

COVID-19 GOOD PRACTICE GUIDE

for music stores / instrument making workshops



BOWED STRING INSTRUMENTS



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

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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ALL KINDS OF BOWED STRING INSTRUMENTS

ALL KINDS OF BOWS, ALL KINDS OF ACCESSORIES FOR BOWED STRINGS.

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GENERAL PRINCIPLES

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.



GENERAL PRINCIPLES

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 (didecyldimethylammonium 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).



GENERAL PRINCIPLES

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 compliant², 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

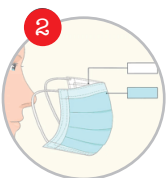
5/ FACE MASK USE

- 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?



Wash your hands



Flip your mask to the right side (stiff edge is the top, white side towards your face)



Tie the top ties of your face mask



Pinch the stiff edge to adjust it to the shape of your nose



Tie the bottom ties of your face mask



To remove it, only touch the ties



Throw the face mask away and wash your hands

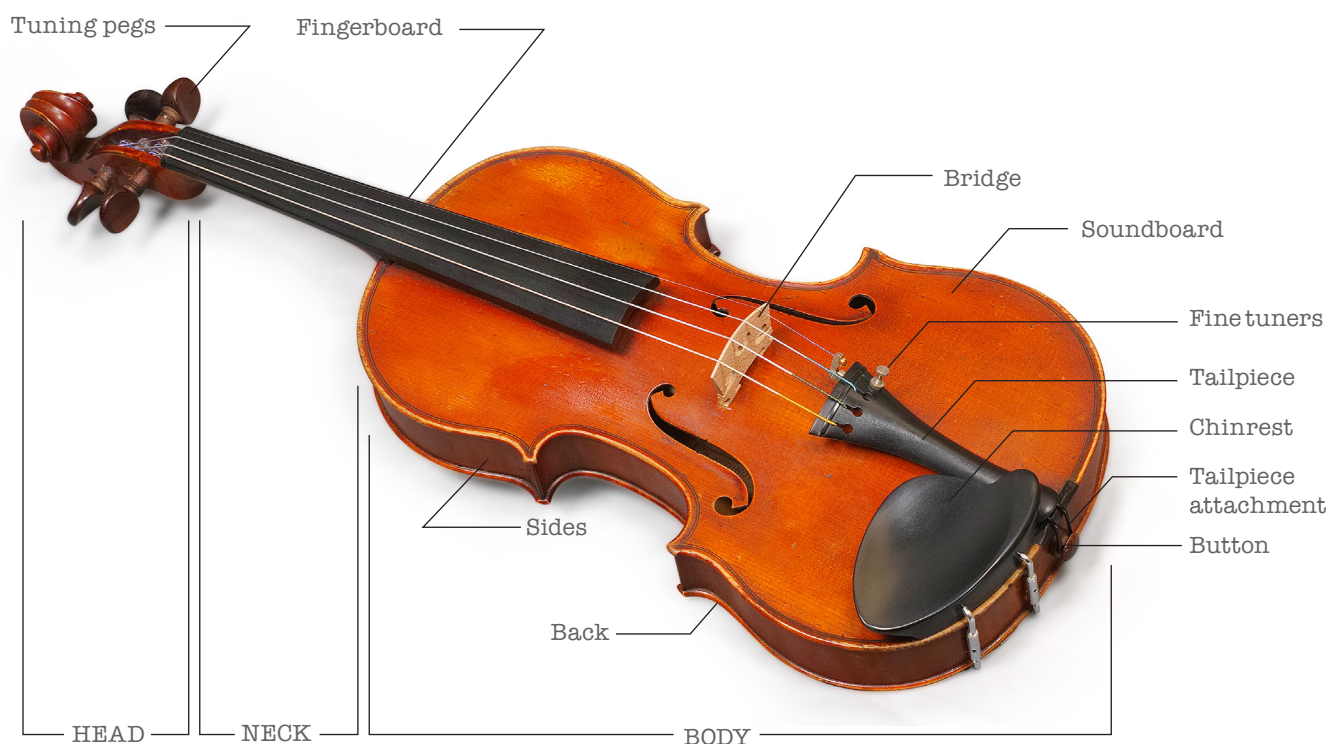
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BOWED STRING INSTRUMENTS

