Decontamination Procedures for Gilson Pipettes

(defined for Users to Incorporate in SOPs)
in Accordance with ISO8655 Standard

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Contents

This document contains Decontamination Procedures suitable for Pipetman® P, Pipetman® F, Pipetman® Ultra (Single and Multichannel), Pipetman® 8X200, Microman® and Distriman®; it describes how to decontaminate specific component parts of these pipettes.

Only after preliminary checks for radioactivity may the pipette be unpacked and disassembled for subsequent cleaning and decontamination, using disposable gloves.

End-users must decontaminate their pipettes before sending them to their local Gilson Service Center.

Decontamination starts with radioactivity checks using a validated Geiger-Müller counter equipped with probes capable of detecting gamma, beta and X-rays. Cleaning is integrated in the combined chemical and biological Decontamination Procedure.

** To be carried out by suitably qualified people only. End-users should refer to their local distributor for further information.*

Complete servicing consists of three mandatory procedures, to be performed in the following order: decontamination, maintenance [see respective Maintenance Procedure*] and calibration [see respective Adjustment Procedure*].

Damaged parts: contact your local Gilson distributor, who will either supply you with genuine Gilson user-level replacements parts or who will service the pipette for you.

Parts that are found to have been damaged or to have been attacked chemically must be replaced with new ones before reassembling the pipette. Any parts that you remove from the pipette because they suffered chemical or mechanical damage should be decontaminated before being discarded.

Decontamination Room

The decontamination room must be separate from all other rooms in the laboratory. For safety reasons, only authorized personnel should be allowed to enter the decontamination room.

Equipment and Clothing

1) Protective clothing, safety glasses, and disposable gloves.
2) Geiger-Müller counter for detecting beta, gamma and X-rays.
3) Benches, one equipped with a safety hood (without filter).
4) Disposable bench covers and safety bags.
5) A safety box (e.g. a lead box).
6) A separate identifiable plastic box for each pipette.
7) For the manual method, small round brushes for cleaning the insides of the tip-holders.
8) For the alternative immersion method: an ultrasonic bath, lattice boxes and lattice container, plus a thermostatically controlled oven (50 °C to 60 °C).

Solutions for Decontaminating and Cleaning

Gilson recommends the use of a solution containing a mixture of chemicals: a detergent for chemical cleaning and a disinfectant for biological decontamination. For example: Aniospray 41 and Aniosyme P.L.A. from Anios; if you have difficulty in obtaining either of these solutions, you may contact Gilson for a list of distributors.

The solutions mentioned above are compatible with pipette materials and have a wide spectrum of action. Other solutions may be used, however you must check with your supplier that the solution you use does not attack any of the following materials: aluminium, stainless steel, nitrile, ABS (acrylonitrile butadiene styrene), PBT (polybutene terephtalate), PC (polycarbonate), PE (polyethylene), PEI (polyether imide), POM (polyoxymethylene), PPS (polyphenylene sulfide), PTFE (polytetrafluoroethylene), PVDF (polyvinylidene fluoride) and PMP (polymethylpentene).

Precautions

Decontamination implies that for any person in contact with returned pipettes there is a risk of contamination. Therefore, systematic vaccination against hepatitis B of all persons in contact with pipettes is highly recommended. Because other pathogens could be present, great care should be taken when handling pipettes.

Use disposable gloves and any other protective clothing that may be necessary throughout the Decontamination Procedure. Disposable gloves must be worn at all times during the cleaning and decontamination procedures.

Follow the regulations in force in your country for handling and disposing of material that has been exposed to radioactivity. Dispose of any damaged parts and used water or chemical solutions safely, in accordance with the regulations in force in your country.

Record the serial number, which is engraved on the body of the pipette, and identify the boxes used to contain the component parts of the pipette with this serial number.

If your pipettes are used for dispensing radioactive liquids, you must check each pipette separately for radioactivity.

If a pipette is found to be radioactive, put it in a safety box and proceed according to the regulations that apply in your country.

