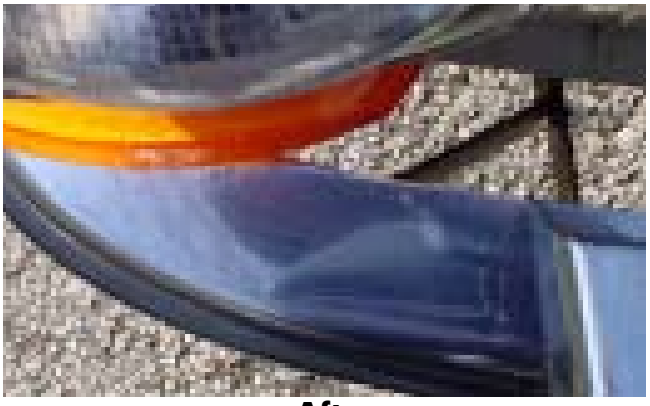

# VpCI®-422

USDA CERTIFIED BIOBASED PRODUCT
PRODUCT 92%

NSF
Nonfood Compounds
(Category Code: A3)
(Registration #147181)

**Before**



**After**

## PRODUCT DESCRIPTION

VpCI-422 is a rust remover that is harmless to people while effectively removing rust and tarnish from steel, iron, copper, brass, chrome, and aluminum. VpCI-422 removes corrosion from metal without creating waste disposal difficulties.

VpCI-422 G is a modification of VpCI-422, which is recommended for galvanized steel.

It will not harm human skin or adversely affect most paints, plastics, wood, textiles, ceramics, or rubber when used as recommended. Removing corrosion from metal is easy; just apply VpCI-422 and rinse with water.

VpCI-422 is completely organic, 100% biodegradable and does not require special disposal for typical use. It is especially helpful for outdoor and marine applications where chemical waste disposal can be a problem. In rare situations, waste treatment may be required if a sufficient quantity of pollutants are introduced into the chemical solution.

Unlike conventional rust removers, which can be extremely dangerous to use, handle, and store; VpCI-422 is so mild that minimal protective covering is needed. In addition, the non-toxic, non-flammable formulation has no pungent acid or caustic fumes. Being nearly odorless and extremely mild makes VpCI-422 easy and safe to use. In contrast to harsh industrial chemicals, VpCI-422 can be used in labor-intensive areas such as continuous assembly and packaging lines with no adverse effect on production efficiency.

## FEATURES

- Removes rust and corrosion from ferrous and non-ferrous metals.
- Prevents flash rusting.
- Completely organic and biodegradable.
- Non-polluting and environmentally acceptable; check with local authorities for disposal guidelines.
- Loosens rust-frozen parts.
- Safe-to-handle, use and store.
- No adverse effects on most paints, plastics, wood, textiles, ceramics, and rubbers.
- Safe, non-toxic, non-flammable formulation and mild odor makes it ideal for in-plant use.
- NSF (A3) Registered. Acceptable for use as an acid cleaner in and around food processing areas for indirect food contact.
- Passes ASTM F-519-05 “Mechanical Hydrogen Embrittlement Evaluation of Plating/Coating Processes and Service Environments”

## TYPICAL APPLICATIONS

- In-process rust removal for parts and metal stock.
- Interior and exterior surfaces of tanks and vessels.
- Outdoor machinery and equipment.
- Trucks, cars, and other vehicles.
- Automotive, marine, farm parts, and equipment.
- Fences, railings, and walls.
- Tools, locks, and rust-frozen parts.

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Environmentally Safe VpCI®/MCI® Technologies

## APPLICATION

VpCI-422 can be applied using spray equipment including air and airless spray as well as by brush or dip.
For spray, brush, or roll-on application; remove loose rust or tarnish. Then apply VpCI-422 concentrate to surface, let chemical stand for 10 to 15 minutes, and rinse with an alkaline solution (Cortec® VpCI-410 series). Typically, little or no rubbing is required. Reapply if necessary.

Medium and heavy rust will take somewhat longer.

For dip application, remove heavy deposits, loose rust, or tarnish. Soak part(s) in a tank as long as required to remove corrosion. Remove part(s) from tank and rinse with an alkaline solution (Cortec® VpCI-410 series). Increasing temperature up to 150°F (65°C) will speed the cleaning process.

## PHYSICAL PROPERTIES

| | |
|---|---|
| VpCI-422 | |
| Appearance | Dark amber to brown liquid |
| Non-volatile Content | 27-33% |
| Odor | Light |
| pH | 1.7–2.5 (neat) |
| Weight per Gallon | 9.3–9.6 lb/gal. (1.11–1.15 kg/l) |
| VpCI-422 G | |
| Appearance | Dark brown liquid |
| Non-volatile Content | 27-35% |
| Odor | Light |
| pH | 6-8 (neat) |
| Weight per Gallon | 9.4-9.7 lb/gal. (1.13–1.16 kg/l) |

## TESTING RESULTS

Biodegradability, 28 days[1]

| Requirement to consider material biodegradable | Result |
|---|---|
| >60% | 66.67% |

[1]According to 405.1 EPA 600/4-79-020; performed by Maxim Technologies Inc.

Toxicological Testing Results*
(Performed by certified ABS Laboratories Inc.)
Marine Toxicity

| Test Species | Results (LC-50)** ppm. 48 hours |
|---|---|
| Sheepshead Minnow (Cyprinodon Variegatus) | 707 |
| Americamysis bahia | 107 |
| Sceletonema castatum | 72 (EC-50)** |

Bioaccumulation Potential (Log Octanol/water partition coefficient, POW)

| Requirement | Result |
|---|---|
| >3 | -6.44 |

*Testing performed in compliance with OECD (Organization for Economic Cooperation and Development) Principles of Good Laboratory practices.
** LC-50/EC-50 – 50% of Lethal concentration/50% of Effective Concentration respectively.

## PACKAGING AND STORAGE

VpCI-422 and VpCI-422G are available in 5 gallon (19 liter), 55 gallon (208 liter) drums, totes, and bulk. Store product in a heated warehouse to avoid freezing.

Minimum storage temperature: 32°F (0°C)
Maximum storage temperature: 120°F (49°C)

**FOR INDUSTRIAL USE ONLY**
**KEEP OUT OF REACH OF CHILDREN**
**NOT FOR INTERNAL CONSUMPTION**
**CONSULT SAFETY DATA SHEET FOR MORE INFORMATION**

## LIMITED WARRANTY

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