



ClearSol ETOH-G CIP Complete 20+

Technical Data Sheet

CONCENTRATED CAUSTIC CLEANER WITH GRAS APPROVAL FOR ETHANOL PLANT CIP CLEANING (UP TO 20+ GRAINS HARDNESS)

DESCRIPTION

ClearSol ETOH-G CIP Complete 20+ is a formulated, 50% caustic concentrated cleaner which contains GRAS approved ingredients for ethanol plant CIP cleaning when used under normal operating conditions (see Formulation Tips). Compatible in up to 25 grains of water hardness, ClearSol ETOH-G Complete 20+ provides revolutionary surface tension reducing technology for excellent fermentor tank cleaning.

When diluted to a 5-8% sodium hydroxide (NaOH) cleaning solution, ClearSol ETOH-G CIP Complete 20+ provides very low surface tensions of 30 dynes/cm and can tolerate up to 25 grains (or 430 ppm) water hardness, preventing scale build-up. These features greatly improve ethanol plant CIP systems by improving yield, lowering maintenance costs, reducing cleaning cycle times, and production stops. Requires the injection of DEFOAMERS into the cleaning solution blend tank to control foam. This innovative, brand new technology exhibits the following attributes:

- GRAS approved for ethanol plant CIP cleaning of fermentors.
- Lowers surface tensions of 5% NaOH cleaning solutions to 30 dynes/cm compared to 75+ dynes/cm of NaOH-only cleaning solutions.
- Significantly improves ethanol plant CIP systems by improving yield, lowering maintenance costs, reducing cycle times, and production stops.
- Controls hard water up to 25 grains (430 ppm) hardness, even in high-

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- temperatures preventing scale build-up, unlike using NaOH alone.
- Some ClearSol ETOH-G CIP Complete 20+ residue may remain in the dried distillers' grain which may be incorporated into animal feeds.
- **Requires** the use of DEFOAMERS (also GRAS) to be injected into the cleaning solution blend tank to control foam.

FORMULATION TIPS

For best results ClearSol ETOH-G CIP Complete 20+ cleaning solutions should be maintained between 5-8% sodium hydroxide (NaOH) for ethanol plant CIP cleaning of fermentors.

The addition of DEFOAMERS to the cleaning solution is *required* to control foaming. Typically, one (1) gallon of DEFOAMER needs to be injected into the blend tank for every 1,000 gallons of ClearSol ETOH-G Complete 20+ added to the blend tank to make the 5-8% NaOH cleaning solutions. As additional ClearSol ETOH-G Complete 20+ is added to replenish the 5% NaOH cleaning solution, additional DEFOAMER needs to be added at the same ratio.

SPECIFICATIONS

Appearance	Clear, light amber liquid
Odor	Bland odor
Specific Gravity	1.49
pH (as is)	> 12.5

STANDARD PACKAGING

Available in 55-gallon drums, 275 & 330-gallon totes.

SHELF LIFE

ClearSol ETOH-G CIP Complete 20+ has a shelf life of two years.