VIOLIN, VIOLA, CELLO, DOUBLE BASS, VIOLA DE GAMBA

VIOLIN FAMILY INSTRUMENTS NOMENCLATURE



1/ BODY AND HEAD

What will define the right disinfectant to use is mainly the varnish that is applied on head and the body. For traditional instruments, these varnishes are based on alcohol (in which resins and gums are integrated, such as shellac, sandarac, elemi, benzoin etc.) or vegetable oil, (in which rosin or other products are integrated). These varnishes are more fragile than modern varnishes, and **alcohol is strictly prohibited**. For some modern composite or electric instruments, modern varnishes can be used, such as polyurethane and nitrocellulose ones..

Again and as a reminder, always test the selected and compatible product on a small part of the instrument in order to see the result, before applying it to the whole instrument.

Procedure

1. Wash / disinfect hands.
2. Perform a pre cleaning of the instrument with a dry, disinfected cloth.
3. For the liquid products to be applied: rub lightly with a disinfected cloth or wipe very slightly soaked in the product. Take care not to soak the product too much.
4. Do not reuse the cloth after disinfection (disinfect, wash or throw it away).



BOWED STRING INSTRUMENTS

VIOLIN, VIOLA, CELLO, DOUBLE BASS, VIOLA DE GAMBA

To remember (see table)

- For traditional alcohol-based varnishes (or non-traditional nitrocellulose varnishes), use a product according to standard EN 14476 without alcohol, after prior cleaning with a dry cloth or soap. But beware of the frailty of these finishes in the event of repeated use of such a treatment. Contact your manufacturer / luthier. Also, be careful with the amount of water on alcohol varnishes, which can blanch them.
- For oiled finishes, whatever the treatment inflicted, this will have the effect of creating a damaging abrasion in the long term. Prefer wiping with a dry and disinfected cloth and quarantine. Contact your manufacturer / luthier.
- For polyurethane, UV-based and polyester varnishes, biocidal or alcoholic surface cleaners > 70° seem to be the most suitable ones, even in the event of frequent use. These varnishes are very resistant and withstand repeated disinfection very well. These are not the finishes that can be found on traditional acoustic instruments.

Disinfectant product / process	Head / body			
	Polyurethane / polyester / UV based varnish	Nitrocellulose based varnish	Alcohol based varnish	Oil varnish
Bleach > 0.5 %	yes	yes	yes, caution, may blanch	yes, caution, may blanch
Alcohol > 70°	yes	no	no	no
EN 14476 products (Sanytol®, Sani-Cloth®, etc.)	yes	yes, without alcohol	yes, without alcohol	yes, without alcohol
UV-C	to be tested		no	

2/ NECK

The neck is not varnished, it is oiled, with a primer and polished. For the neck, prefer alcohol if it is not varnished. Beware of the varnish present on the heel and on the bottom of the head.

Procedure

1. Wash / disinfect hands.
2. Perform a pre cleaning of the instrument with a dry, disinfected cloth.
3. For the liquid products to be applied: rub lightly with a disinfected cloth or wipe very slightly soaked in the product. Take care not to soak the product too much.
4. Do not reuse the cloth after disinfection (disinfect, wash or throw it away).



BOWED STRING INSTRUMENTS

VIOLIN, VIOLA, CELLO, DOUBLE BASS, VIOLA DE GAMBA

3/ FINGERBOARD

For the fingerboard clean and disinfect after removing the strings.

Procedure

1. Wash / disinfect hands.
2. Perform a pre cleaning of the instrument with a dry, disinfected cloth.
3. For the liquid products to be applied: rub lightly with a disinfected cloth or wipe very slightly soaked in the product. Take care not to soak the product too much.
4. Do not reuse the cloth after disinfection (disinfect, wash or throw it away).

