



## TECHNICAL DATASHEET

### PRODUCT NAME – VCI POWDER

### PRODUCT CODE – VCI 4201 (NITRITE & SILICA FREE)

#### PRODUCT DESCRIPTION

Corrosion Protection for boilers, pressure vessels, heat exchangers and other process plant equipment is a difficult task as dry removable protection is required without impacting the heat or thermal transfer properties of the equipment and yet need to protect hollow spaces from the wrath of corrosion.

Also the VCI Powders should be easily removable when this equipment is brought in operation without any mechanical cleaning. Preserving these hollow components is achieved by spraying or fogging with VCI powder using air spray or compressed air or by pouring and rolling the powder. This can also be used for hydro testing and aqueous coating by dissolving at 2-5% in water.

The vapor corrosion inhibitor powder evaporates slowly and drifts into hard to reach areas within the component. As much as possible, it is important to form a sealed, airtight entity.

The VCI Crystalline Powder conforms to MIL-I-22110 specifications. The Powder is free from Silica. It is also available in Special Fogging Bucket, which is convenient to use by just attaching a blower or compressed air pipe. This makes handling the powder much easier where it does not come in contact with the user and is not breathed in during handling.

The Chemistry is based on amine carboxylates, amine benzoates, or amine oleates with additional components as necessary. Nitrite is not used. The Product is tested as per NACE TM0208-2008 and shall provide Grade3 or Grade 4 performance.

The product is nitrite free and protects carbon steel, Alloy steel, Stainless steel.

#### FEATURES

- Easy to use
- Environmentally friendly
- Provides long term corrosion inhibition for metals, wood, plastics or non metals.
- Free from phosphates
- No caking of powder occurs in VCI 4201
- Silica free product
- Very fine granules of powder without any lumps
- Special can with ultrasonic nozzles which can attached with blower and pipe to avoid direct contact of person handling the powder.
- Protects a wide range of multi-metals from copper, lead, tin, ferrous, zinc plating etc.
- Depending on the sealed packaging, protection should last up to 36-48 months.
- Also protects the areas hard to reach such as drilled holes, crevices etc.
- Free from hazardous chemicals such as nitrites, phosphates, silicates etc.



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- VCI layer is self-replenishing and replenishes itself when package is re-closed after opening for inspection or such other purpose.

- These can be placed within heat transfer equipment tubes as well as equipment which is hollow.
- The inhibiting VCI molecules act by saturating the inside of the equipment and provide long-lasting and constant sublimation until the equipment is put to use and these are washed away.

### TECHNICAL DATA

Property	Value
Bulk Density	300-400 kg/m <sup>3</sup>
Color	White Powder
Solubility	Soluble in Water 15-20%
pH in water	6-7.5 @ 1%
Effective Dosage in water for protection	<3%
Nitrite Free	Yes
Vapor Pressure	>1X10 <sup>-4</sup> mm HG
Dosage for tanks and vessels	200 gm/m <sup>3</sup> of free volume for upto 1-year protection 300 gm/m <sup>3</sup> of free volume for up to 2-3 year protection
Dosage for small diameter pipes & equipment	30 gram per sq meter for upto 1 year protection 40 gram per sq meter for 2-3 year protection
For Hydro testing and Corrosion Protection coating after Hydro test	2-5% Can be dissolved in water

### APPLICATION PICTURES



### APPLICATIONS

- Due to its powdery form, it is easy to fog and cover the areas which are hard to reach.

### PACKAGING AND STORAGE

It is packed in boxes and cans. Store in a cool dry place and always keep away from direct sunlight.





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Available in 20 ltr, 25 ltr and 210 ltr packaging. Shelf life is up to 24 months

Packaging that cannot be recycled must be disposed in the same manner as the product.

#### VCI 4201 compatible with

- Carbon steel
- Alloy steel
- Stainless steel

#### USAGE

Apply VCI 4201 by dusting, fogging, or sprinkling using the special nozzled can or without the nozzled can.

- Apply VCI 4201 in aqueous form after mixing powder with water if required by spray, brush, flush, or immersion.
- Use low to medium pressure air blower or fogging pump

#### DOSAGE

When required, VCI 4201 in powder form can be removed by using a low pressure air gun or by a water rinse. Typically, if applied in aqueous form when pre mixed with water, the product does not require removal

#### DISPOSAL

Recommendation: Do not allow product to reach sewage system.

Disposal of product or waste must comply with official local regulations.

#### SAFETY INFORMATION

- Keep Out Of Reach Of Children
- Keep Container Tightly Closed
- Not For Internal Consumption
- Consult Material Safety Data Sheet For More Information
- Safe for people
- This product does not pose a health hazard to users due to its classification as an article according to EU REACH, UN GHS, US OSHA HazCom and CA WHMIS regulations.
- The protective molecules dissipate upon opening of package.

#### HEAVY METALS DECLARATION

RUST-X Rust Preventive products do not contain Lead (Pb), Mercury (Hg), Cadmium (Cd), Hexavalent Chromium (Cr6), Polybrominated biphenyls (PBB), or Polybrominated di-phenylether complying with the re-stricted substances listed in Article 4(1) of the RoHS Directive. RUST-X Rust Preventive Oils are also REACH Compliant for exports to the European Union.

#### DECLARATION

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contained in this publication. It is the User's obligation to evaluate and use products safely and within the scope advised in the data sheet and to comply with all applicable laws and regulations.

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