

### **OUR TECHNICAL SERVICE TEAM IS GROWING!**

After some personnel changes last year, we are pleased to announce new additions to our Tech Service team for product technical advice and customer testing support! In September, Rick Shannon (whom many of you will have known as Cortec's Coatings Chemist for the last 10 years) was promoted to the role of Technical Services Manager. He was soon joined by Technical Service Engineers Lisa Eischens and Patrick Shortridge, both of whom are recent highly skilled graduates with Bachelor's degrees in Chemical Engineering. All three join Ben Voight (Bs.Ch.E.), who continues to act in a consulting position as he transitions toward his full time focus of process engineering at Cortec<sup>®</sup>.

Rick shared these comments on his vision for the new team: "I see the new Tech Service team being young, highly motivated professionals who bring open minds and a desire for knowledge. This wealth of fresh ideas will not only benefit Cortec<sup>®</sup> Laboratories, but will also benefit our customers with new training programs, quicker response times, new test data on products and general knowledge that we can supply them with."

Lisa is personally looking forward to contributing to Cortec's development of sustainable products and being a strong liaison between customers and all channels of the company, while Patrick is eager to become a corrosion-problem-solving expert that goes above and beyond to assist customers.

Please join us in welcoming our new team, and do not hesitate to contact them for assistance!



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### **TESTING NEWS**

### Moisture Barrier Technology Passes Recyclability Testing per EU Standards

We are pleased to announce that our EcoShield<sup>®</sup> Barrier Coating, EcoShield<sup>®</sup> Barrier Paper, and EcoShield<sup>®</sup> VpCl<sup>®</sup>-144 Paper have all passed recyclability testing per EU Standards (UNI 11743:2019 and the System of Evaluation Aticelca 501:2019). Recyclability testing was performed on the three barrier products in the fall of 2020 by a third-party major EU government testing lab to demonstrate compliance with EU recyclability criteria. Test results rated all three products as recyclable. This is important in the realm of moisture barrier paper products, which usually employ a polyethylene or waxed coating to make paper resistant to moisture. Because these PE- and wax-coated papers are typically not recyclable through normal channels, Cortec<sup>®</sup> has developed recyclable alternatives to make it easier to recycle and reuse barrier papers. Recyclability testing results can be seen in the table below.

Recyclability Assessment System Aticelca 501:2019	EcoShield <sup>®</sup> Barrier Coating*/EcoShield <sup>®</sup> Recyclable Barrier Paper/EcoShield <sup>®</sup> VpCl <sup>®</sup> -144 Barrier Paper				Polyethylene Coated Paper
	Level A+	Level A	Level B	Level C	Not Recyclable with Paper
Coarse Reject (%)	<1.5	1.5-10.0	10.1-20.0	20.1-40.00	>40.0
Area Macrostickies ø<2000µm. (mm²/kg)	<2.500	2.500-10.000	10.001-20.000	20.001-50.000	>50.000
Fibre Flakes (%)	<5.0	5.0-15.0	15.1-40.0	>40.0	
Adhesiveness	Absent	Absent	Absent	Absent	Present
Optical Inhomogeneity	Level 1	Level 2	Level 3	Level 3	

\*Results for EcoShield<sup>®</sup> Barrier Coating were when applied at 10 pounds per ream dry coat weight to 35 pounds per ream kraft paper.





### **Cortec® Laboratories Acquires** Weathering Test Chamber

We are excited to have added new testing equipment to our laboratories to extend our product and customer testing capabilities! The latest addition is a UV Weathering Chamber that allows us to test the stability of materials in accelerated weathering conditions such as UV exposure, high humidity, and fluctuating temperatures. This equipment will enable us to perform tests according to ASTM G53, which will be useful for evaluating the performance of VpCI® coatings for metal, plastic VpCI® films, and also MCI® coatings on concrete.



### **PATENT & CERTIFICATION NEWS**

### A New Addition to Cortec's Patent Portfolio

Cortec<sup>®</sup> has been awarded yet another patent for innovation in the field of VCI (Vapor Corrosion Inhibitor) science! This new patent, awarded in June 2020, covers Cortec's latest film technology, EcoShield<sup>®</sup> VpCI<sup>®</sup>-226, a 100% nitrite free film that protects metals from corrosion. It follows a significant line of other VCI film patents that Cortec<sup>®</sup> has been awarded over the years for VCI films with recycled content, compostable VCI film, and VCI films with fire retardant additives. This is another one of more than 60 patents that Cortec<sup>®</sup> has received in 43 years and demonstrates Cortec's dynamic position on the leading edge of VCI technology innovation!

