

ProNatural[®] Brands

Citric Acid: Back in Style





ProNatural Brands has developed a full line of 100% naturally derived disinfectants, sanitizers, and cleaning products with patented, citrus formulas for the foodservice, healthcare, education, and hospitality industries, as well as for the consumer market. These products contain no chlorine, bleach or quats.

Contents:

Ancient Egyptians Discover the Benefits of Citric Acid	1
What is Citric Acid?	3
Hygiene Theater Opened the Door to Citric Acid Cleaners	5
Q&A about Citric Acid & Citric Acid Cleaning Solutions	7
One More Thing: Citric Acid Cleaners are Perfect for Cleaning Fruits and Vegetables	11
Sooner or Later, Everything Old is New Again	14

Ancient Egyptians Discover the Benefits of Citric Acid

The ancient Egyptians were fixated on cleanliness. It was highly valued. Most bathed daily, and some bathed two or three times per day or after each meal.

As far back as 1500 BC, they used soaps made from natural ingredients such as vegetable oils and salt. A naturally occurring chemical compound called Natron was also used. Natron is a combination of baking soda and sodium bicarbonate.

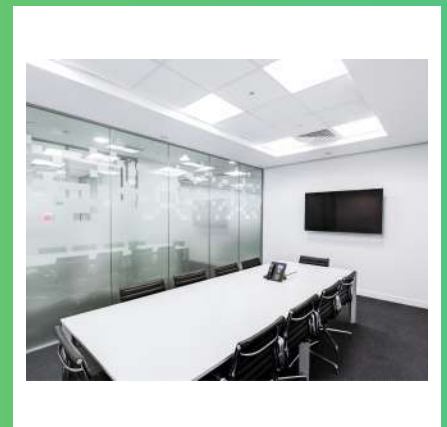
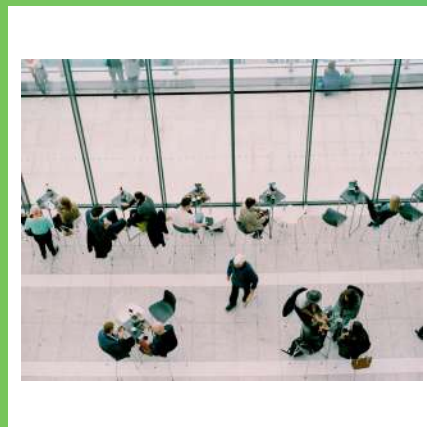
Furthermore, cleansing creams were used throughout the day to remove makeup worn by both men and women. And both men and women also wore sweet-smelling perfumes. They did this to impress each other and because they believed the fragrance pleased the gods.



And when it came to cleaning and maintaining public facilities such as temples, the ancient Egyptians were also fixated on cleanliness. They avoided harsh substances, which could burn the skin or eyes or cause serious reactions. Instead, they turned to natural ingredients, and the one ingredient they found most effective for cleaning facilities was citric acid.

Citric acid, as the Egyptians discovered 1,500 years BC, was viewed as an alternative to harsh substances. Derived from fruits such as lemons, they used it as an effective degreaser and cleaner. Even before bacteria and fungi had been identified or named, citric acid was being used as an antibacterial and antifungal cleaning agent.

In ancient Egypt, citric acid was not considered a cure for disease. Instead, it was viewed as a way to prevent the spread of disease, just as it is today. In other words, citric acid cleaning agents help keep people healthy.





What is Citric Acid?

Citric acid is found in the juices of not only lemons but other citrus fruits such as limes, grapefruit, oranges, and even pineapples. Along with being used as a cleaning agent in ancient times, it has been used as a flavoring agent in food products such as jams, gelatin desserts, candies, and even ice cream.

Citric acid has also been used as a preservative in various products such as pharmaceuticals and cosmetics. One reason for this is that it is an effective stabilizer of active ingredients. This means it helps ensure the ingredients in a product maintain their desired properties.

The fact that it is considered an "acid" is perhaps one reason some cleaning professionals and facility managers have shied away from using citric acid in the past. However, citric acid has a pH of between three and six. The pH scale span is 0 to 14, with zero very acidic, fourteen the least acidic, and seven considered neutral. This means citric acid is a relatively weak acid but strong enough to kill or eliminate many forms of bacteria and viruses.

