

# BioCORTEC® NEWSLETTER

October 2017

## Cortec® Presents Important Biobased Rust Preventative Research Paper at EUROCORR 2017

Cortec® and its partners presented several important research papers September 3<sup>rd</sup>-7<sup>th</sup> at the joint EUROCORR 2017, 20<sup>th</sup> International Corrosion Congress, & Process Safety Congress in Prague, Czech Republic. A long-anticipated highlight for Cortec® was the presentation of its paper entitled, "Economic and Environmental Impact of Traditional Rust Preventives as Compared to Novel Biobased Temporary Coatings." The well-attended presentation generated strong interest in Cortec's BioCorr® Rust Preventative (RP), a water-based, biobased, biodegradable, and VOC-free rust preventative for preserving metals in storage and transportation. This environmentally friendly RP combines film-forming additives with Vapor phase Corrosion Inhibitors and eliminates expensive disposal costs associated with oils.

The paper shared the results of research conducted in collaboration with the Laboratory for Materials Protection at the University of Zagreb. It compared the cost and performance of BioCorr® with four conventional solvent- and oil-based products. The study found the price of BioCorr® to be the lowest when considering market price, European disposal cost, transport cost, and warehousing cost. When also taking performance into consideration, BioCorr® stood out as an excellent alternative to traditional petroleum-based and hazardous rust preventatives.

During the study, BioCorr® and the four other RPs were subjected to humidity testing to simulate the condensation that can form on metal parts in a warehouse or transport environment. Metal



panels were dipped into the five different RPs, and each RP left behind a different thickness on the surface of the metal panels.

The panel dipped in BioCorr® was among three of the five panels that passed 600 hours of humidity testing. The BioCorr® panel was also among the top three panels showing corrosion inhibitor efficiency under electrochemical testing after one hour and 120 hours in fresh water. Finally, the BioCorr® panel effectively passed the cleanability test (for easy removal of film, though BioCorr's virtually undetectable film can often be left on). The study showed that a thicker coating of RP did not guarantee better corrosion protection and even had a negative influence on cleanability.

In the end, BioCorr® showed an all-around competitive performance compared to the other solvent and mineral-base oil RPs, with the advantage of being waterbased, biobased, biodegradable, and VOC-free. Unlike traditional rust preventative oils, BioCorr® leaves a virtually undetectable dry film on the surface of the metal, helping to create a clean workplace and prevent material waste. It also contains 64% USDA Certified Biobased Content.

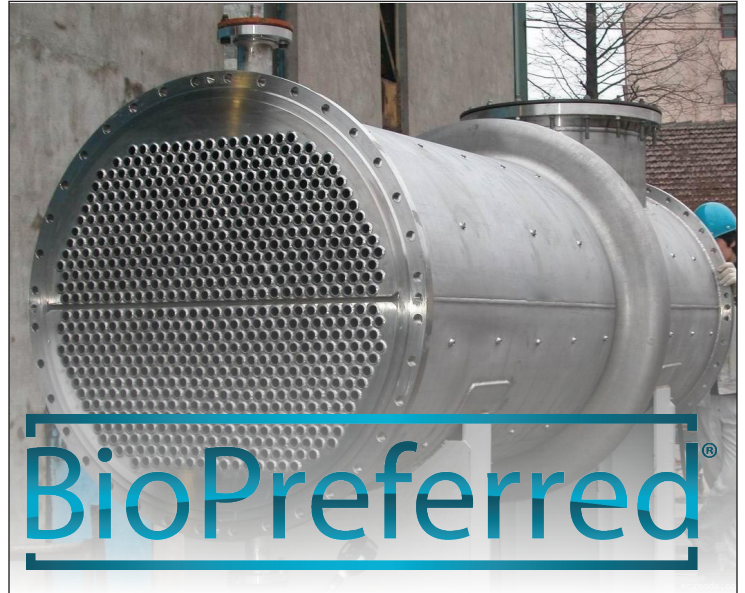


## Classification of Cortec's EcoClean® Biodegradable Scale and Rust Remover as a USDA Certified Biobased Product

EcoClean® Scale Remover is one of the fastest acting products on the market for dissolving heavy scale, corrosion, and naturally occurring oxides off metals. Powerful corrosion inhibitors contained in the scale remover protect treated metals from flash rust. EcoClean® Scale Remover is simple to use and non-toxic, providing one safe remover for all your descaling and de-rusting needs.

