



ECG lead sets and trunk cables

How to clean and disinfect reusable ECG lead sets and trunk cables

About this guide

Today, as the spread of SARS-CoV-2 (Coronavirus) persists throughout the global community, Philips is steadfast in its commitment to support health systems and healthcare professionals who trust us to help them care for their patients. With the shortage of single-use medical products, many healthcare providers have to now rely on reusable supplies. This guide provides information to support proper cleaning and disinfecting of reusable ECG lead sets and trunk cables.

You can find recommendations on the Centers of Disease Control (CDC) and the World Health Organization (WHO) websites on infection control in hospitals for the Coronavirus including disinfection of medical devices.

You might also want to refer to 'List N: Products with Emerging Viral Pathogens AND Human Coronavirus claims for use against SARS-CoV-2,' which lists disinfectant products that meet EPA's criteria for use against SARS-CoV-2, the cause of COVID-19: <https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>

Reusable IntelliVue leadset and trunk cables

For these product numbers:

M1532A, M1533A, M1537A, M1538A, M1557A, M1558A, M1602A, M1604A, M1622A, M1624A, M1626A, M1644A, M1645A, M1647A, M1648A, M1663A, M1665A, M1667A, M1668A, M1669A, M1671A, M1672A, M1673A, M1674A, M1675A, M1678A, M1680A, M1681A, M1682A, M1683A, M1684A, M1685A, M1 949A, M1968A, M1971A, M1973A, M1974A, M1976A, M1978A, M1979A, M1984A, 989803170171, 989803170181, 989803192181, 989803192191, 989803192201, 989803192211, 989803192221, 989803192231, 989803192241, 989803192251, 989803193821

Cleaning and disinfection general points

- Use only recommended cleaning substances and disinfectants listed in this document. Others may cause damage (not covered by warranty), reduce product lifetime or cause safety hazards.
- Keep the cable and accessories free of dust and dirt.
- Clean and disinfect the ECG cable and accessories after each use.
- Never immerse any cable or lead set connectors in any fluid.
- Inspect the ECG cable after cleaning.
- Follow manufacturer's instructions regarding duration of cleaner application.
- Dilute according to the manufacturer's instructions.

Disinfection

Clean the cable and accessories before using one of the approved disinfectants.

Cleaning and disinfecting

Clean and disinfect the ECG cable and accessories before sterilizing. **Use Ethylene Oxide (EtO) gas sterilization only.** Follow all safety precautions regarding aeration after EtO exposure.

Reusable IntelliVue leadset and trunk cables cleaning and disinfection

Cleaner, disinfectant*	
Accel® TB RTU	✓
Bacillo® 25	✓
Bacillo® AF	✓
Biguacid Liquid	✓
Caltech-Dispatch® 5200 Wipes	✓
Carpe Diem™ ^{MC} Tb Wipes	✓
Clorox Healthcare® Bleach Germicidal Wipes	✓
Descogen® Liquid	✓
Descosept Pur	✓
Dismozon® Plus	✓
Hexanios G+R	✗
Hydrogen peroxide (3%)	✓
Incidin® Plus	✗
Isopropyl alcohol (70%)	✓
Lysoformin®	✓
Meliseptol®	✓
Metrex CaviWipes™	✓
Microbac® Forte	✗
Mild soap	✓
Oxivir® Tb Wipes	✓
Oxivir® Tb Cleaner Disinfectant	✓
PDI Sani Cloth® Bleach	✓
PDI Super Sani Cloth®	✓
PDI Sani Cloth® PLUS	✓
PDI Sani Cloth® HB Wipes	✓
Sodium hypochlorite (bleach) (0.5%)	✗
Surfanios Citron	✗
TechSpray® Isopropyl alcohol	✓
Viraguard® Isopropanol 70%	✓
Virex® TB RTU	✗

Notes: ✓ Approved cleaner/disinfectant. ✗ Cleaner/disinfectant is known to damage plastic material, avoid if possible.

After cleaning and disinfecting: Wipe with clean water to remove all residue.

* ® and ^{TM/MC} denote name is a trademark of the respective manufacturer.

