



**CORTEC**  
CORPORATION

® Environmentally Safe VpCI®/MCI® Technologies

# VpCI® Technology for Food, Beverage and Pharmaceutical Industries







## VpCI® Technology for Food, Beverage, and Pharmaceutical Industries

The food, beverage, and pharmaceutical industries are some of the most important industries in the world economy according to their production extent, their number of consumers, and their economic and social significance. Technological advances in food processing, equipment, and production plants are growing rapidly—yet corrosion is a costly issue that impacts these industries. The economic effect of corrosion is the loss of billions of dollars that companies are saddled with every year.

For companies involved in the food, beverage, and pharmaceutical industries, corrosion prevention is non-negotiable. In these manufacturing industries, corrosion can derail an entire operation, causing enormous financial losses and, far worse, dangerous accidents.

Corroding equipment requires costly repairs and can contaminate the product it contains. Unique challenges faced by food, beverage, and pharmaceutical industries must be addressed with extreme cautiousness by experienced professionals.

Very complex technical systems used by manufacturers of food or pharmaceutical products require reliable protection. Not only must the legal requirements for hygiene be adhered to, but occupational health and safety guidelines as well.

Advances in the food industry, such as preservation, packaging, and storage, facilitate food delivery and minimize health hazards. Among other materials, aluminum, tin, copper, titanium, and mainly stainless steel are widely used in these industries for the manufacture of processing, production, storage, and transportation equipment and machinery. Thankfully, modern science has developed new corrosion protection methods such as patented Vapor phase Corrosion Inhibitors (VpCIs) that enable these very delicate industries to safely protect their systems from this destructive force of corrosion.

## FOOD INDUSTRY CORROSIVE ENVIRONMENTS

Three types of cleaning and sanitation agents are applied in the food industry, creating corrosive environments:

1. Alkaline: such as caustic soda ( $\text{NaOH}$ ), alkali phosphates ( $\text{Na}_3\text{PO}_4$ ), sodium carbonate and bicarbonate ( $\text{Na}_2\text{CO}_3$ ,  $\text{NaHCO}_3$ )
2. Acidic: phosphoric, citric, and sulphamic acids
3. Oxidizers: chlorine, nitric acid, ozone, hypochlorite, hydrogen peroxide ( $\text{H}_2\text{O}_2$ )



## THE CORTEC® BIO PRODUCTS VISION

Cortec® will continuously improve the environmental performance of our products and processes to provide a better world for future generations. The cornerstone of Cortec's history and future is based on the production of superior products to protect various metals from rust and corrosion. Our products exemplify Cortec's long-standing commitment to conserve our natural resources.

We take the responsibility of conserving our natural resources seriously—we develop Cortec® products from annually renewable materials such as herbaceous plants like soybeans and coconut fruit from the palm tree species.



Cortec® offers a wide range of environmentally safe corrosion protection products that are USDA, FDA, and NSF compliant\* and represent the best solution on the market for food and pharmaceutical industries. Cortec's VpCl® inhibitors are created in science laboratories by chemists and engineers utilizing the latest technologies to provide contemporary, safe, and economical solutions for the food, beverage, and pharmaceutical industries.

\*Contact Cortec for specific details



## THE FOOD INDUSTRY

Food industry plants involved in the processing and packaging of products must preserve capital investments and minimize operation costs. At the same time, physicochemical characteristics of processed foods give them different grades of corrosivity depending on content type.

Processed foods contain diverse aqueous solutions, syrups, and additives used to improve food appearance, quality, and preservation. They have a wide pH range and varying salt, water, and vinegar content that impact food corrosivity. Many cleaning and sanitation agents are employed to remove bacteria, scale, fouling, and corrosive biological and mineral deposits. They include alkaline, acidic, strong or weak oxidizing and reducing chemicals to ensure a high hygiene level. This great variety of corrosive environments and aggressive chemical agents requires smart corrosion protection.

Cortec® VpCI® Technology is the obvious choice for the food industry to prevent equipment damage and food contamination. VpCIs may be used in the food industry to protect cans, water tank containers, and exteriors of installations made with carbon and galvanized steel, concrete, or wood.



## THE BEVERAGES INDUSTRY

The production of beverages involves the use of great quantities of water in cleaning, storage, and bottling procedures. Many beverages are acidic and aggressive to carbon steel, requiring the protection of equipment from corrosion. In addition, the wet, damp, and high humidity conditions contribute to plant corrosion and premature equipment failure.





