



Use the Right Citrus-Based Cleaning Products to Avoid Corrosion or Rust

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Citrus-based cleaning products are commonly found in residential and commercial settings. The ingredients in these products vary widely (figure 1). While some of

metal on their chain saws. The crew stopped using citrus-based products because they believed citric acid was causing the damage. However, the damage probably was caused by a water-based citrus cleaning product.



Figure 1—Citrus-based cleaners are commonly used in residential and commercial settings, but users often are unaware of the difference between citrus oil-based cleaning products and water-based products.

these products can cause corrosion or rust, others do not. The difference is based on the ingredients. Hundreds of cleaning products claim to be citrus based, even though some products include less than 1-percent citrus.

One Problem With a Citrus-Based Cleaning Product

Fire crews from the Boise National Forest noticed that the citrus-based cleaning product they were using pitted the

What To Look for in a Citrus-Based Cleaning Product

The Material Safety Data Sheets (MSDSs) for chemical products list their ingredients. The MSDS for a citrus-based cleaner should list D-Limonene among the ingredients. D-Limonene is in the terpene family, which includes citrus and pine oils. Terpenes are generally not corrosive or harmful to metals or most plastics and polymers. Terpenes won't cause rusting, pitting, etching, or staining. Citrus-based terpenes can dissolve heavy petroleum greases and residues in about 30 minutes when they are used at ambient temperatures.

A citrus oil-based cleaning product will not cause corrosion or rust. Such products are made from the oil found in the orange peel, rather than the pulp and juice of the orange.

Some products contain citric acid (found in the pulp and juice of oranges), so read the label to find out exactly what you're getting. If the product contains citric acid, or is a water-based product, wash and dry the saw or other tool after cleaning and wipe the tool with oil or a water-displacement product to prevent rust (figure 2).



Figure 2—After cleaning a saw or other tool, it's a good idea to dry it and wipe it with light oil or a water-displacement product, especially if the tool is going to be stored.

Citrus-based cleaning products offer an efficient and generally environmentally friendly way to clean deposits—including heavy residues of grease—from a wide variety of materials.

When looking for a noncorrosive citrus-based cleaning product, read the label and make sure that the product is citrus oil based, not water based.

Special Safety Considerations

Terpenes are highly flammable when they are sprayed and have a flash point of 119 degrees Fahrenheit. If you are using citrus-based cleaners to clean or degrease chain saws or other motorized equipment, wait until the motor has cooled.

Various citrus oil-based cleaning products are available. Read the label to make sure you are purchasing the product that works best for your needs. Follow all the manufacturer's safety warnings. Some manufacturers recommend wearing gloves when using citrus-based cleaning products.

Library Card

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Cautions users to make sure that citrus-based cleaning products are made from citrus oil and that they do not include water or citric acid, which could cause corrosion or rust.

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