

What is CATHOLYTE?

ECA Technology - CATHOLYTE

Catholyte is generally a high-pH alkaline cleaner, so it compares more to a degreasing cleaner or booster than to a true soap or detergent by itself. In practice, it can help lift oils, grime, and residues, but traditional detergents and soaps are usually more familiar, standardized, and easier to formulate for specific cleaning tasks.

Main Differences

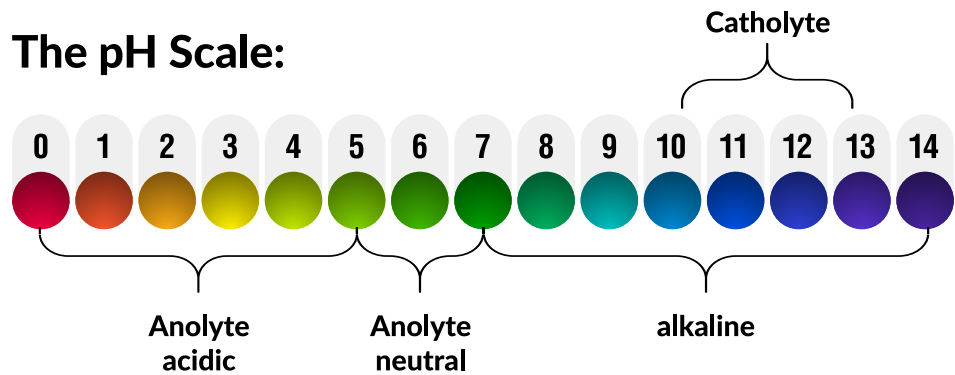
- **Chemistry:** Catholyte is an electrochemically generated alkaline solution, often around pH 11 to 13, with detergent-like cleaning action.
- **Cleaning action:** It can reduce surface tension and break down fats and oils, which helps with soil removal.
- **Residue:** Catholyte is often described as leaving little or no residue after use, while soaps can leave films in hard water and detergents vary by formulation.
- **Formulation control:** Traditional detergents are engineered for specific uses like laundry, dishwashing, or hard-surface cleaning; catholyte is more of a generated cleaning solution than a tailored consumer product.

Catholyte vs. Caustic Soda

Catholyte is generally a milder alkaline cleaner, while caustic soda is a much stronger, more aggressive base. In food processing, catholyte is usually used for cleaning and degreasing, whereas caustic soda is the traditional heavy-duty chemical for removing baked-on soils, fats, and protein buildup.

Main Differences

- **Strength:** Caustic soda is a very strong base with a pH near 14, while Catholyte is typically alkaline but less extreme, often described as pH above 11.
- **Safety:** Caustic soda is highly corrosive and hazardous to handle; catholyte is generally positioned as safer and easier to use.
- **Cleaning action:** Catholyte acts like a mild degreaser and detergent-like cleaner, while caustic soda is better for severe soil removal and CIP jobs that need maximum alkalinity.
- **Residue and handling:** Catholyte is often promoted as low-residue and lower-risk; caustic soda usually requires more careful handling, dilution, and safety controls.



Catholyte is Great for Laundry and Carpets

Catholyte can be useful for heavy soil loads on carpets and laundry, especially when the goal is to break down grease, oils, and organic grime rather than simply deodorize.

LAUNDRY

For laundry, **Catholyte** can help with heavily soiled fabrics by loosening soil and reducing reliance on harsher chemicals, but it is not a universal replacement for all detergents. Traditional detergents are still usually better for standardized performance across different water conditions, fabric types, and stain profiles.

CARPETS

Catholyte has been promoted for carpet cleaning because it can help lift embedded soil and reduce residue compared with some traditional products. A textile study also found catholyte was effective at removing soil from fabric, though it did not outperform a phosphate detergent in that test.



Zerorez has become one of North America's fastest Carpet Cleaning Franchises. Their success is in their solution they use to clean carpets and upholstery. **Catholyte** has become their revolutionary cleaning technology. Their marketing motto in their cleaning services stresses they NEVER USE high-residue soaps, detergents, shampoos and chemicals to clean carpets, floors and upholstery. They call their **Catholyte** electrolyzed water **Powered Water** which is their base powerful cleaning solution without harmful toxins or chemicals.

This Company built their business using **Catholyte** as their Carpet Cleaning Solution!

