



## Washing of Closed Circuits, C.I.P. Systems and Pasteurizers Additives for Alkaline Solutions



Food & Beverage  
Division

**Monophase washing**  
**Washing in single phase**  
**Washing of bottles**  
**Spray washing**  
**Sanitizing**

Among the main applications of cleaning and sanitation in the "Food & Beverage" and in the cosmetic/pharmaceutical industry, have a key role the washing and sanitizing of the so-called "C.I.P.", which means "Cleaning in place", through which it is possible to ensure the cleanliness of the production facilities without these being disassembled or transported elsewhere, thus allowing significant operational benefits in terms of efficiency and speed.

This type of plant allows to perform, with automated mode (programming conditions of temperature, pressure, concentration, time of recirculation of the cleaning/sanitizing solutions and rinsing), the operations of cleaning and sanitation of installations, pipelines, heat exchangers, pumps, storage tanks, pasteurizers, and any other piping or equipment that comes into contact with foodstuffs or cosmetics/pharmaceuticals.

Purpose of the above operations is of course to ensure that, at the end of the production cycle, all the parts of the plant in direct contact with the product are perfectly clean and free from residues of organic nature (fats and proteins) and inorganic (mineral scaling) which, if not eliminated, may represent a substrate rich in nutrients, which promotes the development of undesirable microorganisms capable of causing not only changes of organoleptic characteristics of the food, but in severe cases, compromise the health and safety of consumers.

The range of products AQUOS for the above applications is composed of:

- a liquid detergent for alkaline monophase washing of C.I.P. plants and pasteurizers;
- a liquid detergent for alkaline/sequestering washing in single phase of C.I.P. plants and pasteurizers;
- a liquid detergent for alkaline washing of C.I.P. systems fed with waters of low/medium hardness;
- a liquid detergent for washing of C.I.P. systems, washing of bottles and spray washing;
- a liquid chloroactive detergents for washing and simultaneous sanitation of recirculating systems, equipment and surfaces in general;
- an alkaline detergent in powder form for washing of C.I.P. plants with removal action of tartar for a wide range of applications in the food industry;
- some liquid detergents for acid descaling washing of C.I.P. plants and pasteurizers;



ALKALINE MONOPHASE WASHING

### Aquaflow MF

Liquid detergent with antifoam, suitable for water with high hardness, for alkaline washing **monophase** in C.I.P. recovery applications in milk/dairy industries and for a wide range of applications in the food and beverage industry. Its use is also recommended for the cleaning of pasteurizers and homogenizers used in the production of ice cream.

Product with controlled foam and easy to rinse effectively removes organic and inorganic contaminants, and is suitable for automatic dosing and control systems based on the measurement of the conductivity. **Do not use on aluminum surfaces and soft metals.**



ALKALINE/SEQUESTERING WASHING IN SINGLE PHASE

### Aquaflow SF

Liquid detergent with antifoam, suitable for water with high hardness, for alkaline/sequestering washing **in single phase** in C.I.P. recovery applications in milk/dairy industries and for a wide range of applications in the food and beverage industry. Its use is also recommended for the cleaning of pasteurizers and homogenizers used in the production of ice cream.

Product with controlled foam and easy to rinse effectively removes organic and inorganic contaminants, and is suitable for automatic dosing and control systems based on the measurement of the conductivity. **Do not use on aluminum surfaces and soft metals.**





**WASHING C.I.P. SYSTEMS  
FED WITH WATERS OF  
LOW/MEDIUM HARDNESS**

**Aquaflow Plus**  
Caustic liquid detergent, non-foaming, suitable for low and medium water hardness, for the removal of heavy dirt. In the dairy sector can be used for the washing of C.I.P. systems even in conditions of high pressure or turbulence.



**STABLE AT LOW  
TEMPERATURES - IDEAL FOR  
WASHING OF BOTTLES**

**Aquaflow WB**  
Caustic liquid detergent, with antifoam, stable at low temperature, suitable for applications in the washing bottles, washing C.I.P. in food processing, washing crates and molds and spray washing. In the washing of glass bottles it helps the removal of the labels, it favors rinsing and prevents the formation of halos caused by excessive hardness of the water, thus reducing the scrap rate. Inhibits the formation of limestone preventing clogging of the nozzles so as to increase the operating efficiency in terms of reduction of the frequency of maintenance interventions. The product has an effective ability to curb the foam even in critical conditions and its use significantly improves the performance of detergents; In addition, thanks to its stability at low temperatures, requires no special attentions for storage.