Within the last year, EcoClean® Scale Remover was officially designated as a USDA Certified Biobased Product. Because it contains 100% USDA certified biobased content, it exceeds minimum USDA certified biobased content requirements for metal cleaners and corrosion removers qualified for federal purchasing under the USDA BioPreferred® Program.

EcoClean® is another important addition to Cortec's expanding portfolio of USDA Certified Biobased Products. Stay on the alert for more biobased products as Cortec® continues to research and develop more environmentally-conscious corrosion solutions.



## 2017 Recertification of Eco Film® and Eco Works® for DIN CERTCO “Seedling” Logo

Cortec's Eco Film® and Eco Works® products were both recertified this year to bear the DIN CERTCO “seedling” logo for the following formats:

- Compostable Film (reg # 7P0090)
- Compostable Waste Bags (reg # 7P0091)
- Compostable Shopping Bags (reg # 7P0343)

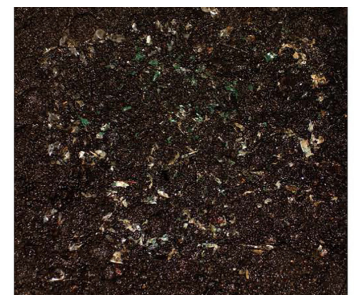
The seedling logo and DIN CERTCO certification verify that these films and bags meet requirements for industrial compostability according to European (EN 13432), U.S. (ASTM D 6400), and ISO (ISO 17088) standards. When placed in an industrial compost setting, Eco Film® and Eco Works® will fully biodegrade into carbon dioxide and water within a matter of weeks, with no eco-toxicity to the soil, plants, or microorganisms involved in the process. Neither film type depends on biodegradability additives for this capability.



Eco Film® is a replacement for traditional non-degradable films such as low and high density polyethylene. The film can be made into waste disposal or shopping bags and has been used in waste diversion programs by eco-conscious entities. Eco Works® film or bags are certified compostable products that are also biobased. Eco Works® can be manufactured with a range of 5-45% biobased content and formulated to meet varying flexibility or rigidity requirements.

For more information on Eco Film®, please visit: [https://www.cortecvci.com/Publications/PDS/EcoFilm\\_Compostable\\_Film.pdf](https://www.cortecvci.com/Publications/PDS/EcoFilm_Compostable_Film.pdf)

For more information on Eco Works®, please visit: [https://www.cortecvci.com/Publications/PDS/Eco\\_Works.pdf](https://www.cortecvci.com/Publications/PDS/Eco_Works.pdf)



## Eco Film® Compostable Film Featured in Prestigious BioPlastics Magazine

In addition to receiving DIN CERTCO recertification this year, Eco Film® was also featured in an article published in the May/June edition of “bioplastics MAGAZINE,” a prestigious European publication that describes itself as “the only independent trade magazine worldwide dedicated to bioplastics.”

The article highlights Cortec’s eco-conscious effort to offer a packaging film that will fully biodegrade into carbon dioxide and water within weeks when exposed to a typical commercial composting environment. The article recounts several cases in which Eco Film® was either used for organic waste diversion programs or in place of PLA bags that did not have sufficient strength for specialty chemical packaging.

The article notes that while Cortec’s focus is on providing corrosion solutions to its customers, Eco Film® is another example of Cortec’s environmental consciousness in presenting viable waste reduction options.

## Bionetix® International Bioremediation Toolkit Highlighted in “The Analyst” Magazine

The Summer 2017 issue of AWT’s “The Analyst: The voice of the water treatment industry,” featured a column on the natural wastewater and soil bioremediation toolkit of Cortec’s subsidiary Bionetix® International. Because nitrogen and phosphorus are important nutrients that help microorganisms speed up the natural degradation of soil and wastewater pollutants, Bionetix® offers Macro N/P as a biostimulant to enhance the natural degradation cycle. Macro N/P is “a free-flowing powder with the optimal 5:1 nitrogen/phosphorus ratio for nourishing helpful bacteria in wastewater.” This Bionetix® biostimulant supplies important nutrients for encouraging the growth and metabolic activity of helpful organisms. To learn more about Bionetix® International’s bioremediation toolkit, please visit: <http://www.bionetix-international.com/>

## Bionetix® International at ISSA/INTERCLEAN 2017

The biological cleaning and bioremediation solutions of Bionetix® International were well received at the 2017 ISSA/INTERCLEAN convention in Las Vegas, September 11<sup>th</sup>-14<sup>th</sup>. Bionetix® once again stood out as a unique leader in bioremediation and biological cleaning technology and particularly captured the attention of restaurant and cleaning industry professionals with a new display on BIOBLOC 22 for grease trap problems. Bionetix’s cleaning products were well-received as usual. The show brought Bionetix® into contact with interested professionals from 13 countries around the world in addition to those attending from the United States.



