



# BrewCheck<sup>®</sup>

craft brewery  
sanitation program

## Protect Your Brand<sup>®</sup>

- Complete line of cleaners/sanitizers
- SSOP support
- GHS training
- Local deliveries/support









# CONTAMINATION CAN INFILTRATE FROM A NUMBER OF SOURCES



## STARTING MATERIALS

Everything that comes into contact with the yeast must be sterilized. The wort leaving the kettle has been through the boiling process and therefore should be relatively sterile. But if the wort cooling system is not clean, contamination can be introduced before it enters the fermentation vessel.



## BREWING PLANT

Any surface that comes into contact with wort, beer, or yeast should be thoroughly cleaned and sterilized (e.g. vessels, piping, and implements). Soiled surfaces can support a microbiological growth that can be introduced into the beer. Any recurrent contamination may indicate the presence of a biofilm. Biofilms are particularly difficult to clean, as they can bind strongly to the vessel or pipe. Localization of the biofilm may be necessary before adequate cleaning can be performed.



## THE BREWING ENVIRONMENT

Microorganisms are ever-present in the air, often in association with dust particles or airborne moisture droplets. They can also be introduced to the environment by insects and other pests. Every effort must be made to keep the brewing environment as clean as possible and to minimize the ingress of outside contamination. Wherever possible, all vessels should be covered to reduce the risk of aerial contamination.

## USING ATP TO DETECT CONTAMINATION



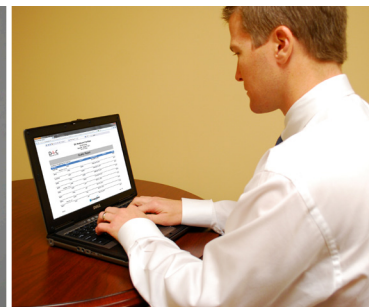
1. Swab surface



2. Snap swab & insert into ATP Meter



3. Upload to CompuClean®



4. Monitor and review data

# POOR SANITATION AFFECTS THE QUALITY OF THE BEER

Most contaminants will produce off-flavors, acids and non-desirable aromas. They can also produce hazy beer and films. They may compete with the production strain for essential nutrients; they can also induce stuck fermentation or over-attenuated beers. There are two major groups of microorganisms responsible for contaminating wort and beer: 1) Wild Yeast and 2) Bacteria.

## WILD YEAST

**"Any yeast that is not deliberately used and under full control."**

- Contamination can occur if the pitching/cropping yeast is in contact with air.
- Wild yeasts are not killed by acid washing and therefore production yeast contaminated with wild yeast needs to be discarded to avoid product defect.

## BACTERIA

- Can grow rapidly in wort and beer. Fresh wort must be pitched as soon as possible with active yeast to prevent bacterial growth.
- Bacteria can cause off-flavors and compete with yeast for essential nutrients.



## TYPES OF BACTERIA FOUND IN THE BREWING PROCESS

BACTERIA	CHARACTERISTICS	IMPACT
Lactic Acid Bacteria	High tolerance to low pH, high alcohol, and hop extracts	Causes spoilage
Common Brewers Bacteria	Typically found in wort, not likely to grow in beer unless high pH	Causes spoilage and off-flavors
Acetic Acid Bacteria	Produces vinegar (acetic acid) from ethanol	Causes off-flavors
Pectinatus and Megasphaera	Produces acetic acid	Causes turbidity and off-flavors
Zymomonas	Mostly present in ale breweries	Causes spoilage

## SANITATION IS THE KEY

**A properly managed sanitation program greatly reduces the risk of contamination.**

The craft beer industry is fortunate, from a safety standpoint, that no pathogens can survive in beer with normal alcohol content, bitterness, carbonation, and pH. However, sanitation is the first step in a great brew process and a step that must be repeated as necessary throughout the process to protect your brand. Whether it is manual cleaning or an automated process, sanitation is serious business—and you need a sanitation partner who can ensure that you are cleaning effectively, efficiently, and safely.



# THE **CLEANING** PROCESS

Cleaning precedes sanitation and prepares the way for sanitation treatment by removing organic/inorganic residues and microorganisms from the brewery equipment.

## CLEANING AGENTS

Spartan Chemical offers two types of cleaning detergents: alkaline-based and acid-based. Our powerful cleaning agents are formulated with surfactants, chelating agents, and emulsifiers to enhance the effectiveness of the products. Capable of penetrating deep soil deposits, Spartan cleaners efficiently break the soil into fine particles and hold them in suspension so that they do not redeposit on the cleaned surface. Calcium and magnesium salts (beerstone) are liberated and rinsed clean away.

## ALKALINE-BASED DETERGENTS

- Effective in removing organic soils (i.e., oils, fats, proteins, starches, and carbohydrates) encountered in brewing.
- Will not remove calcium oxalate and other inorganic compounds that lead to a build-up of beerstone.



