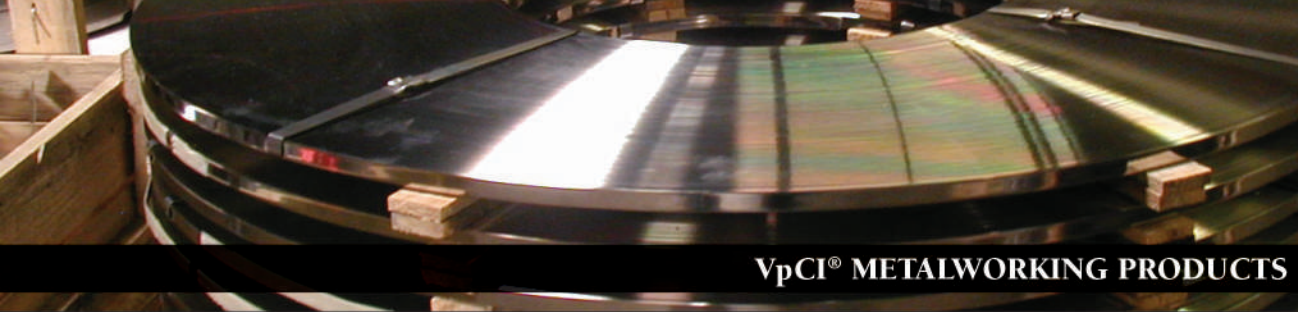




# EcoClean® Biodegradable Scale and Rust Remover Powered by Nano VpCI®



## PRODUCT DESCRIPTION

EcoClean® Scale Remover is a heavy duty biodegradable scale and rust remover. It is one of the fastest acting products on the market for dissolving heavy scale, corrosion, and naturally occurring oxides off metals. It is effective and safe to use on iron, carbon steel, stainless steel, copper, aluminum, magnesium, and their alloys. Powerful corrosion inhibitors contained in the scale remover protect treated metals from flash rust. EcoClean® Scale Remover is simple to use and non-toxic, providing one safe remover for all your descaling and de-rusting needs.

EcoClean® Scale Remover is awarded with a USDA Certified Bio-based Label (USDA#5564). It is easily biodegradable.

## FEATURES

- Fast-acting scale remover
- Also functions as a corrosion remover
- Contains powerful corrosion inhibitor to prevent flash rust
- Safe on iron, carbon steel, stainless steel, copper, aluminum, magnesium, and their alloys
- Improves flow in water pipes or drainage pipes obstructed by

scale

- Improves heat-transfer efficiency on all heat-exchanger equipment by creating clean surfaces
- Effective in hard-to-reach areas, eliminating costly equipment dismantling
- Biodegradable
- Labor saving
- Easy and safe to dispose
- Reduces cost of surface preparations
- Available in innovative water-soluble pouch form for circulating systems
- Also available in easy-to-ship powder form and ready-to-use liquid form

## TYPICAL APPLICATION

- Safe scale removal on all water-contacting equipment surfaces including heat-exchangers, chillers, condensers, cooling tower, and pipes
- Safe multi-metals rust removal

## COMPATIBLE METALS

- Iron
- Carbon Steel
- Stainless Steel
- Copper
- Aluminum
- Magnesium
- Various Alloys

## METHODS OF APPLICATION

For water-soluble pouch form, use one pouch for every 4 gallons of water. Simply throw the pouch in the water. It will dissolve upon entering water and release the scale remover inside. It is particularly convenient for systems where water circulates, as in many heat-exchanger or pipe systems.

For powder form, add 7% (by weight) in water.

For ready-to-use liquid form, add 1 part product to 2 parts water.



## TYPICAL PROPERTIES

### Pouch

|                      |                                                                    |
|----------------------|--------------------------------------------------------------------|
| Appearance           | Clear plastic pouch containing light yellow powder (size 6" x 10") |
| Weight per pouch     | 2.2 lbs (1.0 kg)                                                   |
| pH (7% aqueous)      | 2.0-3.0                                                            |
| Non-volatile content | 95-100%                                                            |

### Powder

|                      |                     |
|----------------------|---------------------|
| Appearance           | Light yellow powder |
| pH (7% aqueous)      | 2.0-3.0             |
| Non-volatile content | 95-100%             |

### Liquid

|            |                               |
|------------|-------------------------------|
| Appearance | Yellow to tan liquid, hazy    |
| pH (neat)  | 1.5-2.5                       |
| Density    | 9.2-9.6 lb/gal (1.1-1.2 kg/L) |

## PACKAGING AND STORAGE

EcoClean® Scale Remover water soluble pouch is available in 2.2 lb bags, 4 bags per carton.

EcoClean® Scale Remover powder is available in 5 lb (2.3 kg), 50 lb (22.7 kg), and 100 lb (45.4 kg) bags.

EcoClean® Scale Remover liquid is available in 5 gallon (19 liter) pails, 55 gallon (208 liter) drums, liquid totes, and bulk.

Minimum storage temperature: 32°F (0°C)

Maximum storage temperature: 120°F (49°C)

**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**

## TOXICOLOGY TESTING RESULTS

| Test Species | NOEC*/LOEC**<br>ppm | 48 h LC50*** |
|--------------|---------------------|--------------|
| D. pulex     | 100/1000            | 316          |
| P. promelas  | 100/1000            | 316          |
| M. berylina  | 100/1000            | 316          |
| M. bahia     | 100/1000            | 316          |

\*NOEC - No Observed Effect Concentration

\*\*LOEC - Lowest Observed Effect Concentration

\*\*\* LC 50 - Lethal Concentration that kills 50% of the test animals

## STANDARD TEST METHODS

|                                         |                                                                                                                             |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| SM 5210 B-01                            | 5210 Biochemical Oxygen Demand (BOD)                                                                                        |
| SM 5220D-97                             | 5220 Chemical Oxygen Demand (COD)                                                                                           |
| ASTM D6866-16 Method B(AMS)             | Standard Test Methods for Determining the Biobased Content of Solid, Liquid, and Gaseous Samples Using Radiocarbon Analysis |
| EPA 821-R-02-012: Section 9 Method 2021 | Cladoceran, Daphnia pulex<br>Acute Static Renewal 48 – Hour Definitive Test                                                 |
| EPA 821-R-02-012: Section 9 Method 2000 | Fathead Minnow, Pimephales promelas<br>Acute Static-Renewal 96 – Hour Definitive Test                                       |

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