## THE PHARMACEUTICALS INDUSTRY

The global pharmaceutical market is worth 300 billion dollars a year. Manufacturers of pharmaceutical products are subject to especially strict requirements because of the crucial importance of avoiding contamination. Cortec® offers a wide and economically attractive product range of safe, FDA compliant\*, and USDA Certified Biobased products.

Pharmaceutical manufacturers must protect their research, testing, and drug inventory under strict FDA standards. Beyond the normal safety and business continuity risks associated with system corrosion failure, pharmaceutical companies cannot tolerate any contamination risk in their systems. Cortec® inhibitors conform to general requirements and high standards which production processes must meet. We develop and manufacture high-technology VpCl® corrosion inhibitors and apply them using our own specially trained personnel.

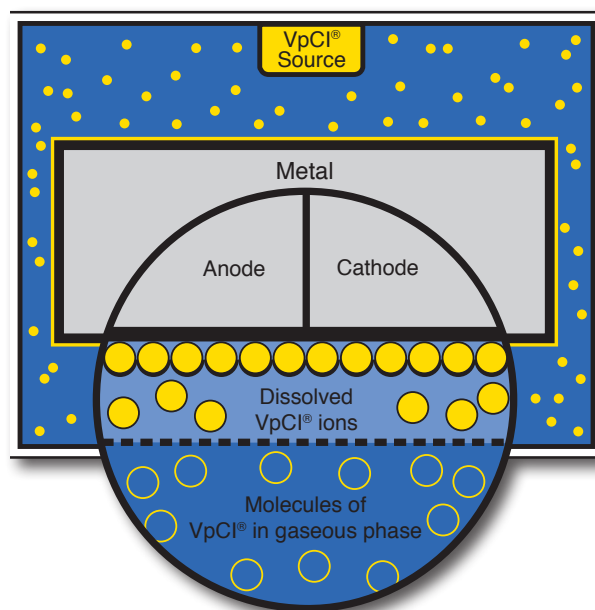


\*Contact Cortec for specific details

## Vapor phase Corrosion Inhibitors (VpCI®)

VpCI® Technology is an innovative, environmentally safe, cost-effective option for corrosion protection. Cortec® products protect with a thin, mono-molecular protective barrier. The barrier re-heals and self-replenishes and can be combined with other functional properties for added protective capabilities.

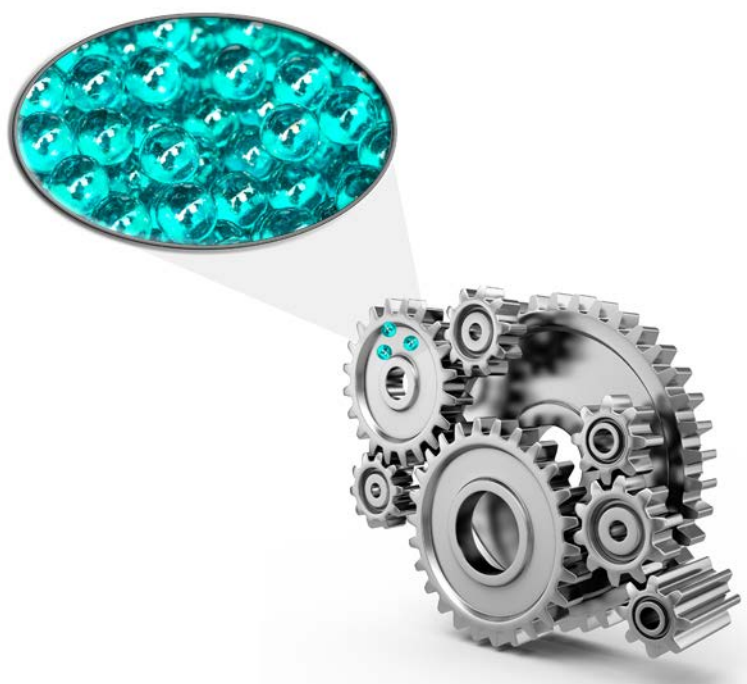
Cortec's VpCI® additives offer safe, certified, highly efficient and economical corrosion protection for the food, beverage, and pharmaceutical industries. While conventional corrosion inhibiting treatments provide protection in the liquid phase only, Cortec® VpCI® Technology provides corrosion protection in interface, liquid phase, and vapor phase. Unlike conventional corrosion inhibition methods, Cortec's VpCIs are self-replenishing. Cortec® VpCI's can be added into any part of the system at single or multiple points. As the pro-environmental corrosion treatment of the 21<sup>st</sup> century, Cortec® VpCI® products are free of chromates, heavy metals, phosphates, or chlorinated hydrocarbons. Our organic formulations give an environmentally acceptable way to protect and extend the life of products and equipment.