### **BPI Compostable Film & Bag Recertifications**

Eco Film<sup>®</sup>, Eco Works<sup>®</sup>, and Eco Works<sup>®</sup> Resin blend have been recertified compostable under BPI #890974! Periodic recertification is required to confirm that these plastic films and bags continue to meet the specifications of the ASTM D 6400 standard for compostability in a municipal or industrial composting facility. Eco Film<sup>®</sup> is a basic compostable film and bag material for yard waste or organic waste diversion in a commercial composting facility. Eco Works<sup>®</sup> film and bags are similar but contain 10% or 30% biopolymer content from an annually renewable source. Eco Works<sup>®</sup> Resin blend can be used to make commercially compostable film and bags with biopolymer content.



COMMERCIALLY COMPOSTABLE ONLY. FACILITIES MAY NOT EXIST IN YOUR AREA. CERT # 890974

### **BioPad® Earns USDA Certified Biobased Content Label**

One of our latest additions to our growing portfolio of USDA Certified Biobased Products is BioPad<sup>®</sup>, which earned the USDA Certified Biobased Product label in March. BioPad<sup>®</sup> contains 58% USDA certified biobased content. This includes byproducts of corn processing. By utilizing renewable, biobased materials such as these, companies like Cortec<sup>®</sup> are able to displace the need for non-renewable petroleum-based chemicals. BioPad<sup>®</sup> is a unique flexible corrosion inhibiting device constructed from biobased non-woven material, providing a sustainable packaging option for corrosion inhibition.

Read more here: https://www.cortecvci.com/whats\_new/announcements/BioPad-PR-2020-07.pdf

### **EcoShield® Barrier Paper Earns USDA Certified Biobased Content Label**

On June 9<sup>th</sup>, EcoShield<sup>®</sup> Barrier Paper was also added to our portfolio of USDA Certified Biobased Products. EcoShield<sup>®</sup> Barrier Paper contains 65% USDA certified biobased content. In addition to its sustainable sourcing, EcoShield<sup>®</sup> Barrier Paper comes full circle to meet the widespread need for repulpable moisture barrier papers to replace PE-coated or waxed papers in moisture sensitive packaging applications. Read more here: <u>https://www.cortecvci.com/whats\_new/announcements/EcoShield-Barrier-Paper-PR.pdf</u>

### **CORTEC® R&D AT WORK: OUR PRODUCT LINE IS GROWING!**

### EcoShield<sup>®</sup> 386 FD – Fast-Dry Coating

Cortec<sup>®</sup> has expanded its unique portfolio of water-based anticorrosion coatings this year by developing a new fast-dry version called EcoShield<sup>®</sup> 386 FD. EcoShield<sup>®</sup> 386 FD combines the worker and environmental advantages of a water-based coating with the outstanding micro-corrosion inhibiting technology of EcoShield<sup>®</sup> 386 in a topcoat that will force-dry in five to 10 minutes. This is ideal for manufacturers of pipes, tubes, and other metal components without enough time to cool and dry the coated parts before continuing the production process. The faster drying time of EcoShield<sup>®</sup> 386 FD makes it easier to handle components that need to be processed and stacked or packed right away, reducing or eliminating the problem of hot coated parts sticking to each other only to be pulled apart and cause coating failure and corrosion later. Read more: https:// www.cortecvci.com/Publications/PDS/EcoShield-386-FD.pdf



### Boiler Turtle<sup>™</sup> – For Wet-Dry Layup of Boiler Systems

Cortec's Boiler Turtle<sup>™</sup> is a ready-to-use waterborne corrosion inhibitor for wet-dry layup of boiler systems. Its combination of contact and Vapor phase Corrosion Inhibitors protects multi-metal surfaces below and above the water level. Boiler Turtle<sup>™</sup> is easy to apply because it does not require the boiler to be drained or opened for application. It is an excellent alternative to other methods of long-term layup. Read more: <u>https://www.cortecvci.com/Publications/PDS/Boiler\_Turtle\_NEW.pdf</u>

### Boiler Salamander<sup>™</sup> – For Wet Layup of High-Purity Steam Boilers

Boiler Salamander<sup>™</sup> is a ready-to-use waterborne corrosion inhibitor liquid for wet layup of high-purity steam boilers. Boiler Salamander<sup>™</sup> is effective at a very low dosage and provides contact and vapor-phase corrosion protection. Boiler Salamander<sup>™</sup> can be easily added into feedwater or condensate lines. Application does not require the boiler to be drained or opened. Read more: <u>https://www.cortecvci.com/Publications/PDS/Boiler\_Salamander\_NEW.pdf</u>

