

THE LEADING EDGE



Environmentally Safe VpCI®/MCI® Technologies



CORTEC® R&D PURSUES LEAN PRODUCTIVITY WITH 5S INITIATIVE

We are excited to launch a new “5S” initiative that promises to increase the efficiency and productivity of our R&D activities. Recently, our R&D team participated in an intensive effort that followed “5S” methodology to organize, clean, and improve our laboratory space for product testing and development. This proven approach for organizing and maintaining a clean, efficient, safe workspace for productive and collaborative work follows five principles [inspired by the Toyota Production System \(TPS\) \(developed in the 1950s to promote agility and eliminate waste\)](#):

1. Sort
2. Straighten
3. Shine
4. Standardize
5. Sustain

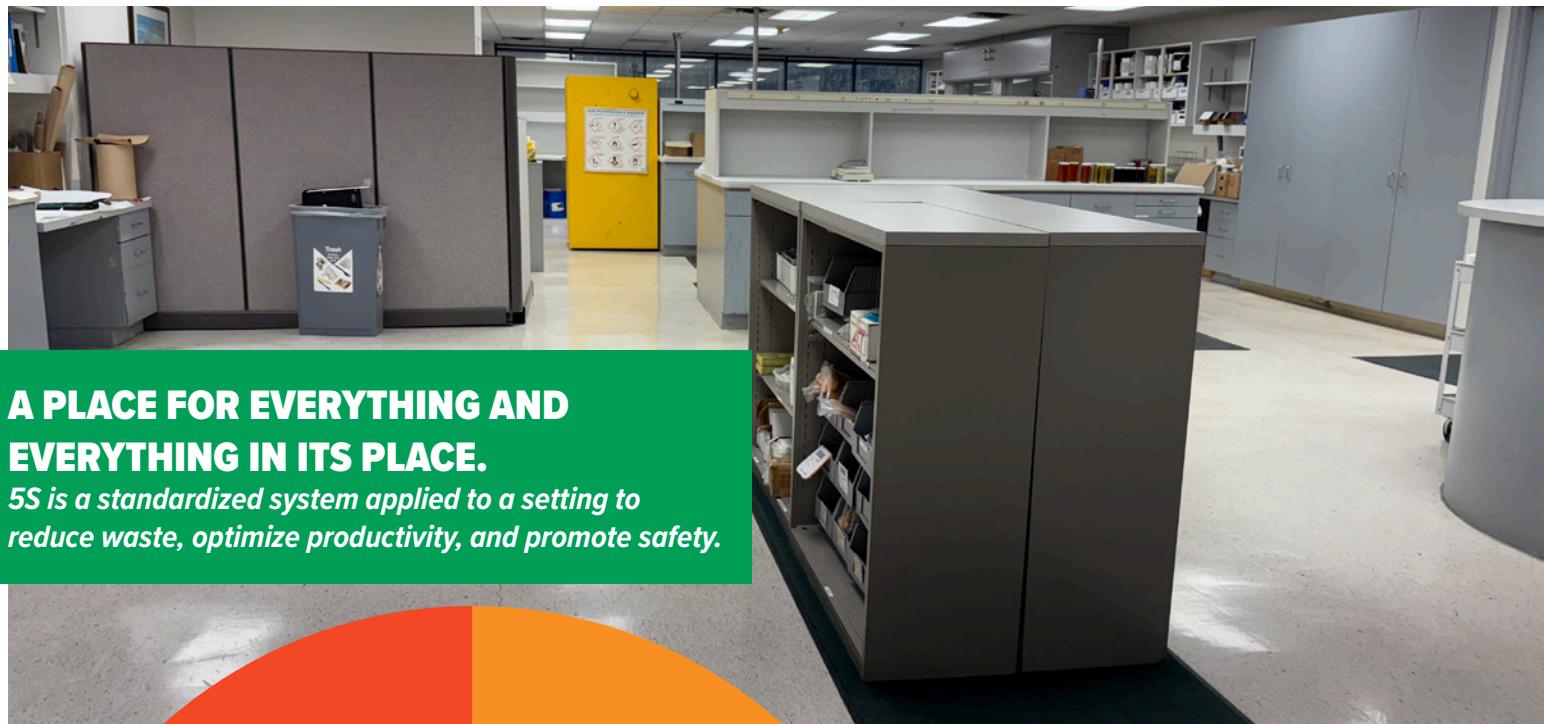
Rebecca Guza, Cortec® Director of Innovations and Product Technologies, summed it up well when she explained that the

initiative will “transform the laboratory into an environment that inspires pride and admiration.... The result will be a welcoming, efficient, and safe workspace where we can work productively and collaboratively.”