**WASHING AND SANIFICATION  
OF PLANTS,  
EQUIPMENT AND TANKS**



**FORMULATED WITH  
CAUSTIC POTASH**

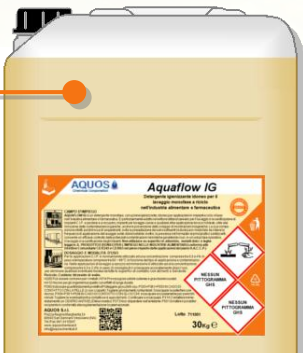
**Aquaflow CLK**  
Chloroactive alkaline liquid detergent, formulated with corrosion inhibitors and caustic potash, indicated for the washing and sanitizing of plants used in pharmaceutical, food, wine making and bottling; as well as equipment and tanks for the processing of milk and its derivatives. It does not produce foam, is phosphate free and is compatible with hard water.

**WASHING C.I.P. PLANTS,  
DESCALING WASHING IN  
CANNING AND WINE INDUSTRIES**



**Aquaflow PWD 9112**  
Detergent powder, strongly alkaline, suitable for C.I.P. recovery in the milk/dairy sector, as descaler for plants of canning and bottling beverages industries, as remover of tartar for wine containers and for a wide range of applications in all other food industries. Effective in removing scale deposits in stainless steel plants used in the manufacturing process of canning. **Do not use on aluminum surfaces and soft metals.**

**Aquaflow IG**  
Monophase detergent sanitizer for closed cycle plant in the food industry and pharmaceutical industry. Suitable for washing and sanitizing of C.I.P. plants, crate washers and other applications where it is also required the prevention of the development of inorganic incrustations. The presence in the formulation of sanitizing agents, allows an effective control of potential microbial contamination thus ensuring, in a single operational phase, the washing and sanitizing of the plants. **Do not use on aluminum surfaces, soft metals and light alloys.**



**WASHING MONOPHASE AND  
SANITIZATION OF C.I.P. PLANTS,  
CRATE WASHERS, ETC.**



**ACID DESCALING WASHING  
OF C.I.P. SYSTEMS  
IN SINGLE PHASE**



**Aquaflo FN**

Acid descaler detergent with high efficacy, based on nitric and phosphoric acids, suitable for use in a wide range of C.I.P. applications in milk/dairy sector, bottling of beverages and food industry in general. **Do not use on aluminum surfaces and soft metals.**

**ACID DESCALING WASHING  
IN FOOD INDUSTRY**



**Aquaflo P**

Descaling detergent low foaming, based on phosphoric acid, used for a wide range of applications in the food, bottling of beverages, in the dairy sector and for descaling equipment in general. **Do not use on aluminum surfaces and soft metals.**





## Additives for Alkaline Solutions

In some types of industries, and for special applications, often are used alkaline solutions of caustic soda or caustic potash instead of specific detergents for alkaline washing of industrial systems such as C.I.P. systems, pasteurizers, pipes, plants for washing bottles or glass jars, equipment, etc.

This choice is often caused by purely economic considerations since, notoriously, caustic soda or caustic potash are raw materials easily available with costs definitely lower than those of specific detergents suitable for the same applications, or is due to the belief that the only use of dilute alkaline solutions is equally effective to these specific detergents for the removal of organic residues of proteinic or lipidic nature.

In both cases, from a technical point of view, however, it is right to point out that the alkaline solutions, besides being characterized by a reduced washing efficiency because they have a wetting power certainly lower to the surfactant contained in the specific detergents, may give rise to phenomena such as: the **considerable foaming**, resulting from the saponification of fat residues present in many applications in the food-processing, like for example in the dairy/milk products; and the so-called "**fragility caustic**" also known as "**caustic cracking**," which is a type of corrosion that develops as a direct consequence of oxidative stress repeated, caused by the high alkalinity of the caustic solutions, in the absence of corrosion inhibitors, on the surfaces of plants, circuits, pasteurizers and each plant in which are circulating hot caustic fluids.

