



CORTEC
CORPORATION

Environmentally Safe VpCI®/MCI® Technologies

VpCI®

METALWORKING PRODUCTS



ISO/IEC-17025
LABORATORY TESTING ACCREDITED



ISO 9001
CERTIFIED

QUALITY SYSTEM REGISTERED



ENVIRONMENTAL
ISO 14001
CERTIFIED

SYSTEM REGISTERED



Productivity, investment protection, and cost reduction.

The total economic loss from corrosion in a metal producing plant can approach a staggering 5%. This huge loss comes from products that must be sold as a lower grade or must be re-pickled, reprocessed, or scrapped due to corrosive attack while in the plant, leading to lost production capacity. The high cost of corrosion also includes rust claims and freight costs for returned goods.

Cortec® VpCI® products solve a wide variety of corrosion problems.

VpCI® protects a multitude of metal products. Spraying or dipping pipes and other tubulars with VpCI® provides fast and economical protection for exterior and interior surfaces. In addition, biobased and water-based concentrates provide alternative corrosion protection and lubricant options for hot rolled, cold rolled, galvanized and aluminized steels, copper, aluminum, brass, and other products, eliminating the need for oil and oil-water emulsion rust preventatives. Our technically trained staff can help you decide which product you need for long lasting and complete protection of your corrosion-sensitive products.

How Cortec® VpCI® prevents corrosion and protects your product.

For edge treatment, VpCI® is applied in just seconds to the edges of coils or stacks with conventional manual or automated spray equipment. Traditional rust preventatives do not stop speckling on the internal metal layers. Humidity and condensed moisture easily penetrate the coil, forming a highly corrosive environment inside the coil. Rust, speckling, and staining can develop in minutes under these conditions. VpCI® products with vapor-phase action migrate wherever humidity and corrosive agents can penetrate to provide complete corrosion protection. Cortec® VpCI® has options for protecting external surfaces as well as internal layers of coils or sheets.

How Cortec® VpCI® can cut costs.

- Water-based concentrates are more economical than conventional oil-based rust preventatives.
- Efficient application results in labor savings.
- Improved environmental, health, and safety options available.
- No need to remove VpCI® protection, eliminating extra processing steps.

VpCI® treatments virtually eliminate economic loss due to rust, speckling, staining, and other forms of corrosion. You can eliminate claims and returns while improving the quality of your product. As a result, your processing will become more streamlined, allowing for more efficient operation.

	Annual Economic Loss Due to Corrosion	Cost of VpCI® Treatment to Protect Total Production	Total Savings With Cortec® VpCI®
Per Shift	\$ 4,500	\$ 100	\$ 4,400
Per Day	13,500	300	13,200
Per Week	94,500	2,100	92,400
Per Month	410,625	9,125	401,500
Per Year	\$ 4,927,500	\$ 109,500	\$ 4,818,000

Hypothetical figures are based on a steel mill producing and shipping 100 ten-ton coils per shift, three shifts per day, seven days per week, at a nominal material and manufacturing cost of \$300 per ton, with a 1.5% economic loss due to corrosive attack.

CUTTING FLUIDS

Biobased

EcoLine® Cutting Fluid

Soy-based, multifunctional metalworking fluid for a variety of machining operations.

- Contains 64% USDA certified biobased content.
- Effective at a wide range of dilutions.
- Provides corrosion protection after operation.
- Excellent humidity resistance.
- Superb lubricating properties for machining a wide range of metals.
- Provides multi-metal protection for indoor storage protection.

Water-Based

VpCI®-345

Synthetic rust preventative coolant for light-duty cutting, milling, turning, drilling, boring, broaching, and other machining operations.

- Replaces neat oils and semi-synthetics for maximum coating and rust inhibiting stability.
- Resistant to rancid attack by bacteria.
- Does not contain flammable solvents.



VpCI®-347: Multifunctional corrosion inhibitor/coolant/heavy-duty lubricant concentrate for metal stamping, tubular products, and machined parts.

- Low to no smoke or burning vapors.
- EP properties.
- Low foaming.
- Displaces water and oil to form thin transparent protective film.

LUBRICANTS

Biobased

EcoLine® Bearing, Chain, and Roller Lube

Ready to use high quality rust preventative lubricant, formulated with American grown natural seed oil that surpasses the lubricity of most conventional lubes.

- Vegetable-oil-based.
- Superior flash and fire points for increased safety.
- Excellent lubricity prevents smoking when under load.
- Excellent thin film protection on chains and bars.

EcoLine® CLP

A “green,” canola-oil-based version of a multifunctional penetrant/lubricant designed for indoor and outdoor use.

