

#### **Cortec® Presents Six Papers at CORROSION 2016!**

Cortec<sup>®</sup> joined corrosion experts from around the globe for NACE CORRO-SION 2016, the world's largest corrosion conference, which took place the week of March 6-10 in Vancouver, British Columbia.

Despite discouragingly low oil prices, the event drew a large crowd of 5,200 people to examine corrosion issues. In addition to having good attendance at its booth, Cortec<sup>®</sup> was able to join the Technical and Research Symposia by presenting six papers on corrosion inhibiting technology during the corrosion summit:

- "Improved Packaging Film Incorporating Vapor Phase Corrosion Inhibitors and High Recycle Content," co-authored by Boris Miksic, FNACE, and Robert Kean, Ph.D., highlighting the benefits of using inhouse recycling to make VpCI<sup>®</sup> packaging film with greater efficiency and environmental stewardship.
- "Vapor Phase Inhibitors in Functional Fluids" by Boris Miksic, FNACE, Alla Furman, Robert Kean, Ph.D., Margarita Kharshan, and Liz Austin addressed and evaluated the addition of corrosion inhibitors to lubricants for prolonged machinery service life.
- "Detecting Corrosion Inhibitor Migration Depth in Topically Treated Concrete Using DART-MS," presented by Ming Shen, Ph.D., and coauthored by Marek Domin and Mark Christianson, discussed penetration measurement of MCIs, which were found to migrate as deep as three inches into concrete during a 12 week test.
- "Evaluation of Impressed Current Cathodically Protected API 650 Tank Bottoms in the Presence of Vapor Phase Corrosion Inhibitor" was presented by Khalil Abed, Cortec<sup>®</sup> Middle East, and coauthored by Pankaj Panchal and Amish Gandhi. This demonstrated the effectiveness of using VpCI<sup>®</sup> to protect storage tank bottoms from soil-side corrosion. VpCI<sup>®</sup> was found to reduce corrosion by 82.5% when used independently and by 89.7% when used in conjunction with Impressed Current Cathodic Protection (ICCP).

Two of the presentations were given by Dr. Behzad Bavarian from California State University:

• "Influence of Crystalline Structure and Particle Size of Vapor Corrosion Inhibitor Powders on their Inhibiting Effectiveness" has been a







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# Lab News

progressive study on the performance of nanoparticle corrosion inhibitors versus coarse corrosion inhibitors (coauthored by Babak Samimi and Lisa Reiner in conjunction with Boris Miksic, FNACE.)

 "Improving the Controlled Humidity Protection Systems by Addition of Vapor Phase Corrosion Inhibitors," by Dr. Behzad Bavarian, Yashar Ikder, Babak Samimi, Lisa Reiner, and Boris Miksic, FNACE, demonstrated how adding VpCI® to Controlled Humidity Protection (CHP) environments is more effective for combatting corrosion, which can be triggered by very little moisture and oxygen in the presence of chlorides and other corrosive species.

Cortec<sup>®</sup> is pleased to have been a part of the exchange of knowledge and ideas at NACE CORROSION 2016. We remain committed to further research and development of Vapor phase Corrosion Inhibiting Technology, and look forward to discovering even more corrosion insights that can be shared in the years to come.



### Cortec's Distributor Training Brings Visitors to the Lab

As part of Cortec's most recent distributor training, February 29th through March 2nd, attendees learned more about what Cortec's lab has to offer in terms of testing and support. Taking a break from classroom training, trainees donned safety glasses and entered the creative and scientific heart of Cortec<sup>®</sup> Corporation to meet lab chemists and learn more about Cortec<sup>®</sup> testing. Available tests include VIA (vapor inhibiting ability), razor blade, humidity, salt spray, and UV light evaluations. Tests like these are performed on new Cortec<sup>®</sup> products but can also be done for customers who want to know more about the capabilities of products they are considering.

A major lab stop for visitors was at Cortec<sup>®</sup> coatings chemist Rick Shannon's work space. He shared with guests the recent story of being tasked to develop a high performance coating that could withstand an incredible amount of Salt Spray testing hours. In the course of the attempt, he was able to improve the coating to a level of endurance that surprised even himself. (More information about this exceptional coating will be released soon.)

Shannon had on hand several metal panels coated with VpCI<sup>®</sup> samples for the guests to pass around. Especially interesting were the panels with VpCI<sup>®</sup>-372 removable coating, which was surprisingly easy to peel off despite its initial appearance of having a tight bond to the metal. The pink tint Shannon had given it added fun and versatility to the coating. Distributors seemed pleased with the available resources and were even able to carry some panels home to show to customers.

To learn more about Cortec<sup>®</sup> Distributor Product and Sales Training, please visit **www.cortecvci.com**.

How to Request Lab Testing

- 1. Visit www.corteclaboratories.com.
- 2. Click on the "REQUEST TESTING" button near the top of the page.
- 3. Fill out the form (test method can be specified if needed).
- 4. Click the "**SUBMIT TEST REQUEST FORM**" button at the bottom of the page.





## Lab News

## Cortec Lab Says Goodbye to Faithful Employee and Welcomes New Talent

Cortec<sup>®</sup> regretfully said goodbye to longtime lab Administrative Assistant, Cindy Johnson, who retired at the end of December after 11 years of service with Cortec<sup>®</sup>. Her kind and friendly presence has been missed.

To fill her position, Cortec<sup>®</sup> Laboratories welcomes Ruth Werronen as the new Administrative Assistant. Werronen comes from a 10 year background at St. Jude Medical where she was a Microbiology Lab Technician, employing various microbiological methods to ensure safety and sterility of parts for heart and other related medical devices. She holds a B.A. in Athletic Training from Gustavus Adolphus College and a B.A. in Biology from Metropolitan State University.

