

# Citric Acid Class



# Citric Acid



- Citric acid is a weak organic acid that appears as a white crystalline powder at room temperature. It naturally occurs in citrus fruit as a preservative. The scientific formula for citric acid is  $C_6H_8O_7$ . It is used in foods and drinks to bring a sour or acidic taste to them. Since the 13<sup>th</sup> century, scholars have known about the acidity within citrus fruits like limes and lemons. But it wasn't until 1784 that the chemist Carl Wilhelm Scheele, actually isolated from lemon juice by crystallizing it. Did you know that citric acid can be used as part of the processing of developing photographic film? It can be used as a stop-bath in place of acetic acid. Citric acid has less of an odor, while the acetic acid leaves a vinegar smell.
- Since it is found mainly in citrus fruits, citric acid can sometimes be up to 8% of the fruits dry weight. This happens in fruits like lemons and limes since the concentration of the acid is so high. Despite occurring naturally, citric acid can also be made through fermentation.
- Citric acid can be used for many different products and industries. It can be used for soaping, bath and body products, medicinal purposes, cleaning purposes, foods and beverages, hair care, and skin care. Citric acid can even be used in the production of alcohol. The production of beer can be optimized because the citric acid reduces the loss of sugar from the germination of the barley so that more sugar turns into alcohol. It is also sometimes added to wines if the grapes used have a low acidity.



# Citric Acid Uses in Industries

## Food and Beverages

- Besides being found in citrus fruits and being used in alcohol production, citric acid can be used in many other foods and beverages as well. It can be used as an emulsifier in ice cream which keeps the fats from separating. It can also be added to caramel to prevent sucrose crystallization. In cheese, citric acid allows the milk to ferment faster, and it is also added to some fruity drinks or soft drinks as flavoring and as a preservative. Many Asian foods contain lemon or lime juice which contain citric acid such as lemon chicken and many sweet-and-sour recipes. Hummus can have citric acid contained in lemon juice, however the lemon juice is not a completely necessary ingredient. In American foods, citric acid is used as an additive for foods such as relish, ketchup, and mayonnaise.

## Bath and Body Products

- Citric Acid can be used for many different industries and products. It can be used for medicinal purposes, skin care, hair care, bath and body products, soaping, and cleaning purposes. When used in soaps, it works as a water softener, and helps to produce better foam.
- Common ingredients it is used in are bath bombs, soaps, creams, gels, bath fizzes, and bath salts.
- When used in bath bomb recipes, combined with baking soda, citric acid is responsible for the actual “fizzing” action of the bath bombs.
- In the cosmetics industry, citric acid is included in products to reduce the pH formulations. But it also has many skin care benefits as well. It is considered an antioxidant and treats acne, helps to shrink and unclog pores, corrects fine lines, dark spots, wrinkles, and scarring, and also helps to brighten the skin. Citric acid also helps to remove dead skin cells and make way for new ones.
- When used for hair care, citric acid can help to remove coloring or wax from the hair and also helps to prevent bacteria growth.



# Uses in Industries



## Cleaning Products

- Citric acid is used in many products for cleaning purposes such as using it to get limescale build up off of evaporators and boilers. It can also be used to dissolve rust on steel. It can be found in metal cleaners, oven cleaners, all-purpose cleaners, dishwasher cleaners, window cleaners, and air fresheners.
- When used in soaps and laundry detergent, it helps to soften the water which helps the cleaners to work better and produce more foam.
- In a cleaning solution that has a 6% citric acid concentration, it will remove hard water stains from glass, soap scum, and calcium deposits. This kind of solution is greatly used for kitchens or bathrooms. It can even be used in coffee pot cleaner solutions to help descale and clean the pots.
- It has even been used in the production of pesticides, fungicides, and disinfectant solutions because of its ability to destroy molds, rust, and all kinds of viruses.
- Many auto-cleaning products contain citric acid as well. It is used to clean radiators and wheels.
- On windows, citric acid will remove any water marks, dirt or grease build up.
- Many carpet cleaning companies also use citric acid to help remove stains from discolored carpets.





# Uses in Industries Cont.

## Medicinal

- There are many medicinal benefits that come from citric acid as well. It helps to prevent gout and certain types of kidney stones. It also makes urine less acidic which helps the kidneys to get rid of uric acid. It is also used as an antioxidant that helps to stimulate collagen production.
- Citric acid helps the body absorb minerals into the body more quickly and easily.
- Feelings of nausea can be reduced using citric acid because reduces gastric acidity.
- Gargling a combination of water and citric acid helps sore throats and kills germs that cause the tonsillitis infection.
- Cream that has a high concentration of citric acid can have a depigmentation effect on freckles or stained skin.
- It contributes to bone health by regulating the size of calcium crystals in the bones.



# Other Uses

- The pH levels in food coloring can be balanced using citric acid.
- It can also be used to protect stainless steel from corrosion.
- Nature's Garden sells [citric acid](#) for external use only. We do not sell it as a food item. The information above talks about how great citric acid is for many industries, however we only sell it for external use. We provide this data for educational purposes only. Nothing in this article is to be construed as medical advice. Please consult your doctor before using this product or any of this information for treatment purposes.
- Are you just itching to try something with this amazing product? Well here's your chance! Check out some of our great free recipes made with citric acid like our [Camouflage Bath Bomb Recipe](#), [Fish Toy Bath Bomb Recipe](#), or our [Fairy Dust Bath Fizzy Recipe](#)! We also have wonderful recipes for [Monster Bath Cookies](#), an [All Natural Coffee Pot Cleaner](#), and many more!



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