

DRAUGHT BEER

Line Cleaning Principles

PURPOSE OF LINE CLEANING

- Beer drinkers deserve great beer
- Beer can leave the following behind
 - Bacteria, Yeast and Mold
 - Calcium
 - Protein



BACTERIA

- Lactobacillus
 - Creates cloudiness, lactic and acetic acids
 - Pectinatus
 - Produces lactic and propionic acids, hydrogen sulfide and methyl dimethyl sulfide
 - Pediococcus
 - Produces diacetyl
 - Acetobacter
 - Produces acetic acid and discolouration
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YEAST & MOLD

- Yeast
 - Creates a surface film growth on lines
- Mold
 - Blackish film is present and appears from exposure to air



PROTEIN

- Creates off flavours and cloudy appearances
- Will often break off and leave flakes in the beer
- Requires the use of an alkaline based cleaning solution
 - Higher pH

CALCIUM (BEERSTONE)

- Could be there from the grains or from water
- Will also flake off into the beer
- Can build up over time and creates a breeding ground for bacteria
- Requires the use of an acidic based cleaner
 - Lower pH



CHEMICAL

- Potassium hydroxide (KOH)
- Sodium Hydroxide (NaOH)
- Phosphoric Acid

- Dibac (hypochlorite sanitizer) and BRC presently used by Draft Service .
- LC-1 (Alkaline) and LC-2 (Acid) from Ajex USA 800 394-7416
- 2X Dream Draft Clean 1 & 2 from Banner Equip Co 800 621 4625
- DAC (Alkaline) and ALC (Acid) from National Chemical 800 533 0027

CYCLE OF LINE FLUSHING

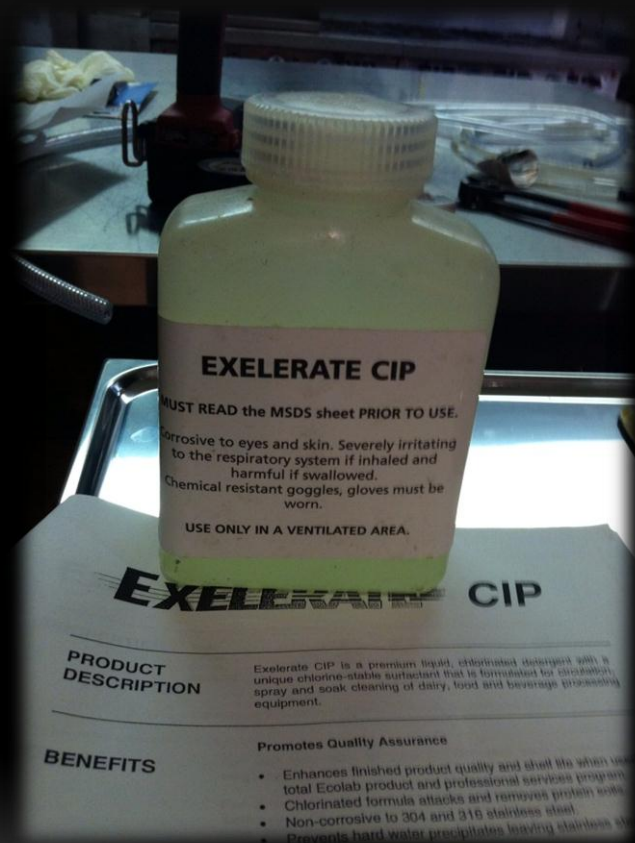
- This should be done at the recommended chemical concentration of an approved line cleaner. The best cleaning cycle should be six step cycle as follows:
 - 1) Water rinse;
 - 2) Alkaline soak;
 - 3) Alkaline cleaning;
 - 4) Water rinse until the pH is the same as the city water;
 - 5) Acid clean;
 - 6) Final water rinse until the pH is the same as the city water.
- If the six steps are not possible then cleaning should be done 2 times with an alkaline or a caustic cleaner and then one time with an acid treatment for beerstone (Ca_2CO_4) removal.
- Water is always used as the final rinse to eliminate all cleaning compounds prior to beer delivery.

PRESSURIZED CLEANING



4 HEAD STAINLESS POT CLEANING

- The chemical used is Exelerate CIP (Ecolab).
- Powdered cleaners are recommended for home consumers but not for commercial applications.
- The chemical should remain in the lines for 20 minutes. While the lines are soaking, it is important to remove the couplers and faucets for cleaning.



ACTIVE LINE CLEANING

- includes a pump circulating the cleaning solution and should include the six step cycle above.
- this method can clean up to 8 taps simultaneously. It is far more complex because of the multiple variables. There are only 2 companies that use machines to clean lines in Ontario.
- *If time is critical, and caustic and acid cycles cannot be done on every cleaning, an alternative would be to clean with a caustic based cleaner for two months and an acid cleaning cycle every third month.*