In her current role at Cortec<sup>®</sup>, Werronen helps with the new product development process, which includes Chempax data entry. She also uses ChemGes to translate Safety Data Sheets into other languages and distributes accordingly. Among other tasks, she serves as the CAPA coordinator, helps release lab reports, manage test requests, and support the regulatory group. "I love being here," says Werronen. "It's an awesome place."

Cortec<sup>®</sup> also welcomes Anne Carlson, who started working as a lab temp in September and joined Cortec<sup>®</sup> permanently in March as Laboratory Technician/ISO Coordinator. An important part of her role is keeping the lab organized and up to date with ISO 17025 Accreditation. This certification validates the credibility of the lab to do certain types of testing, such as VIA, immersion testing, FTIR analysis, and UV vis Spectroscopy, among others.

Carlson also gets to help with R&D, QA, equipment maintenance, and various lab projects. She is currently coordinating with Cortec's safety manager to do industrial hygiene testing at Cortec<sup>®</sup> plants. "I like getting to do so many different things," says Carlson. "I organize all the ISO 17025 stuff, but I also get to work in R&D. I work alongside Ming and Pavlo a lot, and I do get to do a lot of cool testing with them and get to be involved with a lot of projects." Carlson has a Bachelor of Chemical Engineering and a Bachelor of Science in Mathematics from the University of Minnesota.





**Cindy Johnson** 

Administrative Assistant, Ruth Werronen



Anne Carlson prepares metal panels for an ASTM D1748 Humidity Test being run to check compliance with ISO 17025 standards.

## New Compounding Extruder Saves Time and Reduces Waste!

Cortec<sup>®</sup> Laboratories is excited to have a new piece of equipment: a lab scale compounding extruder. This equipment allows the lab to extrude small batches of film in order to test new VpCI<sup>®</sup> formulations. In the past, testing a new VpCI<sup>®</sup> film formulation meant sending hundreds of pounds of material to be extruded at the Cortec<sup>®</sup> Advanced Film Division plant. Now, the lab can test new formulations on site with just a few grams of material. Cortec's lab director, Robert Kean, Ph.D., welcomes this change as a way to not only save time but also reduce waste.





## **New Products**

## VpCl<sup>®</sup>-372 (\*Improved\*)

VpCI®-372 is a dry film temporary coating for parts and equipment. It provides dual protection from atmospheric corrosion and physical nicks, abrasions, and scratches. The water-based milky white liquid can be applied by spray, brush, roll, or dip and produces a clear film for easy equipment inspection. It can also be tinted in a wide variety of colors to identify parts. When it is time to access equipment, the dry temporary coating can be easily peeled away from the surface to uncover a clean, ready-to-use substrate.

## EcoFog® VpCI®-309

EcoFog® VpCI®-309 Nano is a Vapor phase Corrosion Inhibitor (VpCI®) Powder in submicron particles. It is particularly designed for corrosion protection of ferrous metals in hard-to-reach recessed areas, interior cavities, and voids.

Due to its submicron particle size, EcoFog<sup>®</sup> VpCI<sup>®</sup>-309 Nano offers VpCI<sup>®</sup> protection with unique physicochemical advantages, making it an extremely efficient dry method to treat hard-to-reach spaces within an enclosed space. The VpCI® vaporizes and adsorbs on all metal surfaces reaching all exposed areas including recessed sections and interior cavities.

## VpCI®-329 D ES, Patent Pending

VpCI®-329 D ES is a new easy spray version of VpCI®-329 D. While VpCI®-329 D provides excellent rust prevention for metals in indoor and outdoor sheltered conditions, its oil-based carrier makes it difficult to spray. VpCI®-329 D ES allows VpCI®-329 D to be easily sprayed from a handheld trigger spray bottle. It offers a convenient way to protect gears, spindles, coils, or any other metal parts that require a light coat of oil for further processing and shipment.

EcoClean<sup>®</sup> Scale Remover **Desicorr NW (No Window) Desicorr VpCI® NW** VpCI®-144 Super Calendered VpCI®-386 HP **VpCI®-390** 















#### Created: 11/15

Creates, BioCorr<sup>®</sup>, BioCortec<sup>®</sup>, BioCushion<sup>™</sup>, Boiler Lizard<sup>®</sup>, Closed Loop Toad<sup>®</sup>, Cooling Tower Frog<sup>®</sup>, VpCl<sup>®</sup>, VmCl<sup>®</sup>, 307<sup>®</sup>, Eco Works<sup>®</sup>, EcoAir<sup>®</sup>, Eco-Corr<sup>®</sup> Film, EcoLine<sup>®</sup>, EcoClean<sup>®</sup>, EcoShield<sup>®</sup>, EcoWeave<sup>®</sup>, Eco Emitter<sup>®</sup>, EcoSol<sup>®</sup>, Eco-Tie<sup>®</sup>, Eco-Card<sup>®</sup>, EcoShrink<sup>®</sup>, Eco Wrap<sup>®</sup>, Eco Film<sup>®</sup>, Cor-Pak<sup>®</sup>, CorShield<sup>®</sup>, CorSol<sup>®</sup>, Corrosorber<sup>®</sup>, CorVipe<sup>®</sup>, CorrVerte<sup>®</sup>, Corr Seal<sup>®</sup>, CorrLam<sup>®</sup>, CRI<sup>®</sup>, Desicorr<sup>®</sup>, ElectriCorr<sup>®</sup>, GalvaCorr<sup>®</sup>, Super Corr<sup>®</sup>, HPRS<sup>®</sup>, CRI<sup>®</sup>, MCl<sup>®</sup>, MC