### High Performance Alkaline FP • pH 14.0 • 2-6 oz./gal.

High Performance Alkaline FP is a highly concentrated alkaline detergent used for brewery cleaning (e.g. brew kettles, fermenters, conditioning tanks, and filters), fryer boil out and CIP/COP applications. Effective at removing baked on soils, High Performance Alkaline FP removes, proteins, fats, carbohydrates, sugars and other stubborn soils found in breweries and other food processing applications.



312660	312655	312605
275 Gal	55 Gal	5 Gal



### Caustic Cleaner FP® • pH 14.0 • 1-12 oz./gal.

Effective in dissolving proteinaceous soils and fatty oils by saponification. A natural choice for cleaning sludge off the bottoms of boilers and cleaning beer kegs. Heavy duty, high alkaline, low foaming liquid cleans soil from tanks, kettles, mashers, and lines. Attacks and removes sugars and carbohydrate residues. Fragrance and dye-free.



318960	318955	318930	318915	318905	318904
275 Gal	55 Gal	30 Gal	15 Gal	5 Gal	1 Gal x4



### LFC® • pH 13.0-14.0 • 6 oz./gal.

Used for a great variety of cleaning tasks including removing tannin deposits, LFC can be used in CIP systems for occasional purge treatments or to brighten stainless steel. Fragrance and dye-free.



307560	307555	307530	307515	307505	307504
275 Gal	55 Gal	30 Gal	15 Gal	5 Gal	1 Gal x4



## ACID-BASED DETERGENTS

- Commonly used in a two-step sequential cleaning regimen with alkaline detergents.
- Primarily used for the prevention or removal of beerstone, water scale (calcium and magnesium carbonates), and aluminum oxide.
- Will not work for heavy soils, tannins, hop oils, resins, and glucans.



### High Acid Cleaner FP® • pH < 1.0 • 1-10 oz./gal.

High active liquid phosphoric acid quickly removes beerstone, protein material resins and yeasts, and hard water scale from stainless steel. Fragrance and dye-free.



308260	308255	308230	308215	308205	308204
275 Gal	55 Gal	30 Gal	15 Gal	5 Gal	1 Gal x4



### Acid Blend FP® • pH < 1.0 • 1-6 oz./gal.

Nitric, phosphoric acid blend used for passivation and to remove iron and other inorganic deposits from tank surfaces. Fragrance and dye-free.



312455	312405
55 Gal	5 Gal

# THE **SANITIZING** PROCESS

Sanitizing reduces the surface population of viably microorganisms after cleaning and prevents microbial growth on the brewery equipment.

## SANITIZING AGENTS

Spartan offers a full line of sanitizers for each step of the brewing process. After surfaces have been completely cleaned and rinsed, a sanitizer cycle will ensure that unwanted microorganisms are reduced to acceptable levels in brewing.



**SparCHLOR®** • pH 12.5-13.0 • 1-5 oz./gal.

Widely used in the beer brewing industry, chlorine compounds like SparCHLOR offer broad-spectrum germicidal action to effectively and affordably sanitize tanks and kettles—leaving minimal residue or film on surfaces.



309060	309055	309030	309015	309005	309004
275 Gal	55 Gal	30 Gal	15 Gal	5 Gal	1 Gal x4



**PAA Sanitizer** • pH < 1.0 • 1:20-1:768

A peroxyacetic acid and hydrogen-peroxide-based sanitizer/disinfectant for sanitizing fermenter and brite tanks, as well as heat exchanger and parts sanitation. Provides broad-spectrum sanitizing activity with no foam or phosphates.

