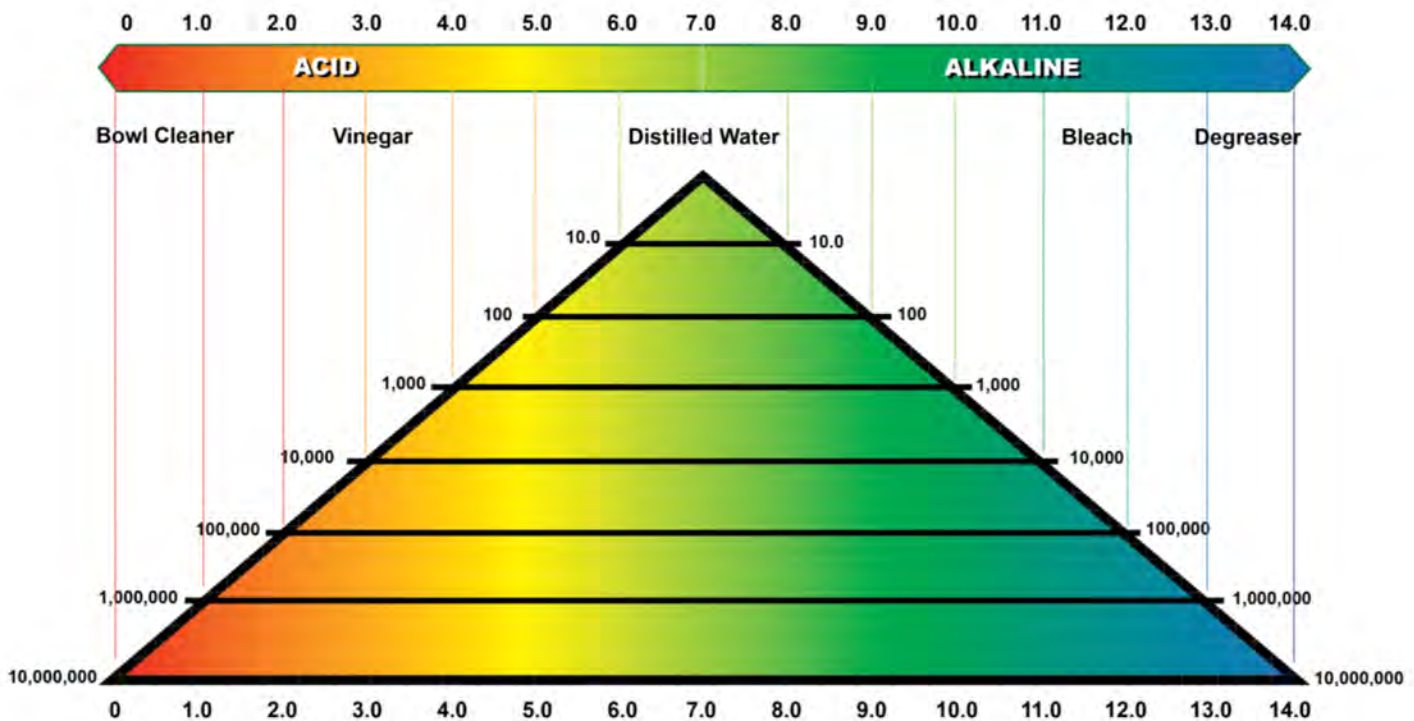


The Power of pH

Why is pH important in cleaning and How can I use pH to clean more effectively?

The pH is a numerical scale that goes from 0-14, with pure water representing a pH neutral solution of 7. A pH below 7 is an acid, above 7 is an alkaline. As you move further away from 7, the stronger the solution gets. Each pH unit represents a 10 fold increase in acidic or alkaline strength making the pH scale a logarithmic scale.

Below is a pictorial representation of pH



Each pH unit away from 7.0 represents a 10 fold increase in acidity or alkalinity

The pH operates on a logarithmic scale with multiples of 10. So, it takes ten times the amount of alkalinity to neutralize an acid.

A jump from 7 to 6 doesn't seem like much, but in reality it will take ten times the amount of alkalinity to neutralize.

7 to 5 = 100 times. 7 to 4 = 1000 times. 7 to 3 = 10,000 times.

Why is pH important in cleaning

Cleaning products can have a pH in the acidic range (pH less than 7), neutral, or alkaline range (pH above 7). The reason is that cleaning products with different pH values will clean specific types of soil better.

- **Acidic Cleaners:** As a general rule of thumb, acidic cleaners are used when cleaning soils resulting from mineral deposits i.e. hard water exposure.
- **Alkaline Cleaners:** When cleaning soil that is oily or greasy, an alkaline pH is usually necessary. Heavy duty degreasers are usually highly alkaline with a pH 13-14, whereas general purpose cleaners are more modestly alkaline, pH 9-11.
- **Neutral Cleaners:** This category of cleaners (pH 6-8) is usually for daily cleaning of surfaces that contain light soil. However, technological advances have been made that allow essentially some neutral cleaners to function more like degreasers.

Caution: You should also be aware that both acidic and alkaline cleaners have limitations on what type of surfaces they can be safely used on. For instance, an acidic cleaner can damage marble. A highly acidic toilet bowl cleaner can even damage chrome fixtures. A highly alkaline cleaner can dull or remove floor finish.

Safety: Highly acidic or alkaline cleaners are usually labeled CORROSIVE. That means that contact with eyes or skin can cause permanent damage. These types of products should only be used where needed to solve a specific cleaning problem.

How can I use pH to clean more effectively?

- **In the Restroom:** Lime scale around water fixtures, water spots, soap scum in showers/tubs, toilet bowl rings. All of these soils contain minerals. Most commonly, dissolved minerals in water (hard water) can leave a residue that can only be removed with a cleaner that is acidic (less than 7 pH).
- **On the Carpet:** Coffee, tea, cola and general beverage stain spotting, carpet browning, carpet neutralizers. Coffee and colas contain the chemical called “tannin”. These tannins are highly responsive to acidic cleaners. These same tannins used to be responsible for carpet browning when jute back carpet was popular. Other beverages are also more responsive to acidic pH values. Carpet neutralizers also have an acidic pH that can help restore carpet softness by removing hard water and detergent residues. These same acidic carpet neutralizers can remove ice melt residues tracked onto carpet.
- **On Hard Floors:** When a vinyl tile floor with a floor finish is stripped, chemical strippers can leave an alkaline residue on the floor that could interfere with subsequent applications of floor finish. Floor neutralizers are mildly acidic cleaners that effectively neutralize and remove these alkaline residues. These same neutralizers are also effective at removing stubborn ice melt residues tracked onto hard floors.