SPACELABS HEALTHCARE

Cleaning, Disinfecting and Sterilization

Monitors, Modules, Transmitters, Printers, Cables, Leadwires, and Sensors

September 2, 2016

077-0349-00 Rev A

CUSTOMER SERVICE NOTE

Products: Monitors, Modules, Displays, Transmitters, Printers, Cables, Leadwires, and Sensors

Purpose: To provide customers a detailed procedure for cleaning, disinfecting, and sterilization, with warnings and recommendations of proper cleaning agents.

Cleaning, Disinfecting, and Sterilization

Warnings, Cautions, and Notes – All Listed Products

- ***Use only recommended cleaning solutions, or you may void the manufacturer's warranty.***
- ***Harsh chemical agents degrade plastics and will compromise the safety of the device. Some germicidal and other harsh cleaning compounds are known to damage some plastics by weakening the structural integrity and compromising the electrical insulating properties.***
- ***Disconnect the equipment from the patient and the electrical supply before cleaning.***
- ***Do not allow liquid to enter the interior of the module or monitoring equipment.***
- ***Do not immerse the equipment or cables in water or cleaning solutions.***
- ***Do not autoclave.***
- ***Accelerated Hydrogen Peroxide (AHP) and quaternary ammonia-based products ARE NOT RECOMMENDED for cleaning monitors and cables. These chemicals degrade plastics used in patient monitors and cables, and can cause serious safety hazards as the electrical insulating properties and structural integrity of the equipment break down.***

  Cavicide, Virex, Virex 256, PDI Sani-Cloth Bleach Plus, Super Sani-Cloth, and Sani-Cloth AF3 are common quaternary ammonia germicidal products. The manufacturers of these solutions advertise that these germicidal products are safe for use on hard, non-porous surfaces, such as linoleum floors, Formica countertops, and stainless steel. The manufacturers discourage the use of quaternary ammonia germicidal products on computer-grade plastics and on data, patient, and power cables, which are classified as porous materials.

	• **Use caution when cleaning cable connectors so that liquid is not permitted to collect around the electrical contacts or seep inside the connector. Trapped liquids and surface residues provide an unintentional electrical path, which may cause noisy signals and false alarms.** • **Do not use chlorine disinfectant or cleaners on IRMA mainstream probes and ISA side stream analyzers. If chlorine solutions/cleaners are used in the operating/procedure room, remove the ISA/IRMA equipment during the cleaning process.** **Questions and concerns about cleaning issues should be directed to a Spacelabs Healthcare field service engineer.**

Note:

- *For cleaning instructions for an Original Equipment Manufacturer (OEM) device, refer to the user manual for that product.*
- *Accelerated Hydrogen Peroxide (AHP) contains hydrogen peroxide and low concentrations of phosphoric acid. AHP is different from cleaners containing hydrogen peroxide mixed with alcohols and specifically NOT recommended for cleaning Spacelabs Healthcare products.*
- *Over time, repeated use of a chlorine bleach solution may cause some colors to fade.*
- *Tape adhesive can be removed with Spacelabs Healthcare adhesive tape remover pads (P/N 392196-001).*
- *After cleaning ECG lead wires, remove the ECG lead wires from the lead block and thoroughly dry them at the lead block ends and at the lead connector ends. Thorough drying will prevent residual moisture from providing a low-current path between leads, which can interfere with lead off detection and cause false asystoles.*
- *Follow your hospital protocol for the handling of blood and body fluids.*
- *Where provided, obey the manufacturers' instructions concerning disposable and reusable supplies.*
- *As applicable, obey your hospital protocol concerning cleaning, disinfection, and/or sterilization of reusable supplies.*
- *Obey hospital protocols to dispose of used and contaminated single-use accessories.*

Recommended Cleaners – All Listed Products

- Mild soap and water solution
- U.S. Pharmacopoeia (USP) green soap
- Sodium hypochlorite solution (1:10 dilution of household chlorine bleach in water)
- Phenolic germicidal detergent (1% aqueous solution)
- Glutaraldehyde (2.4%) (Cidex)
- Isopropyl alcohol (70% solution)
- PDI Sani-Cloth Bleach (sodium hypochlorite 0.63%)

Recommended Cleaners – Monitors, Modules, and Displays ONLY

In addition to recommended cleaners, the following products can also be used on monitors, modules and displays.

- Diversey Oxivir wipes (benzyl alcohol 1 to 5% and hydrogen peroxide 0.5 to 2%)
- Clorox Healthcare wipes (benzyl alcohol 1 to 5% and hydrogen peroxide 0.5 to 2%)

Cleaning Monitors, Displays, Modules, and Cables

To clean monitors, displays, modules, and cables:

1. Prepare the cleaning solution according to the manufacturer's instructions.
2. Wet a clean cloth with the selected cleaning solution.
3. Remove excess liquid from the cloth and squeeze dry.
4. Wipe exposed surfaces of the equipment and cables.
5. Remove any soap residue by gently wiping with a clean damp cloth.
6. Wipe dry with a clean dry cloth.

Cleaning ECG Leadwires

Inspect the leadwire sockets for contamination. If necessary, flush using a syringe and clean using a toothpick. Once clean, Spacelabs Healthcare recommends wetting the sockets with 70% isopropyl alcohol to provide low level disinfection. This agent can be left to dry naturally and does not require any rinse procedures.

Note:

After cleaning ECG leadwires, remove the ECG leadwires from the lead block and thoroughly dry them at the lead block ends and at the lead connector ends. Thorough drying will prevent residual moisture from providing a low-current path between leads, which can interfere with lead off detection and cause false asystoles.

Cleaning Telemetry Transmitters

To clean and disinfect transmitters:

1. Remove the batteries and close the battery cover.
2. Remove the ECG leadwires, grouper, and SpO2 cable (if fitted).
3. Rub the transmitter with a cloth wetted in a mild detergent solution.
4. Dry the transmitter thoroughly.
5. Prepare the cleaning solution chosen from the list of recommended cleaning solutions according to the manufacturer's instructions.
6. Wet a clean cloth with the selected cleaning solution.
7. Remove excess liquid from the cloth and squeeze dry.
8. Wipe all exposed surfaces of the equipment and cables.
9. Leave the transmitter for the required contact time, during which it should remain wet.
10. Remove any soap residue by gently wiping with a clean damp cloth.
11. Wipe dry with a clean dry cloth.
12. Take steps to remove disinfectant residues in accordance with the disinfectant labelling.

Cleaning Transmitter Buttons

Clean the buttons by wetting a small brush with a mild detergent solution and gently scrubbing around and across the buttons. Dry the buttons with a rubbing action.

Disinfect the buttons by using the same method. Spacelabs Healthcare recommends using 70% isopropyl alcohol which can be left to dry naturally and does not require any rinse procedures.

Cleaning Transmitter Displays

Clean the display with a soft cloth moistened with either 70% isopropyl alcohol solution or soapy water.

Cleaning Battery Covers

Clean around the battery cover release with a small brush using a mild detergent solution. Disinfect using the same method with 70% isopropyl alcohol to provide low level disinfection.

Open the battery cover and inspect the hinges and catch for contamination. If necessary, flush using a syringe and clean using a small brush, taking care not to deform the cover spring. Once clean, we recommend wetting with 70% isopropyl alcohol to provide low level disinfection. This agent can be left to dry naturally and

does not require any rinse procedures.