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PRESS RELEASE



Cortec's New VpCI® Additives Brochure Offers Comprehensive Range of Corrosion Inhibiting Options!

Cortec's new VpCI® Additives brochure opens up a wide range of flexible corrosion inhibiting options for product manufacturers and industrial end users. By creating a more user-friendly brochure, Cortec® is offering industries and manufacturers better access to the many VpCI® additives options available—either for using directly in their operations or for enhancing the corrosion protection of their manufactured goods.

Cortec's additives integrate many technologies along with proprietary VpCI® chemistry in order to eliminate corrosion caused by corrosive fluids, chlorides, or humid environments. When implemented, these additives ultimately cut costs such as those associated with expensive



alloys, corrosion claims, and labor.



Many of Cortec's additives provide excellent contact protection with additional vapor phase protection for metals in void spaces. When introduced to a void space, VpCI® molecules in these additives vaporize and diffuse throughout the enclosure and adsorb on metal surfaces. This thin molecular, hydrophobic layer protects the metal against corrosive elements such as oxygen, moisture, and chlorides.

Cortec's line of additives includes many environmentally friendly options, such as water-based or biodegradable components and products that reduce the overall use of hazardous materials by streamlining corrosion inhibiting

processes. Cortec® offers many environmentally friendly methods of treatment with low toxicity and low polluting effects. Unlike corrosion inhibiting systems of the past, many Cortec® additives do not contain chromates or other heavy metals, nitrites, or chlorinated hydrocarbons.

Cortec's additives are divided into eight categories:

- Cleaners and Degreasers
- Coatings and Paints (including inks)
- Deicing Salts and Fluids
- Fuels, Crude Oil, and Natural Gas
- Lubricants and Greases
- Metalworking and Hydraulic Fluids
- Plastics, Elastomers, and Adhesives
- Water Treatment Formulations

VpCI® Additives for Cleaners and Degreasers

Cleaning is a critical aspect of corrosion protection that unfortunately leaves metals susceptible to flash corrosion. Cortec® solves this problem by providing corrosion inhibiting additives that can be used directly in cleaning fluids. These additives protect metals against flash corrosion with varying ranges of extended corrosion protection.

- **M-95:** Versatile water soluble additive for various multi-metal systems requiring vapor phase and contact protection. Causes little to no foam. 5 gallon (19 liter) pails, 55 gallon (208 liter) drums, liquid totes, and bulk.
- **M-370:** Multi-metal corrosion preventive additive for alkaline cleaners/degreasers. Prevents flash corrosion on metal surfaces and forms a hydrophobic film that is virtually undetectable when dry. Also available in A (aluminum), NS (non-sulfur), HS (high surfactant), and C (additional protection for cast parts and rough surfaces) versions. Package: 5 gallon (19 liter) pails, 55 gallon (208 liter) drums, liquid totes, and bulk.
- **M-435:** Versatile, no-VOC flash rust corrosion inhibitor for water-based fluids. Can also be used in solvent-based systems. Package: 5 gallon (19 liter) pails, 55 gallon (208 liter) drums, liquid totes, and bulk.
- **M-325:** Prevents corrosion of yellow metals. Can be added to cleaners such as soaps, detergents, and strong alkali or acid cleaners. Package: 5 pound (2.3 kg) pails, 50 pound (23 kg) and 100 pound (45 kg) fiber drums.
- **M-415:** Strong vapor phase corrosion inhibitor additive for cleaners. Contains FDA and USDA approved ingredients. Package: 5 gallon (19 liter) pails, 55 gallon (208 liter) drums, liquid totes, and bulk.
- **S-8:** Wash water additive for protecting food cans from corrosion during washing or sterilization. Contains only FDA approved ingredients. Package: 5 gallon (19 liter) pails, 55 gallon (208 liter) drums, liquid totes, and bulk.
- **S-111:** Multi-metal flash corrosion inhibitor to be formulated into alkaline cleaners. Package: 5 pound (2.3 kg) pails, 50 pound (23 kg) and 100 pound (45 kg) fiber drums.

