Always maintain a minimum distance of 1.50m from any other person. Wearing a mask is mandatory in public transportation and recommended when moving inside the shop or the workshop when several persons are present.
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ANY TYPE OF DIATONIC OR CHROMATIC HARMONICA.
IMPORTANT REMINDER: This disinfection recommendation guidance must only be followed if you believe you have been in contact with the virus. We recommend, however, that you pay special attention to the different lacquers and parts of the instrument, and ideally contact your manufacturer.

When trying an instrument in a store or workshop, should the musician washes / disinfects their hands correctly, wears a face mask and washes / disinfects their hands once again after trying the instrument, the risks of virus transmission between the musician and the instrument will significantly be reduced.

These recommendations are based on the current knowledge and are provided for the time needed to manage the COVID-19 pandemic.

1/ PREAMBLE

Following are the situations when the instrument / accessory could be contaminated (these cases depend on whether you are a musician or work in a workshop or a music store):

- Purchase, rental
- Repair or maintenance
- Exhibition / trade show
- Bench trial in a workshop or a shop
- Loan, class, rehearsal or live performance
- Transportation
- Using / playing the instrument without prior hand washing / disinfecting
- If someone touches it or gets close to it (<2m and coughs or talks)

In any other case, disinfection is not necessary. Regular cleaning and maintenance of the instrument and its accessories remain the good practice, whether the virus is present or not.

Good practice is common sense

- Prior to any disinfection, wash / disinfect your hands and clean every part of the instrument and accessories with a disinfected dry cloth1;
- Do not use any paper-based material such as paper towels which may scratch the lacquers and leave bits of lint on the surfaces
- If possible, quarantine the instrument and its accessories, for it will significantly help reduce the virus levels. The virus survival on the different surfaces depends on multiple parameters such as material, texture, humidity, presence of proteins and bio film. Preliminary data give a more accurate evaluation of the necessary quarantine duration according to the material. Please read Section 4 for further information about the quarantine.
- Before applying any of the products listed below on the entire instrument and its accessories, please try on a small part of it
- When multiple persons are playing or using an instrument and its accessories, encourage them to use at least a surgical face mask and wash / disinfect their hands.

(1): Do not use the cloth multiple times without either disinfecting it with an effective product, or washing it at 60°C or higher for over 30 minutes. Otherwise, throw it away in an airtight container.
2/ DISINFECTANT PRODUCTS AND PROCESSES

The following products allow for disinfection which will significantly reduce the virus levels.
You will find in the second part of this document a list of products suited for the different parts of your instrument:

• Chlorate derivatives: bleach > 0.5%. The value represents the sodium hypochlorite concentration. It’s usually available with a 2.6% concentration – or a 5 times maximum dilution – which means one dose of the 2.6% product for 4 doses of cold water.

• 70% Alcohol. Alcohol is a well-known virucidal agent. Here’s a list of recommended alcohols:
  - Ethanol (the most common)
  - Isopropyl alcohol
  - Their concentration must be at least 70% (drugstores).

• NF EN 14476 standard compliant products (Sanytol®, Sani-Cloth®), in which hydrogen peroxide or quaternary ammoniums (didecyl dimethylammonium chloride) are the most common active agents; please strictly follow the instructions of use (e.g. contact time). These are often alcohol-free solutions.

• Soap. Certain soaps have proven effectiveness in deactivating the virus but only after 3 minutes of use. These are:
  - KLINTE DE® soap, diluted 10 times
  - Little Marcel Green Soap®, effective when diluted up to 10 times.

However, this effectiveness is not guaranteed for all soaps and application modes. Other products should therefore be preferred whenever possible. Most notably, soap cannot be applied on an instrument with a friction that is equivalent to that of the hands, nor with the same amount of water. It’s probably not as efficient when only “applied” and wiped up.

⚠️ Non-Validated Products

The following products have been tested against active SARS-CoV-2 but have not demonstrated sufficient efficiency as a disinfectant.

• 3% hydrogen peroxide (or 10 volumes).
Disinfection Processes

We can see, especially on the Internet, that UV- or ozone-based processes are used for disinfecting music instruments and other products. Extreme caution is required when using these methods to potential health risks, if they have not been certified by independent, scientific and professional organizations.

⚠️ Ultraviolet treatments can be efficient in certain contexts but they must be handled with extreme caution because they may be harmful to the skin and eyes and may form ozone, which is toxic. Moreover, these processes do not guarantee full efficiency, in particular when specific parts cannot be lit. It is important to take into account the UV-C light wave length (220 to 280nm), its power, distance and exposure duration. These treatments may also damage the lacquers, especially on string quartet instruments. In any case, the provider must present evidence of the effectiveness of such approach (in particular the time required to deactivate SARS-CoV-2).

⚠️ Ozone in gas phase may deactivate viruses, but at high concentrations only, which will be harmful to human beings. Its use requires very specific knowledge and skills. It is not particularly recommended to this day.