Dinfectant product / process	Oiled / polished fingerboard	Alcohol based varnish	Nitrocellulose based varnished fingerboard
Bleach > 0.5 %	yes	yes	no
Alcohol > 70°	yes	yes	no
EN 14476 products (Sanytol®, Sani-Cloth®, etc.)	yes	yes	yes
UV-C	no, except if removed from the instrument	to be tested	

4/ FITTINGS

- For all metal parts, use bleach > 0.5%, Alcohol > 70° or products according to standard EN 14476 (Sanytol®, Sani-Cloth®, Cleanisept®). Be careful not to spill it on the varnished wooden parts if they are incompatible.
- For varnished wooden parts, see previous paragraph.

Procedure

1. Wash / disinfect hands.
2. Perform a pre cleaning of the instrument with a dry, disinfected cloth.
3. For the liquid products to be applied: rub lightly with a disinfected cloth or wipe very slightly soaked in the product. Take care not to soak the product too much.
4. Do not reuse the cloth after disinfection (disinfect, wash or throw it away).



BOWED STRING INSTRUMENTS

VIOLIN, VIOLA, CELLO, DOUBLE BASS, VIOLA DE GAMBA

- Tailpiece / tailpiece attachment / button

The tailpieces can be made of different materials: wood, plastic, metal or composite, refer to the table below. For the violin and viola, the button is made of wood, that has to be cleaned with a cloth slightly moistened with alcohol. Be careful not to touch the sides. For the cello and double bass, the button is replaced by a sliding system with a spike. The spike can be cleaned with 70° alcohol. Again, be careful not to touch the sides.

The tailpiece attachments can be made of different materials: nylon, titanium or gut. Nylon or titanium can be cleaned with alcohol. Gut ropes are to be regarded as gut strings and cleaned with a 70° hydroalcoholic solution / gel.

Dinfectant product / process	Oiled / polished tailpiece	Polyurethane varnished tailpiece	Nitro-cellulose varnish tailpiece	Plastic based tailpiece	Metal tailpiece
Bleach > 0.5 %	yes	yes	no	yes	yes
Alcohol > 70°	yes	yes	no	yes	yes
EN 14476 products (Sanytol®, Sani-Cloth®, etc.)	yes	yes	yes	to be tested	yes
UV-C	to be tested, only if separated from the instrument				

- Tuning pegs

The tuning pegs are mainly made of wood, ebony, rosewood or boxwood. Boxwood is colored and products that discolor it should be avoided. You have to be very careful that pegs are not too moistened so that they do not swell and damage the peg box by cracking it. Liquid solutions should be used sparingly.

For double basses it is metal mechanics. For all metal mechanics, use bleach> 0.5%, Alcohol> 70° or products standard EN 14476 (Sanytol®, Sani-Cloth®, Cleanisept®, etc.), be careful not to spill any on the varnished parts.

Dinfectant product / process	Ebony pegs	Rosewood pegs	Boxwood pegs	Metal tuning machines
Bleach > 0.5 %	yes	yes	no	yes
Alcohol > 70°	yes	yes	no	yes
EN 14476 products (Sanytol®, Sani-Cloth®, etc.)	yes	yes	yes	yes
UV-C	to be tested, only if separated from the instrument			



BOWED STRING INSTRUMENTS

VIOLIN, VIOLA, CELLO, DOUBLE BASS, VIOLA DE GAMBA

• Chinrest

The chinrests can be made from different materials: wood, plastic, metal or composite, refer to the table below.

Dinfectant product / process	Polished ebony chinrest	Colored wood chinrest	Stained wood chinrest	Plastic based chinrest
Bleach > 0.5 %	yes	no	no	to be tested
Alcohol > 70°	yes	yes	no	yes
EN 14476 products (Sanytol®, Sani-Cloth®, etc.)	yes	yes	yes	yes
UV-C	to be tested, only if separated from the instrument			

• Shoulder rests / pads

The shoulder rests / pads can be made from different materials: wood, plastic, and foams with metal feet and a rubber part. Refer to the table below.

Dinfectant product / process	Varnished wood shoulder rest	Plastic based shoulder rest	Foams	Metal feet
Bleach > 0.5 %	to be tested	yes	no	to be tested
Alcohol > 70°	to be tested	yes	yes	yes
EN 14476 products (Sanytol®, Sani-Cloth®, etc.)	yes	yes	yes	yes
UV-C	to be tested, only if separated from the instrument			

• Bridge

The bridge is a piece of wood treated by the manufacturer, in raw solid wood, sometimes lightly rubbed with soap. It can be cleaned with a cloth lightly moistened with 70° alcohol without residue. Beware of the varnished soundboard which could be damaged by contact.