**Vapor phase Corrosion Inhibitors (VpCI®)**

## Cortec's Unique Patented Vapor phase Corrosion Inhibitors:

- **Green alternative to hazardous, oil derived corrosion preventatives**
- **Offer eco-efficient, compostable, and biodegradable solutions made from sustainable materials**
- **Are USDA/FDA/NSF compliant\***
- **Are made from renewable resources**
- **Enable avoidance of contamination**
- **Save costly time and labor**
- **Come in multifunctional products**
- **Offer complete packaging solutions**
- **Disperse in water, oils, solvents**
- **Formulate easily**
- **Protect multi-metals**
- **Require little or no surface preparation**
- **Do not interfere with operation of mechanical components**



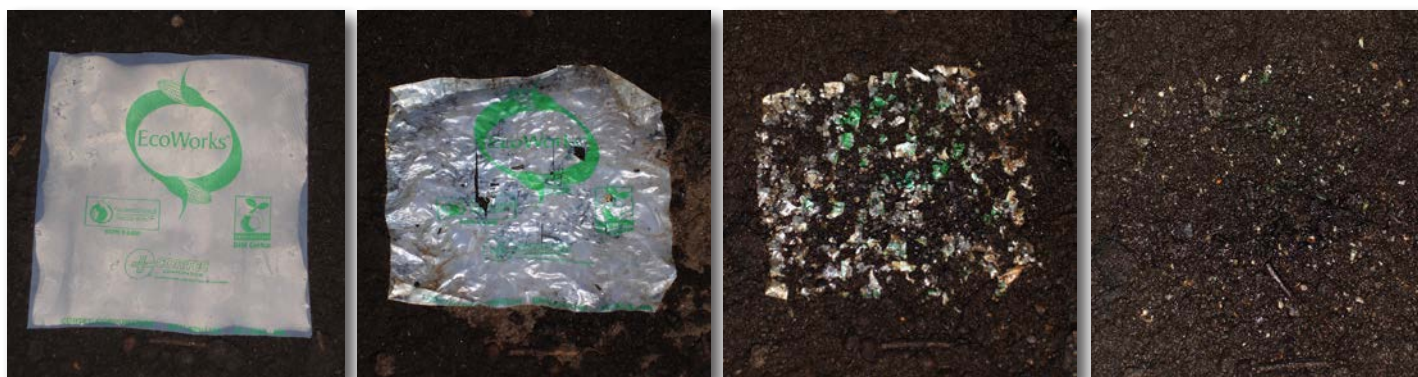
\*Contact Cortec for specific details



## BIODEGRADABLE PACKAGING MATERIALS

### Eco Works®

Patented Biodegradable & Compostable Films and Bags are specifically designed to replace LDPE, LL-DPE, and HDPE films used in a wide variety of applications. Eco Works® has properties superior to traditional non-biodegradable plastics without sacrificing biodegradability or compostability.



### BioCushion®

A certified biodegradable air cushion for protective packaging applications providing an environmentally friendly alternative to traditional void fill materials.



### Eco-Corr Film®, Patented

Aliphatic-aromatic co-polyester VpCl® film. Degrades 100% into carbon dioxide and water once composted. Provides multi-metal corrosion inhibition and eliminates waste. Conforms to DIN TL 8135-0002 method for Vapor phase Corrosion Inhibitors on combined multi-metals. Available with ESD protection properties and is commercially equivalent to MIL-PRF-81705D (Static Dissipative Packaging Material).



### Eco Film®

A DIN V 54 900 and BPS certified 100% biodegradable and compostable film designed to replace non-degradable as well as starch and polyethylene-based films.



### Eco Wrap®

A unique combination of certified compostable polyester film and biodegradable cling coating. Superior strength allows fewer required wraps for many palletizing/protective wrap applications.

## EcoOcean®

Biobased Film and Bags for Marine Biodegradable and Anaerobic Digestion Markets. EcoOcean® film and bags are constructed from the latest biobased polymer technology on the market. Designed with the environment in mind, EcoOcean® contains 77% biobased content and is fully marine biodegradable. It will biodegrade in marine, anaerobic digestion, and natural soil and water environments; backyard composting systems; and municipal composting facilities (in areas where these facilities are available).



## CORTEC® PACKAGING

**Cor-Pak® VpCI® Stretch Film, Patented** – Holds protected parts securely in place; transparent. Does not leave residue on parts. Multi-metal protection. Available in machine and hand wrap grades.