If your pipettes are not used for dispensing radioactive liquids or are found not to be radioactive:

- disassemble the pipettes in accordance with the instructions given on Page 8.
- decontaminate and dry the pipettes in accordance with the instructions given on Page 10.

The complete procedure comprises the following steps:

- checking the outside of the packaging for radioactivity,
- unpacking the pipettes and checking each pipette separately for radioactivity,
- disassembling the pipettes in accordance with the instructions given in the Maintenance Procedure,
- decontaminating and drying; cleaning-up the work area,
- transfering the pipettes in their boxes to the repair room for reassembly.

Checking the Outside of the Package for Radioactivity

1) Place a disposable absorbent cover on the bench, below the safety hood.
2) Upon receipt, put the package containing the pipette(s) on the disposable cover, below the safety hood.
3) Before undoing the package, check it for radioactivity (beta, gamma, and X-rays) using a Geiger-Müller counter
4) If the level of radioactivity exceeds 10 Bq for beta and gamma rays or 25 Bq for X-rays, store the package in a safety box or dispose of it.

Procedures for storage and disposal must be in accordance with the laws and directives (national and international) that apply in your country.

5) We recommend that if the level of radioactivity is less than or equal to 10 Bq for beta and gamma rays or 25 Bq for X-rays, you may unpack the pipette(s). However, if the laws and directives (national and international) that apply in your country prescribe different limits, you should use the lowest limit.

Unpacking the Pipettes and Checking for Radioactivity

1) Place a disposable absorbent cover on the bench, below the safety hood.
2) Unpack the pipette(s) and place them on the disposable cover, below the safety hood. Take out the customer's shipping documents before disposing of the packaging.
3) Check the pipettes individually for radioactivity (beta, gamma, and X-rays) using a Geiger-Müller counter.
4) If the level of radioactivity exceeds 10 Bq for beta and gamma rays or 25 Bq for X-rays store the pipette in a safety box or dispose of it. Procedures for storage and disposal must be in accordance with the laws and directives (national and international) that apply in your country.

5) We recommend that if the level of radioactivity is less than or equal to 10 Bq for beta and gamma rays or 25 Bq for X-rays, you may disassemble the pipette(s). However, if the laws and directives (national and international) that apply in your country prescribe different limits, you should use whichever of the limits are the lower.

The following are brief summaries of disassembly procedures. We strongly recommend you to refer to the appropriate User's guide for more information. Please refer also to the opposite schematics.

It is recommended that you replace the seal and O-ring with new ones. Your local distributor is able to supply you, genuine Gilson spare parts and to advise you about the way to service your pipette.

Pipetman P and Pipetman F

1) Push the tip-ejector button and remove the tip-ejector.
2) Unscrew the connecting nut.
3) Remove the piston assembly from the tip-holder.
4) Remove the seal and the O-ring from the piston.

Pipetman 8x200

1) Unscrew the connecting nut.
2) Undo the 6 screws of the liquid end box.
3) Lift out the nozzle assemblies.
4) Remove the pistons from the nozzles.
5) Wipe the silicon grease off the 8 pistons.

Microman

1) Unscrew the capillary-holder.
2) Remove the clamp assembly and return spring from the capillary-holder.

Distriman

Disassemble the piston retaining assembly.

1) Hold your Distriman in the horizontal position with the red flag in front of you.
2) Hold the filling knob at its lower position using the thumb of on hand.
3) Press lightly on the white locking tab with a screwdriver.
4) Move the filling knob toward the upper position to separate it from the assembly.
5) Pull the assembly out of the Distriman's neck, taking care not to lose the small red flag.