Our LEXX® Liquid Disinfectant, for instance, has been EPA-registered. For a product to be EPA-registered, it must be able to eliminate or kill pathogens as listed on its label. LEXX does this.

In addition, it is also on the Environmental Protection Agency's List-N. Disinfectants on List-N have been tested and determined to be effective at eliminating the pathogen that causes COVID-19.

As effective as it is proving to be, we must add two more things that help us explain why we should expect the use of citric acid products to increase here in the U.S. and worldwide.

- First, these products are safe. They will not harm the user, building users, or the environment.
- Second, citrus juices are very sustainable. Lemons, limes, oranges, and other citrus fruits are grown worldwide in varying climate conditions. This sustainability is very important because the use of sustainable cleaning solutions is now viewed as key to the future of the professional cleaning industry.





Hygiene Theater Opened the Door to Citric Acid Cleaners

While the use of citric acid cleaning solutions has steadily increased in the professional cleaning industry, the overuse of disinfectants during the pandemic is what triggered even greater interest in these products. Looking back, we see the professional cleaning industry endured a challenging period when the pandemic reached our shores. Because the industry's stated goal is to help keep people healthy, industry professionals considered virtually every option, technique, and cleaning solution available to achieve this.

In the process, disinfectants were applied to just about all surfaces. What happened is that we over-disinfected surfaces and may have caused more harm than good.



Why?

Traditional disinfectants contain many active ingredients. While these ingredients allow them to kill (eliminate) pathogens, these same ingredients can be harmful to people and the environment, especially if overused. It is this overuse of disinfectants that is of particular concern and one of the significant reasons citric-acid cleaning solutions are garnering so much more attention. There are potentially many harmful ingredients in traditional disinfectants, among them are the following:

Chlorine (bleach or sodium hypochlorite). Bleach is often used as a disinfectant. However, it is very powerful, can be dangerous if inhaled, and can burn the skin and eyes.

Quats (quaternary ammonium compounds) - Found in many traditional disinfectants, quats are an eye and skin irritant. They can also cause severe respiratory problems and are known to be toxic to fish if released into waterways. Furthermore, quats are believed to cause antimicrobial resistance. Similar to antibiotic resistance, this is when germs, bacteria, and other microbes become resistant to disinfectants. The only remedy is to use more disinfectants, which can prove even more harmful to the user and the environment.

Phenols - Highly irritating to the skin and eyes, phenols are toxic to humans if ingested or if there is long-term exposure.

Citric-acid disinfectants do not contain any of these harmful ingredients. They are naturally safe and effective.

When the pandemic arrived, the professional cleaning industry had to deal with a crisis unlike anything in nearly a century. Mistakes were made. But we have learned from those mistakes, and one of the things we have learned is to always use disinfectants and cleaning solutions that are not only effective – but safe. This is what citric-acid cleaning solutions are all about.

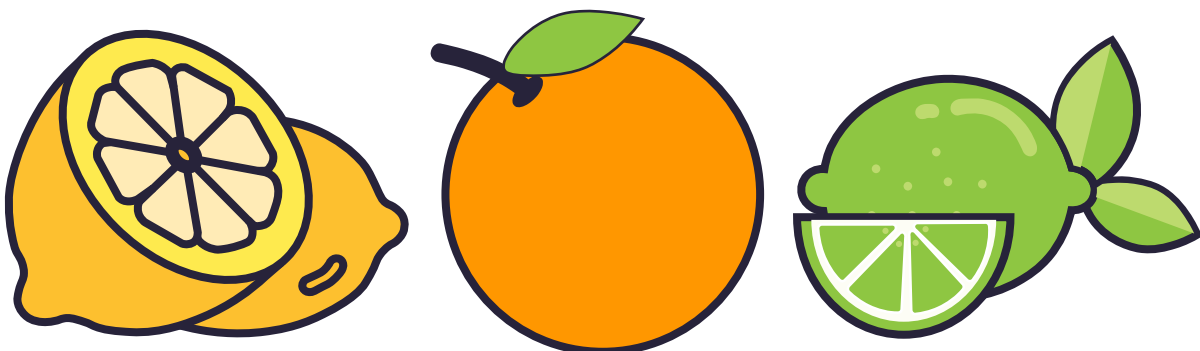


Q&A about Citric Acid & Citric Acid Cleaning Solutions

Hopefully, you now have a bit more understanding of citric acid and the many benefits of citric acid cleaning solutions. However, we want to make sure we cover all the bases. With that in mind, we've put together the following Q&A. These questions should answer any other questions you have about these products.