**Cor-Pak® VpCI® Corrugated PE Sheeting** – 100% recyclable packaging material. Easily fabricated into boxes, containers, and custom totes.

**Cor-Pak® VpCI® Skin Film, Patented** – Transparent skin film with VpCI® for multi-metal protection. Offers high clarity, industrial, and retail packaging.

**Cor-Pak® VpCI® Bubbles** – Multifunctional corrosion protection, cushioning, and triboelectric charge generation protection. Excellent for packaging sensitive electronic components. Commercial equivalent to MIL-PRF-81705.

**EcoWeave® VpCI® Woven Polyethylene** – VpCI® film designed for use in applications where additional strength and tear resistance are required.

**MilCorr® VpCI® Shrink Film, Patented** – Composite film, containing the ultimate additives package: Cortec® multi-metal Vapor phase Corrosion Inhibitors (VpCI®), with UV stabilizers. Film thickness 10 mils (250 microns).

**VpCI®-125 Clean Room Film** – Film that has been cleaned to NASA JSCM 5322 Level 100. Used for highly sensitive electronic and aerospace parts protection.

**VpCI®-126** – Transparent plastic films with VpCI® for multi-metal protection. It is heat sealable and available in Ziploc®\* bags and shrink film varieties. VpCI®-126 is the commercial equivalent to MIL PRF-22019D, MIL B-22020D. Recyclable.

**VpCI®-129** – Multi-metal, high-density polyethylene (HDPE) VpCI® film. Excellent barrier properties and ideal for use in climates with higher temperatures and humidity.

**VpCI®-130 Series** – Impregnated Foams, Patented. Multifunctional VpCI®, Desiccant, and Antistatic Action. Contain no harmful or toxic compounds and are nitrite and chromate free. Because of their chemical content, they are considered safe and acceptable for industrial use.

**VpCI®-146** – Multi-metal VpCI® coated high quality natural kraft paper. Non-toxic, nitrite free, 100% recyclable/repulpable. Excellent for single item packaging.

**VpCI®-150** – Adhesive Backed Foam Tape, Patented. Multifunctional VpCI® impregnated foam. Provides corrosion protection, cushioning, and static-dissipative properties. Multi-metal, non-toxic, nitrite free.

**VpCI®-170** – Adhesive Backed Foam Tape, Patented. Protects metal in enclosed spaces from corrosion. Effective in control boxes or cabinets to protect sensitive electronic components.



\*Ziploc® is a registered trademark of S. C. Johnson & Johnson, Inc.



## VpCI® PAPERS

Cortec® multi-metal VpCI® papers eliminate the need to inventory a variety of papers for each of the metals you need to protect. By utilizing only the highest quality neutral/natural kraft paper, VpCI® papers prevent package contamination. They are simple to use, with no chemical concentrations to calculate or application systems to maintain. Products can be used immediately – no surface preparation or cleaning is required.

All Cortec® VpCI® papers are environmentally safe, fully recyclable, repulpable, and non-toxic. They provide an excellent, safe alternative to oil coatings or other VCI/VPI papers that often contain inferior chemicals. These papers provide exceptional protection for dry or oiled metals during storage, transit, and overseas shipment. Cortec® also offers a selection of coatings for flexible packaging substrates.

**Anti-Skid Linerboard** - Designed to prevent corrosion as well as slippage of cases, cartons, and bags up to a twenty degree slide angle.

**Cor-Pak® Linerboard, Patented** - Exceptionally light (25 microns/1 mil) and strong HDPE film for foam-in-place as well as for other wrapping and interleaving applications. Multi-metal, recyclable, excellent barrier with tear and moisture resistance.

**CorrTainer®** - VpCI® and moisture resistant container all in one box. The inside of the box is coated with Cortec's VpCI® and a barrier coating which integrates safe, effective, multi-metal corrosion protection.

**VpCI®-144** - Multi-metal VpCI® barrier coated paper. Excellent moisture barrier. Replaces polyethylene coated papers. Recyclable, repulpable, and non-toxic.

**VpCI®-145** - Static dissipative corrosion inhibiting paper combines corrosion inhibiting and static-dissipative properties to provide a complete packaging paper for your valuable items.

**VpCI®-146** - VpCI® kraft paper protects ferrous and non-ferrous metals. Nitrite and chromate free. Fully recyclable.

**VpCI®-148** - In addition to its excellent corrosion inhibiting properties, VpCI®-148 also provides resistance to greases, oils, and solvents.