### 3/ CLOTHS AND CLEANSING WIPES

- **Microfiber cloths** that won’t scratch the lacquers can be reused after being disinfected or washed (> 30 minutes, > 60°C, with a detergent product).
- **Non-impregnated polishing cloths or wipes** can be reused after disinfection or wash (> 30 minutes, > 60°C, with a detergent product).
- **Pre-impregnated wipes**, please ensure that these are NF EN 14476 standard compliant, that they are not abrasive and follow their instructions of use. Please pay attention to the string quartet instrument lacquers and check compatibility, in particular when using alcohol products.
- Avoid any paper towels on the lacquers, but preferably use cotton cloths instead.

*(2) NF EN 14476 standard means that the product inactivates 99.99% viruses (per 10,000 division) in the protocol provided by the manufacturer.*

### 4/ QUARANTINE

Quarantine duration has not been clearly defined yet, because it depends on multiple factors (material of the surface to be decontaminated, room ventilation, humidity, temperature, and more).

Several results have emerged. Most notably, the common 3-day duration is in no way the generic rule. The instrument or accessory material must be taken into account. The list below describes the materials for which the viral load is sufficiently reduced. These results follow from trials carried out by a French Institute using SARS-CoV-2, for the purposes of the PIC Project (Protocoles pour les Instruments face au Coronavirus / Procedures against Coronavirus for Music Instruments). This is the second part of the PIC Project, the first one being the writing of these guidebooks.
**GENERAL PRINCIPLES**

Materials on which the virus has been sufficiently deactivated (disinfection) after 3 days

- Silver
- Nickel
- Nickel Silver
- Gold Plating
- ABS Plastic
- Polyurethane Varnish
- Nitrocellulose Varnish

Materials on which the virus is still active in significant amounts after 3 days,
(quarantine during at least 6 days as a precaution)

- Ebonite
- Brass
- Oil-Based Varnish
- Alcohol-Based Varnish
- Epoxy Resin-Based Varnish

5/ FACE MASK USE

- Wearing a face mask is mandatory when being near other persons.
- Strictly follow the protocol to wear your mask:

How do I put my surgical face mask on?

1. Wash your hands
2. Flip your mask to the right side (stiff edge is the top, white side towards your face)
3. Tie the top ties of your face mask
4. Pinch the stiff edge to adjust it to the shape of your nose
5. Tie the bottom ties of your face mask
6. To remove it, only touch the ties
7. Throw the face mask away and wash your hands

© French Ministry of Health
TYPES OF HARMONICAS

DESCRIPTION OF THE DIATONIC HARMONICA

Top Cover | Plate | Comb | Plate | Bottom Cover
---|---|---|---|---

Reeds

DESCRIPTION OF THE CHROMATIC HARMONICA

Top Cover | Slider with shutter | Slider with button
---|---|---

Comb | Plates and Blades

Bottom Cover | Mouthpiece
---|---
1/ COMB
Comb material and coating are the main elements that will determine which disinfectant must be used, because they are generally the most delicate parts of the instrument. The comb can be made of wood, plastic, metal, and more. It can also be varnished.

Many harmonica teachers recommend using alcohol to disinfect the instrument after each contagious disease episode (sore throat, influenza...). Repeated and prolonged disinfection must be avoided in order to protect the instrument. Do not soak it in alcohol for more than a few seconds, for instance. Warning: some materials (such as Bio-based PLA) can be sensitive to heat-up. You can also use the mouthpiece cleansing product featured in the Hohner cleaning kit (not tested for COVID-19 virus).

Process
1. Wash / disinfect your hands.
2. Disassemble the instrument (it usually features a cap screw but other systems are used, such as the Yonberg’s).
3. Use a swab or a pipe cleaner that was previously impregnated with 70% or higher alcohol to clean each of the comb holes. Clean the rest of the comb with a soft cloth moistened with alcohol.
4. Do not soak the cleansing cloth / swab / pipe cleaner with the product.
5. Do no reuse the cloth / swab / pipe cleaner after disinfection (sanitize, wash or throw it away).

2/ PLATES
Plates are generally made of phosphorus steel, but manufacturers may use stainless steel on some models. Please read the manufacturer’s recommendations for further information.

The free reeds are usually riveted to the plates. Some luthiers or harmonicists choose to varnish the rivets in order to increase the waterproofing, for specific adjustments or to remove any unwanted noise.

Prefer alcohol to disinfect the instrument.

The difficulty is to clean it without changing the settings. The distance between the reeds and the plates varies in order to facilitate certain playing techniques such as overdraws and overblows. Changing the reed position would alter the setting and therefore confuse the musician.

Process
1. Wash / disinfect your hands.
2. Disassemble the instrument.
3. Soak the plates for a few seconds in 70% or higher alcohol.
4. Let dry before reassembling the instrument.
5. If needed, varnish the rivets again if the coating was dissolved in the alcohol.
The disinfection technique will vary according to the cover material. Each model has its own characteristic. Please contact the manufacturer to receive further information about the cover material.

