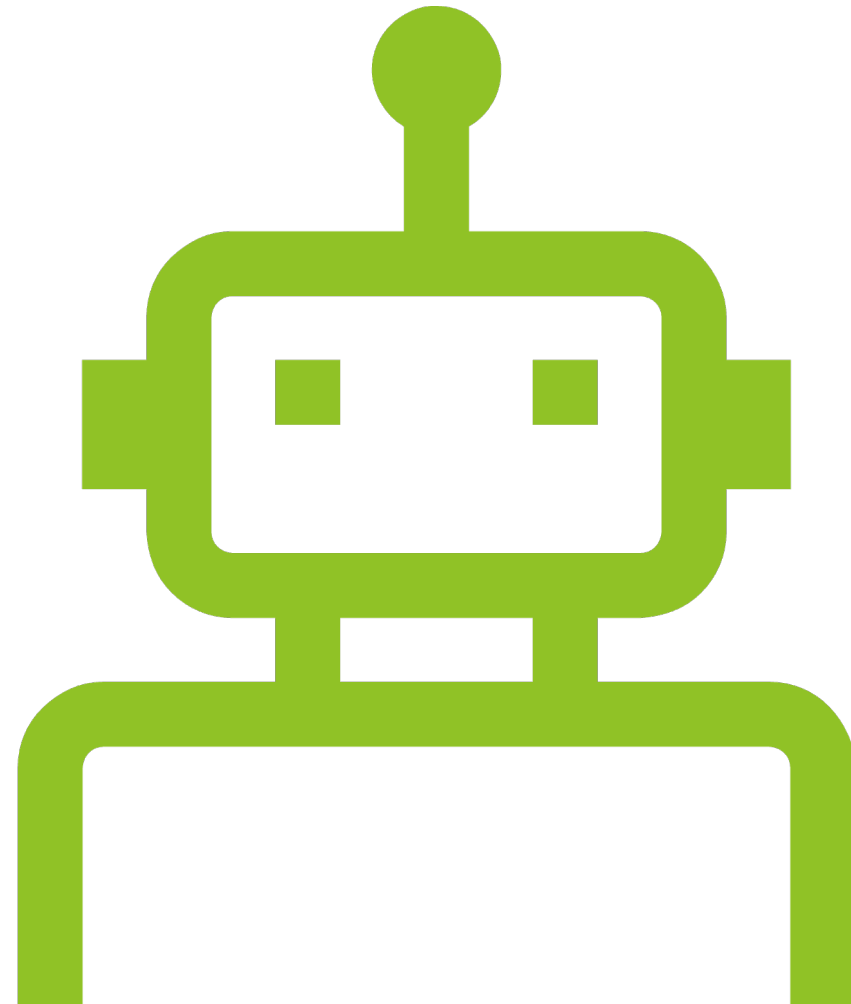




WHO IS FIVE STAR?

- Five Star Chemicals is a proven leader for Homebrewing/Craft Beverage cleaning and sanitation products. We pride ourselves on creating excellent products and providing great service.



Our Core Products:



A safe non caustic environmentally friendly CIP cleaner

- Full spectrum cleaning power on all types of organic soil, proteins and stains
- Safe on a wide range of surfaces and metals
- Works in a wide range of temperatures



A nitric/phos low foam blend with surfactants

- The most effective type of acid to use on beer stone and scale
- Passivate and re-passivate the stainless surfaces of tanks, pipes and lines
- Works in low temperatures



Star San
A high foaming sanitizer

- Not recommended for CIP applications
- Great for parts soaking
- No rinse required



Saniclean
A low foam final application

- for CIP applications as a final rinse



Alkaline/Caustic Cleaners

PBW

A safe non caustic environmentally friendly CIP cleaner.

- Full spectrum cleaning power on all types of organic soil, proteins and stains
- Safe on all equipment and the environment
- Works in a wide range of temperatures



Chlorinated Caustics

Star Super CIP

A specially formulated, low temperature, chlorinated powder cleaner.

- Removes stains effectively at low concentrations with quick penetration created by low foaming surfactants



Non-Chlorinated Caustics

H.D. Caustic #2

A powdered CIP caustic.

- This product performs well in hard water, with high detergency and low foam

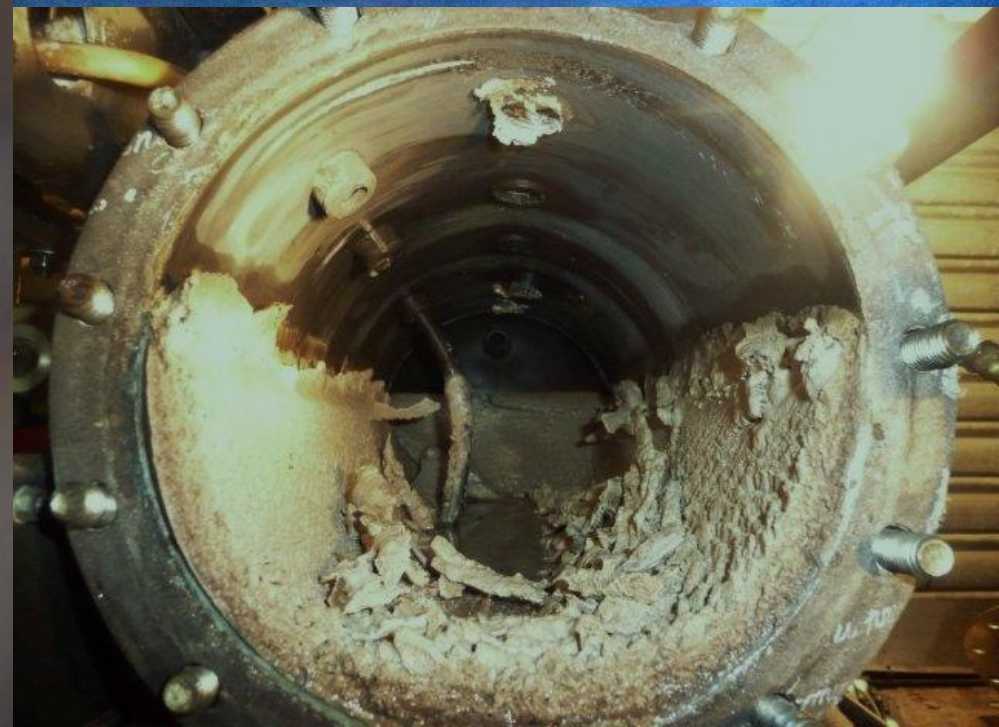
L.C.C. (Liquid Circulation Cleaner)