Selection Guide for Cleaners and Degreasers

Product	METAL PROPERTIES					APPLICATIONS							
	Aluminum	Steel	Stainless Steel	Copper	Brass	Aluminum	Steel	Stainless Steel	Copper	Brass	Plastics	Paints	Adhesives
M-95	+	+	+	+	+	Alkaline	Alkaline	Alkaline	Alkaline	Alkaline	Alkaline	Alkaline	Alkaline
M-370	+	+	+	+	+	Alkaline	Alkaline	Alkaline	Alkaline	Alkaline	Alkaline	Alkaline	Alkaline
M-435	+	+	+	+	+	Alkaline	Alkaline	Alkaline	Alkaline	Alkaline	Alkaline	Alkaline	Alkaline
M-325	+	+	+	+	+	Alkaline	Alkaline	Alkaline	Alkaline	Alkaline	Alkaline	Alkaline	Alkaline
M-415	+	+	+	+	+	Alkaline	Alkaline	Alkaline	Alkaline	Alkaline	Alkaline	Alkaline	Alkaline
S-8	+	+	+	+	+	Alkaline	Alkaline	Alkaline	Alkaline	Alkaline	Alkaline	Alkaline	Alkaline
S-111	+	+	+	+	+	Alkaline	Alkaline	Alkaline	Alkaline	Alkaline	Alkaline	Alkaline	Alkaline

Each category includes a brief description of relevant additives, along with a helpful selection guide to decide which additive is most compatible with a particular situation. The user can select additives according to the type of metal needing protection, the duration of protection required (long term or flash

corrosion protection), and the transport mechanism (vapor phase or contact protection) best suited to the application. The charts also list typical dosage and specify whether the product is soluble in oil, solvent, water, or another carrier.

VpCI® Additives for Coatings and Paints

Cortec® offers a full line of additives for paints and coatings. There are many different formulations of additives for solvent-based and waterborne coatings that cover systems such as acrylics, urethanes, epoxies, and alkyds. This full line of additives incorporates products to eliminate flash rust and also provides long-term corrosion protection against humidity and salt fog.

- **M-95:** Versatile water-soluble additive for various multi-metal systems requiring superior corrosion inhibition. Causes little to no blanch. Package 5 gallon (19 liter) pails, 55 gallon (208 liter) drums, liquid totes, and bulk.
- **M-100:** VOC-free multi-metal solvent-based additive that gives vapor and contact corrosion inhibitor for solvent and some waterborne coatings. Can be post-added to most coating systems. Package 5 gallon (19 liter) pails, 55 gallon (208 liter) drums, liquid totes, and bulk.
- **M-110:** Solvent based additive that can be used in above water-based systems. Suitable for post-addition to many coatings. Limited effect on solvent systems. Package 5 gallon (19 liter) pails and 55 gallon (208 liter) drums.
- **M-118:** Waterborne corrosion inhibitor for coatings, adhesives, and related materials. Package 5 gallon (19 liter) pails, 55 gallon (208 liter) drums, liquid totes, and bulk.
- **M-110M-1114V:** Water-based coating system additive that improves salt spray and humidity resistance. Works synergistically with M-360. Available in LV low-viscosity versions. Package 5 gallon (19 liter) pails, 55 gallon (208 liter) drums, liquid totes, and bulk.
- **M-150:** Multi-metal corrosion inhibiting additive for water-based and ink-like materials. Package 5 gallon (19 liter) pails, 55 gallon (208 liter) drums, liquid totes, and bulk.
- **M-151:** A solvent-based flash inhibitor that will produce a multi-metal vapor phase corrosion inhibitor coating on paper or film backing material. Package 5 gallon (19 liter) pails, 55 gallon (208 liter) drums, liquid totes, and bulk.
- **M-168:** Solvent based coating additive especially effective for preventing salt-solution attacks. May cause softening if high loading is used. Package 5 gallon (19 liter) pails, 55 gallon (208 liter) drums, liquid totes, and bulk.
- **M-225:** Prevents corrosion of yellow metals. Can be added to pretreatment coatings such as lacquers and enamels. Package 5 (2.3 kg) pails, 50 pounds (22.7 kg) and 100 pound (45.4 kg) drum drums.
- **M-240:** A multi-metal, flash rust, corrosion inhibitor additive for water-based paints, sealers, adhesives, fuels, and more. Package 5 gallon (19 liter) pails, 55 gallon (208 liter) drums, liquid totes, and bulk.
- **M-241:** Corrosion inhibitor for aluminum. Add to water-based coatings. Package 5 gallon (19 liter) pails, 55 gallon (208 liter) drums, liquid totes, and bulk.
- **M-380:** Water-based, multi-metal corrosion inhibitor designed to be used with carbonylated acrylic or styrene acrylic urethanes. Works synergistically with M-110V. Package 5 gallon (19 liter) pails, 55 gallon (208 liter) drums, liquid totes, and bulk.
- **M-381:** Water-based additive for flash rust and long-term protection. In needed to combine performance of M-119 and M-360. Package 5 gallon (19 liter) pails, 55 gallon (208 liter) drums, liquid totes, and bulk.
- **M-435:** Versatile, no-VOC flash rust inhibitor for water-based coating systems. Can also be used in solvent-based systems. Package 5 gallon (19 liter) pails, 55 gallon (208 liter) drums, liquid totes, and bulk.
- **M-530S:** Corrosion-inhibiting and water-resistant additive for solvent-based, epoxy, and some waterborne systems. Package 5 gallon (19 liter) pails, 55 gallon (208 liter) drums, liquid totes, and bulk.

