



Understanding and Managing Residue

What is residue?

Residue is anything left behind after a liquid evaporates from a surface. After it rains, you may see water spots on your car. After washing a drinking glass, you may notice spots on the glass. These are the result of dissolved minerals present in rain and water. When an item is washed or splashed with water and then air dries, mineral deposits will form on the surface. This deposit or “residue” can usually be removed by simply wiping the surface with a clean dry or damp cloth.

Whether you are cleaning your windows at home, dusting your office, or cleaning and disinfecting sensitive medical equipment—residue can happen anywhere.

Why do cleaners and disinfectants cause residue?

Similar to water, cleaning and disinfecting products have the potential to cause residue if there are dissolved ingredients in the formula. Most, if not all, products contain soluble active ingredients (e.g., sodium hypochlorite, quaternary ammonium salts, etc.) or other additives in the formulation. If the liquid is allowed to gather in pools or puddles on a surface, residue will be possible.

If a product has residue, is it “bad”?

No. Many ingredients that can contribute to residue serve important functions in cleaning and disinfecting products. For example:

- Detergents may be included in products for superior cleaning power.
- Corrosion inhibitors may be included in products for protecting surfaces.
- Stabilizing agents may be included in products to increase product shelf life.

Sometimes, the essential, active ingredient in disinfecting products can be a culprit. For example, the sodium hypochlorite active in bleach products is necessary for killing *C. difficile* spores, but can also leave a salt residue. However, the easy-to-remove salt residue is a minor concern compared to the threat of *C. difficile* spores. In all cases, product attributes should be considered and balanced with disinfecting efficacy when choosing a product.

If I do not see residue, can it still be there?

Yes. Clean-looking surfaces may not actually be clean, and stains can easily hide on colored surfaces. If a good cleaner disinfectant is used to wipe a surface that is not visibly dirty, residue from previously used products as well as general dirt and grime may be lifted onto the wipe. Additionally, if there is invisible CHG, quat or other

chemical residue buildup on a surface, the residue may react with and be lifted off the surface by an oxidizing cleaner disinfectant—like bleach or peroxide—that can produce a brown- or black-stained wipe.

Is residue harmful?

With repeated use over time, residue can pose a risk to some surfaces. Avoiding residue buildup on dark plastic surfaces, stainless steel and other metals, patient mattresses, and surfaces with crevices or texture—especially in humid environments—can help minimize the risk of surface damage. Additionally, textured surfaces may collect residue in crevices over time, which may then become more difficult to remove.

Residue may be more visible on some surface materials or dark colors, which can be bothersome, but is not necessarily harmful.

How to manage and avoid residue

• Preventing residue from forming

Residue is typically caused when product solutions are allowed to air-dry on surfaces. To prevent residue, always wipe excess liquid off surfaces (once the required contact time has been met) with a clean dry or damp cloth or paper towel. If this is not possible with every use, develop a schedule to periodically wipe surfaces with a clean damp cloth to prevent buildup. The longer residue is allowed to build up on a surface, the harder it will be to remove. Prevention always is the best course of action.

• Removing residue buildup

If residue has already formed, try wiping the surface with a clean, damp cloth to remove it. If residue is still visible, re-wet the surface with the disinfectant, but do not allow the surface to air-dry. Wipe with a clean, dry cloth. Repeat if necessary. Reapplication of the product will often help dissolve the residue; just be sure to wipe the surface clean before it air-dries.

• Following manufacturer instructions

Refer to product labels and manufacturer websites for more information about how to avoid and manage residue.

Residue Up-Close

Many cleaning and disinfecting products have the potential to cause residue due to dissolved ingredients in the formula, such as detergents or corrosion inhibitors. Residue may be more visible on some surface materials or dark colors, which can be bothersome, but is not necessarily harmful.

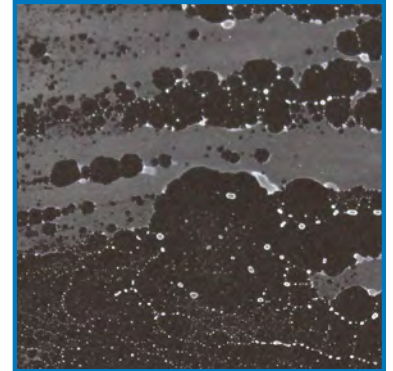
Surface with no product added (for reference only)



Clorox Healthcare® Bleach Germicidal Wipes



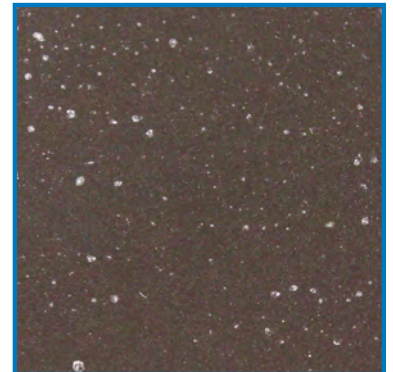
PDI® Sani-Cloth® Bleach Germicidal Disposable Wipes



Clorox Healthcare® Hydrogen Peroxide Cleaner Disinfectant Wipes



PDI® Sani-Cloth® AF3 Germicidal Disposable Wipes



EZ-Kill® Disinfecting Wipes



PDI® Super Sani-Cloth® Germicidal Disposable Wipes



Use as directed on hard, nonporous surfaces. For any use site that includes electronics, refer to manufacturers' instructions before use.

For more information, contact your Clorox sales representative or call **800-234-7700**.
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