

VCI Powder 1010



Product Description

VCI Powder 1010 is a water soluble, silica-free volatile corrosion inhibitor (VCI) designed to protect the interior metal surfaces of enclosed systems, such as boilers, tanks, turbines, heat exchangers and steam or condensate pipelines. This is particularly useful during extended periods of equipment inactivity including storage or lay-up or during and after hydrostatic testing. The chemical formulation provides continuous long and short-term corrosion protection for ferrous metals and is compatible with copper, brass and zinc galvanized steel. This specially engineered VCI powder prevents corrosion on metal surfaces in vapor and contact phases. The volatile component is attracted to the metal surface in the vapor phase and forms a molecular barrier. The molecular barrier provides protection against oxidation and protects even the most difficult to reach recesses.

VCI Powder 1010SFG can be applied dry or wet using a variety of easy-to-use application methods. Prescribed doses can be introduced into the system in powder form by manually dusting, fogging into enclosed spaces with a low-pressure air hose or by simply dissolving the powder in water. The powder does not contain environmentally harmful chemicals like phosphates, heavy metals or nitrites. It replaces hydrocarbon and solvent-based liquids, nitrogen blankets, desiccants and other less dependable or costly preservation alternatives.

VCI Powder 1010 typically does not require any special surface preparation prior to equipment shut-down and does not need to be removed prior to start-up. The system does not need to be re-charged or actively maintained during the lay-up period. If the VCI layer on the metal surface is disturbed it reapplies instantaneously before corrosion can begin.

Typical Properties

Appearance:	Free-flowing off white powder
Solubility:	Soluble in water, up to 10g/100mL @ 25°C
pH:	6-9 (@10% aqueous solution)
Melting point:	>90°C
Flash point:	Not Determined
Odor:	Slight ammonia odor

Packaging and Storage

VCI Powder 1010 is available in conveniently sized 5 lb. boxes, 25 lb. boxes, and 150 lb. drums.

Store powder in a tightly sealed container.

Applications

VCI Powder 1010 can be used to:

- Preserve or lay-up boilers, either wet or dry.
- Protect internal surfaces of compressors, turbines, engines, tanks, heat exchangers, pipe systems.
- Protect steam lines, condensate returns, heating and cooling systems.
- Preserve tubes, pipes and vessels.
- Preserve equipment and pipe systems that need to undergo hydrostatic testing prior to shipping and or storage.

Application Instructions

Surface Preparation

Remove dirt, oil, grease and loose rust according to job specifications.

Dry Application

VCI Powder 1010 can be applied to boilers, heat exchangers, piping and other liquid containment or conveyance systems by fogging the dry powder into voids in the system using a low-pressure air hose. This is particularly effective when there are deep recesses in system's interior. Loose powder can also be sprinkled or dusted into the interior where access is available.

When using the dry powder, add 1 lb. of VCI Powder 1010 per 50 ft³ of system volume.

Wet Application

When applying the powder in an aqueous solution, add 0.5 to 1.0 weight percent VCI Powder 1010 to water. Close all external openings to properly contain the VCI.

If a already prepared solution is needed, use use VCI 1200.

Typical Spray Set Up

Conventional: Binks 18 gun with 66/S tip/air-cap.
Airless spray: Grayco 205-591 Bulldog, .015" tip, 1700-1900 psi, 3/8" ID hose.
Equivalent equipment is acceptable.

For hydrostatic testing, add VCI Powder 1010 to the hydrostatic test water at a ratio of 0.5 TO 2 % BY WEIGHT. It is not necessary to dry the vessel after hydrostatic testing, but it should be sealed. This should give protection for up to 6 months. If long-term protection is needed, increase the concentration OF inhibitor:water.

Removal

VCI Powder 1010 does not typically need to be removed. There is no build up because the powder is completely water-soluble and the powder is 100% silica-free. However, if complete removal is desired then simply flush the system with water.

Shelf Life

The suggested shelf of VCI Powder 1010 is two years in its original container.

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