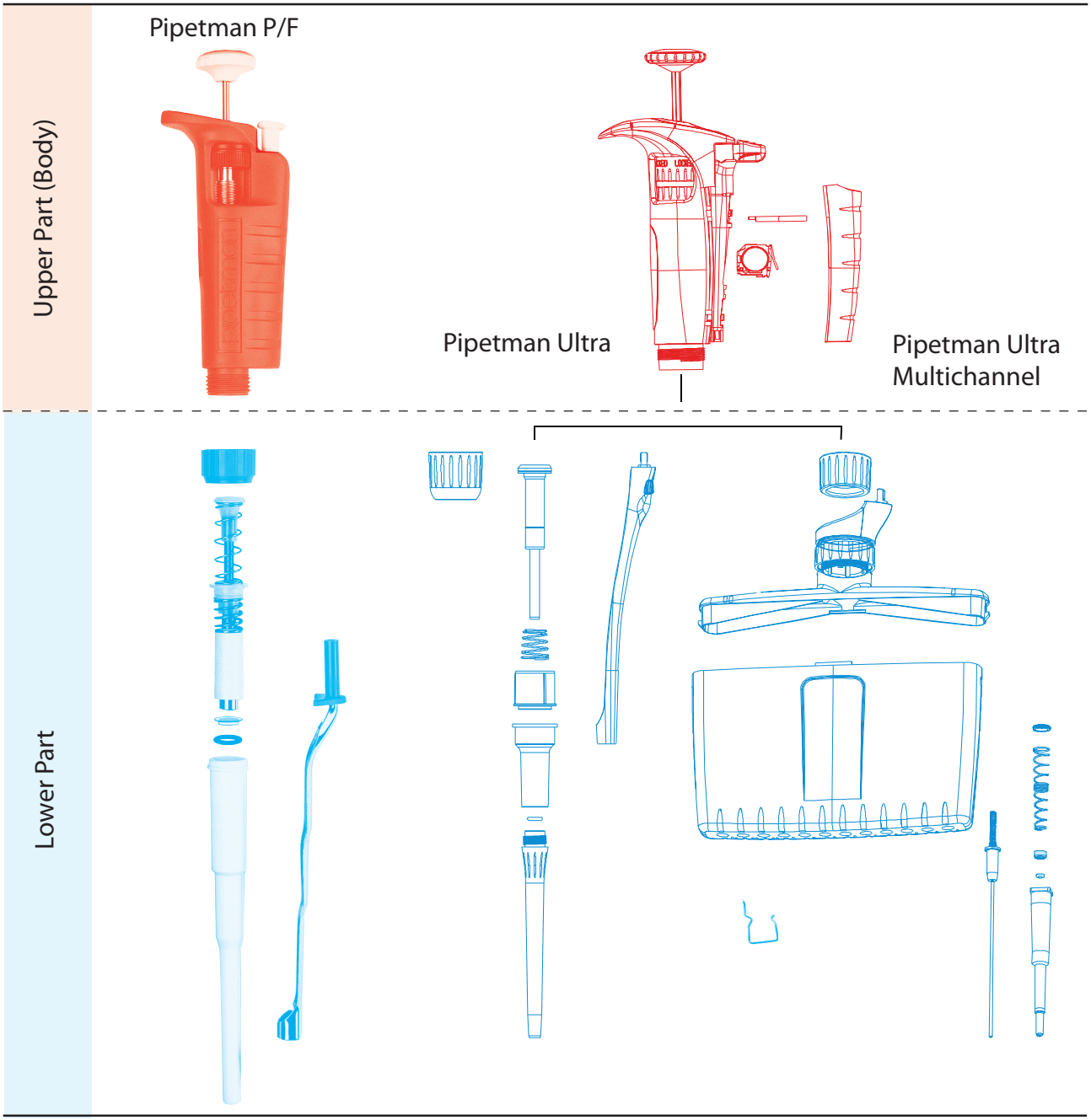
Pipetman Ultra single channel

1) Push the ejection button and remove the tip-ejector by rotating it gently counterclockwise.
2) Unscrew both parts of tip-holder (remove also O-ring and seal).
3) Set the counter to zero.
4) Unscrew the connecting nut.
5) Pull on the spring guide to remove the piston from the body.

