



## CORROSION INHIBITING VpCI® POWDERS

# EcoFog® VpCI®-309 Nano, Patent Pending Submicron Corrosion Inhibiting VpCI® Powder



### PRODUCT DESCRIPTION

EcoFog VpCI-309 Nano is a Vapor phase Corrosion Inhibitor VpCI powder in submicron particles. It is particularly designed for corrosion protection of ferrous metals in hard-to-reach recessed areas, interior cavities, and voids.

Tiny particles have many interesting properties. They diffuse faster as diffusion coefficient is inversely proportional to the particle size (Stokes Einstein Equation). They travel longer distances because they possess greater buoyancy and smaller gravity. They have much larger specific surface areas compared to larger particles of the same mass, enabling greater coverage as well as better sublimation.

Due to its submicron particle size, EcoFog VpCI-309 Nano offers VpCI protection with unique physicochemical advantages, making it an extremely efficient dry method to treat hard-to-reach spaces within an enclosed space. The VpCI vaporizes and adsorbs on all metal surfaces reaching all exposed areas including recessed sections and interior cavities.

### FEATURES

- VpCI material in submicron crystal particles
- Greater specific surface area for better sublimation and better VpCI protection
- Improved performance for long distance fogging applications
- Does not contain silicates, phosphates, nitrites, or heavy metals

- Provides up to 24 months of continuous protection
- Provides protection to ferrous metals and aluminum
- Adsorbed VpCI material forms protective barrier layer
- If the VpCI layer is disturbed by moisture or opening of the enclosed space, the barrier layer is replenished (self-healing) by continuous vapor redposition of remaining VpCI powder
- Vapor phase inhibiting action protects inaccessible and recessed surfaces
- Prevents further corrosion of pre-coated and painted surfaces
- Easy to apply
- Little or no surface preparation is required
- Protected products can be shipped to customers without removing the powder
- When required, powder can be removed by air gun or water rinse
- Meets or exceeds testing requirements of MIL 1-22110C
- D50 ORAL: 2100mg/kg of body weight

### APPLICATIONS

- Tubular structures, pipes, vessels with hard-to-reach areas
- Interior of suspension bridge cables
- Internal surfaces of compressors, turbines, engines, tanks, boilers, and heat exchangers
- Dry lay-up of closed circuit cooling systems
- Equipment protection after hydrostatic testing
- Parts, components, and completed assemblies during shipping and storage

### METHOD OF APPLICATION

Apply powder by dusting, fogging, or sprinkling. After application simply cover, close, or seal the interior cavity or void.

Fogging is easily achieved with a low pressure air hose and sandblast cup or by inverting a wet/dry vacuum. Large conventional sandblasting systems can also be used.



## DOSAGE

0.3-0.5 oz./ft<sup>3</sup>  
(300-500 g/m<sup>3</sup>)

## METHOD OF REMOVAL

When required, EcoFog VpCI-309 Nano can be removed by using a low pressure air gun or by a water rinse.

## PACKAGING AND STORAGE

EcoFog VpCI-309 Nano is available in 40lb (18.1Kg) sealed, foil-lined drums. Store in a sealed container in a dry warehouse avoiding direct exposure to sunlight, with temperatures not exceeding 122°F (50°C).

## METALS PROTECTED

- Carbon steel
- Stainless steel
- Aluminum

## TYPICAL PROPERTIES

Appearance	White to off-white powder
pH	6.5-8 (1% aqueous)
NVC	96-100%

## PRECAUTIONS

- Caking of powder may occur when it is exposed to moisture and then dried. The likelihood of caking increases when the powder is exposed to high heat or multiple wet/dry cycles. When the powder gets caked, baked, or hardened, mechanical removal or aggressive acid cleaning may be required. To avoid caking, powder should be applied evenly and at appropriate dosage.
- Powder is not soluble in hydrocarbon fluids. Rinse powder from vessels before adding hydrocarbon fluids
- Powder does not protect yellow metals (though it is not harmful to them)
- Powder should be removed from surface before welding or other high temperature processing
- Exercise general caution regarding handling of fine powder materials.

## FOR INDUSTRIAL USE ONLY

### KEEP OUT OF REACH OF CHILDREN

### KEEP CONTAINER TIGHTLY CLOSED

### NOT FOR INTERNAL CONSUMPTION

### CONSULT SAFETY DATA SHEET FOR MORE

### INFORMATION

#### 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 products shall be paid by customer.

Cortec Corporation shall have no liability for any injury, loss or damage arising out of the use of or the inability to use the products.


**BEFORE USING, USER SHALL DETERMINE THE SUITABILITY OF THE PRODUCT FOR ITS INTENDED USE, AND USER ASSUMES ALL RISK AND LIABILITY WHATSOEVER IN CONNECTION THEREWITH.** No representation or recommendation not contained herein shall have any force or effect unless in a written document signed by an officer of Cortec Corporation.

**THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE. IN NO CASE SHALL CORTEC CORPORATION BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.**



Distributed by:

4119 White Bear Parkway, St. Paul, MN 55110 USA  
Phone (651) 429-1100, Fax (651) 429-1122  
Toll Free (800) 4-CORTEC, E-mail [info@cortecvci.com](mailto:info@cortecvci.com)  
Internet <http://www.cortecvci.com>

printed on recycled paper  100% post consumer  
Revised: 1/14/16. ©Cortec Corporation 2016. All rights reserved. Supersedes: None  
VpCI® is a trademark of Cortec Corporation. ©2016, Cortec Corporation. All Rights Reserved.  
Copying of these materials in any form without the written authorization of Cortec Corporation is strictly prohibited. ISO accreditation applies to Cortec's processes only.