Cortec's VpCI® additives for cleaners and degreasers include many flash rust inhibitors that can be added to water, glycol, oil, or solvent cleaning fluids to protect the metals being cleaned. Some offer additional long term protection after the initial wash.

Paints, coatings, and inks can also be enhanced with VpCI® for protection against flash rust, humidity, and salt fog. A detailed selection guide shows their compatibility with many different types of water-based and solvent-based coatings.

Another important and unique category is additives that counteract the highly corrosive nature of deicing salts and fluids. This group of additives includes not only those for deicing chemicals in transportation applications, but also those for protecting systems dealing with corrosive seawater and brine.

Cortec's additives for fuels, crude oil, and natural gas offer a range of vapor phase and contact corrosion protection for a variety of applications: process injection; pigging; and fuel equipment storage, shipment, and use. Many of these additives include vapor phase protection—an important property for protecting void spaces in fuel storage containers.

Lubricants and greases can also benefit from the increased corrosion protection of VpCI® additives. A common misconception is that oil-based products are naturally strong rust preventatives. However, while oil itself can help displace moisture, a good corrosion inhibiting additive can significantly

VPC[®] Additives for Lubricants and Greases

This full line of additives offers versatile corrosion inhibitor packages for both solvent- and oil-based lube and grease systems. A common misconception is that oil-based products are naturally strong rust preventives. While oil itself can help displace moisture, a good corrosion inhibiting additive can significantly increase protection of lube and grease systems. Many of these additives offer vapor phase protection for metals in the void space above the lubricant.

- M-168:** Solvent based additive especially effective for protecting ball contact at packings. Package 3 gallon (19 liter) cans—55 gallon (208 liter) metal drums, liquid totes, and bulk.
- M-238:** For corrosion protection of yellow metals in contact with oil based systems, such as transformer oil. Package 3 gallon (19 liter) pails, 55 gallon (208 liter) drums, liquid totes, and bulk.
- M-238:** Effective vapor and contact corrosion protector for a variety of oil and solvent-based systems. Package 3 gallon (19 liter) pails, 55 gallon (208 liter) drums, liquid totes, and bulk.
- M-320:** Provides vapor and contact protection to oil systems such as gearboxes. Recommended during startup. Package 3 gallon (19 liter) pails, 55 gallon (208 liter) drums, liquid totes, and bulk.
- M-369:** Additive for greases, waxes, or heavy oils that provides a superior level of corrosion protection. Package 3 gallon (19 liter) pails, 55 gallon (208 liter) drums, liquid totes, and bulk.
- M-486:** Provides corrosion protection to brake fluid in vehicles such as DOT 3 or 4. Especially effective in engine oils. This line of VPC's includes 3 gallon (19 liter) pails, 55 gallon (208 liter) drums, 275 gallon (1041 liter) tote.
- M-529:** Petroleum oil based contact corrosion-inhibitor package for lubricating oils. M-529 contains 2% lubricity package. Available in super concentrate (M-529SC). Package 3 gallon (19 liter) pails, 55 gallon (208 liter) drums, liquid totes, and bulk.
- M-530:** Mineral oil based inhibitor for intermittent operating systems offering both contact and vapor phase corrosion protection. Small particle size passes through 1 micron filter. Package 3 gallon (19 liter) pails, 55 gallon (208 liter) drums, liquid totes, and bulk.
- M-531:** PAO based additive that has a minimal effect on properties like water separation, thermal stability, and films. It meets OEM's OFF-Cycle corrosion/vapor phase corrosion protection. Package 3 gallon (19 liter) pails, 55 gallon (208 liter) drums, liquid totes, and bulk.
- M-531T:** An ash free oil corrosion-inhibiting additive designed for turbine applications. Package 3 gallon (19 liter) pails, 55 gallon (208 liter) drums, liquid totes, and bulk.
- M-531F:** Oil additive corrosion inhibitor which is NSF H-1 certified for use in plants with incidental food contact. Package 3 gallon (19 liter) pails, 55 gallon (208 liter) drums, liquid totes, and bulk.