• Mutes

Mutes can be made of wood, plastic, metal or rubber, they can be cleaned with alcohol > 70°. Beware of the varnished soundboard which could be damaged by contact.

• Fine tuners

The fine tuners are made of metal, they can be cleaned with a cloth soaked in alcohol. Beware of the soundboard.



BOWED STRING INSTRUMENTS

VIOLIN, VIOLA, CELLO, DOUBLE BASS, VIOLA DE GAMBA

5/ STRINGS WHATEVER ALLOYS AND MATERIALS

Important note: To date, for stringed instruments, no unanimous disinfectant product or process has been identified. However, it is recommended to follow «exceptionally», in the cases mentioned on the first page of this guide, the following procedures which will greatly reduce the concentration of copies of virus on the strings.

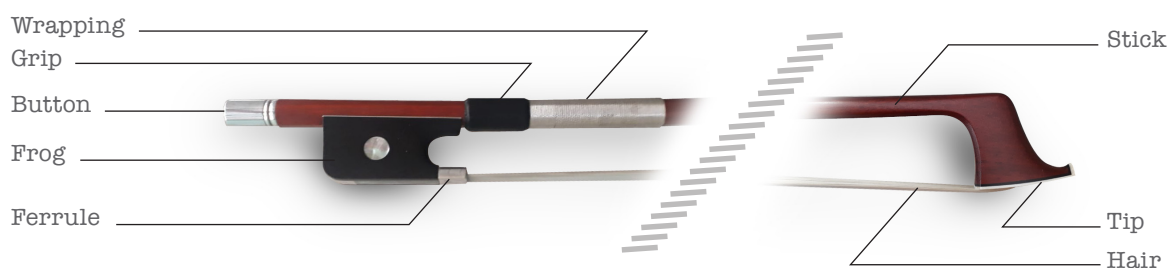
1st recommendation

The strings are a quartet consumable, but are changed much less frequently than on instruments like the guitar. It's more prudent to either quarantine, or change the strings after disinfecting the instrument. If changing strings is not desired, follow the recommendations below.

Procedure

1. Wash / disinfect hands.
 2. Perform a pre cleaning of the instrument with a dry, disinfected cloth.
 3. For the liquid products to be applied: rub lightly with a disinfected cloth or wipe very slightly soaked in the product. Take care not to soak the product too much.
 4. Do not reuse the cloth after disinfection (disinfect, wash or throw it away).
- For unvarnished synthetic strings (nylon or fluorocarbon), use 70° alcohol or EN 14476 standard products (Sanytol®, Sani-Cloth®, Cleanisept®, etc.) with a cloth or wipe slightly soaked.
 - For wrapped strings, avoid any product which will leave lint between the wraps, favor an alcohol product (more than 70°) with a slightly moistened cloth and rapid rubbing with long gestures.
 - For metal alloy strings, use a 70° alcohol product with a slightly soaked very soft cloth.
 - For oiled tubular ropes, it is preferable to use a gel or a hydroalcoholic solution with 70° alcohol.

BOW NOMENCLATURE





BOWS

1/ THE STICK

The stick is generally made of wood, tropical for classic or modern type bows or temperate for older bows. Part of modern sticks are made of carbon fibers in an epoxy matrix. The sticks can be covered with a thin layer of alcohol or oil varnish and polished.

Procedure

1. Wash / disinfect hands.
2. Perform a pre cleaning of the instrument with a dry, disinfected cloth.
3. For the liquid products to be applied: rub lightly with a disinfected cloth or wipe very slightly soaked in the product. Take care not to soak the product too much.
4. Do not reuse the cloth after disinfection (disinfect, wash or throw it away).