- Contains 89% USDA certified biobased content.
- Cleans and lubricates.
- Loosens seized and rusty parts.
- Reduces friction and wear.

EcoLine® ELP

A high-performance biodegradable soy-based lubricant and penetrant for general purpose use.

- Contains 95% USDA certified biobased content.
- Readily biodegradable.
- Non-flammable.
- Excellent extreme pressure and anti-wear properties.



Water-Based

VpCI®-344

Corrosion preventative liquid for wet tempering of galvanized and cold-rolled steel.

- Nitrite and phosphate-ester free.
- Biodegradable.
- Film persistency in turbulent, high temperature, and high shear conditions.
- Provides extended protection against corrosion, white rust, and staining.

Oil-Based

CorrLube™ Food Grade Penetrant

Light penetrating oil that penetrates quickly to free rusted or seized parts. Also serves as an excellent anti-corrosion film on equipment during idle periods.

- Registered as an NSF H1 148798 lubricant for incidental contact with food.
- Lubricates moving parts.
- Loosens rusted parts.

GENERAL PURPOSE RUST PREVENTATIVES

Biobased

BioCorr®

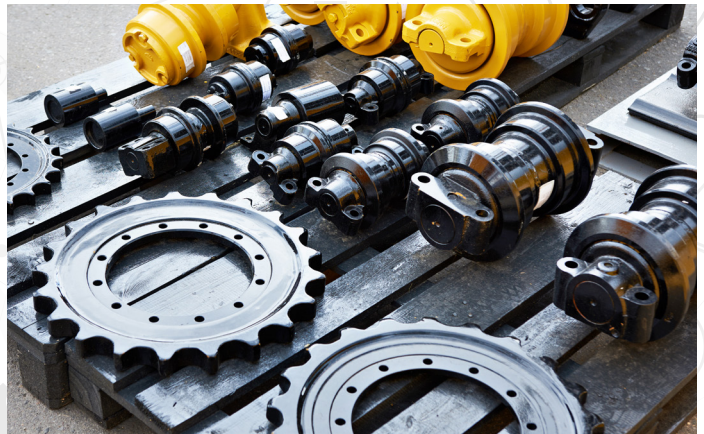
Water-based, biobased rust preventative that leaves a virtually undetectable dry film.

- Helps create clean workplace and prevent material waste.
- Multi-metal protection.
- Contains 64% USDA certified biobased content.
- Environmentally sound alternative to petroleum derived products.
- BioCorr® ATF (54% biobased content) available for compatibility with transmissions.

EcoLine® 3220

Ready-to-use canola-oil-based rust preventative.

- Tenacious film clings to metal surfaces.
- Contains 99% USDA certified biobased content.
- Multi-metal protection.
- Good lubrication properties.





EcoLine® 3690

A biobased ready-to-use temporary coating designed for severe marine and high humidity conditions.

- Contains 72% USDA certified biobased content.
- Extreme corrosion protection.
- Multi-metal application.
- Leaves behind a light, oily film.
- Canola-oil based.

EcoLine® Long Term Rust Preventative

Biobased rust preventative that provides long-term protection in indoor or outdoor conditions.

- Contains 85% USDA certified biobased content.
- Provides multi-metal corrosion protection.
- Environmentally conscious replacement for petroleum-based rust preventatives.
- Low VOC.

Water-Based

VpCI®-316

Metalworking liquid for protection of copper, brass (<30% Zn), silver, and other copper alloys.

- Leaves light semi-dry film for stamping or rolling (depending on concentration).
- Replaces slushing oils after pickling and temper rolling.
- Low VOC.

VpCI®-337

Vapor phase Corrosion Inhibitor fogging agent for indoor storage and packaging uses.

- Ideal for edge protection of coils and stacks.
- Can be fogged or misted into containers, cavities, pipes, etc.
- Provides multi-metal protection.
- Excellent vapor-phase protection.
- Biodegradable.
- Available in EcoAir® air-powered spray cans.

VpCI®-338

Waterborne corrosion inhibitor acceptable for use on steel or tinplate in food packaging according to FDA CFR 21, §178.3300.

- Ideal for lap and edge protection of metal stacks and sheets.
- Mild cleaner.
- Multi-metal protection.

VpCI®-377

Water-based rust preventative concentrate with a wide dilution range

- Forms clear dry film that can be painted over.
- Not necessary to remove before further processing.
- No hazardous decomposition byproducts.
- Effective at low concentrations.
- Nitrite and phosphate-ester free.
- Multi-metal protection.
- Available in EcoAir® air-powered spray cans.

VpCI®-378

Water-based concentrate designed as a complete replacement for oil-based corrosion preventatives.