Carpet vs Laundry Chart for Catholyte

Use case	Catholyte fit	Why
Heavy-soil carpets	Good	Lifts greasy, organic buildup and leaves low residue
Routine carpet cleaning	Good to Moderate	Useful as a cleaner
Heavily soiled laundry	Good	It can help to loosen soils and reduce chemical load
Everyday laundry	Moderate	Eliminates soil load and promotes zero soap residue

Catholyte Used as a Product Wash

Catholyte can be used as a produce wash, mainly as a de-soiling/pre-wash step rather than the final sanitizer.

HOW IT WORKS

Catholyte helps loosen dirt, waxy residues, and organic soil from fruits and vegetables, and patent literature describes it being used in a wash tank or as a spray before a later sanitizing step. In one disclosed method, produce is treated with catholyte, optionally sonicated, and then treated with anolyte to disinfect before packaging.

PRACTICAL USE

- **Good for:** Removing soil and surface grime from leafy vegetables, berries, tree fruit, and similar produce.
- Typical role: pre-cleaning or de-soiling, not the main kill step.
- Can be paired with anolyte afterward for sanitation.

Catholyte Produced by a Kirkmayer HOCl System Generator



Practical Applications of Catholyte in Food Processing

Catholyte is mainly used in food processing as a pre-cleaning and degreasing step, not as the primary sanitizer. It helps remove fats, oils, dirt, and biofilm from produce, equipment, and surfaces before a disinfection step.

- **Produce washing:** It can de-soil fruits and vegetables before anolyte or another sanitizer is applied.
- **CIP and equipment cleaning:** It is used in cleaning-in-place systems and for removing grease from tanks, pipes, and processing equipment.
- **Food-contact surface cleaning:** It can clean counters, utensils, conveyors, and prep areas without leaving much residue.
- **Poultry and meat processing:** It has been evaluated in scalding and other process steps, often alongside anolyte for sanitation.

Why Processors Use Catholyte

Catholyte's high pH makes it useful for breaking down oily soils and organic buildup, which improves downstream sanitation. It is often positioned as a lower-residue, less harsh alternative to caustic cleaners in food plants.

How to Use Catholyte in CIP Systems for Food Processing

To implement **Catholyte** in a food-processing CIP system, use it as the **alkaline cleaning phase**, not the sanitizer. A practical setup pre-rinse, **Catholyte** wash to remove fats/proteins/biofilm, rinse, then **Anolyte** or another approved sanitizer if you need a kill step.

How Catholyte is Used in a CIP for Food Processing

- Dose into the CIP loop or tank as a controlled alkaline cleaner; one source describes **Catholyte** being run at a set concentration and used in place of traditional caustic in some CIP applications.
- Use it on heavy soils first, especially where grease, dairy residue, or biofilm is a problem, because **Catholyte** is described as a detergent-like washing fluid.
- Follow a sanitizer step if your process needs microbial reduction beyond cleaning; **Catholyte** is the cleaner, while anolyte is the disinfectant in these systems.

Integrations Point

- **Automated dosing:** Feed catholyte into the CIP skid with flow or tank-conductivity control so concentration stays consistent.
- **Water quality:** Softened water and basic filtration are often recommended so the chemistry performs consistently and scaling is reduced.
- **System design:** Use separated anolyte/catholyte generation if you want both cleaning and sanitation from the same ECA setup.

Practical Operating Logic

- **Short, soil-heavy circuits:** Catholyte can replace or reduce caustic in some systems, especially beverage and packaging lines.
- **Biofilm control:** Use catholyte as a pre-clean before the sanitizer step when deposits are stubborn.
- **Reuse/recirculation:** Some systems are designed to recirculate and top up to a target conductivity or free-chlorine equivalent, depending on the generator and plant design.

Ready to Upgrade Your Disinfection?

SYSTEM
GENERATORS

SYSTEM
CAPACITIES

SYSTEM DATA
SHEETS

BROCHURE

GENERAL
INQUIRY



Your Leader in On-Site HOCl Hypochlorous Acid Generators

KIRKMAYER is a leading global provider of electrochemically activated solution (ECA) generators, delivering first-rate HOCl systems. Our mission is to design and build electrolytic cells that are more reliable, efficient, and durable than conventional ECA and HOCl generators available on the market today.



FOLLOW US