**VpCI®-149** - A corrosion inhibiting paper for the protection of a wide variety of metals. Formulated specifically to provide superior protection for sensitive metals such as copper, aluminum, and cast iron.



## ECOLINE®

### A new generation of sustainable environmentally friendly products.

EcoLine® products are based on renewable resources such as soybean and methyl esters. Traditional mineral oils are difficult to dispose of and most companies are concerned about what goes out of their factories and then into the ground. Methyl esters have been used in this revolutionary, environmentally low-impact technology. These products provide excellent functionality and biodegradability. EcoLine® products are better for the environment and leave behind a high performance VpCI® layer.

**EcoLine® VpCI® Heavy Duty Grease** – Formulated with American grown natural soya seed oil. Utilizing the latest biotechnology, it is an environmentally friendly, biodegradable replacement for traditional harmful greases. In addition to lubricating, self-healing, and moisture displacing properties, it provides a powerful combination of contact and VpCI® protection.

**CorrLube® Food Grade Penetrant** – A light penetrating oil that contains USDA H-1 approved ingredients. Deep penetrating formulation which attacks rust to free the frozen parts. This product has a very low surface tension on the water-oil-metal-air interfaces, which provides complete surface coverage and water displacement.

**BioCorr® Rust Preventative** – A waterbased ready-to-use, biodegradable rust preventative that is intended for preservation of metals in storage or during transportation, for up to 24 months.

**EcoLine® All Purpose Lubricant** – Biodegradable lubricant that is designed for industrial, shop, and institutional uses. It contains a friction modifier and extreme pressure additive. Safe for use on all metals and for most plastics. Perfect for both indoor and outdoor applications.

**EcoLine® Bearing, Chain, and Roller Lube** – A ready-to-use high quality rust preventative lubricant, formulated with American grown natural soya seed oil. It surpasses the lubricity performance levels of most conventional petroleum-based lubricants. It also contains VpCI® corrosion protection for both indoor and outdoor applications.

**EcoLine® Surface Cleaner and Degreaser** – An industrial strength, biodegradable, water dilutable cleaner and degreaser. Ideal for cleaning parts in industrial and commercial applications. Use in parts washers, dip tanks, ultrasonic and pressurized cleaning systems, and for general maintenance. Metals and plastics safe.



**EcoLine® Cutting Fluid** – A multifunctional biodegradable fluid for metal cutting operations that provides industrial grade lubrication as it cools work pieces and tools. Provides excellent VpCI® corrosion protection during and after work processes.

**EcoLine® Long Term Rust Preventative** – Biodegradable temporary coating designed for use in severe marine and high humidity outdoor and indoor environments. Provides excellent corrosion protection.



EcoLine® products exemplify Cortec's long-standing commitment to conserve our natural resources by utilizing renewable resources such as soybeans. The cornerstone of Cortec's past and future is based on the development of innovative and environmentally responsible materials and protection technologies.



## ECOEARTH™ PRODUCT LINE

### A Glimpse of the Future in Corrosion Protection

EcoEmitter® was created to illustrate our continual commitment to making the most advanced biodegradable and compostable products from biobased or sustainable resources for your corrosion prevention needs. Thanks to continuous research, study, and experimentation, Cortec® knows more than ever about producing ecologically harmonious corrosion control products. As technology advances, we continue to expand our unique earth friendly offerings.

**VpCI®-101 Device, Patented** - VpCI® impregnated foam provides continuous corrosion protection for one cubic foot of enclosed space. Non-toxic and accepted by Canadian Food Inspection Agency for indirect food contact. Commercial equivalent to MIL-PRF-81705D. NSN#6850-01-338-1392.

**VpCI®-105 Emitter & VpCI®-111 Emitter, Patented** - Unique devices provide corrosion protection for metal components enclosed in non-ventilated control boxes. Nitrite, halogen, and phosphate free. Accepted by FDA for corrosion protection of electrical and electronic equipment within food processing plants. Commercial equivalent to MIL I-22110C.



## ECOAIR®

### Environmental Breakthrough with Airpowered Spray Can Products



The major advantages of EcoAir® technology:

- Nonflammable
- Spray in any direction, even upside down
- No product contamination by propellant
- Safer to ship and store
- Low environmental impact
- Recyclable

EcoAir® products demonstrate a major step forward in spray can technology. For the first time, we are providing spray cans powered by compressed air that completely replaces expensive chemical propellants. This technology is innovative because a four-layer EcoPouch® is inserted into a can. The can is pressurized and the EcoPouch® is filled with the liquid. As the valve is depressed, the surrounding pressure expels the bag's internal fluids until the product is used up.



