

CORTEC Vision



Reduce, Reuse, & Recycle

Want to be environmentally friendly at work and at home? Just remember three words:

Reduce

Reducing waste generated by buying/driving less or buying products that use biodegradable packaging made from sustainable resources is the best way to be environmentally friendly. Other easy ways to reduce waste include:

- Buy only what you need, so you don't have extra that turns into waste
- Carry purchases with a biodegradable bag and buy from local sources to reduce the carbon footprint
- Buy in bulk
- Remove your name from junk mail lists – go to <http://www.reduce.org> to find out how
- Compost biodegradable garbage/yard waste for use in the garden instead of sending it to a landfill – more info is at <http://www.compostguide.com/>
- Reduce the amount of batteries you use by having rechargeable ones in the house
- Print to both sides of paper and use scrap paper for printing drafts don't print at all if you can email or scan
- Use friendly dishwashing/laundry soaps/house-hold cleaners to reduce the chlorine, harsh solvents, and phosphates going into our water. You can get recipes for cleaners made out of ingredients you already have at home at <http://www.happyslob.com/cleaningrecipes.html> or <http://www.ecocycle.org/hazwaste/recipes.cfm>
- Limit the amount of fertilizer used on plants and lawns to reduce pollutants going to water sources, or convert a portion to a natural garden – see <http://www.dnr.state.mn.us/gardens/nativeplants/index.html>
- Car pool/take turns doing group errands to use less gas. Make sure to check coworkers/family to ensure a complete list before going out so you make one trip. Or use an errand service – someone already doing errands for multiple people in the same location such as www.theshoppingbaglady.com
- Drive an efficient car - info can be found at <http://www.epa.gov/greenvehicles/>
- Turn off and unplug electronics that are not being used to save energy and limit waste used to create it. Also, use a thermostat to control heat/cold – there is a home energy audit tool at <http://hes.lbl.gov/hes/vh.shtml>
- Choose green power for energy needs – see <http://www.pca.state.mn.us/oea/energy/greenpower.cfm>



Reuse

Reusing items that would otherwise become waste is another great way to be environmentally friendly. Many glass, metal, plastic, and wood products can be reused many times. If you use a bag for several trips to the store or give old items to the thrift store so someone else can reuse them, you extend the life of these items and prevent the purchase of a new item for the same purpose, therefore you reducing the amount of trash going to a landfill. Some easy ways to reuse include:

- Purchase everyday items such as paper, checks, cardboard packaged foods, plastic jug packaged items, paper towels, air-filters, and other products that contain the largest amount of post-consumer recycled content
- Reuse plastic bags from the store as garbage liners
- If remodeling, look for tiles, decking, carpet, insulation, roofing, bricks, and paint made from recycled items
- Purchase furniture made from recycled material
- Buy candles and crayons made from recycled wax
- Take old tins or flower pots and reuse to create a great gift
- Shop at thrift stores and garage sales instead of buying new
- Pets can help out too – use litter or bedding that has been recycled



Recycle

Recycling items that would otherwise be thrown in the trash is easier than ever. Most cities and businesses have collection sites that are free for you to use. If you recycle metal, you may even get paid for bringing it in! Don't forget to recycle these commonly used items:

- Plastic bags collected at many grocery stores
- Packing peanuts collected at some mailing supply stores
- Latex paint-collected by Amazon Environmental, Inc
- Paper and aluminum cans are picked up by most cities

See the EMS board for a recycle guide

Buyer Beware

Over the past few years it seems that everyone is advertising green products on television, in the stores, etc. Plus, there is a lot of environmental jargon that may be confusing. How can you be sure you're really buying the most environmentally friendly product? There seems to be guides on the internet everywhere you look, such as National Geographic's <http://www.thegreenguide.com/> and Consumer Report's <http://www.GreenerChoices.org>. More and more rating devices to help determine what really is the friendliest for the environment are popping up everyday. In construction there is the LEED system (see <http://www.usgbc.org/DisplayPage.aspx?CategoryID=19>). For electronics there is the electronic product environmental assessment tool (see http://www.zerowaste.org/epcat_devel/).

