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Disinfection capacity in the dishwashing process (both in hood appliances and in front opening) and more specifically against the new coronavirus (COVID-19)

OBJECTIVE

Warewashing machines for industrial use must achieve perfect hygienic treatment of the washing material. In order to get this, a high degree of cleanliness perceptible to the user must be achieved. On the other hand, the dishes and glasses should be treated avoiding that they are the focus of infection for having been contaminated with possible germs during use.

Our Asber dishwashers are characterized by using a single tank structure, which makes the washing process stationary, that is, the dishes are not transported, independently of other technological differences.

CHARACTERISTICS

The conditions with which the dishes are treated, in addition to various technical characteristics, are the key to protecting the consumer from the transmission of pathogens derived from a poor treatment of the crockery .

Fundamentally these technical characteristics are summarized in:

- Safe supply of clean water during washing and rinsing
- Correct dosage of chemical components (detergent and rinse aid)
- A dosing system that guarantees the exact application concentrations of the products and their safe mixing as well as availability in the dishes, especially in short contact times
- During the respective treatment phases, the minimum necessary temperature on the dishes must be maintained safely and constantly.

In order to guarantee what is described above it is necessary:

- Washing process using detergents with a pH of 14 reaching a surface temperature on the dishes of at least 60 ° C.
- Rinse process with rinse aid, reaching a minimum surface temperature on the dishes from 60 ° C to 70 ° C; which is achieved with a leaving water temperature of the rinse branches between 65 ° C and 82 ° C in the front opening and hood dishwashers.
- The minimum duration of both processes must be at least 90 seconds.



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The chemical products used in the washing process must meet the following requirements:

Detergent:

- Highly alkaline, based on potassium hydroxide, disodium metasilicate and sodium hypochlorite.
- Minimum concentration of 2.5 g / l.
- pH 14 in the application solution.

Rinse aid:

- Rinse aid based on:
 - o Alcohol alkoxyate
 - o Sodium cumolsulfonate
 - o 2-phosphonobutane 1,2,4, tricarboxylic acid
 - o Ethoxylated fatty alcohols.
 - o Isotridecanol
- Minimum concentration of 0.1 g / l
- In concentrate ~ pH 2

CONCLUSIONS

COVID-19 is a virus that, unlike other more common strains that cause mild infections, can cause fatal respiratory infections.

As of today, we cannot assure that the new COVID-19 is more resistant to disinfecting products and processes than the rest of similar viruses, and it is not confirmed that it has a special thermo-resistance of this virus in relation to all other coronaviruses.

Therefore, we assume that coronaviruses are sensitive to temperatures between 60 ° C and 70 ° C, and the excellent effectiveness of alkaline detergents against enveloped viruses has been demonstrated in numerous studies.

This is especially valid for detergents with a high grease transport capacity and for very hot cleaning solutions at temperatures of 60 ° C and above.

Accordingly, ASBER dishwashers and hoods are fully capable of inactivating coronaviruses, provided that they are used for their intended purpose, function properly, and undergo manufacturer-specified maintenance and repair operations.