When was citric acid discovered?

The National Institutes of Health says Carl Wilhelm Scheele, a Swedish researcher, first identified citric acid in 1784. He referred to it as an odorless and colorless compound primarily derived from lemons, oranges, grapefruit, and limes.



What industries use citric acid the most?

The food and beverage industry is the biggest user of citric acid. This is followed by the pharmaceutical industry, the dietary supplements industry, and the professional cleaning and disinfecting industry. To be more specific:

- Citric acid is used as an additive in the food industry to boost flavor and preserve ingredients.
- The pharmaceutical and supplement industries have found it helps stabilize and preserve the active ingredients in their products, and it can be used to flavor medications.
- As to cleaning and disinfecting, according to Healthline Magazine, the National Institutes of Health reports, “citric acid is a useful cleaning agent and disinfectant against a variety of bacteria and viruses.” They also reported, “it’s viewed as a safer alternative to conventional disinfectant and cleaning products, such as quats [quaternary ammonium compounds] and chlorine bleach.”

So, is it safe to use?

Absolutely. The U.S. Food and Drug Administration (FDA) recognizes citric acid as safe. When used for heavy-duty cleaning and disinfecting, it is also safe. For instance, the EPA Safer Choice Program has certified our All-Purpose Cleaner & Degreaser. This means it is proven effective at eliminating a broad spectrum of pathogens but, at the same time, is safer for the user and the environment when compared to products used for the same or similar purpose.

Why is citric acid now being used in the professional cleaning industry?

It goes back to something we discussed earlier. Traditional disinfectants and sanitizers typically contain ingredients that can harm the user, building users, and the environment. We've known this for years, but the pandemic taught us that overuse of disinfectants could cause more harm than good. With the pandemic inching behind us, building managers and cleaning professionals have been looking for a safer – yet powerful – disinfecting agent. They found it in products made with citric acid.

So, can citric acid be used as a disinfectant?

Yes. According to a recent report in [ChemicalSafetyFacts.org](https://www.chemicalsafetyfacts.org), a consumer-focused information center, citric acid is frequently used in disinfectants to help destroy bacteria and viruses. [ProNatural Brand's LEXX Disinfectant and Cleaning Solution](#) has proven so effective that it is registered as an EPA, hospital-grade disinfectant. This means it can be used as a disinfectant in hospitals, healthcare institutions, and medical facilities. Further, it is now included in the [EPA's List N](#). This is a directory of disinfectants evaluated and proven effective at eliminating all strains and variants of the pathogen that causes COVID-19 when used according to the label directions.

What types of surfaces can LEXX be used on?

LEXX, and most of our other citric acid based products, are designed for use on hard, non-porous surfaces such as countertops, restroom fixtures, kitchen workstations, floors, tables, and desks. If used on metal surfaces, citric acid is effective but must be used per the manufacturer's instructions. To prevent corrosion, it should be wiped away right after cleaning, ensuring the surface is left dry.

Are citric acid products concentrated?

Our cleaners, sanitizers, and disinfectants come in both concentrate and ready-to-use (RTU) options that are ideal for different scenarios. When a product is concentrated, it lasts longer and saves money for the consumer. However, that is not all. Because it is concentrated and lasts longer, it helps promote sustainability. Concentrated products reduce fuel and transport needs, helping to reduce greenhouse gases being released into the atmosphere. Our RTU option provides the same powerful clean as our concentrated products but is designed for users with storage limitations.

Finally, what type of feedback have you gotten from users of LEXX and your other products?

We're proud to say that we have received very positive feedback regarding our LEXX products. We have placed the results of one study conducted in a health care center on our website. The study asked cleaning professionals to compare and rate different ProNatural products. The cleaning professionals concluded that ProNatural products were effective, helped remove heavy soiling and buildup on surfaces, and one thing more, study participants enjoyed the pleasant fragrance of the test products.

Please read the [full study](#).