- Ideal for ferrous metals.
- Stable at higher temperatures for dipping baths.
- Excellent performance in humidity testing.
- Clear, easy to remove film.

VpCI®-379

Temporary film for storage and shipping protection of multi-metal parts.

- Forms a dry film.
- Excellent humidity results.
- Easily removed with an alkaline cleaner.
- Provides indoor and packaging protection.

Oil-Based

VpCI®-322

Oil-based rust preventative concentrate for mineral-oil-based lubricating or hydraulic oils.

- Provides multi-metal protection especially on zinc, aluminum, magnesium, and yellow metals.
- Filters through a 5 micron filter.
- High temperature resistance.



VpCI®-323

A vapor-phase corrosion inhibiting oil-based concentrate.

- Naphthenic-oil-based.
- Provides multi-metal protection.
- Contains a lubricant additive.

VpCI®-325

A ready-to-use vegetable-oil-/solvent-based liquid (with lubricant properties) for general purpose corrosion protection in a wide variety of applications.

- Long-term indoor protection.
- No cleanup required.
- Water-displacing.
- Non-flammable.
- Available in EcoAir® air-powered spray can.

VpCI®-326

Oil-based rust preventative concentrate for mineral-oil-based lubricating or hydraulic oils with excellent vapor-phase protection.

- Excellent vapor-phase protection.
- Excellent indoor protection.
- Low viscosity.

VpCI®-329

A naphthenic-oil-based vapor-phase corrosion inhibiting concentrate for use with lubricating and hydraulic oils.

- Excellent protection in outdoor sheltered conditions in coastal environments.
- Effective on multi-metals.
- Available as ready-to-use rust preventative (VpCI®-329 D).
- Commercial equivalent to MIL-PRF-46002B.

VpCI®-330

A clear, ready-to-use low-viscosity rust preventative, great for metal parts that require an almost invisible coat of oil for further processing/shipment.

- Easily sprayed using handheld trigger spray bottle.
- Protects ferrous metals
- Compatible with yellow metals.
- Contains no OSHA hazardous components.



Solvent-Based

VpCI®-277

A ready-to-use rust preventative for preservation of metals in storage and during transportation.

- Forms dry protective film.
- Low VOC.
- Ideal for robotic assembly of precision components with tight tolerances.



VpCI®-327

Ready-to-use solvent-based corrosion inhibitor with contact and vapor-phase protection.

- High vapor-phase protection.
- Partially drying.
- Good sprayability.
- Multi-metal protection.



VpCI®-340 CLP

A cleaner/lubricant/protectant for a wide array of commercial and industrial applications, especially firearm maintenance and storage.

- Excellent water-displacing characteristics.
- Loosens organic and inorganic residue.
- Forms superior lubricating/protective film.



100% Vapor Phase

CorroLogic® Fogging Fluid VpCI®-339

A ready-to-use 100% Vapor phase Corrosion Inhibitor product for preservation of void spaces comprised of multi-metals.

- Forms a thin, self-healing film.
- Fast-acting, convenient to apply.
- Soluble in water and hydrocarbons.



		Cortec® Product	Coating Film Type	Coverage Rate	Indoor Protection # of months
Cutting Fluids	Biobased	EcoLine® Cutting Fluid	Clear dry	N/A	9
	Water-Based	VpCI®-345*	Clear dry	N/A	24
		VpCI®-347*	Clear non-drying	N/A	24
Lubricants	Biobased	EcoLine® Bearing, Chain, and Roller Lube	Oily	As needed	12-24
		EcoLine® CLP	Oily	As needed	24
		EcoLine® ELP	Oily	As needed	12-24
	Water-Based	VpCI®-344*	Clear dry	As needed	12-24
	Oil-Based	CorrLube™ Food Grade Penetrant	Oily	As needed	12-24
General Purpose Rust Preventatives	Biobased	BioCorr®*	Clear dry	1400 ft²/gal (35 m²/L)	24
		EcoLine® 3220	Oily	1400 ft²/gal (35 m²/L)	12-24
		EcoLine® 3690	Oily	1575 ft²/gal (39 m²/L)	12-24
		EcoLine® Long Term Rust Preventative	Oily	N/A	24
	Water-Based	VpCI®-316	Clear dry	N/A	24
		VpCI®-337	Thin soft	N/A	12
		VpCI®-338	Thin soft	N/A	12
		VpCI®-377*	Clear dry	1400 ft²/gal (35 m²/L)	24
		VpCI®-378*	Clear dry	N/A	24
		VpCI®-379*	Clear dry	N/A	24
	Oil-Based	VpCI®-322	Oily	N/A	24
		VpCI®-323	Oily	N/A	24
		VpCI®-325	Oily	1400 ft²/gal (35 m²/L)	24
		VpCI®-326	Oily	N/A	24
		VpCI®-329	Oily	1400 ft²/gal (35 m²/L)	12-24
		VpCI®-330	Clear non-drying	N/A	12-24
	Solvent-Based	VpCI®-277	Clear dry	N/A	24
		VpCI®-327	Oily	N/A	24
		VpCI®-340 CLP	Oily	N/A	24
	100% Vapor Phase	CorroLogic® Fogging Fluid VpCI®-339	Thin soft	N/A	12+