MX40 reusable lead sets

For these product numbers:

989803171801	989803171801	989803171861	989803171821
989803171811	989803171851	989803171871	989803171841
989803171901	989803171931	989803171961	989803171911
989803171951	989803171971		

Cleaning cable and connector surfaces

When cleaning the surfaces of any cable/connector, ensure that cleaning fluids do not seep into the cable connectors. It is good practice to keep the cable connected to the MX40.

- Modestly dampen a lint-free cloth with any of the approved cleaners shown on the next page, or use one of the pre-moistened wipes listed in the MX40 Instructions for Use.
- Wipe the entire outer surfaces of the cable to remove soil, allowing the surface to become moist but not soaking wet.
- Follow the cleaning agent manufacturer's instructions with regard to application duration/contact time.
- Remove cleaner residue by wiping the MX40, exterior surfaces of the patient cables, rechargeable battery, and battery tray with a lint-free cloth modestly dampened with distilled water or isopropyl alcohol.
- Allow the cable and connector surfaces to air dry prior to use.

Never soak or immerse a cable or connector in any liquid or cleaner. Do not use ultrasonic cleaners and do not autoclave the cables.

Use only the recommended cleaners and disinfectants listed in the table. Others may cause damage (not covered by warranty), degrade performance, reduce product lifetime, or cause safety hazards.

Cleaning cable connector pins

- **Use only Isopropyl alcohol on a modestly dampened lint-free cloth**, or pre-moistened Isopropyl alcohol wipes.
- Keep the cable connector pointed down to prevent cleaner residue from building-up inside the connector.
- If the interior surfaces of the patient cable connector require disinfection, wipe using a lint-free cloth dampened modestly with isopropyl alcohol only. Gently wipe inside the cable's MX40 connector using very light swipes. Also wipe the surface of the SpO₂ connector. Note: Remember to point each connector down when cleaning.
- Allow the connector pins to air dry prior to use.

Use of cleaning/disinfecting agents other than isopropyl alcohol inside the patient cable connector and battery adapter tray can result in chemical residue build-up and damage to the contacts. To avoid damage do not allow cleaning fluid to seep into the connector and be careful not to dislodge the gasket that surrounds the inside of the connector.

Cleaning and disinfecting

Sterilization of the MX40 patient cables has been qualified using Ethylene Oxide (EtO). Sterilization up to 4 times per year over the life of the product can be performed. Be sure to follow all safety precautions regarding aeration after EtO exposure.

MX40 reusable lead sets cleaning and disinfection

Cleaner, disinfectant*	
Bacillol® 25	✓
Bacillol® AF	✓
Caltech-Dispatch 5200	✗
Chlorine Bleach (1:10 concentration, mixed < 24 hours)	✓
Cidex Activated Dialdehyde	✗
Cidex Formula 7	✗
Cidex OPA	✗
Gluteraldehyde	✗
Hydrogen Peroxide	✓
Incidin	✗
Isopropyl alcohol	✓
Liquid Soap (antibacterial soap)	✗
Meliseptol®	✓
Metrex CaviWipes™	✓
Metricide	✗
Omnicide	✗
Oxivir® Tb Cleaner Disinfectant	✓
Oxivir® Tb Wipes	✓
Procide 14	✗
Resert XL HLD	✓
Sani-Cloth® AF	✗
Sani-Cloth® Bleach Germicidal Disposable Wipes	✓
Sani-Cloth® HB	✓
Sani-Cloth® PLUS	✓
Sani-Cloth® Plus Germicidal Cloths	✓
Sporox II Sterilizing & Disinfection Solution	✓
Super Sanicloth	✓
TechSpray® General Purpose Cleaner	✓
Viraguard®	✓
Virex Tb	✗
Wavicide	✗
WipesPlus Disinfecting Wipes	✓

Notes: ✓ Approved cleaner/disinfectant. ✗ Do not use.

Note : The cleaners listed above are also suitable for cleaning the MX40 and the lithium-ion battery.

After cleaning and disinfecting: Wipe with distilled water to remove all residue.

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Safety cable leadsets

For these product numbers:

M1601A M1603A M1605A M1609A M1611A M1613A M1615A M1619A
M1621A M1623A M1625A M1629A M1631A M1633A M1635A M1639A

Cleaning

- To keep your lead set free of dust and dirt clean it with a lint free cloth, moistened with either warm water (40°C/104°F maximum) and soap, a diluted non-caustic detergent or one of the approved cleaning agents listed below.
- Never immerse or soak the lead sets.
- Do not allow the cleaning agent to remain on the lead set – remove it immediately by wiping with a cloth dampened with water.
- If you see signs of deterioration or damage, replace the lead set. Do not use it for further patient monitoring.