**EcoAir® Food Grade Lubricant** – Light penetrating oil that contains food grade USDA H-1 approved ingredients.

**EcoAir® BioClean Spray** – Eliminates existing microbiological contamination and prevents future growth.

**EcoAir® BioCorr®** – A waterbased, biodegradable rust preventative that is intended for preservation of metals in storage and during transportation.

**EcoAir® VpCI®-337** – Water-based fogger with a delayed release actuator. Can be enclosed in a container and left to dispense. Non-flammable.

**EcoAir® VpCI®-377 Corrosion Preventative** – Water-based rust preventative for temporary corrosion prevention. Non-flammable.

**EcoAir® VpCI®-414 Cleaner/Degreaser** – Water-based, biodegradable cleaner. Clings to ceilings and vertical surfaces in hard-to-reach areas. Non-flammable.

**EcoAir® VpCI®-422 & 423 Non-Toxic Rust Removers** – Water-based, non-toxic rust remover. Offers multi-metal protection while removing rust. Non-flammable.

## ECOSPRAY® AND ECOCLEAN® TECHNOLOGY

Environmentally Tested Spray Technology: EcoSpray® and EcoClean® products attack the toughest maintenance duties with respect for the environment. They incorporate non-toxic, biodegradable chemicals without aerosols, propellants, or ozone-depleting CFCs. Fast-acting, dependable, and safe to handle

**VpCI® 238 Electronic Cleaner** – Protects electrical/electronic equipment and components from corrosion. Silicone-free.

**VpCI® 416 Cleaner & Degreaser** – A non-toxic liquid that removes heavy hydrocarbons, grease, and machinery oils and provides corrosion protection. Biodegradable and accepted by USDA for general cleaning in food plants (indirect contact with food).

**VpCI® 325 Industrial Lubricant** – A ready-to-use vegetable oil/solvent-based lubricant and corrosion inhibitor. Stops squeaks, loosens rusty parts, and frees sticky mechanisms. Commercial equivalent to MIL-C-81309E.

**VpCI® 423 Rust Remover** – Completely organic and 100% biodegradable viscous liquid uses natural organics to remove rust, scale, and oxides. USDA Certified Biobased Product.

**VpCI® 389 Rust Blocker** – Water-based temporary coating to rust-proof iron, steel, and other ferrous metals. An environmentally friendly replacement to oil-based products.

**VpCI® 433 Graffiti Remover** – Removes graffiti, inks, and paints from metal, concrete, and wood. Environmentally safe, non-flammable, and rapidly biodegradable. Free of methylene chloride and ketones.

## ECOSHIELD® LINE

**EcoShield® Paper and Linerboard, Patented** – Packaging product coated with a barrier coating. One of its key features is that it is fully repulpable while displaying barrier properties similar to or better than those of wax or polyethylene coated paper or linerboard.

**EcoShield® Linerboard, Patented** – Neutral, natural linerboard that also provides a moisture and oil barrier protection. Recyclable and repulpable per TAPPI Useful Method 253.

**EcoShield® Fabric** – Woven polyethylene fabric with a non-woven inner layer. Protects equipment while offering VpCI® multi-metal corrosion protection. Available with zippers and in custom sizes.

**EcoShield® Barrier Coating** – A water borne barrier coating that is recyclable and 100% repulpable, effectively eliminating the need to use traditional wax and polyethylene papers.





## ADDITIVES FOR CONCRETE DURABILITY, DERIVED FROM SUGAR BEETS & SOYBEANS

**MCI®-2005** – Water-Based, Migrating, Corrosion Inhibiting Admixture for Concrete, Patented – Sugar Beets

**MCI®-2006** – Powder, Migrating, Corrosion Inhibiting Admixture for Concrete – Sugar Beets

**MCI®-2020** – Clear MCI® surface treatment for existing concrete. Designed to penetrate and migrate throughout the concrete structure.

**MCI®-2026 Floor Coating** – A 100% solid, two-component, novolac epoxy coating designed for environments that require a high degree of chemical or temperature resistance.

**MCI®-2025 Primer** – A two-component primer for Cortec's MCI®-2025 Elastomeric Coating. Component A (powder) mixed with Component B (liquid) produces an acrylic copolymer water dispersion.

