HOLDTIGHT
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102 Tech Facts

VOCS?

102 has no VOCs. ND on the MSDS means "None Detected" or " Not Detected", NOT "Not Determined". Per our formulation and dilution ratios there are no VOCs.

WATER QUALITY?

HoldTight 102 recommends using potable water for its dilution. If potable water is not available and other water is used then the contaminant level needs to regulated for Total Hardness,

CHLORIDES AND PH LISTED BELOW:

1. Total Hardness < 120 ppm
2. Chlorides < 200 ppm
3. pH between 6.5 – 7.5

Before dilution with HoldTight102, water treatment can be used to regulate the levels. Various ion exchange resin units are available to soften the water. Reverse osmosis process can also be used to treat the water along with desalination which will regulate the pH and chloride levels. Some commonly used water treatment devices are available from Culligan and US Water Filter which can be delivered to the jobsite and installed directly in-line before the dilution step.

LOWEST DILUTION LIMIT?

Increase in HoldTight concentrations will only be effective to its saturation point (~25:1) where it will combat the high level chlorides. After the saturation point, increase in concentration will not help with chlorides but will slow down the evaporation of excessive HoldTight on the surface that could lead to low levels of residue which may cause staining or spotting.

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Disposal Update

A number of studies of the proprietary compound that is the active ingredient in **HoldTight®102 salt remover / flash rust inhibitor** have concluded that the material **may be safely disposed of in sanitary sewers, rivers, lakes, and other bodies of water without endangering aquatic life** or otherwise compromising the environment. This was true even when that compound was tested at a much higher level of concentration than in **HoldTight®102** off-the-shelf and dramatically higher concentrations than in the product as applied. The concentration of the compound in these studies was greater by a factor of 3 or 4 than its concentration in **undiluted ("off-the-shelf") HoldTight®102** and 150 to almost 1,000 times greater than in **HoldTight®102** when it is used in ANY application. Even in these substantially higher concentrations, there were no measurable adverse effects.

NOTE:

When contamination levels are low (i.e., when the surface is relatively clean) after wet/vapor abrasive blasting and/or ambient humidity is relatively low, 1500 psi + pressure washing, though preferable, may not be necessary. This is true ONLY if the surface is surface is thoroughly rinsed at lower pressures with 102-treated water immediately after the wet/vapor abrasive blast cycle – preferably before the surface dries.

BACKGROUND:

HoldTight®102 prevents flash rust by cleaning – by removing the remains of the blast (shattered abrasive and/or paint and/or rust) and virtually all ionic contaminants (salts, such as chlorides, sulfates, nitrates, phosphates AND acids). These contaminants, whether visible or invisible, tend to draw moisture to the surface causing rust. A near-perfectly clean surface of the sort achieved by using 102 simply will not rust as fast as a surface

not so cleaned.

HOW LONG WILL THE SURFACE REMAIN RUST-FREE AFTER CLEANING WITH 102?

Until wetted with water, most typically by rain, OR until re-contaminated by airborne particles or ioniccontaminants, which will draw moisture out of the air, the surface should remain rust-free. Outdoors this means 2 to 4 days. In extremely humid environments the rust-free period will be shortened; in extremely dry environments, it will be extended. Condensation forming on the surface as a result of rapid temperature changes my cause a 102- cleaned surface to flash rust, especially if the condensation is extensive enough to "pool" on a flat surface or run down a vertical surface. If held indoors, the rust-free window for the blasted surface should be much larger – even a month or more.

WILL THE USE OF HOLDTIGHT®102 INTERFERE WITH COATING ADHESION?

When used properly, HoldTight®102 will leave no residue that would interfere with any coating or lining. In addition many coating manufacturers have tested 102 used before applying their products. Most have approved 102 for use with all of their coatings on the basis of tests and/or field experience with 102 over many years. Much of that data is available. Request our "compatibility" chart for examples.

Also see our documents: "HoldTight®102 is not a coating; it is NOT applied", "HoldTight®102 is like soap -- but it is not soap", "Coverage and HoldTight®102" and the Product Data Sheet for HoldTight®102.

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HoldTight 102 is not a coating: It is **not** "applied"

One of the most common misconceptions about HoldTight 102 salt remover / flash rust inhibitor is that it can be "sprayed on" or otherwise applied like a coating. NOT SO! Sure, it is physically possible to do so, but its effect on the surface if used that way will be of little value. And if it is "put on" this way at full strength (i.e., without at least a 50 to 1 dilution -- potable water to 102) it will not evaporate and will become a residue that will be a problem for some coatings.

The key to using 102 effectively is to dilute it properly AND to pressure wash the surface with the water + 102 fluid -- we say "treated water" -- the more pressure the better but the water volume need not be greater than 1 gallon per minute -- a common flow rate for pressure washers. Higher pressure improves performance, higher volume doesn't help add much. Most off-the-shelf (at Home Depot or Loews, for example) can easily generate 1500 p.s.i of pressure with a flow rate of 1 gallon per minute. Industrial washers can go much higher, 5,000 p.s.i or

above and they are more efficient. Heating the water will improve performance, but is not essential.

Why are pressure and flow important? Simply because 102 is a washing agent, a surfactant, like soap, but UNLIKE soap, it leaves no residue if allowed to evaporate with the water that contains it. Forcing the water with the 102 into the profile or pores of the surface results in

more thorough cleaning. When the surface is dry, the102 is gone. There is nothing to remove. You are ready to apply your primer or coating or you can wait several days without seeing flash rust.

For reports and articles about HoldTight 102, go to our blog:

www.holdtightsolutions.blogspot.com

See especially these three items:

World Pipeline article

Myths about Salts article by Tom Swan

Vapcor Cargo Hold Salt Removal Report

These and a number of other files on the blog may be downloaded. Others may be copied from the blog and pasted into Word, WordPerfect, or similar document files.