residues that contribute to the formation and stabilization of hard-water deposits—helping loosen accumulated buildup during routine drain or grease trap maintenance. Enzymes present a preferable alternative to harsh acid cleaners or cumbersome, expensive mechanical methods of scale removal, degrading organic residues that bind with minerals and loosening the scale structure to make it easier to remove buildup.



Learn more: www.cortecvci.com/envia-essential-enzyme-concentrate-drain-maintenance/

UPCOMING EVENTS

NISTM 2026

September 1st–3rd, 2026
The Westin Long Beach
Long Beach, CA
www.nistm.org



AWT 2026

September 16th–18th, 2026
Oklahoma Convention Center
Oklahoma City, OK
Booth #405
www.awt.org



EUROCORR 2026

September 6th–10th, 2026
Dublin, Ireland
www.eurocorr.org



EOS/ESD 2026

September 28th–30th, 2026
Frisco Hotel & Convention Center
Frisco, TX
www.esda.org/events/48th-annual



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