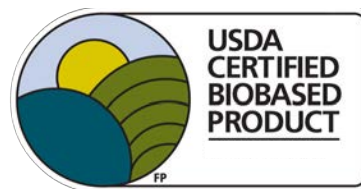
**MCI® EcoCure** – Curing Agent, Patented – Soybeans



**MIGRATING CORROSION INHIBITORS**  
FROM GREY TO GREEN



Drinking Water  
System  
Component  
ANSI/NSF 61  
36AL



## INNOVATIVE SPECIALTY PRODUCTS:

**S-8 Corrosion Inhibitor for Food Can Protection** – A non-toxic “green” film-forming corrosion inhibitor. It can be used in very low concentration and still provide complete corrosion protection in water, vapor phase, and interface. This product is especially useful for the corrosion protection of metallic cans with different food items during washing or sterilization of the packed food.

**S-10 F Boiler Additive** – A non-toxic “green” film-forming corrosion inhibitor for boiler condensate. Effective against corrosion caused by carbon dioxide and oxygen. It is very useful in facilities where safety concerns limit the concentration of amines allowed in steam lines. The active ingredient of S-10 F is the sodium salt of fatty amino acids

**Biobased and Biodegradable VpCI®-411/411 Gel** – Citrus. Heavy-duty water-reducible, D-limonene cleaner/degreaser designed for extra tough cleaning jobs in industrial and commercial applications. Available in a gel form for hard-to-reach surfaces. Provides flash corrosion protection.

**VpCI®-422/423** – Citrus. Environmentally friendly biodegradable rust and tarnish remover for ferrous and non-ferrous metals. Incorporates VpCI® technology so that it is not aggressive to the metal substrate. Will not harm human skin, most paints, plastics, rubber, or other materials. Biodegradable according to 405.1 EPA 600/4-79-020 Test.



**VpCI®-609** – VpCI® powder for wet or dry corrosion protection of ferrous metals and aluminum. 100% biodegradable according to OECD 306, BOD28 Marine Test.

**VpCI®-629 BIO** – Soybeans. The only oil field inhibitor product on the market that combines a high level of corrosion protection, biodegradability, and low toxicity. Biodegradable and non-toxic in accordance to OECD 306, BOD28 Marine Test.

**VpCI®-641** – Naturally occurring amino-acids (coffee). A water-based, rust preventive liquid additive for the protection of ferrous and non-ferrous metals in industrial waters. Non-toxic, environmentally safe, and does not contain nitrite or phosphate inhibitors. Based on all organic components.

**S-14 BIO, Patented** – Soybean. A unique green building block designed for cooling towers and other open-loop, recirculating cooling systems. A powerful combination of scale inhibitor and multi-metal corrosion inhibitor. It is comprised of non-toxic, non-hazardous, and readily biodegradable ingredients; mainly a low molecular weight natural polymer. The other components are GRAS (Generally Recognized as Safe) substances and food approved preservatives.

**VpCI®-641** – This product has the ability to protect at extremely low concentration levels. It is safe, economical to use, and easy to dispose of. It contains a combination of contact and VpCIs capable of protecting even partly filled spaces.

**S-10 F** – Naturally occurring amino-acids (coffee). A non-toxic “green” filming corrosion inhibitor for boiler condensate based on sodium salt of fatty amino acids. This inhibitor is effective against corrosion caused by carbon dioxide and oxygen. It is useful in facilities where safety concerns limit the concentration of amines allowed in steam lines. This product is biodegradable and biobased.

**EcoPrimer™** – Soybeans. A core shell acrylic modified alkyd emulsion with biobased primer that provides good adhesion, salt spray resistance, and extremely low VOC.

**M-95** – Biodegradable. A very low foaming, water soluble corrosion inhibitor additive. It provides corrosion protection for steel, copper, brass, magnesium, aluminum, bronze, galvanized steel, and other ferrous and non-ferrous metals and their alloys.

**M-95** – Prevents corrosion contact and vapor phases. Biodegradable in compliance with HOCNF (Harmonized Offshore Chemical Notification Format) environmental requirements.

**M-533 FG** – A premium rust inhibitor for petroleum and synthetic lubricants, greases, and rust preventative fluids. It provides excellent demulsibility and filterability and is compatible with a wide range of additives and base stocks. Being NSF HX-1 certified, M-533 FG is permitted for use in food plants where incidental contact with food is expected.

**M-241** – An inhibitor for protection of aluminum and its alloys from “in can” corrosion and also water-based coolants, process and metal working fluids, and more.

