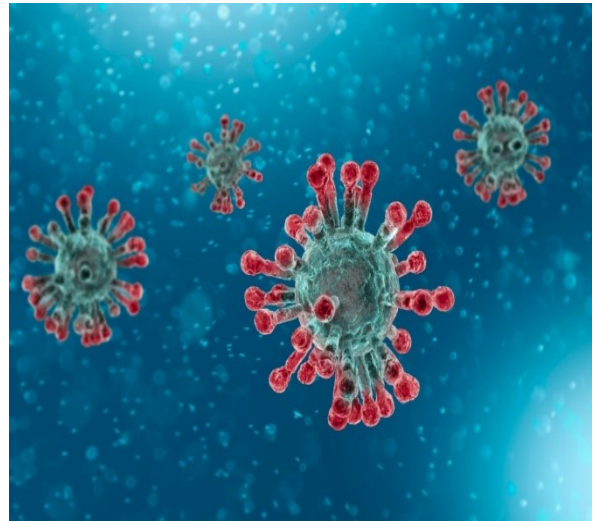


The global pandemic of the SARS-CoV-2 virus forces all sectors of activity to take extreme precautions and hygiene in their facilities to avoid contagion and protect their employees.

Transmission of the virus occurs mainly through a spray effect produced by coughing or sneezing. The particles produced can be deposited on all types of surfaces that, when touched, can transmit the virus. The data available so far suggests that the virus is viable, and therefore infectious, for periods ranging from hours to days, in metal, wood, glass or plastic (Kampf et al, 2020; van Doremalen et al, 2020). Therefore, it is essential to maintain all surfaces in a perfect hygienic state through disinfection in addition to the usual cleaning procedures. Although disinfection against bacteria is a common practice in wineries, disinfection against viral agents is not usual so the procedures and products used normally should be reviewed to ensure that they are also effective against viruses.



It is important to clarify that SARS-CoV2 is not transmitted through wine since this medium, due to its alcoholic and polyphenol content, is extremely hostile to the virus, as previously evidenced in the case of the coronavirus responsible for the SARS epidemic -Cov in 2005 (Wolff et al, 2005). However, the winery is a production environment in which certain disinfecting treatments can cause unwanted damage to the characteristics of the wine. Therefore, it is very important to define the appropriate treatment for those elements that are in direct contact with the wine at any time, without prejudice to using more general procedures in other areas of the winery (offices, changing rooms, etc.).

Previous information available on the efficacy of different disinfecting agents on coronaviruses (Rabeneau et al, 2005) suggest that this type of virus does not present special resistance against the action of different types of disinfectants. An updated lists of authorized disinfectants to eliminate different types of viruses according to European regulation EN-14476 has been published. (Chemical antiseptics and disinfectants. Quantitative suspension test for the evaluation of viricidal activity in medicine) that can be consulted on the pages of some relevant organizations (Ministry of Health of Spain (1); Agency of Protection of the Environment of the USA (2)).

The preferred disinfection treatments to eliminate the virus are those that directly affect its lipid cover, based on the use of surfactants (detergents) and chelating agents (when using hard water). Also, solutions using quaternary ammonium as the active ingredient are also effective against coronavirus (Saknimit et al, 1988). These are the first choice for disinfestation when available.

Treatments with peracetic acid (mixtures of hydrogen peroxide and acetic acid) are also effective in destroying the virus coat and are widely used in the food industry for their low toxicity (Becker et al, 2017). Disinfecting treatments with ozone or high intensity UV-C light (220-280 nm) can be equally effective in eliminating the virus (Darnell et al, 2006) but require specific instrumentation that might be difficult to implement in the cellar.

Treatments based on caustic products are not especially effective (Pagat et al, 2007). Also, there is no evidence of effectiveness in disinfectants based on acidified sulfite solutions.

The commonly used chlorine treatments (bleach) cannot be used in production areas due to their ability to generate chlorophenol and chloroanisole. In these areas, it is recommended instead to use 70% hydro-alcoholic solutions that have been fully effective (Kampf et al, 2020).

To improve the efficiency of the process it is important that the surfaces are as clean of dust as possible, in order to maximize the effect of the disinfectant. The recommended protocol is, therefore, initial cleaning with soap and water, followed by disinfection with hydroalcoholic or quaternary ammonium solution. Once the disinfectant solution has been applied, you must let it act for 30 to 60 seconds and remove it with a disposable paper towel.

It is advisable to have a checklist of the different elements of the winery environment as exhaustively as possible in order to appropriately define which cleaning procedure is most appropriate in each case, including, in addition to the machinery and control systems, all the elements of furniture, office supplies, tools and instruments of the environment to ensure that it is used in the most appropriate procedure in each case

It is very important that the cleaning staff have suitable protective equipment such as gloves, eye protection and / or barrier protection to prevent accidental eye contact. The use of soap and water or hydro-alcoholic gels as a first protection measure is essential and should be used before equipping and removing the protection elements. Obviously, in the case of disinfecting the work environment of an employee with suspected coronavirus infection, precautions must be extremed.

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LINKS

- (1) https://www.mscbs.gob.es/profesionales/saludPublica/ccayes/alertasActual/nCov-China/documentos/Listado_virucidas.pdf
- (2) <https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>

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