Key components of this project include the following:

- Improving laboratory safety and efficiency
- Eliminating unnecessary items and clutter
- Establishing standardized cleaning and organization procedures
- Promoting a culture of continuous improvement

Following the old mantra, “a place for everything and everything in its place,” may sound extremely simplistic and mundane, but it is one of many important catalysts that Cortec® is putting in place to propel our research and development to the next level of innovation that has already characterized our leadership in the field of corrosion engineering.



A PLACE FOR EVERYTHING AND EVERYTHING IN ITS PLACE.

5S is a standardized system applied to a setting to reduce waste, optimize productivity, and promote safety.



SORT:

Eliminate any unnecessary items and waste.

STRAIGHTEN:

Keep necessary items in designated locations for easy and timely retrieval.

SHINE:

Keep workplace neat and clean.

STANDARDIZE:

The method by which Sort, Straighten, and Shine are made habitual.

SUSTAIN:

Maintain procedures over time.



Learn more at: <https://youtu.be/rzCwptOFSC8?si=3IXcrsOoKtlkv5d2>

NEW PRODUCTS

The last half of 2025 was a busy and exciting time of rolling out new products that had been underway in Cortec® R&D! Here's a snapshot of these technologies and their key features.

Eco Works® 100

Cortec® has scored big on biobased content with the launch of its latest bioplastics product! Eco Works® 100 is a certified industrially compostable packaging film (TÜV Austria, #TA8012509046) that contains 100% USDA certified biobased content as a replacement for petroleum-based products. In a world where many are looking for eco-conscious alternatives to traditional plastics, Eco Works® 100 diversifies the market's portfolio of bioplastic options for those who want to go to the max on biobased content and reduce dependency on petroleum. Eco Works® 100 tackles sustainability at both ends of the product life cycle. At the beginning, Eco Works® 100 uses renewable raw materials to create a bioplastic with 100% biobased content. At the end, Eco Works® 100 can decompose alongside organic waste at an industrial composting facility without ecotoxicity to the soil.*



Read the full announcement: www.cortecvci.com/product-release-a-perfect-score-cortec-achieves-100-biobased-content-in-new-compostable-bioplastic/



*This product is intended to be composted in a commercial composting facility operated in accordance with best management practices. Check locally to see if such a facility exists in your community and if they will accept this product. Not suitable for backyard composting.

EcoBio™ Barrier Paper and Linerboard

EcoBio™ Barrier Paper is a premium recyclable, repulpable, biodegradable barrier paper designed with the “circular

economy” in mind. It starts the product life cycle as 100% recycled paper stock coated with a biobased (90-100% renewable organic carbon per ASTM D6866) and biodegradable (per OECD 301) barrier coating. In contrast to traditional barrier packaging that relies on polyethylene or foil to create a barrier, EcoBio™ Barrier Paper has no intentionally added plastics (or PFAS or fluoroochemicals) to hinder recycling or biodegradation. Similar to EcoShield® Recyclable Barrier Paper, EcoBio™ Barrier Paper can be recycled through normal paper recycling streams instead of ending up in the landfill. However, EcoBio™ Barrier Paper goes a step further with its biodegradable, biobased coating that has the potential to open even more sustainable end of life options depending on local regulations. Most importantly, EcoBio™ Barrier Paper tackles moisture and grease resistance without the risk of plastic or foil pollution.



Read the full announcement: www.cortecvci.com/product-release-cortec-expands-sustainable-packaging-options-with-new-ecobio-barrier-paper/

EcoBio™ VpCI®-144 Paper

A cousin to EcoBio™ Barrier Paper, EcoBio™ VpCI®-144 Paper includes our time-tested VpCI® coating (biodegradable per ASTM D6400) on the other side of the barrier paper. The result of this formula is corrosion inhibiting barrier paper that is perfect for protecting metals at risk for moisture exposure and corrosion. VpCI® protects metals wrapped inside the paper, while on the outside, the biobased, biodegradable barrier coating resists the entry of corrosive moisture and helps the packaging maintain integrity. Good grease barrier properties also reduce the risk of grease from lightly oiled components leaching through the

Continued on page 6...

paper. After use, clean, dry EcoBio™ VpCl®-144 Barrier Paper can be recycled through normal channels without the extra challenges that arise when reprocessing plastic coated or waxed papers. In addition, Cortec's use of a biodegradable, biobased barrier coating has opened new possibilities for even more sustainable end-of-life disposal options (depending on local regulations).