Liquid, CIP caustic cleaner.

- This product is ideal for CIP systems/applications in a wide temperature range
- Added surfactant for rinsability and soil penetration



**What is Beer
Stone/Scale?**



What is Passivation?

When stainless steel is newly made it is cleaned of oils and greases used in the fabrication process, and acid, usually nitric, is used to remove free iron from the surface. Slowly and naturally a passive layer develops on the surface of the steel as the chromium at the surface reacts with oxygen in the air to produce chromium oxide. The term passive refers to steel now being 'unreactive'.

This layer is invisible and only a few molecules thick but it provides a barrier to prevent oxygen and moisture from reaching the iron underneath. If oxygen got to the iron, the iron would oxidize or rust, producing an unwanted yellow color to the stainless.



Acid Cleaners

Acid #5

A nitric/phos low foam blend with surfactants for stone/protein removal and passivation of stainless.

- The most effective type of acid to use on beer stone and scale
- Passivate and re-passivate the stainless surfaces of tanks, pipes and lines
- Works in low temperatures

Acid #6

A phos/nitric low foam blend, formulated for CO2 environment.

- This product is blend of detergent and acid quickly penetrates dried beer and easily dissolves oxalate scale
- Can also be used as the main cleaner in bright tanks, it's ability to work in cold temperatures and in CO2 environments makes it ideal for the job



Sanitizers and Final Rinse

Star San

A high foaming, acid anionic sanitizer.

- Not recommended for CIP applications.
- Great for parts soaking, no rinse.

Saniclean

A low foam acid anionic

- for CIP applications as a final rinse.

Star-Xene

A stabilized chlorine dioxide: Odorless, no off flavors in beer and no rinse.

- Non-Corrosive to stainless
- Effective at low concentrations and rinse free



Processing Ingredients

Super Moss - A clarifier (also called Irish Moss or Whirlfloc).

5.2 pH Stabilizer - A blend of phosphate buffers that bring the mash and kettle water pH level to 5.2 for ideal brewing conditions.

Calcium Sulfate - Terra Alba, Gypsum.

Calcium Chloride - Calcium source.

Calcium Carbonate - Chalk, Limestone.

Acids - Phosphoric Acid 75% / Citric Acid / Lactic Acid



Defoamers and Other Products

Defoamer #105 - A 10% silicon concentrate for kettles and fermenters.

Defoamer #880 - A non-silicone anti-foam, effective in blow off buckets

Propylene Glycol - A chemical coolant.





Select the vessel you are cleaning:



Kettles



Carboys/
Fermenters



Draft Systems



Kegs



Bottles



Chillers

CLEANERS	PBW	X	X	X	X	X	X
	Liquid Line Cleaner			X			
SANITIZERS	Star San	X	X	X	X	X	X
	IO Star	X	X	X	X	X	X
	Saniclean	X	X	X	X	X	X
ADJUNCTS	5.2 pH Stabilizer	X					
	Super Moss HB	X	X				
	Defoamer 105	X					
	Beer Stone Remover	X	X		X		

All chemicals can be used on stainless steel, but should not be used on aluminum.
Sanitizers should only be used on non-porous surfaces.

Five Star Rules to Cleaning and Sanitizing...

- You can only sanitize clean equipment.
- Clean Equipment = Clean Beer
- Dirty equipment will always contain bacteria. Soil needs to be completely removed for the environment to be properly sanitized
- Cleaners ARE NOT sanitizers
- More is not better, always follow the directions on the label
- Never add water to chemicals, always blend cleaning or sanitizing chemicals into water

→ Proper Chemical Storage is Key!

- ◆ Label & designate every chemical in a brewery. It is a common accident to pour Acids into a bucket that contained a Caustic/Chlorine and have chemicals “JUMP” out of the bucket and potentially causing harm.
- ◆ Do not store chemicals in hot or damp areas. In hot environments Chlorine & Iodine based sanitizers will volatilize and create dangerous gases. In damp environments, the Caustic will “WALK” on humidity out of the bucket/drum across floors and up walls.
- ◆ Always store Caustic and Acids separately.



Emily Lovato

Business Development / Technical Sales Manager

Five Star Chemicals

6870 W. 52nd, Suite #205

Arvada, CO 80002

(303) 287-0186

Office - 303-287-0186

Direct - 303-962-7516

elovato@fivestarchemicals.com

