

## CLIMAX K

### Product definition and application

Highly alkaline liquid detergent with hypochlorite for circulation cleaning in the food industry.

### User instructions

1. Rinse the equipment with cold or lukewarm water.
2. Circulate a 1-3% solution of Climax K at about 70 °C for 10-15 minutes.
3. Rinse with clean water until all detergent residues are washed out.
4. Disinfect with hot water or chemical. Hot water: circulate clean water under heating until returned water stays at 80 °C. Let the first part of water go down the drain.  
Lilleborgs' consultants should be contacted regarding suitable washing programs.

### Product properties

Foaming ability:	Non foaming
Solubility:	Completely soluble in water in all mixing ratios
pH:	14 (conc.), ca. 12 (1% solution)
Density:	ca. 1,12 kg/l
Viscosity:	ca. 5 mPas
Reactivity:	Contact with acids liberates irritating, toxic and corrosive gas. NB! Mixtures of even small amounts of product or solution with acidic solutions can form chlorine gas, which can corrode even stainless steel. Even brief exposure can cause such extensive damage that the equipment cannot be used. Contact with products containing ammonia liberates irritating and toxic gases.
Corrosion:	Climax K corrodes light metals under the formation of hydrogen gas which can form explosive gas mixture with air. Determined by 10 g Climax K per liter at 70 ° C and 12 hours duration. Stainless steel is not affected. The product should not be used in installations where the tank for washing water has its own heating due to extremely long contact time and high temperatures. Copper does not corrode, but discolors with a brown tint. Aluminum corrodes heavily and discolors.

### Storing conditions and durability

Store dark and cool, but frost proof. Heat and sunlight reduces the content of hypochlorite. Should be used within one year of production. Product stored for a longer period or that has been stored in hot environments and in sunlight will be less effective (the dosage should then be increased by 30 - 50%).

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### Test method

- Reagents: 0,1 N Hydrochloric acid  
50 % Sodium thiosulfate solution  
Thymol blue indicator
- Procedure: Add 5 drops of thiosulfate solution to 20 ml solution, mix well and leave it for approximately 30 seconds. Add 2-3 drops of the indicator solution and titrate with the acid until color change from blue to yellow end point.
- Calculation: % w/w Climax K = ml hydrochloric acid x 0,364

Typical conductivity values:

Climax K [% w/w]	Conductivity at 25 °C [mS/cm]
0,5	2,1
1	4,2
1,5	6,3
2	8,4
3	12,4
4	16,5
5	20,2