Read the full announcement: www.cortecvci.com/product-release-cortec-adds-new-sustainability-dimension-to-vpci-barrier-paper-for-metals-protection

VpCl®-330

Our new VpCl®-330 formulation addresses the problems users face when rust preventatives separate or discolor metals in need of protection, making it unclear if the final goods are rusty or only stained. In contrast, VpCl®-330 is a homogenous rust preventative that leaves a thin, almost invisible coat of oil for protection of metals in high humidity conditions. It is ideal for dip tanks where the rust preventative may sit for weeks or months without agitation as multiple batches of tubes or gears are dipped for rust prevention. VpCl®-330 can also be rolled, brushed, or sprayed onto metal surfaces. A handheld trigger spray bottle works well when protecting the internals of fuel and turbo engine tubes that have already been externally painted. VpCl®-330 performs well in high humidity conditions and meets the requirements of a well-known international manufacturer for selecting a medium-term rust preventative.

Read the full announcement: www.cortecvci.com/product-release-say-goodbye-to-agitation-with-cortecs-new-vpci-330-rust-preventative/



EcoSonic® VpCl®-125 HP Permanent ESD Stretch Film

Unlike the plethora of "pink poly" stretch films on the market with short-term, migratory protection against electrostatic discharge (ESD), EcoSonic® VpCl®-125 HP Permanent ESD Stretch Film offers permanent ESD protection properties that last throughout the product life, taking the guesswork out of shelf life and shipping stability concerns for easier inventory management and more confident protection. The new stretch film meets surface resistance requirements per ANSI/ESD STM11.11 before and after being stretched, providing static dissipation during wrapping and beyond for better quality assurance. Like other packaging options in the EcoSonic® line, EcoSonic® VpCl®-125 HP Permanent ESD Stretch Film adds the special dimension of corrosion protection, making it an excellent choice for electronics at risk for both static and corrosion damage. EcoSonic® VpCl®-125 HP Permanent ESD Stretch Film can be used on standard stretch-wrapping equipment, and the translucent nature of the film facilitates inspection and inventory without packaging removal.

Read the full announcement: www.cortecvci.com/press-release-beyond-pink-poly-stretch-your-vision-for-esd-packaging-possibilities/



VpCl® Chameleon

For decades, Cortec® corrosion solutions like the Boiler Lizard® have been a symbol of comprehensive and convenient protection for industrial boilers undergoing dry layup. Now, Cortec® is extending the same ease and effectiveness to the food processing industry with the introduction of the VpCl® Chameleon™, a game-changing boiler wet layup solution with NSF G6 certification (Reg. #172647) for use in food processing facilities. Read the full announcement: www.cortecvci.com/product-release-cortec-introduces-game-changing-corrosion-solution-for-food-industry-boilers

LAB UPDATES FROM AROUND THE GLOBE

CorteCros® Product and Laboratory Customization

CorteCros® in Split, Croatia, continues to grow, increasing both testing and R&D capabilities. Of special note, the laboratory has been developing special versions of favorite Cortec® products to meet specific market requests:

- EcoLine® 3690 P is a high percentage biobased temporary rust preventative coating for high humidity conditions with a pine scent and green tint added at special request for the Swedish market.
- M-95 FO is a low-foaming, water-soluble corrosion inhibitor concentrate modified to meet specific regulatory requirements for the German market.
- VpCI®-609 OCTC is a version of our flagship water-soluble VpCI® powder specifically formulated for use in the protection of OCTG (Oil Country Tubular Goods) pipes and voids and in wet applications.

The CorteCros® lab has also added electrochemistry testing capabilities to its quality control lab and renovated a dedicated room for testing equipment that now houses the salt spray and humidity chambers.

However, testing and R&D are nothing without skilled personnel to support them. That's why CorteCros® has added a new R&D Specialist to the team. Petra Males joined the lab in August, bringing with her a robust academic background, having completed her degree in Research Chemistry at the Faculty of Science in Zagreb before starting her current PhD studies at a renowned scientific institution. Petra's expertise will be invaluable as CorteCros® continues to advance its product development innovation capabilities.



EcoCortec® Advancements and Awards

The big news at EcoCortec® is that ISO/IEC 17025:2017 laboratory accreditation is on its way! EcoCortec® has been working hard to complete both the internal and external audits necessary for certification. This step is an important validation of the laboratory's ability to produce precise, accurate, and scientifically valid results on a global scale.