Also you may see labels such as "Post-consumer material" and "Pre-consumer material"—what do they mean? "Post-consumer material" is something that someone has used and recycled, such as newspaper or plastic milk jugs. It is waste, and would normally be discarded after completing its useful life as a consumer item. Some products or packages contain material that is recycled from mill scraps. This material has never been used by anyone, and is called "Pre-consumer material".

The most recent newsletter, "Minnesota Environment", published by the Minnesota Pollution Control Agency, also has a lot of great information. It can be accessed at <http://www.pca.state.mn.us/publications/mnenvironment/index.html>

A great thing about Cortec® is that many of our products are much friendlier alternatives than customers have had in the past for corrosion inhibition. Instead of using petroleum based oils, they can use our products based on vegetable oils naturally found growing in our environment. Also, we have many water-based alternatives as well as biodegradable products.

** Abstract from websites cited in this article*



Right: Eco Wrap® trials for agricultural exporter in Pacific Northwest
Left: Brian Coles at Lake Chemicals, UK (Using Eco Works®)

Process Additives

We are receiving inquiries about chemicals for petroleum/natural gas production. These questions show both the interest and a good market for process additives and also the limitations of this product line. To close this gap several new products were added and more are coming for this application. Generally the companies who traditionally provide services for oil fields have separate products to use for the corrosion protection of wells, collectors, pipe lines, transmission lines, etc. Before using, it is important to consider if the product is applied continuously, as a batch treatment, or in pigging operation. Other important parameters include the concentration of hydrogen sulfide, carbon dioxide, sulfate reducing bacteria, and others.

The new products added to the existing line:

- **VpCI™-639 BD** - for the lay up of pipelines and other recovery operation units
- **VpCI™-637 M** - three phase corrosion inhibitor
- **VpCI™-637 LE** - a water soluble product
- **Eco Flow™ System** - for water flood operations
- **VpCI™-639A** - for the refinery overhead corrosion
- **Corrosorber®** - liquid for hydrogen sulfide scavenging

Application	Type of inhibitor	Cortec® (VpCI™)
Squeeze treatment	Oil soluble	639/629/629BIO
Batch treatment (Well)	Oil soluble	639/629/629BIO
Pigging	Oil soluble	639BD
Pipelines (oil or water)	Oil soluble/water dispersible	637
Tubing string treatment (packers' well) Batch treatment	Oil soluble	639/629/629BIO
Tubing string treatment (packers' well) Batch treatment	Oil soluble/water dispersible	637
Water injection lines and wells	Water dispersible	Eco Flow™ System/637LE
Oil/gas/water	Oils soluble /water dispersible	637M
Dry gas pipelines	Neutralizing amines and Quads	637Q
Gas/water pipelines	Volatile amines + water dispersible film forming amines	637 GI
Oil and water	Oil soluble/water dispersible	637
Gas phase (to increase pH)	Volatile amines based	S -10
Sour gas	Volatile amines + Quads	637 GL
Refinery over head corrosion	Fatty primary amines	639A
Hydrogen sulfide scavenger	Nitrogen based heterocyclic compound	Corrosorber Liquid

At the present time our process additives are submitted to several companies for evaluation, submission of the technical documentation, and products for participation in worldwide tender.

Corrosorber® Liquid

Hydrogen Sulfide Scavenger

Corrosorber® Liquid is a water solution of a nitrogen based heterocyclic compound. It can be used to scavenge hydrogen sulfide (H₂S), mercaptans, sulfides, and sulfur compounds from gas systems or liquid hydrocarbons. The product reacts extremely fast, allowing for lower levels of treated hydrogen sulfide (H₂S) where contact time is restricted. For faster reaction kinetics, allow for lower usage of treating chemical. Also, it demonstrates preservative properties against a variety of commonly found microorganisms.

Corrosorber® Liquid is installed by batch treatment to reaction towers or is injected continuously into gas gathering lines, transmission lines, vapor overheads, or liquid product systems of pipelines. It can also be used as an additive for corrosion inhibitors and surfactants to enhance control of microorganisms. The product can be diluted with water or methanol for ease of application. The spent solutions of Corrosorber® Liquid are considered water dispersible polymers and can be injected continuously into water gathering lines, water tanks, holding pits, and vapor overheads.