One More Thing: Citric Acid Cleaners are Perfect for Cleaning

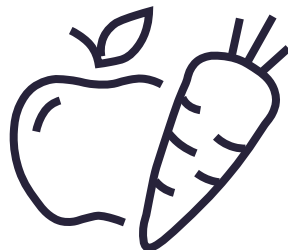
Fruits & Vegetables

We've spent most of our time discussing the history of citric acid cleaning solutions, their effectiveness, and safety. But there's one more thing we'd like you to know.

ProNatural's LEXX® Fruit and Vegetable Wash is perfect for cleaning fruits and vegetables in commercial kitchens, school kitchens, or your own kitchen at home. Using the Wash ensures fruits and vegetables are clean, healthy, germ-, virus-, and bacteria-free.

Here's why this is important.

Fruits and vegetables, from planting to cultivation, are often sprayed with pesticides. In the process of packaging and transporting these items, they may also be subjected to a host of contaminants. And because fruits and vegetables tend to be moist, especially if they have developed small fissures, they can become a welcome host to various bacteria.



Add to this the fact that so often fruits and vegetables are consumed raw, and we can see that if not thoroughly cleaned, they can be a significant risk to our health. Even fruits and vegetables that have been pre-washed should be washed and cleaned once again before consumption to ensure they are safe and healthy to eat.

For these reasons, we need to know how to thoroughly clean these food items. Follow these five steps to thoroughly clean these food items before preparing or consuming them:

1. Always wash your hands thoroughly before working with fruits and vegetables that will later be consumed.
2. When washing these food items, do so before splitting, peeling, or cutting. This prevents pathogens on the outside surface of the food from transferring to interior surfaces.
3. Remove any outer stems and leaves. To save a processing step, some stems and leaves are often left on the fruit and vegetables delivered to commercial kitchens. These must be removed before cleaning.
4. Rinse the fruit under fresh running water for about two minutes or place the food items in a large container and soak for at least two minutes. The goal here is to remove larger debris from the produce.
5. Then use LEXX® Fruit and Vegetable Wash to wash the food products.



With ready-to-use LEXX[®] Fruit and Vegetable Wash, citric acid is sprayed right out of the bottle and onto the fruits and vegetables. Gently rub for about twenty seconds or allow the sprayed food items to dwell on a clean surface for about 30 seconds. Then rinse thoroughly.

The Wash quickly goes to work removing most all forms of contaminants on the food as well as wax, agricultural chemicals, and preservatives. Plus, food items stay fresh longer. Right now, with rising prices, this can also prove to be a genuine cost saver.

Clean in 3 Easy Steps

Spray



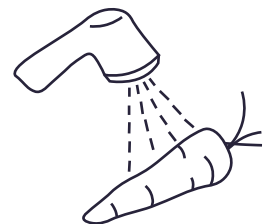
Spray produce with
Fruit & Vegetable Wash*

Gently Rub



Gently rub produce to
remove soil and wax

Rinse



Rinse under water to wash
away pesticides, wax and soil

*For most thorough removal of surface pesticides, let stand for 15 minutes before rinsing.



Sooner or Later, Everything Old is New Again

Ever heard the expression, “sooner or later, everything old is new again?” It comes from a book written in 2005 by Stephen King called *The Colorado Kid*. While King was referring to writing books, in many ways it applies to citric acid cleaning solutions as well.

Having been used for thousands of years, these products are certainly not new. However, after World War II, many natural cleaning products were replaced with new products made from an array of chemicals, many of which were developed during the war.

While there is no doubt many of these products have proven effective, with time, we also realized they may have detrimental side effects. They can harm our health and the environment.

That’s why citric-based products are getting renewed interest. They are literally “new again.”

For centuries, we’ve known citrus-based cleaning solutions work well, are effective, and can help stop the spread of disease. What we may have forgotten is that they are made from natural and very sustainable ingredients, and they are safe.

The professional cleaning industry and consumers are lucky these old products are new again. Cleaning products that are effective, safe, and made from renewable resources is just what the industry needs today.

**For More
Information on**

**ProNatural[®]
Brands**



CONTACT US TODAY

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PRODUCTS

- 🌿 **LEXX Disinfectant & Cleaner**
- RTU and Concentrate
- 🌿 **LEXX Sanitizer & Cleaner**
- RTU and Concentrate
- 🌿 **LEXX Fruit & Vegetable Wash**
- RTU and Concentrate

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