# Boiler Iguana<sup>™</sup> – For Wet Layup of Boilers

Boiler Iguana<sup>™</sup> is a ready-to-use waterborne corrosion inhibitor for use in operating hot water systems or wet layup of standby boilers. Its combination of contact and Vapor phase Corrosion Inhibitors protects multi-metal surfaces below and above the water level. Boiler Iguana<sup>™</sup> is easy to apply and does not require frequent monitoring—unlike traditional layup strategies that require maintenance of high pH and regular testing of oxygen scavenger levels. Boiler Iguana<sup>™</sup> allows quick startup because it is compatible with other water treatment chemicals and there is no need to drain the boiler before bringing it back online. Read more: <u>https://www.cortecvci.com/Publications/</u> <u>PDS/Boiler\_Iguana\_NEW.pdf</u>



# **EcoSonic® VpCI®-125 HP Permanent ESD Films and Bags – For Electronics Protection**

EcoSonic<sup>®</sup> VpCl<sup>®</sup>-125 HP Permanent ESD Films and Bags are high-performance anti-static, corrosion inhibiting film and bags for use in the protection of static sensitive multi-metal items such as electronics. They contain permanent anti-static properties to immediately reduce or eliminate static buildup as long as the films or bags are in use, independent of the presence of humidity. They do not affect soldering of electronics. Read more: <u>https://www.cortecvci.com/Publications/PDS/EcoSonic-VpCI-125-HP.pdf</u>

### CORTEC® LABORATORIES CONTRIBUTES TECHNICAL RESEARCH TO NACE PLATFORM

Although the NACE CORROSION 2020 Conference & Expo was cancelled this year due to pandemic concerns, we were still proud to be part of contributing several papers that originated in Cortec<sup>®</sup> Laboratories.

# "Protect and Prolong – A New Multi-functional Diesel Fuel Additive" - Paper No. C2020-14855

This paper discusses Cortec's newest fuel additive technology, which includes dual contact and Vapor phase Corrosion Inhibitors that provide corrosion protection below and above the level of the fuel in the tank. It is especially applicable for use in bio-diesel fuel tanks, where corrosion can be accelerated. Read the paper here: <u>https://www.cortecvci.com/Publications/Papers/C2020-14855[2]</u>. <u>pdf</u>

### "Evaluating Hydrostatic Test Corrosion Inhibitors and Hydrostatic Test Conditions" – Paper No. C2020-14849

The effectiveness of corrosion inhibitors for hydrostatic testing has already been established. However, in order to better understand specific parameters for use, this paper takes a closer look at how corrosion inhibitors for hydrostatic testing work at different levels of inhibitor and chloride concentration. Read the paper here: <u>https://www.cortecvci.com/Publications/Papers/C2020-14849.</u> <u>pdf</u>

### "USDA-certified Biobased, Low VOC and Biodegradable Paint Stripper and Graffiti Remover" – Paper No. C2020-14503

This paper highlights the development of a "green" technology paint stripper that avoids the use of methylene chloride (banned in consumer paint strippers by the EPA) and NMP, a substance of very high concern. The new paint stripper meets USDA biobased content criteria and complies to California VOC requirements. Contained in the product is a flash rust inhibitor to protect carbon steel, aluminum, copper, and brass. Read the paper here: https://www.cortecvci.com/Publications/Papers/C2020-14503[2].pdf

We look ahead to next year with hopes that times will be improved so we can share some technical research in person at the next NACE CORROSION convention-place and time TBD! Check the NACE CORROSION website for updates on December 21st, 2020: https://www.nacecorrosion.org/









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Created: 12/2020 Cortec\*, BioCortec\*, Boiler Lizard\*, Closed Loop Toad\*, Cooling Tower Frog\*, VpCI\*, VmCI-307\*, Eco Works\*, EcoAir\*, Eco-Corr Film\*, EcoLine\*, EcoClean\*, EcoShield\*, EcoWeave\*, EcoEmitter\*, EcoSol\*, Eco-Tier\*, Eco Film\*, Cor-Pak\*, CorShield\*, Corrosorber\*, CortWipe\*, CortVerter\*, Corr Seal\*, CorrLam\*, Desicorr\*, ElectriCorr\*, GalvaCorr\*, Super Corr\*, HPRS\*, MCI\*, MOI\* Grenade\*, MilCorr\*, and Rusthunter are trademarks of Cortec\* Corporation. inter are trademarks of Cortec® Corporation

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