Corrosorber Liquid is available in 5 gallon (19 liter) pails, 55 gallon (208 liter) drums, liquid totes (275 gal), and bulk.



Cortec® Users' Voice

about VpCI-126® Blue®

Auto parts industry:

- The customer is a manufacturer specializing in induction hardening, and is dealing with major auto manufacturers.

Problem: The company experienced corrosion during the humid season and spent 800,000yen/month to eliminate the corrosion with other corrosion inhibiting films.

VpCI-126® Blue® solution: Corrosion occurrence has dramatically decreased and they say "we rarely see corrosion now".

Electronic Component Industry

- The customer is a major drive-line parts manufacturer whose products are exported worldwide.

Problem: A customer delivered products via sea, passing through the equator to a Japanese-owned electrical component manufacturer in South Asia. The product suffered corrosion caused by the rapid change of temperature and humidity. The customers thought there was no difference among corrosion inhibiting films offered by various companies.

VpCI-126® Blue® solution: After persuading the customer to try VpCI-126® Blue®, it improved their situation by eliminating the corrosion. Now, this is the only product the customer will use.



Golf club manufacturing:

- The customer transports non-plated wedges (made of soft iron) manufactured in a factory in Southeast Asia to the U.S. by sea.

Problem: They had been suffering from corrosion problems and asked a product manufacturer in the U.S. about preventative measures for this situation.

VpCI-126® Blue® solution: The product manufacturer recommended Cortec's VpCI-126® Blue® and the golf club manufacturer began to use it. They have not experienced any major corrosion problem since.

Asia

Cortec® Asia Meeting 2008

Cortec® Corporation's Asian Sales & Strategy Meeting was held December 12th and 13th, 2008 in Ho Chi Minh City, Vietnam. The Cortec® team was joined by many of our successful and highly qualified distributors and licensees - over 30 people attended, representing 13 countries!

The general session opened with the "State of the Company Address" given by Boris Miksic, Cortec® President/CEO, then the traditional "Sales" awards ceremony, and was concluded with "New Product" introduction. After the opening session, individual training sessions were held covering Cortec® product lines with direct participation from distributors sharing field experiences.

Of course our intense working sessions were balanced with enjoyable social and tourist activities. From the welcome reception to a tour of Ho Chi Minh City, there was plenty of activity over the two days.

It is our pleasure to praise and congratulate all Cortec® sales partners who this year, despite the overall economic slow down, were able to achieve significant sales growth. These outstanding results have a very simple explanation: hard work, high competence, and LOTS of enthusiasm. In other words "Espirit de Cortec"!

In closing, we would like to express our gratitude to our sales partners for their constant efforts, as well as their valid support and sincere friendship which continues to grow and strengthen year after year. We are looking forward to inviting everyone to the World Sales Meeting in June 2009!

"Espirit de Cortec®"!

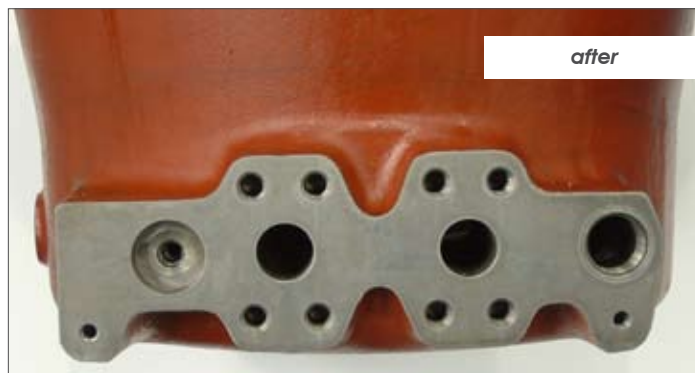
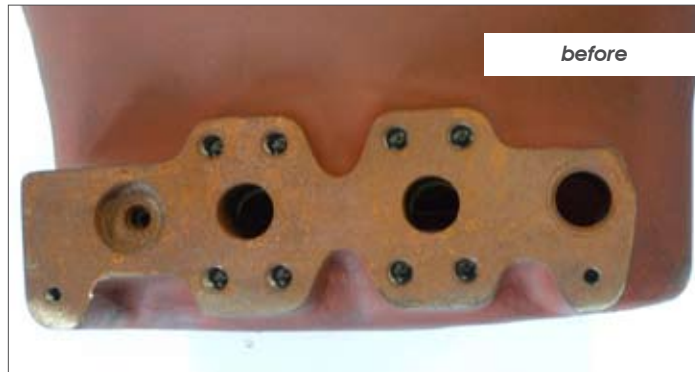