On the R&D side, EcoCortec® has developed new products in 2025 with a special focus on incorporating recycled content for the environmentally conscious user:

- VpCI®-126 HP UV Shrink Film PCR is a Vapor phase Corrosion Inhibitor shrink film made with guaranteed 30% post-consumer recycled content. It combines high strength resins with ultraviolet light stabilizers for use in aggressive outdoor conditions.
- EcoSonic® VpCI®-125 PCR HP Permanent ESD Film & Bags are high-performance antistatic, corrosion inhibiting bags for use in the protection of static sensitive multmetal items such as electronics. They are made with guaranteed 30% post-consumer recycled content.

Another EcoCortec® highlight from 2025 was the receipt of the German Packaging Award in the "Sustainability – Overall Concept" category for the VpCI® film recycling concept implemented by EcoCortec® and its customer Jakob Schober. This project encompasses a special recycling partnership in which VpCI®-126 PCR offcuts come full circle to re-enter the film reprocessing stream at EcoCortec®, creating quality new products for corrosion inhibition, exemplifying EcoCortec's commitment to developing circular economy solutions.



Busy with Bugs at Bionetix®!

Innovation continues stronger than ever at our biosolutions subsidiary in Montreal, thanks to new additions to our lab team, equipment, and bacteria strains!

Our new Microbiologist, Mina Yavari, is busy leading R&D efforts focused on enzyme quantification and qualification. She's also developing methods to isolate strains from incoming samples to enhance our innovative microbial fermentation ability. Leah Desgranges, a recent biotechnology engineering graduate from the Université de Sherbrooke, is our new Quality Specialist, supporting quality assurance and process optimization in the lab.

A good team can go even farther with good tools, so we have also expanded our lab equipment with the following:

- Our new freeze dryer gives us greater capacity for drying fermentation-derived products and improving production efficiency.
- Our new spray dryer allows us to transform liquid solutions into stable, powdered products.



New spray dryer makes it easier to gently harvest fermented microbial cells for better downstream application analysis.

- Our new water purification system enhances workflow reliability and consistent high-quality results in experimentation.
- Our new refrigerated centrifuge is a game-changer for processing fermentation batches because it allows us to gently harvest cells while keeping them alive and healthy for downstream application and analysis.

We're also staying on the cutting edge of microbial R&D by keeping an eye out for more efficient microbial strains that can take our product performance to the next level. At the same time, we're optimizing fermentation for a variety of strains that show strong compatibility and synergy with Bacillus strains and have exciting potential applications for sustainable agriculture, bioremediation, or biobased products!



Fungal strain isolation for microbial innovation.

BIO-ECO-WASH™ was our Bionetix® product release of the year, combining natural surfactants with probiotics for effective cleaning, degreasing, and surface prep for lower environmental impact in a variety of industrial and marine applications. We expect another enzyme concentrate to be appearing very soon in the new year. Stay tuned!

ENVIRONMENTAL CORNER: UNDERSTANDING SAFETY DATA SHEETS



Many Cortec® products come with safety data sheets (SDS) that offer guidelines for proper use and disposal of the product. While Cortec® seeks to use biobased and biodegradable materials where possible, the fact is that corrosion protection still involves chemicals that must be handled in an appropriate, environmentally responsible manner. But with 16 different sections, special symbols, and technical jargon, SDSs can be overwhelming to even look at. Derek Jensen helps us find our way to the most important parts of the SDS to help us minimize environmental impact.

Hello. My name is Derek Jensen, and I am the Environmental Specialist at Cortec® Corporation. I wanted to share a few points with you that may help you understand more about what's in our SDS and what those things mean in terms of safe handling and waste disposal at the end of life.

The first step is to get familiar with the different sections that an SDS has. There are 16 sections in an SDS that tell you bits of information about the product you are handling. Products can be singular chemicals, mixtures of different chemicals, and many combinations of active and inert components that make up any one product. Here are some of the portions to look at that may help you identify which products are more dangerous than others or products that may require considerations during waste disposal.

The **first section** of the SDS has all the information about the product, including emergency contact information in the event of a spill, medical emergency, or occupational exposure. This information is crucial when you have questions about a product. If you don't know something, then ask the experts or compliance department for help.