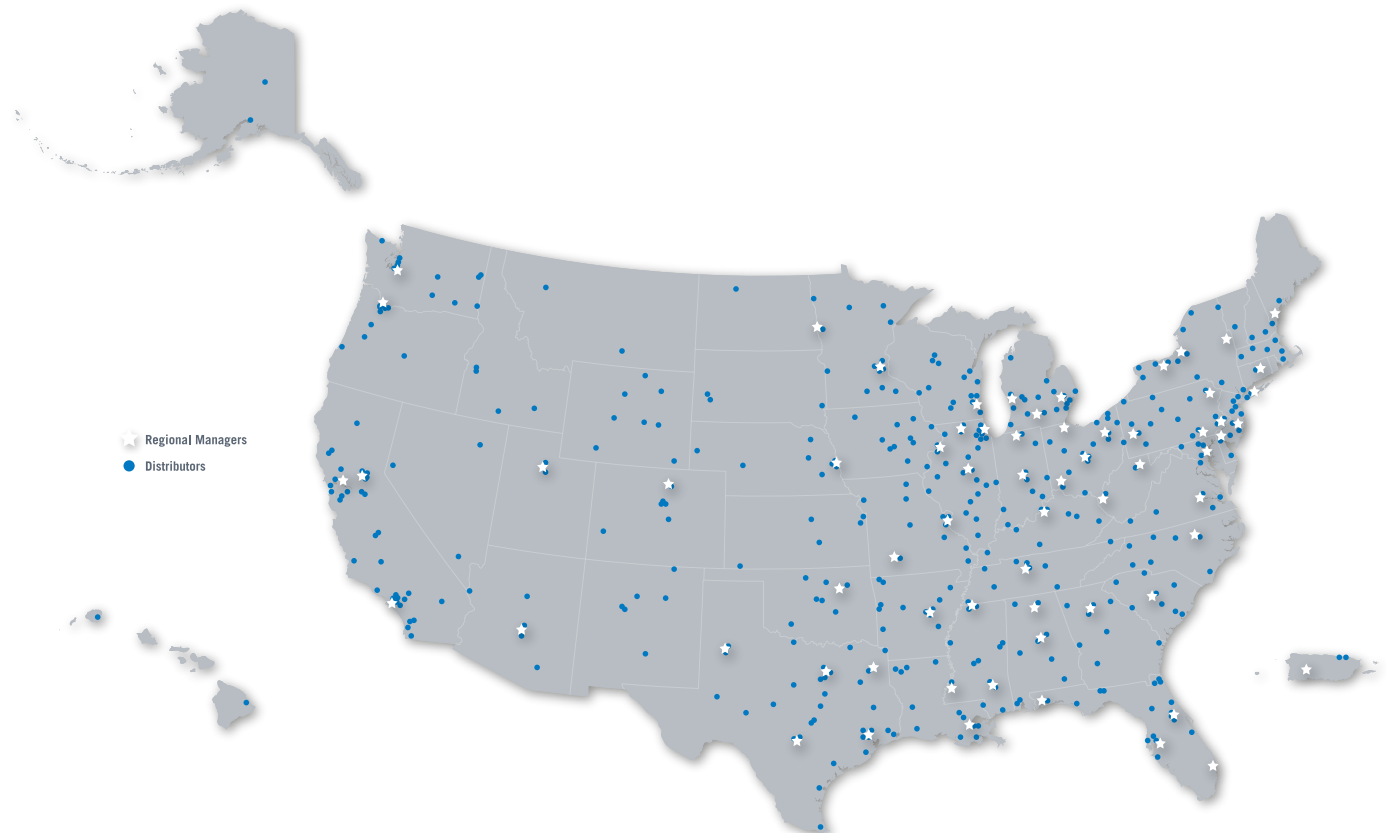


312755	312705
52 Gal	4.8 Gal



## LOCAL DELIVERY & SUPPORT

While Spartan Chemical spans 5 continents, our most important location is the one nearest you. In the U.S. alone, we've assembled more than 500 strategically located distributor points, supported by 60 Regional Managers, all focused on providing LOCAL support and deliveries when and where you need it.









# BREWHOUSE GENERAL CLEANING

Overall facility cleanliness will contribute to a better product and a solid brand. Spartan has you covered from the front of the house to the back.



## Chlorinated Degreaser

Heavy-duty liquid concentrate with bleach cleaning action. High-foaming solution removes proteins and sugars from surfaces. No dyes, perfume, or VOCs.



pH 13.0-13.5 • 6 oz./gal.



## Chlorinated Plus®

An ultra heavy-duty, strong alkaline, high-foaming concentrated degreaser, fortified with bleach. Formulated for heavily soiled surfaces and equipment contaminated with carbohydrates and sugars.



pH 13.5-14.0



## Peroxy Protein Remover, Whitener & Cleaner

Hydrogen peroxide-based cleaner removes light to medium soils from all types of surfaces. Whitens and brightens grout.



pH 2.0-3.0 • 1-12 oz./gal.



## Sani-T-10 Plus®

Quat-based sanitizer specifically formulated for food and beverage processing applications. Can be used for no-rinse sanitizing at 150-400 ppm. EPA Reg. No. 10324-117-5741



pH 7.5



## Sani-Tyze®

Ready-to-use, quaternary-based cleaner, sanitizer and deodorizer with a 60 second kill time. EPA Reg. No. 10324-107-5741



pH 6.0-8.0



## Lite'n Foamy® E2 Sanitizing Hand Wash

Fragrance-free, foaming, anti-bacterial hand wash. For use in food processing and service areas.

pH 4.0-6.5



## Lite'n Foamy® E3 Hand Sanitizer

Fragrance-free, foaming, anti-bacterial hand sanitizer. For use in food processing and service areas.

pH 4.0-6.5



## SparClean® Super Suds

Delivers powerful cleaning and long-lasting, luxurious suds. Formulated with Aloe, Super Suds aggressively emulsifies and removes baked-on grease or food soils while conditioning hands. Plus, the powerful grease-cutting formula is concentrated, so you can use less to wash more.



pH 6.5-7.5 • 0.25 oz./gal.

KEY	
	Kosher Certified
	Star-K Kosher
	Fermenter
	Kettle
	Masher

## TRAINING AND COMPLIANCE TOOLS



Be sure to read all Directions, Precautionary and First Aid Statements on product labels before use of these or any Spartan products. Safety Data Sheets for all Spartan products are available from your authorized Spartan Distributor or by visiting [www.spartanchemical.com](http://www.spartanchemical.com).

GUARANTEE: Spartan's modern manufacturing and laboratory control insure uniform quality. If dissatisfied with performance of product, any unused portion may be returned for credit within one year of the date of manufacture. Use product as directed and read all precautionary statements.

DISTRIBUTED BY



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