Cortec® Products

Reclaiming Motor House Castings

The customer, Bosch, had a number of castings that had been neglected. The parts were needed urgently, therefore a quick solution without having to scrap the castings and purchase new ones was required. All the castings were soaked in VpCI™-422, jet washed with VpCI™-418, and soaked in a solution of VpCI™-418 to remove any existing VpCI™-422 from the threads. VpCI™-377 was misted over the casting to give the protection required, and CorWipes® were used in the holes and threads to remove excess VpCI™-377 that collected during misting.

Cortec® products helped the customer reclaim 100% of the castings that would have otherwise been scrapped. The one week process saved the lead time for production that was urgently needed, saving time, money, and giving the customer piece of mind.



Cortec® Tradeshows 2008



Above Left: Boris Milksic, Bob Boyle holding "Munchkin", and Mike Morin at "National Manufacturing Week", Chicago, Illinois

Above Right: Jim Holden talking with customers at the "Association of Water Technologies", Austin, Texas

Bottom: Michael Gonzales, Bill Harrod, and Bob Boyle at "Pack Expo", Chicago, Illinois

Product Spotlight

Cortec® has an exciting new article called "Product Spotlight" that will be emailed and posted on the website for customers and distributors. Each article will feature a different product that Cortec® carries and give great insight on how and where it is used.

Cortec® would like to thank Briteace for all the great work they have done over the years!

Below: Anna Vignetti and KC Toh, Briteace

Recent Product Spotlights:

- **12/18/2008: MilCorr® for Large Equipment Storage, Lay-Up, and Transport.**
- **12/23/2008: MCI Mini Grenades® Provide Corrosion Protection In Just The Right Amount.**
- **12/30/2008: Cortec® Corporation's EcoLine® Cutting Fluid Replaces Traditional Petroleum Based Rust Preventatives.**



Fishing at Sea



"Finally Cobia"

Left to Right: Dave Sparks (tennis buddy), Boris Miksic (Cortec® President), Daniel Paskvalic (Pronet), Vince Scuilla (Ospray Biotechnics)



"Fishing Trip With Friends"

Right to Left: Dave Peterson (US Bank), Boris Miksic (Cortec® President), Corey Parnell (Johnson & West), Cliff Lozinski (Johnson & West), and Dave Sparks (tennis buddy)



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 Cortec®, VpCI®, VpCI- Film Color of Blue®, VpCI-126®, VpCI-609®, VpCI-137®, VmCI-307®, Migrating Corrosion Inhibitors®, MCI®, MCI Grenade®, EcoWorks®, EcoAir®, Eco-Corr®, EcoFilm®, EcoLine®, EcoClean®, EcoShield®, EcoWeaver®, EcoSpray®, EcoCoat®, Eco Emitter®, EcoSol®, Eco-Tie®, Eco-Card®, Eco-Shrink®, EcoWrap®, Eco Film®, Cor-Mitt®, Cor-Pak®, CorShield®, Corrosorbors®, CorWipe®, CorrVertor®, Corr Seal®, CorLam®, Cor-Fill®, Corlube®, ElectriCorr®, MilCorr®, GalvaCorr®, Super Corr®, HPRS®, Boiler Lizard®, Cooling Tower Frog®, Closed Loop Toad®, Cooling Loop Gator®, Pine Tree Logo®, CR®, Metacor®, and Rust Hunter® are trademarks of Cortec® Corporation.
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