## Cortec® Expands Renewable Packaging Capabilities with In-House Production of CorrTainer®

Cortec® is pleased to be able to present a renewable line of corrosion inhibiting packaging materials produced at Cortec® Coated Products (CCP) in Eau Claire, Wisconsin. This plant incorporates VpCI® protection onto coated paper and linerboard so that metal parts wrapped or packaged inside the materials will be protected from rust. With VpCI® coating, Cortec® turns a biobased material into an effective, lightweight corrosion inhibiting packaging solution. These VpCI® products are typically fully recyclable and repulpable.

CCP became more vertically integrated and flexible this year by installing an in-house box making machine. This allows CCP to produce VpCI® CorrTainer® boxes in custom sizes and quantities according to customer needs.

CorrTainer® is a practical and convenient packaging option for shipping metal parts. VpCI® molecules coated on the linerboard evaporate and diffuse throughout the enclosed box forming a protective layer on metal parts packaged inside the CorrTainer®. The molecular layer protects the metal surface from interacting with corrosive elements such as moisture and oxygen that may be present during the shipping and storage experience. Multi-metal products can simply be placed inside the box for protection. CorrTainer® is non-toxic and safe to use. After use, the CorrTainer® box is fully recyclable and repulpable.

## Other Eco-Friendly Developments at Cortec®

Cortec® is continuously looking for ways to make corrosion solutions more environmentally friendly. Here are a few of those developments that have been released this year.

- **VpCI® Plastic Recycling Service Brochure:** This summer, Cortec® released a brochure that outlines its customer VpCI® film recycling service. Customers who use VpCI® bags and film for corrosion protection can now bale the film and send it back to Cortec® after it has been used. Cortec® recycles the VpCI® film and bags and turns them into new products. The end result is that Cortec® and its customers both reduce their carbon footprint and strengthen an environmentally friendly relationship while saving money. View the full brochure: [http://cortecrecycling.com/wp-content/uploads/2017/07/Recycling\\_Brochure.pdf](http://cortecrecycling.com/wp-content/uploads/2017/07/Recycling_Brochure.pdf)
- **EcoCorr™ Water Based Rust Preventative (RP):** This has been an exciting breakthrough in temporary rust preventative technology for Cortec®, reducing applied cost by 40% compared to a bestselling oil-based RP! EcoCorr™ Water-Based RP is a complete replacement for oil-based RPs used for temporary indoor protection of equipment and components. It is convenient to use and easy to clean. When applied to the metal surface by dipping, brushing, or spraying, EcoCorr™ forms a clear dry film that is suitable for robotic assembly of precision machined components. In most cases, the dry film does not need to be removed, but this is easily done if required. More about EcoCorr™: [https://www.cortecvci.com/whats\\_new/announcements/EcoCorr-Water-Base-RP.pdf](https://www.cortecvci.com/whats_new/announcements/EcoCorr-Water-Base-RP.pdf)
- **EcoAir® Graffiti Remover Enhanced with Nano VpCI®:** Cortec® has packaged this exceptionally smooth flowing graffiti remover gel in an environmentally-friendly EcoAir® bag-on-valve spray can. The can dispenses the product by compressed air without the use of CFC or HCFC propellants that would affect the ozone layer. This allows the can to be sprayed in any position, making it easier to apply in difficult to reach areas. A corrosion inhibiting compound in the liquid prevents flash rusting and discoloration of metal surfaces after graffiti removal. The product has a relatively low level of toxicity and does not rely on some of the typical chemicals used for stripping. More about EcoAir® Graffiti Remover: [https://www.cortecvci.com/Publications/PDS/EcoAir\\_Graffiti\\_Remover.pdf](https://www.cortecvci.com/Publications/PDS/EcoAir_Graffiti_Remover.pdf)



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