



Ministero

per i beni e le attività culturali e

per il turismo

OPIFICIO DELLE PIETRE DURE

Firenze.

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***Subject:* Containment measures for the prevention of coronavirus infection. Verification of the compatibility of sanitizing environments with the requirements of Protection and Conservation of Cultural Heritage.**

Following a request received by the OPD on the date 24 April 2020 from the DG-ER – General Directorate for Education and Research – concerning the subject above, the subsequent communication is the result of the consultation of scientific experts and technicians of the OPD; it also takes into account the notice n. 24 of the General Directorate of National Archives of 23 April 2020 and informative material on this subject available in the market of the restoration field.

It is necessary to underline that the following is only a guideline to correctly direct sanitization operations in rooms or environments, from a conservation point of view, intended for museums and laboratories in which there are works of art. Therefore, we do not claim to deal with the subject in an exhaustive manner, especially with regard to the safety of employees and people, an issue which, in accordance with general regulations, is instead a prerogative of each Employer assisted by the Prevention and Protection Service Manager of each institute who, in agreement with the competent doctor and after an eventual consultation with specialists, has to evaluate the measures to be taken, also in relation to the different situations and problems of the individual sites.

From a scientific point of view, the issue is complex, as the data available in literature are related to studies previously conducted on other coronaviruses, such as the so-called SARS, whilst there are no complete and exhaustive data on the features of the current SARS-CoV-2 virus (COVID-19).

In order to correctly direct the activity of the professional figures responsible for these operations and avoid the possible risks listed in the annexed documents of the request letter, it is important to talk about the fundamental aspect related to the persistence of the coronavirus on the most common surfaces found in museums, laboratories and places of culture. From a review of existing literature and of the notice of the Ministry of Health n. 5443 of 22/02/2020, the lifespan of the virus ranges from 1 day upon latex gloves to 9 days for plastic surfaces (metals 5, wood 4, paper 5, glass 4/5, ceramics 5, disposable overalls 2); if an environment has therefore been closed to the public and employees for

more than 9 days, it would not be necessary to intervene with sanitization before reopening, as the quarantine period necessary for the hazard reduction is already over: an accurate cleaning with disinfectant material is therefore sufficient. Also, according to the more recent scientific literature available online, the temporal persistence of the virus would seem to be drastically reduced; having however no competence in the matter, we cannot express any opinion on this aspect. It is therefore considered appropriate to follow, in this evaluation, what is stated in the above mentioned notice of the Ministry of Health.

It must be clearly stated that no one is allowed to apply any substance upon works of art, except from a cultural heritage restorer qualified according to the laws in force, and that the persistence of the coronavirus upon surfaces of artworks is as pointed out above. For artefacts potentially subject to contamination, that have for example been moved (books on loan in libraries, works of art on loan at exhibitions or under restoration, and so on), an isolation period in a segregated environment for a number of days necessary for the quarantine of their category of material will be sufficient, i.e. generally between 5 to 9 days. Therefore, an isolation for the necessary period can eliminate any risk. As it is not yet possible to assess the effects of possible mutations of the virus, it is appropriate to increase the periods indicated above, by a few days. The possible contribution towards the virus decay rate related to the increase in environmental temperature is not considered to be significant, as this is an uncertain fact, and however above the thresholds normally considered acceptable for the conservation of cultural heritage.

The main sanitisation issue for museums, laboratories and cultural sites therefore consists essentially in an accurate cleaning of their rooms and floors, particularly upon contact surfaces (handles, handrails, doors, buttons, button panels, etc.) and in restrooms. For this purpose, it should be noted that the notice n. 22 of the Ministry of Health specifies that there is evidence of deactivation of the virus through sanitization procedures that involve the use of common disinfectants such as sodium hypochlorite (0.1 - 0.5 %) or ethanol (62 - 71 %) for an appropriate contact time. Amongst alcohols, a mixture of ethanol and isopropanol proved to be the most efficient; however, the difference is not highly significant. Decrees issued by some Regions also indicate the use of sodium hypochlorite, which we believe can be applied only upon floors (not wooden floors) that are not of cultural interest, and 70% alcohol solutions. Quaternary ammonium salts can also be used, due to their bactericidal power on enveloped viruses such as Coronavirus, in a nebulized 80/20 alcohol/water solution. These salts have been positively tested on various surfaces; possible negative interactions can come from the carrying water and alcohol solution; negative interactions of the salts are known only on copper compounds. In this case it is advisable to protect the artistic artefacts with non-woven textile and to disconnect and deactivate any electrical contact present in the environment.

The “Protocollo condiviso di regolamentazione delle misure per il contrasto e il contenimento della diffusione del virus Covid-19 negli ambienti di lavoro” (*Shared protocol for the regulation of measures to contrast and contain the diffusion of the Covid-19 virus in workplaces*), issued by INAIL and signed by the Government and social partners, gives only general indications for daily cleaning and periodic sanitization of workplaces. In environments that do not contain cultural heritage artefacts, the methods indicated for this purpose, in the recent notice n. 24 of the General Directorate of national Archives of 23 April 2020 entitled “Linee guida per la gestione delle operazioni di sanificazione e disinfezione degli ambienti di archivi e biblioteche. Misure di contenimento per il rischio da contagio da Coronavirus (COVID-19)” (*Guidelines for the management of sanitation and disinfection operations in archives and libraries. Containing measures for the risk of infection from Coronavirus COVID-19*), may also be used, based on the nebulisation of hydrogen peroxide and silver salts, with all the necessary warnings specified therein.

In the case of environments containing works of art, extreme care must be taken, avoiding, for example, the use of sodium hypochlorite for floors, due to its strong oxidising action and being potentially dangerous, as for all derivatives of chlorine, in the presence of bronze, brass and copper artworks, preferring the use of 70% alcohol solutions (which can be obtained with products already on the market, or with a mixture of 400 ml of 90% denatured alcohol and 100 ml of water). When sanitizing with these products it is recommended to protect, wherever possible, the works of art with thick sheets of non-woven textile to avoid any kind of deposition (splashes, vapour condensation). Of great importance to avoid any possible interaction between the product used and the works of art is the existence or not of ventilation and air exchange systems, able to avoid the formation of potentially harmful vapours. The ventilation systems may however also be a source of risk: it will therefore be necessary to provide for a frequent sanitization of the fan coil filters and, in the case of air conditioning systems, of the general filters of the incoming and outgoing air streams.

According to the most correct safety methodology in force, in addition to reducing the risk deriving from these measures and the use of these materials, the residual risk will have to be contrasted using the most appropriate procedures and behaviour standards: separation of the entrance and exit of the public, measurement of body temperature from a distance, avoiding any form of assembly in passage environments or longer term stay rooms (bathrooms, corridors, dining rooms, etc.), use of personal protective equipment (masks and disposable latex gloves). It is important to remember that the greatest source of danger is certainly the contact between people and not between people and inanimate objects.

Remaining at your disposal for any further explanation or information, I take this opportunity to send you my best regards.

The Superintendent

Dr. Marco Ciatti

Digital signature of Marco Ciatti, OPD, Florence, 29 April 2020, 10:11.29 a.m.