To avoid these phenomena, trying however to contain operating costs for companies that use alkaline solutions instead of specific detergents, AQUOS has developed a line of products which, if additivated to the above solutions of caustic soda or caustic potash, give them a higher wetting power, for the presence of specific surfactants with high washing/wetting power which facilitate the removal of biofilm and organic residues of proteinic/lipidic nature, and a strong activity of control of foam formation and inhibition of corrosion phenomena.

### ALKALINE WASHING OF C.I.P. SYSTEMS AND BOTTLES



#### Aqualon WT

Liquid additive for caustic soda or caustic potash (concentrated solutions 30/50%), and alkaline solutions for cleaning in the food industry and bottling in general, with descaling, antifoam and rinse aid action. It can be additivated directly to concentrated solutions of caustic soda or caustic potash increasing their cleaning power and at the same time exerting an energetic antiscaling action. It is particularly indicated in the washings of bottles, either glass or plastic, and in the washings of C.I.P. systems.

### ALKALINE WASHING OF C.I.P. SYSTEMS AND BOTTLES



#### Aqualon AD

Liquid product that is used as an additive to alkaline solutions of washing in the food and bottling in general, with action descaling and rinse aid. It is particularly indicated in the washings of bottles, either glass or plastic, and in the washings of C.I.P. systems.

### ACID WASHING AND SANITIZATION OF C.I.P. SYSTEMS AND BOTTLES



#### Aqualon Oxy

Liquid product that is used as an additive in alkaline solutions in the food industry and bottling in general. Liquid acid, colorless, with detergent, bleaching and sanitizing action and with an excellent anti-foaming action. It is particularly indicated in the washings of bottles, either glass or plastic, and in the washing of C.I.P. systems.