Dinfectant product / process	Tropical wood, alcohol-based varnish	Tempered wood, oiled	Carbon fiber reinforced polymer stick
Bleach > 0.5 %	-	yes	yes
Alcohol > 70°	yes, might require a French polishing	yes	yes
EN 14476 products (Sanytol®, Sani-Cloth®, etc.)	yes	yes	yes (without hydrogen peroxide)
UV-C	to be tested on stick without hair		

2/ HAIR

The hair is made of horsehair covered with rosin to ensure friction on the strings. Some modern hair is made of synthetic fibers. Rosin will dissolve quickly in alcohol if applied. For cleaning with alcohol, it must be done completely to prevent the horsehairs from sticking together.

Dinfectant product / process	Horsehair	Synthetic hair
Bleach > 0.5 %	yes	yes
Alcohol > 70°	yes, but removes rosin	
EN 14476 products (Sanytol®, Sani-Cloth®, etc.)	no	yes
UV-C	to be tested	



BOWS

3/ WRAPPING

The wrapping is made up of leather for thumb and silver or gold thread. Leather and metal can be cleaned with alcohol.

Dinfectant product / process	Silver or gold thread	Silver on silk thread	Colored silk thread	Plastic based thread	Thumb leather
Bleach > 0.5 %	to be tested	yes	no	no	no
Alcohol > 70°	yes	yes	yes	yes	yes
EN 14476 products (Sanytol®, Sani-Cloth®, etc.)	yes	yes	yes	yes	no
UV-C	to be tested				

4/ FROG

The frog is made either of wood, ivory, horn, tortoiseshell, inlaid with mother-of-pearl, or pearloid, comprising silver, gold or nickel silver coins. It is fixed by a screw and a button, potentially decorated with mother-of-pearl, wood, metal or pearloid.

Dinfectant product / process	Metal ferrule	Ivory frog	Wooden frog	Tortoise shell frog	Mother of pearl frog	Pearloid	Button
Bleach > 0.5 %	yes	yes	yes	to be tested	yes	no	yes
Alcohol > 70°	yes	yes	yes	to be tested	yes	yes	yes
EN 14476 products (Sanytol®, Sani-Cloth®, etc.)	yes	yes	yes	to be tested	yes	yes	yes
UV-C	to be tested						

5/ TIP

The tip, made of ivory, bone, metal, or plastic can be cleaned with 70° alcohol or 3% (10 vol.) oxygenated water.



ACCESSORIES

AMPLIFIERS

There are generally two types of materials on the amplifier's surface (except handle and front and rear control panels):

- **Tolex (PVC):** favor bleach > 0.5% or Products standard EN 14476 (Sanytol®, Sani-Cloth®, Cleanisept®, etc.) without alcohol.
- **Unvarnished tweed (bare fabric):** favor EN 14476 standard products (Sanytol®, Sani-Cloth®, Cleanisept®, etc.) (to be tested, and avoid fluffy clothes).
- **Varnished tweed:** there are different types of varnish and it is advisable to proceed as for guitars guide. Test on a small surface under the amplifier. For all other amp parts and for the pedals: handles, potentiometers, metal parts: use bleach > 0.5%, or 70° alcohol or EN 14476 standard products (Sanytol®, Sani-Cloth®, Cleanisept®, etc.).

Warning

On front pannels, printing can be deleted depending on the products used.

Procedure

1. Wash / disinfect hands.
2. Perform a pre cleaning of the instrument with a dry, disinfected cloth.
3. For the liquid products to be applied: rub lightly with a disinfected cloth or wipe very slightly soaked in the product. Take care not to soak the product too much.
4. Do not reuse the cloth after disinfection (disinfect, wash or throw it away).

CASES

Ask customers / students to take back their cases to avoid storage and piling up them. Otherwise remove the instrument from the case to reduce the residual humidity, and ventilate it to allow it to dry out. Remember to thoroughly clean / disinfect locks, latches, handles and straps after each use.

SCORES

For the moment there are no solutions to disinfect partitions, apart from quarantine between 6 and 9 days. We suggest covering them with plastic sheets which can be cleaned with alcohol.

MUSIC STANDS

The music stands, mostly made of metal, can be cleaned with 70° alcohol.

ROSIN

It must be used personally, if possible with a glove or washed, disinfected hands.

TUNERS

Plastic electronic tuners can be cleaned with 70° alcohol. The metal tuning forks can be cleaned with alcohol at 70°.



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