

T E C H N I C A L B U L L E T I N

Kilol-L[®]***Noble Disinfectant for Food Industry
Surfaces and Environs*****Composition**

For each 100 g of Kilol-L[®]:

- Ascorbic Acid.....	1,0 ml
- Citric Acid.....	0,475 ml
- Lactic Acid.....	0,475 ml
- Deionizer water qsp.....	100,00 ml

Technical Information

- Appearance and aspect:

- Crystalline viscous liquid

- Organoleptic characteristics:

- Taste: Bitter, Acid and Astringent
- Odor: Agreeable
- Color: Crystalline lemon appearance, which with aging darkens, but doesn't affect its efficacy.
- Density (g/ml at 25C): 1,035 a 1,045
- pH (10% dilution at 25C): 2,50 a 3,50
- Acidity (quantity of product mg neutralized by 1 ml of NaOH 1N): 3600 a 5200
- Solubility in water: 100%
- Corrosivity: At 0,5% (5000 ppm) in water, it's similar to potable water
- Stability:
 - With aging, Kilol-L changes to a dark crystalline lemon color but Without affecting its efficacy
 - Very stable at normal temperatures (4° C to 40° C); but over 80° C its stability is reduced
 - Incompatible with anionic and hydroxides products.
 - Very stable under light, but the exposure to direct sunlight and hard water (Mg, Ca) can reduce its efficacy
 - Non Toxic to man, animals and vegetables (LD₅₀: 2000 mg/kg)
 - Non Volatile
 - Biodegradable:
 - Do not need posterior rinse
 - Do not change the taste of foods
 - It is not irritant to the skin and mucous

Kilol-L[®] is an organic disinfectant developed from a Citric Mass (Biocitro[®]) plus organic acids, which have a proved microbiostatic activity against many strains of pathogenic bacteria (*Staphylococcus aureus*, *E. coli*, *Salmonellas* spp, *Listeria monocytogenes*) and fungi (*Aspergillus*, *Candida*).

The mode of action of Kilol-L[®] occurs by contact, breaking the microorganism's cell wall releasing the cytoplasm and coagulating their protein. Thus, the vital cycle of the cell (pathogenic) is damaged interrupting the microorganism multiplication.

Kilol-L[®] present numerous advantages upon the other disinfectants at the mastitis control, mainly because of:

- Prolonged action confers longer time of protection against pathogenic microorganism's that cause mastitis, because Kilol-L[®] is not volatile
- Non Toxic allows its utilization in a safety and efficient manner, doesn't cause any sort of injury to animals and to men
- Doesn't leave residues can be used where the traditional disinfectants are not recommended
- Antioxidant it doesn't compromise the equipment and piping conditions. The other disinfectants can cause cracks in your equipment, which allows the development and lodging of pathogenic bacteria that causes mastitis. Also, those products can diminish useful life of the rubber parts.
- Not irritating doesn't cause any sort of reaction or irritation to the skin when its used in the indicated concentrations, because Kilol-L is non toxic product.

Utilization of Kilol-L to Prevent Mastitis

Mastitis is the most common and costly disease in dairy herds and Kilol-L[®] can be a useful toll to the dairyman against it. You could see above that Kilol-L[®] has several advantages that may us classified as a noble disinfectant to be used in many different sectors of the animal production. Therefore, Kilol-L[®] can be used with success on the mastitis control and disinfection of milking equipment.

CLEANING AND DISINFECTION OF STALLS AND MILKING PARLOUR

Keeping a high hygienic level on the environment is a very important factor to avoid mastitis, therefore, cleaning and disinfection of the stalls, milking parlour and milk room is very important.

After milking procedure, wash with water and detergent the floor and the walls of the milking parlour, and after that spray a Kilol-L[®] solution (1L of Kilol-L[®]: 250L of water) all over the place.

Once in a week clean the feeder on the free stall and spray a solution of Kilol-L[®] (1:125)

Also once in a week do it the disinfection with a Kilol-L[®] solution (1:125), spraying all over the free stall (roofs, bedding, alleys, etc...).

Observation: Kilol-L[®] can destroy the flyers habitat acting as an excellent flyer repellent

CLEANING AND DISINFECTION OF THE MILKING MACHINE

The milking machine can facilitate the transmission of pathogens between cows and between udder quarters. The action of the milking machine can also cause the bacteria movement from the exterior of the teat into the teat

Therefore, during the milking operation, between cows, the milking machine should be dived in a

bucket with water and then dived in a bucket with a solution of Kilol-L[®] (1:125)

Before and after the milking procedure in each cow, wash all the milking machine. After that rinse all the milking machines with a Kilol-L[®] solution (1:125) and let them dry.

CLEANING AND DISINFECTION OF THE MILK COOLING TANK

The milk cooler system should be cleaned immediately after it has been emptied. Small tanks are usually cleaned manually. Larger tanks are often cleaned by means of automatic cleaning units, since it is difficult to reach all surfaces manually. For the small tanks you should utilize potable water, detergent and brush.

After you eliminate all the milk residues, rinse the tank with a solution of Kilol-L[®] (1:125) to disinfect it and let them dry, without rinse.

CLEANING AND DISINFECTION OF THE MILKER

One of the principal modes of mastitis transmission between cows during the milking operation is the milker hand.

Wash the clothes with water and neuter soap and in the end rinse it with a solution of Kilol-L[®] (1:250).

Between cows during the milking operation, the milker must wash his arms and hands with potable water and rinse them with a solution of Kilol-L[®] (1:250)

CLEANING AND DISINFECTION OF THE COW

In order to prevent new infections bacteria must be kept away from the teat, and the premilking preparation is one very helpful way.

First of all you should clean the teats to reduce the number of bacteria at the end of the teat, and for that you should dip the teats (predipping) in a solution of Kilol-L[®] (1:125). After a while, the predip should be wiped off the teats using single towels before enter with the milking machine on it.

At the end of milking, the muscles in the sphincter are fatigued leaving the sphincter (teat canal) open for a period of time. So, thoroughly covering the teats with a teat dip after milking is one of the most important steps in controlling new infections from contagious bacteria and for that you should apply the postdipping with a solution of Kilol-L[®] plus glycerin (1:125) to the entire teat.

Observations

Always prepare the Kilol-L[®] solution before the milking procedures, mix homogeneously, in an exclusive recipient.

- Apply the Kilol-L[®] solution using a dip cup.
- Maintain teat dip cups in a clean and sanitary manner and never pour remaining dip back into the original container. When dip becomes cloudy or contaminated with bedding or manure, discard the remaining dip, clean cups thoroughly, and refill with fresh dip solution.
- Cleaning the milk equipment should always be performed as soon as possible after each milking. After the detergent cleaning, the plant is rinsed and then a disinfection circulation follows with a solution of Kilol-L[®] (1:125) to eliminate microorganisms. After the disinfection with Kilol-L[®] you doesn't need to rinse the system. **KILOL-L[®] DOESN'T NEED TO BE RINSED.**

- Not only the inside parts of the milking machine have to be cleaned. Also the environment around the plant, mainly the milk room and the milking parlour, as well as some outside parts of the milking machine.
- Kilol-L[®] doesn't destroy and doesn't change the natural bacteria flora of the cow's udder.
- Kilol-L[®] is recognized noble disinfectant because it doesn't produce any kind of cracks at the cow's teats. It also acts in a prolonged and benefic way, being different from the traditional disinfectants that act in a shock way.