These elements are rigid. Please proceed the same way as for the comb.

Process
1. Wash / disinfect your hands.
2. Disassemble the instrument.
3. Use a swab or a pipe cleaner that was previously impregnated with 70% or higher alcohol to clean the cover angles. Clean all accessible and flat parts of the covers with a soft cloth moistened with alcohol.
4. Do not soak the cloth / swab / pipe cleaner with the product.
5. Lubricate the slide before reassembling.
6. Do no reuse the cloth / swab / pipe cleaner after disinfection (sanitize, wash or throw it away).

<table>
<thead>
<tr>
<th>Products / Disinfection Processes</th>
<th>Metallic parts</th>
<th>Oiled wooden parts</th>
<th>Varnished wooden parts in contact with mouth</th>
<th>Reeds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorate derivatives coming from bleach &gt; 0.5 %</td>
<td>To be tested</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>70%+ Alcohol</td>
<td>To be tested</td>
<td>To be tested</td>
<td>To be tested</td>
<td>No</td>
</tr>
<tr>
<td>95%+ Alcohol, Please follow the protocol</td>
<td>Yes</td>
<td>To be tested</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>14476 standard compliant products (Sanytol®, Sani-Cloth®, etc.)</td>
<td>To be tested</td>
<td>To be tested</td>
<td>To be tested</td>
<td>To be tested</td>
</tr>
<tr>
<td>UV-C</td>
<td>To be tested, only when disassembled</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** Denaturated alcohol might leave deposits (by-produced by evaporation). A non-denaturated 95° industrial alcohol should be preferred.
4/ Sliders and Springs

If these are metal parts, they can be soaked in alcohol, and even scrubbed with a soft cloth / swab / pipe cleaner.

It would be preferable to clean the slider mechanism without taking the plates apart to avoid the comb from twisting when the mouthpiece is not present.

When removing the slider components, be careful not to loose the buffers. Then clean all the parts with the mouthpiece cleansing product and cloth. When the operation is completed, apply a very thin layer of lubricating oil on both sides of the slider. Important: Use this lubricating oil sparingly and make sure it doesn't leach into the instrument as it would then glue the valves and make the instrument impossible to play.

Process
1. Wash / disinfect your hands.
2. Disassemble the instrument.
3. Soak the different parts of the slider mechanism in 70% or higher alcohol, if these parts are metal, or use a soft cloth / swab / pipe cleaner moistened with alcohol.
4. Do no reuse the cloth / swab / pipe cleaner after disinfection (sanitize, wash or throw it away).
MICROPHONES
When using microphones to amplify harmonicas, windscreens which can be disinfected after each use are to be preferred.
The microphone must be disconnected and the phantom power disabled.
Once again, always test the selected compatible product on a small part of the equipment in order to check the result before applying it to the whole equipment.

Process
1. Wash / disinfect your hands.
2. Spray the product directly onto the whole surface of the microphone. Caution: do not spray onto ribbon or condenser studio microphones.
   In this case, moisten a cloth with the disinfecting product and rub the whole surface of the microphone.
3. Wipe off any excess product.
4. Place the microphone in its pouch, carrying bag or case and make sure it’s not humid anymore (which could cause condensation on the diaphragm once placed in its closed pouch).

<table>
<thead>
<tr>
<th>Products / Disinfection Processes</th>
<th>Mic Diaphragm Dynamic</th>
<th>Mic Diaphragm Condenser</th>
<th>Microphone Body</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorate derivatives coming from bleach &gt; 0.5 %</td>
<td>To be tested</td>
<td>To be tested</td>
<td>To be tested</td>
</tr>
<tr>
<td>70%+ Alcohol</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>14476 standard compliant products (Sanytol®, Sani-Cloth®, etc.)</td>
<td>Yes, Some leave greasy residue</td>
<td>Yes, Some leave greasy residue</td>
<td>Yes, Some leave greasy residue</td>
</tr>
<tr>
<td>UV-C</td>
<td></td>
<td></td>
<td>To be tested</td>
</tr>
</tbody>
</table>

HARMONICA HOLDERS
Please check harmonica compatibility according to the material. Holders are usually made of metal and can be cleaned using 70% or higher alcohol.

SCORES
Except a 6 to 9 day quarantine, there is currently no known solution to disinfect music scores. We recommend covering the pages with plastic sleeves as these can be cleaned with alcohol.

MUSIC STANDS
Music stands are usually made of metal. Therefore, they can be cleaned with 70% alcohol.
IN COLLABORATION WITH

ITEMM Romain VIALA
CSFI Jacques CARBONEAUX
Sandrine BALLE (Harmonica manufacturer)
Graphic Design Stéphane NEIDHARDT - Angéline RELLO (BUFFET-CRAMPON)