Pipetman Ultra Multichannel

1) Push the tip-ejector button and remove the ejector clip by rotating it gently counterclockwise.
2) Set the counter to zero.

3) Unscrew the connecting nut to separate the head from the body.
4) Take the head and remove the two screws and pull the cover-ejector away.
5) Remove the wire clip(s), and push awards (the piston cover) to flip upwards it.
6) Remove the tip holders and pistons.
7) Pull each piston out of each tip holder.



Pipetman Ultra - You may wipe or immerse the following parts:
- tip ejector,
- tip-holder (upper and lower parts),
- piston spring and spring guide,
- connecting nut.

Wipe only, Do not immerse.

Pipetman Ultra Multichannel - You may wipe or immerse the entire head or individually the following parts:
- piston tray,
- cover-ejector,
- tip-holder,
- piston and spring,
- connecting nut,
- clips.

Liquid must not enter the upper part (body) of the pipette.

Two methods are described below: the manual method, which can be used with any part of the pipette, and the immersion method, which is only for the parts that can be removed from the upper part (body) of the pipette. **The body of the pipette must not be immersed in any liquid.**

The manual method is quicker to perform than the immersion method. If an ultrasonic bath is not available you can still immerse the specified parts after cleaning them manually.

When the decontamination process is finished, you should disinfect the empty boxes, the brushes (manual method), the ultrasonic bath (immersion method) and the bench with a 10 % v/v sodium hypochlorite solution; then rinse with water.

Manual Method

1) Wipe the body of the pipette with a tissue soaked in Aniospray 41.
2) Place the body of the pipette in a clean box.
3) Spray the other disassembled pipette parts with Aniospray 41.
4) Clean inside the tip-holder with small (soft plastic) brushes (both parts).
5) Dispose of the O-rings and/or piston seals and any damaged parts (after cleaning them).
6) Place the remaining clean parts from one pipette in a separate box (identified by serial number for cross-referencing with upper part (body).
7) Wipe with a tissue soaked in distilled water, then leave the pipettes to dry (about 15 minutes).

Note: You may find it difficult to clean inside the lower part of the smaller pipettes (e.g. P2 or U2), in which case you should either replace the part with a new one or use an ultrasonic bath (immersion method).

Immersion Method

1) Fill the ultrasonic bath with hot water, then add the Aniosyme P.L.A to a concentration of 0.5 % (refer to the instructions given by Anios).
2) Place the component parts from an individual pipette in a separate lattice-box (identified with that pipette's serial number). Put any damaged parts from the batch of pipettes in another box and wash them before disposing of them.
3) Place all of the lattice boxes in a lattice container.
4) Immerse the lattice container in the ultrasonic bath for 15 minutes.
5) Remove the lattice container (containing the lattice boxes and pipette parts) from the ultrasonic bath.

6) Rinse the lattice container (containing the lattice boxes and pipette parts) thoroughly with warm water (60 °C maximum).
7) Place the component parts (still in their individual lattice-boxes) in an oven for about 30 minutes at 50 °C to 60 °C.
8) Wipe the upper part (body) of each pipette with a tissue soaked with Aniospray 41, then wipe it with a tissue soaked with distilled water.
9) Reunite the upper part (body) of the pipette with its component parts by placing it in the lattice-box having the same serial number.

Damaged Parts:

Contact your Gilson Distributor to obtain genuine Gilson spare parts for any damaged parts. Your distributor will also be able to manage the servicing of your pipettes.

Associated Documents

Documents	Gilson Reference
Pipetman Ultra User's Guide	LT801441
Pipetman P User's Guide	LT801117
Pipetman F User's Guide	LT801118
Pipetman 8X200 User's Guide	LT801236
Pipetman Ultra Multichannel	LT801462
Microman User's Guide	LT801367
Distriman User's Guide	LT801285
Verification Procedure for Accuracy and Precision	LT802292

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