**M-415** – VpCI® additive provides excellent VpCI® protection for solvent and oil-based systems.

**S-70** – Economical, effective, and environmentally friendly corrosion inhibitor liquid. Provides excellent corrosion protection properties at very low concentrations. Approved by the American National Standard Institute and the American Water Works Association (refer to ANSI/AWWA Standard B404).

**VpCI®-327 Solvent-Based Inhibitor** – Ready-to-use solvent-based corrosion inhibitor forms a tenacious film that clings to metal surfaces, providing excellent contact corrosion protection.

**VpCI®-329** – A vapor corrosion inhibiting concentrate for use with lubricating, hydraulic, and preservation oils. Provides excellent protection in sheltered outdoor/indoor conditions. Protects in two unique ways by offering a tenacious film, which clings to metal surfaces, as well as vapor phase inhibitors released into the air above the oil.

**VpCI®-337** – Waterborne Corrosion Inhibitor. Ready-to-use waterborne corrosion inhibitor designed for indoor use. VpCIs migrate and protect metal surfaces, resulting in time and cost savings.

**VpCI®-338 Food Grade Corrosion Inhibitor** – Waterborne corrosion inhibitor concentrate for indoor use based on proven vapor phase technology. Excellent for edge treating of coils and stacks and for fogging packages and enclosures.

**VpCI®-355 EcoCoat™** – Water-based moisture barrier coating solution that is fully recyclable/repulpable. Biodegradable, non-toxic, nitrite free. Replaces wax and polyethylene coatings for flexible packaging substrates.

**VpCI®-416 Cleaner/Corrosion Inhibitor Concentrates** – Heavy-duty, water-based cleaner/degreaser formulation combined with unique corrosion protection action. Can be metered into power washers, steam cleaners, sprayers, and dipping tanks.





## NSF CERTIFIED AND USDA CERTIFIED BIOBASED PRODUCTS

| Product                                | NSF Certified | USDA Certified Biobased |
|--|---------------|-------------------------|
| BioCorr® Rust Preventative             |               | Yes                     |
| Bio-Pad®                               |               | Yes                     |
| EcoAir® 422 Non-Toxic Rust Remover     |               | Yes                     |
| EcoAir® 423                            |               | Yes                     |
| EcoClean® 423 Rust Remover             |               | Yes                     |
| EcoLine® 3220                          |               | Yes                     |
| EcoLine® 3680                          |               | Yes                     |
| EcoLine® 3690                          |               | Yes                     |
| EcoLine® All-Purpose Lubricant         |               | Yes                     |
| EcoLine® CLP                           |               | Yes                     |
| EcoLine® Cutting Fluid                 |               | Yes                     |
| EcoLine® Food Machinery Grease         |               | Yes                     |
| EcoLine® Long Term Rust Preventative   |               | Yes                     |
| EcoLine® Cleaner & Degreaser           |               | Yes                     |
| EcoOcean®                              |               | Yes                     |
| Eco Works® AD                          |               | Yes                     |
| M-533 FG                               | Yes           |                         |
| M-605 PS                               |               | Yes                     |
| MCI®-2005                              | Yes           | Yes                     |
| MCI®-2005 NS                           | Yes           |                         |
| MCI®-2006                              | Yes           |                         |
| MCI®-2006 NS                           | Yes           |                         |
| MCI® Cortecure®                        |               | Yes                     |
| S-14 Bio                               |               | Yes                     |
| VpCI®411 Cleaner/Degreaser Liquid      |               | Yes                     |
| VpCI®-422 Liquid Organic Rust Removers | Yes           | Yes                     |
| VpCI®-423                              |               | Yes                     |

# Cortec® Corporation



## Quality Management System (ISO 9001 Certified)

### World Class Product Offerings

An innovative producer of leading edge products.

### World Class Customer Service

A positive, long-lasting impression through every link of our company.

### World Class Environmental Commitment

Cortec® commits to continued development of processes and products that are useful, non-hazardous to the environment, and recyclable whenever possible.

### An Ethical and Respectful Company Culture

Respect and treat our colleagues, customers, and vendors as we would our own family members.



## Environmental Management System (ISO 14001 Certified)

Cortec's strong environmental concern is demonstrated in the design and manufacturing of products that protect materials of all kinds from environmental degradation. A strong commitment to produce recyclable products made from sustainable resources has been and will be our future policy. This brochure can be recycled.



## Laboratory Accreditation (ISO/IEC 17025)

Cortec® Laboratories, Inc. is the only lab in our industry that has received ISO/IEC 17025 Certification, which ensures quality in recording and reporting data, as well as calibrating equipment within the laboratory.



## LIMITED WARRANTY

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