### ALKALINE WASHING OF C.I.P. SYSTEMS AND BOTTLES



#### Aqualon AS 500

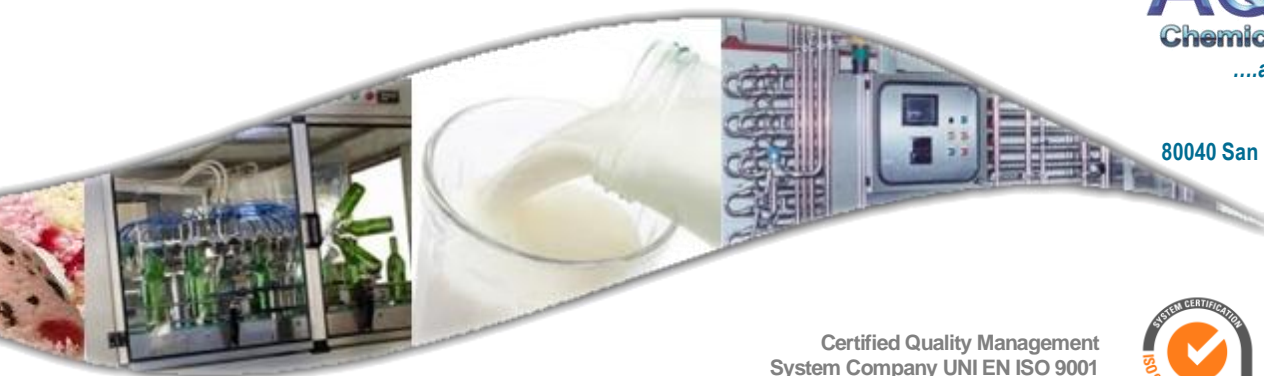
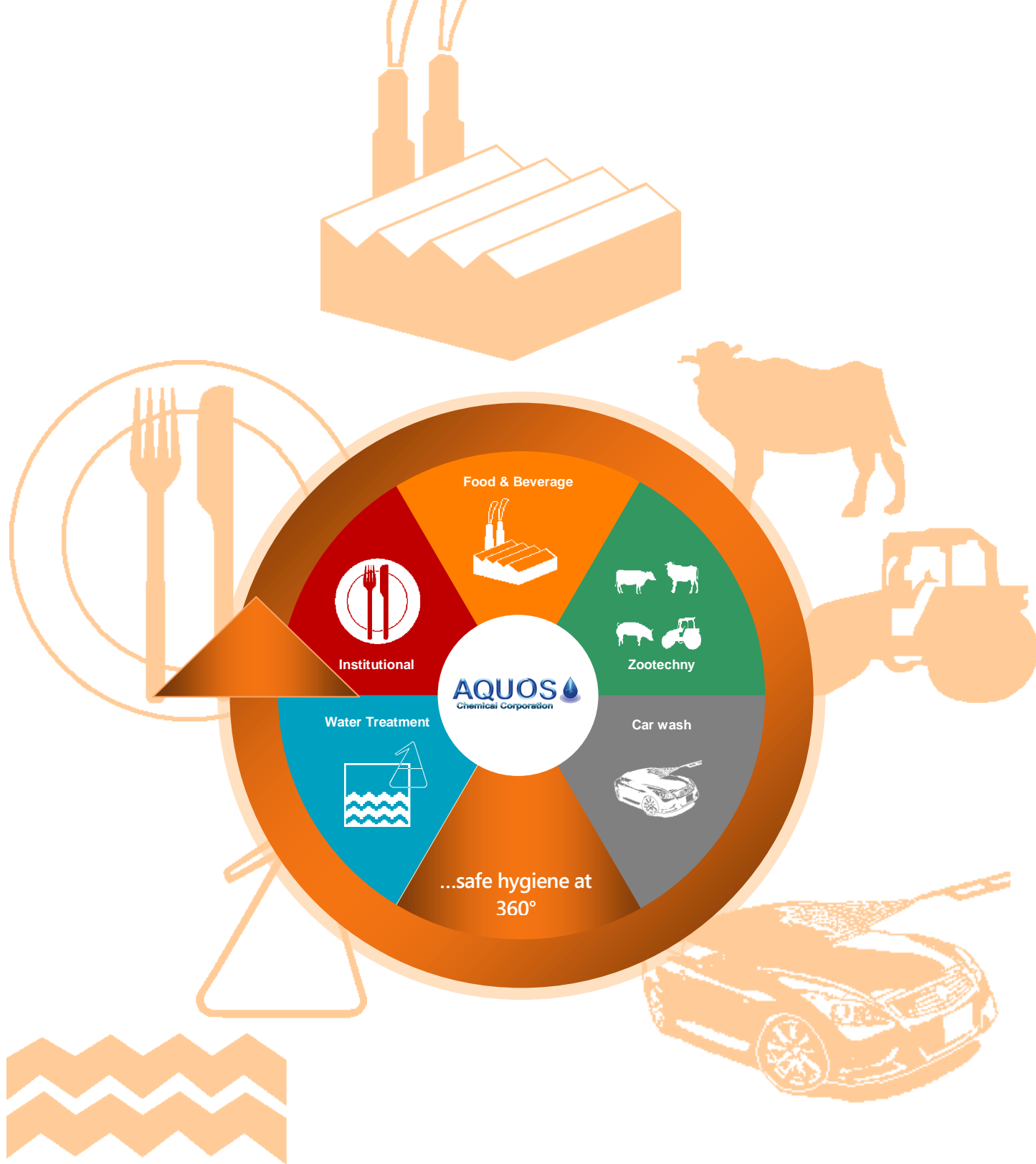
Liquid product suitable as an additive for alkaline solutions in the food industry and bottling in general, with rinse aid, antiscalant and antifoam action. It is particularly indicated in the washings of bottles, either glass or plastic, and in the washing of C.I.P. systems.



#### Aqualon SP

Liquid product that is used as an additive to alkaline solutions of washing in the food industry in general, with anti-corrosion, antifoam and antiscalant action. It is particularly indicated for the prevention of fouling due to precipitation of salts of oxalate.

### ALKALINE WASHING OF INDUSTRIAL POTS



**AQUOS**   
**Chemical Corporation**  
*....a little magic for a perfect clean*

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