Selection Guide for Lubricants and Greases Additives

Product	Metal Protection (AST)				Applications			
	Copper	Steel	Aluminum	Zinc	Oil Based Systems	Water Based Systems	Food Grade	Notes
M-168	A	A	A	A	✓	✓	✓	2000 cc weight
M-238	A	A	A	A	✓	✓	✓	2000 cc weight
M-320	A	A	A	A	✓	✓	✓	1000 cc weight
M-369	A	A	A	A	✓	✓	✓	1000 cc weight
M-486	A	A	A	A	✓	✓	✓	1000 cc weight
M-529	A	A	A	A	✓	✓	✓	1000 cc weight
M-529SC	A	A	A	A	✓	✓	✓	1000 cc weight
M-530	A	A	A	A	✓	✓	✓	2000 cc weight
M-531	A	A	A	A	✓	✓	✓	2000 cc weight
M-531T	A	A	A	A	✓	✓	✓	2000 cc weight
M-531F	A	A	A	A	✓	✓	✓	2000 cc weight
M-531FT	A	A	A	A	✓	✓	✓	2000 cc weight
M-531FTS	A	A	A	A	✓	✓	✓	2000 cc weight
M-531FTS	A	A	A	A	✓	✓	✓	2000 cc weight

Further expanding the range of Cortec's unique VpCI® collection is its class of additives for plastics, elastomers, and adhesives. By including VpCI® in these materials, manufacturers can add vapor phase and contact corrosion inhibiting properties to the plastics, rubbers, or adhesives that they produce. This has been especially strategic in the implementation of VpCI® into polyethylene and polypropylene.

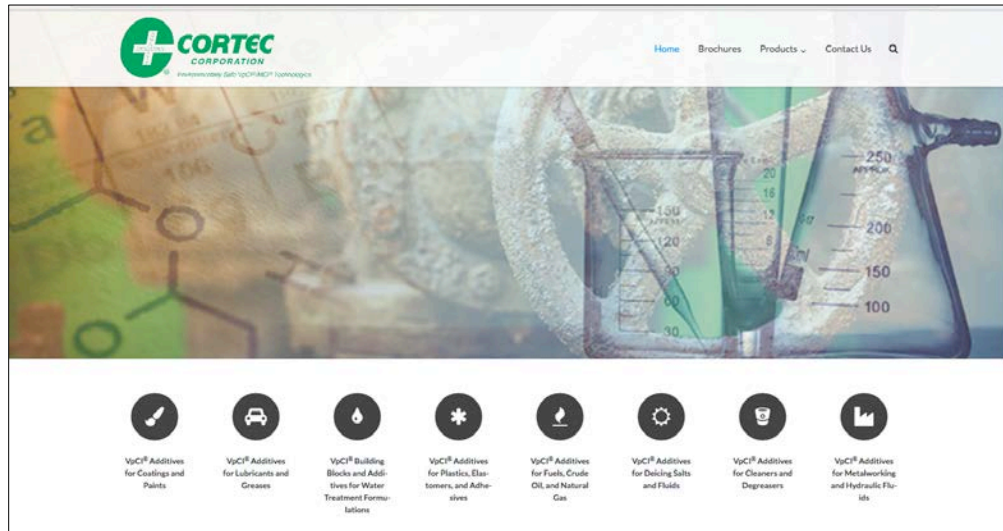
The many options in this brochure demonstrate the great versatility of Cortec® VpCI® Technology for a full range of applications. From enhancing coating protection, to counteracting the corrosion of deicing salts, to providing built-in corrosion protection for cleaners and degreasers and other materials, Cortec's additives open up a full range of options to manufacturers and industrial end users looking to enhance the quality of their products.

http://cortecadditives.com/wp-content/uploads/2017/04/Additives_Brochure_04-2017.pdf

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