1 Identification

Product identifier

Trade name: [REDACTED]

Other means of identification

Application of the substance / the mixture Primer/ Subcoating

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Cortec Corporation

4119 White Bear Parkway

St. Paul, MN 55110 USA

Phone (651) 429-1100

Fax (651) 429-1122

Information department: compliance@cortecvci.com

Emergency telephone number:

Spill, Leak, Fire, Exposure, or Accident

24 hour CHEMTRAC contact:

USA and Canada 1-800-424-9300

International +1-703-527-3887 (collect calls accepted)

The **second section** has most of the information that you need to know about how dangerous the product is to handle or dispose. For example, there will be a signal word, either "Warning" or "Danger." "Warning" is the less serious of the two. If you see "Warning" as the signal word, the product may have fewer requirements for handling and disposal or less severe chemical and health hazards. If the signal word is "Danger," then be on the lookout for other hazards in section two. There will be a description of the hazards and identification of what chemical component is causing the hazards in the bottom half of the section.

2 Hazard(s) identification

Classification of the substance or mixture

The product is not classified, according to the Globally Harmonized System (GHS).

Label elements

GHS label elements Void

Hazard pictograms Void

Signal word Void

Lastly, the **fourteenth section** of the SDS has the shipping hazards. This is generally the section that has the most overlap with whether a product is hazardous or non-hazardous for waste disposal. This is a generalization, not a rule. Typically, if this section denotes that "This product is not classified as a dangerous good," then there is a higher chance that this product will follow non-hazardous waste disposal regulations. If there is a DOT designated UN number or placard and packing group, then there is a much higher chance that this product will follow hazardous waste disposal regulations. Again, this is a generalization and you should always rely on the expertise of licensed waste haulers for your waste disposal needs.

You have to join the solution, to prevent pollution.

Derek Jensen

Environmental Specialist

14 Transport information

UN-Number DOT, ADR, ADN, IMDG, IATA	not classified as dangerous goods
UN proper shipping name DOT, ADR, ADN, IMDG, IATA	not classified as dangerous goods
Transport hazard class(es)	
DOT, ADR, ADN, IMDG, IATA Class	not classified as dangerous goods
Packing group DOT, ADR, IMDG, IATA	not classified as dangerous goods
Environmental hazards:	Not applicable.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.

ANTICIPATION BUILDS FOR AMPP

We are excited to have four members of our R&D team involved in the technical program at the upcoming AMPP convention, March 15th-19th in Houston, Texas. Ming Shen (Sr. Scientist & Manager, Green Chemistry Initiatives), Jake Hemberger (Coatings Chemist), Carissa Metzger (Junior Scientist), and Colin Gardner (Product Development Chemist) have all been at work on the development of white papers that will be presented during this annual gathering of corrosion engineers, materials protection experts, and industry leaders. Cortec's technical papers will draw on insights from several of our recent R&D projects:

- The development of biodegradable, biobased packaging materials

- The development of biobased corrosion inhibitor coating technology
- The development of an improved testing method for evaluating corrosion inhibition

Check the AMPP website as the convention approaches for more details on upcoming symposia topics and speakers: <https://ace.amp.org/technical-program>



WELCOMING A NEW 'PILOT' TO NAVIGATE THE CHALLENGING 'SEAS' OF COMPLIANCE

In the laboratory, our efforts demand plenty of creativity and ideation as we explore and develop new technologies for corrosion inhibition. We also need form, structure, and the ability to navigate a seemingly endless range of intricate rules and regulations as we ship our chemistry formulations to all corners of the world. To streamline our efforts in this complex area, we recently hired a chemical regulatory expert to guide our Cortec® "ship" through the often difficult to navigate "waters" of compliance and ISO management systems.

Meg Stauber-Bel joined our team on October 6th as our Regulatory & ISO Compliance Manager. In her new role, Meg will be managing our regulatory, compliance, and ISO teams, creating more efficient processes and improving communication to support the continued growth of Cortec®. A major part of this will be working with our teams to promote and enhance our use of ISO certifications. That includes making the most of our ISO 9001 Quality Management System to deliver quality products and consistently meet customer needs and our ISO 14001 Environmental Management System for continuous improvement of Cortec's environmental footprint.

Meg's background aligns so well with the new role that it seemed like the job description was written specifically for her. A PhD in Organic Chemistry and work experience in multiple industries—from personal care to oil and gas and other chemical processing fields—provide her with a solid understanding of what makes Cortec® function. She also has extensive experience overseeing and auditing management systems and working within a regulatory framework for fragrances and other chemicals. She is even familiar with film extrusion after one job landed her an assignment running a miniature plastic film extruder for technical services. At the same time, Meg has been quick to grasp the importance of drawing on multiple product lines to provide well-rounded corrosion protection. "There is not one-size-fits-all for corrosion prevention—" she commented, "you need all different product forms and chemical products to do this successfully."

Please join us in welcoming Meg to the team as we prepare to successfully navigate the "seas" of compliance and take our R&D and ISO efforts to exciting new levels of innovation and success!



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