Approved cleaning substances

Mild soap
Tensides (dishwasher detergents: Edisonite Schnellreiniger®, Alconox®)
Ammonias (dilution of ammonia <3%, window cleaner)
Alcohol-based ¹ (Ethanol 70%, Isopropanol 70%, window cleaner)
Aldehyde (Cidex®)

1. Do not use alcohol with non-shielded (purple) lead sets M1609A, M1619A, M1629A, M1639A.

Disinfection

- We recommend that you disinfect the lead set only when necessary as determined by your hospital's policy, to avoid long term damage to the lead set.
- Never immerse or soak the lead sets.
- Do not allow the disinfectant to remain on the lead set – remove it immediately by wiping with a cloth dampened with water.
- We also recommend that the lead set be cleaned first.

Approved disinfecting substances

Ethanol 70% ¹
Isopropanol 70% ¹
Cidex®

Cleaning and disinfecting

We recommend that you sterilize only when necessary as determined by your hospitals policy, to avoid long term damage to the lead set. We also recommend that the lead set be cleaned first. **The lead set has been tested to withstand Ethylene Oxide (EtO) gas sterilization.** Be sure that all safety precautions regarding aeration after EtO exposure are followed.

Autoclaving: Never autoclave the leadset.

Do not use: Bleaches containing sodium hypochlorite (like Clorox™).

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Safety trunk cables

For these product numbers:

M1500A M1510A M1520A M1530A M1540C
M1550C M1560C M1570C M1590A

Cleaning

- To keep your cable free of dust and dirt clean it with a lint free cloth, moistened with either warm water (40°C/104°F maximum) and soap, a diluted non-caustic detergent or one of the approved cleaning agents listed below.
- Never immerse or soak the cables.
- Do not allow the cleaning agent to remain on the cable – remove it immediately by wiping with a cloth dampened with water.
- If you see signs of deterioration or damage, replace the cable. Do not use it for further patient monitoring.

Approved cleaning substances

Mild soap

Tensides (dishwasher detergents: Edisonite Schnellreiniger®, Alconox®)

Ammonias (dilution of ammonia <3%, window cleaner)

Disinfection

- We recommend that you disinfect the cable only when necessary as determined by your hospital's policy, to avoid long term damage to the cable.
- Never immerse or soak the cables.
- Do not allow the disinfectant to remain on the cable – remove it immediately by wiping with a cloth dampened with water.
- We also recommend that the cable be cleaned first.

Approved disinfecting substances

Cidex®

Cleaning and disinfecting

We recommend that you sterilize only when necessary as determined by your hospitals policy, to avoid long term damage to the cable. We also recommend that the cable be cleaned first.

The cable has been tested to withstand Ethylene Oxide (EtO) gas sterilization. Be sure that all safety precautions regarding aeration after EtO exposure are followed.

Autoclaving: Never autoclave the cable.

Do not use: Bleaches containing sodium hypochlorite (like Clorox™).

General precautions

- **Only use cleaning agents that are listed.** Using cleaning agents that are not recommended or untested could cause damage to your medical devices.
- Please also consider the disinfectant vendor's recommendation in terms of usage and concentration by the principle "**as little as possible, as much as necessary.**"
- **Do not mix disinfecting solutions** to avoid creating hazardous gasses.
- **After cleaning and disinfection, check the equipment carefully.** Do not use if you see signs of deterioration or damage.
- **Observe local laws** governing the use of disinfecting agents.

Refer to the IFU and C/D addendum that is provided with the product for detailed information. Philips makes no claims as to the efficacy of these chemicals or this method as a means for infection control. Consult your hospital's infection control officer or epidemiologist

Thank you for your dedication to patient care, especially during these unprecedented times.

Stay safe, keep healthy and please contact your Philips Account Manager with any questions.



To order reusable products online or see our entire range of single-patient use products, visit:

www.patientcare.shop.philips.com

Please contact your account manager if you require additional information.

