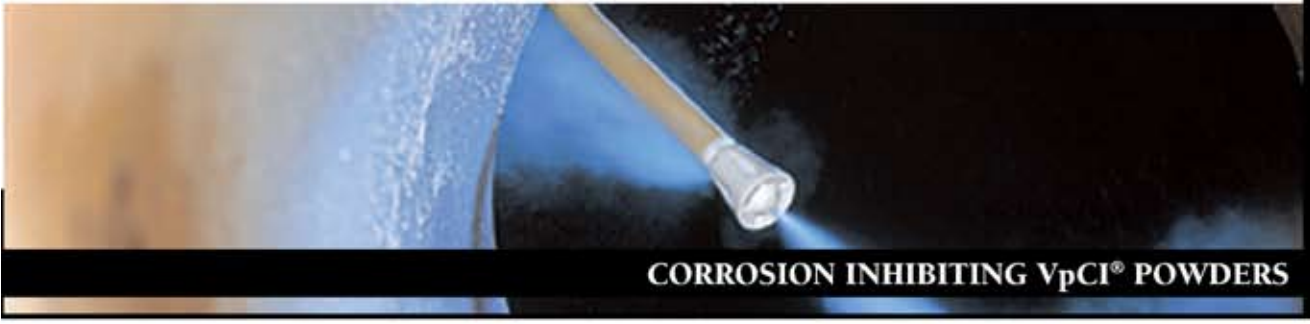


# VpCI®-609/609S Biodegradable Powders

## Corrosion Inhibiting Powders for Ferrous Metals

## Patent Pending

### PRODUCT DESCRIPTION

VpCI-609 is a water-soluble Vapor phase Corrosion Inhibitor (VpCI) powder for wet or dry corrosion protection of ferrous metals and aluminum. VpCI-609 is also available as VpCI-609S (with silica).

### FEATURES

- Conforms to MIL-I-22110C
- Provides liquid, vapor-phase, and interface protection (above the liquid level)
- Creates a monomolecular inhibiting layer on metal surface
- Provides up to 24 months of continuous protection
- Does not contain nitrites, phosphates, or heavy metals

### ADVANTAGES

- Vapor-phase inhibiting action protects inaccessible and recessed surfaces
- Protected products can be shipped to customers without removing powder
- If the VpCI layer is disturbed by moisture or the opening of an enclosed space, the layer is replenished by continuous vapor redeposition
- Little or no surface preparation is required
- Prevents future corrosion of precoated and painted surfaces
- VpCI layer typically does not need to be removed prior to processing or use
- If required, powder is easily removed by air gun or water flush
- Does not increase alkalinity
- Provides economical protection for very large applications

### TOXICOLOGICAL TESTING RESULTS (Performed by Nortech A.S. (Norway))*

- Biodegradability: 100% biodegradable in marine environment, rapidly degradable substance (OECD** 306, BOD 28 Marine test)
- Toxicity: Very low (LD-50 = 5,000 mg oral-rat)
- Bioaccumulation potential: none (OECD Guideline 117)

*Testing performed in accordance with Oslo-Paris com mission protocol

**Organization for Economic Co-Operation and De velopment

### TYPICAL USES

- Tubular structures, pipes, and vessels
- Internal surfaces of compressors, turbines, engines, tanks, boilers, heat exchangers
- Steam condensate lines, closed circuit heating, and cooling systems
- Equipment during and after hydrostatic testing
- Parts, components, and completed assemblies during shipping and storage
- Additive to shot-blasting media, wet blasting
- Additive to standing water
- Voids, cavities, and tanks

### TYPICAL PROPERTIES

VpCI-609

| | |
|---|---|
| Appearance | White crystaline powder |
| pH | 6-7 (1% aqueous solution) |
| Solubility in water | 15% |
| Density | 38-39 lb/ft$^3$ (0.61-0.63 kg/l) |

CORTEC CORPORATION

Environmentally Safe VpCI®/MCI® Technologies

| VpCI-609S | |
|---|---|
| Appearance | White to off white powder |
| pH | 5.9-6.9 (1% water) |
| NVC | 96-100 |

## METALS PROTECTED

- Carbon steel
- Mild steel
- Stainless steel
- Other ferrous metals
- Aluminum

## METHOD OF APPLICATION

Apply VpCI-609 in dry form by dusting, fogging, or sprinkling. Apply VpCI-609 in aqueous form by spray, brush, flush, or immersion. After application simply cover and close or seal the interior cavity or void. Fogging is easily achieved by using a low pressure air hose and sandblast cup. Large conventional sandblasting systems can also be used.

Note: Cortec's VpCI Powder applicator, a specially designed fogging unit, is available for purchase from Cortec. It may also be rented by certified applicators.

## DOSAGE

For powder application with average environmental conditions, use 0.3-0.5 ounce (8.5-14 grams) of VpCI-609 per 1 cubic foot (28 liters) of enclosed space (300-500 g/m$^3$). The dosage can be increased for more severe conditions. For aqueous applications with average environmental conditions, use 0.25% VpCI-609 by weight of water. The dosage can be increased for more severe conditions. To improve the wetting of metal surfaces, Cortec® S-5 Wetting Agent can be used at the rate of 0.5% by weight of VpCI-609 powder.

## METHOD OF REMOVAL

When required, VpCI-609/609S in powder form can be easily removed by using a low pressure air gun or by a water rinse. Typically, if applied in aqueous form, the product does not require removal. If necessary, a simple water rinse or flush will suffice.

## PACKAGING AND STORAGE

VpCI-609/609S powders are available in 5 pound (2.3 kg), 50 pound (23 kg), and 100 pound (45 kg) moisture barrier bags packed in fiber-lined drums. Also available in pouches as EcoPouch. Store in a sealed container in a dry warehouse and avoid direct exposure to sunlight with temperatures not exceeding 150°F (65°C). Under these conditions shelf life is up to 24 months.

## LIMITATIONS

Do not use on copper, copper-based alloys, and other soft yellow metals.

Note: Regular VpCI-609 has a tendency to clump. For dry fogging application use VpCI-609S (with silica) where acceptable.

**FOR INDUSTRIAL USE ONLY**

**KEEP OUT OF REACH OF CHILDREN**

**KEEP CONTAINER TIGHTLY CLOSED**

**NOT FOR INTERNAL CONSUMPTION**

**CONSULT MATERIAL SAFETY DATA SHEET FOR MORE INFORMATION**

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