*Typically does not need to be removed before welding.

Sheltered Outdoor Protection # of months	Metals Protected	Applicable by Spray/Brush/Dip (✓)	Dilution Range	Removal Methods Use Cortec® 410 Series Cleaners	Solution Color
3	Multi-metal	✓	2.5-5% in water	Alkaline cleaners	Amber, milky white (when mixed)
-	Multi-metal	✓	2.5-20% in water	Alkaline cleaners	Clear yellow to amber
12	Multi-metal	✓	2.5-10%	Alkaline cleaners	Tan/brown
3	Multi-metal	✓	Ready to use	Alkaline cleaners	Amber
-	Multi-metal	✓	Ready to use	Alkaline cleaners	Amber/brown
-	Multi-metal	✓	Ready to use	Alkaline cleaners	Light yellow
3	Multi-metal	✓	1.5-5% in water	Water or alkaline cleaners	Dark amber
-	Multi-metal	✓	Ready to use	Alkaline cleaners	Colorless to slightly yellow
12-24	Multi-metal	✓	Ready to use (also available as SC)	Water or alkaline cleaners	Milky white (amber for SC)
12-24	Multi-metal	✓	Ready to use	Alkaline cleaners / solvent	Clear yellow
12-24	Multi-metal	✓	Ready to use	Alkaline cleaners	Opaque tan
12	Multi-metal	✓	Ready to use	Alkaline cleaners	Amber
6-12	Brass, copper, bronze	✓	2-20% in water	Water or alkaline cleaners	Clear yellow
1-2	Multi-metal	✓ + Fog	Ready to use	Water or alkaline cleaners	Clear to hazy amber
1-2	Multi-metal	✓ + Fog	Ready to use	Alkaline cleaners	Milky white
6	Multi-metal	✓	2-20% in water	Water or alkaline cleaners	Dark brown
6-12	Multi-metal	✓	5-50% in water	Water or alkaline cleaners	Cloudy brown
6	Multi-metal	✓	5-50% in water	Water or alkaline cleaners	Amber
12	Multi-metal	✓ + Fog	5-10% in oil	Alkaline cleaners & mineral spirits	Dark amber
12	Multi-metal	✓ + Fog	5-10% in oil	Alkaline cleaners & mineral spirits	Clear yellow to amber
12	Multi-metal	✓	Ready to use	Alkaline cleaners & mineral spirits	Opaque tan
12	Multi-metal	✓ + Fog	5-20% in oil	Alkaline cleaners & mineral spirits	Clear yellow
12	Multi-metal	✓ + Fog	5-20% in oil	Alkaline cleaners & mineral spirits	Opaque tan
12	Multi-metal	✓	Ready to use	Alkaline cleaners & mineral spirits	Clear yellow to amber
6-12	Multi-metal	✓	Ready to use	Alkaline cleaners & mineral spirits	Clear yellow
12	Multi-metal	✓ + Fog	Ready to use	Alkaline cleaners & mineral spirits	Clear yellow
12-24	Multi-metal	✓	Ready to use	Alkaline cleaners or solvents	Dark amber
-	Multi-metal	Fog	Ready to use	Water or alkaline cleaners	Clear yellow

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 first 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

All statements, technical information and recommendations contained herein are based on tests Cortec® Corporation believes to be reliable, but the accuracy or completeness thereof is not guaranteed.

Cortec® Corporation warrants Cortec® products will be free from defects when shipped to customer. Cortec® Corporation's obligation under this warranty shall be limited to replacement of product that proves to be defective. To obtain replacement product under this warranty, the customer must notify Cortec® Corporation of the claimed defect within six months after shipment of product to customer. All freight charges for replacement product shall be paid by customer.

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4119 White Bear Parkway, St. Paul, MN 55110 USA
Phone (651) 429-1100, Fax (651) 429-1122
Toll Free (800) 4-CORTEC, E-mail productinfo@cortecvci.com
www.CortecVCI.com
www.cortecmetalworking.com

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