AQUABOND
Chemistry for Tomorrow

Technical Data Sheet

Spotless™ CitraPass SS – excellent for descaling and passivation. Spotless™ CitraPass SS is a **dual-purpose** CIP acid cleaner for excellent scale removal and rinsability, with superior passivation. It works magic on beer-stone!

Spotless™ CitraPass SS is a passivating organic acid that effectively removes all free iron from the surface and stimulates growth of a passive oxide layer on the surface to protect the substrate from corrosion. Passivation forms an oxide layer on the metal surface to improve and protect the substrate from corrosion preventing bulk degradation. Stainless steel alloys have the capability to self-passivate; however, the surface must first be clean of any free iron, sulfides and other foreign matters of contamination. This product is environmentally friendly alternative to more toxic mineral acids such as nitric acid. The simple to use, one-component system allows for easy handling and hassle-free water treatment and disposal. The ingredients in Spotless™ CitraPass SS are all biodegradable with enhanced surfactants, accelerants, and inhibitors capable of producing parts that pass the specified test requirements. The rinse waters can go to drain as long as pH requirements set by regulations are met.

Features/Benefits

- Biodegradable Chemistry: Occurs naturally in citrus fruits, it is environmentally and physically safe product. It lower cost as no hazardous waste removal is required.
- Safer Chemistry: Nitric Acid cleaners are extremely reactive and can generate NOx vapours which are dangerous to the operator and harmful to the environment. Spotless™ Citra Pass SS does not produce toxic fumes or by products during operation.
- Maintains Tank Integrity: Stainless Steel is an alloy, or mixture of, iron, nickel and chromium metals that produce strength and corrosion resistance. They are held safely in metal form, but can be leached out when exposed to strong acids. Spotless™ Citra Pass SS removes only iron free radicals from the surface that cause rust; this means no chromium, nickel or other heavy metals are removed during passivation. It leaves a thin protective layer but unlike nitric acid, it will not damage your tank by etching or pitting.

Conforms to ASTM A967 specification

Usage Instructions

Passivation Procedure

Spotless™ CitraPass SS is formulated for stainless steel passivation and beer-stone removal in breweries, beverage plants, and stainless processing systems.

1. **Pre-Clean**

Clean all stainless surfaces with an alkaline cleaner such as **Spotless™ PBW** or **Brewmaster Alkali CIP**.

Rinse thoroughly with hot water to remove detergent residues.

2. **Prepare Passivation Solution –** Spotless™ CitraPass SS* with water

   Recommended working strength: **80–160 mL per liter** *(≈ 4–10% equivalent)*

   Lower end for routine passivation
   Higher end for new stainless or heavy mineral load

3. **Circulation / Contact Time**

   Minimum exposure times based on temperature:

4. **Drain & Neutralize**

   After passivation, neutralize with: **50 mL/L sodium hydroxide** *(≈ 5%)* for **30 minutes** at **71–82°C**, then rinse thoroughly.

5. **Final Rinse & Sanitization** Rinse until pH is neutral. **Spotless™ Sanitize** may be used as a final sanitizing step.

***CIP vs. Soak Applications for Passivation with** Spotless™ CitraPass SS

Best for tanks, brewhouses, fermenters, brite tanks, and piping.

1. Working Strength: 100–120 mL/L *(≈ 6–7.5%)*
2. Temperature: 50–60°C
3. Cycle Time: 20–30 minutes
4. Notes: Excellent for beer stone removal and stainless passivation in a single step.

Soak Applications

Ideal for parts, fittings, small vessels, and components.

1. Working Strength: 60–100 mL/L *(≈ 3–6%)*
2. Temperature: Warm (40–60°C) preferred
3. Soak Time: 45–180 minutes depending on buildup
4. Notes: Agitation improves performance; heavy stone may require 120 mL/L.

Post-Treatment Appearance

Properly passivated stainless steel will show:

1. A clean, uniform surface
2. No etching, frosting, or pitting
3. A stable passive oxide layer that improves corrosion resistance

To verify passivation one can use the Copper Sulphate Passivation Kit for brewers under the document section for Spotless™ Citra Pass SS.

Environmental & Safety Notes

1. All components are biodegradable.
2. Rinse water may be discharged when pH meets local regulations.
3. Contains no nitric acid, no toxic fumes, and no heavy-metal stripping agents.
4. Always consult the SDS before use.

Quality & Compliance

Spotless™ CitraPass SS meets ASTM A967 passivation requirements when used as directed.

Users should verify suitability for their specific application.