



Adventurer/Traveler

Your passport to safe drinking water anywhere™

SteriPEN™ Adventurer/Traveler User's Guide



How does SteriPEN™ Adventurer/Traveler disinfect water?

SteriPEN™ Adventurer/Traveler uses short wave germicidal UV light to disinfect water. This range of UV light disrupts the DNA within bacteria, viruses and protozoa, rendering them unable to reproduce and therefore, harmless. For more detailed information, visit our web site at www.steripen.com.

Testing

At Hydro-Photon, we believe that careful testing is an important part of successful and responsible product development and quality control. A wide range of testing has gone into development and production of your SteriPEN™ Adventurer or Traveler. To see our full microbiological test reports conducted at the University of Arizona, Tucson; University of Maine, Orono; Ryerson University, Toronto Ontario; A&L Laboratory, Auburn, ME; and Oregon Health Sciences University, Portland, visit the "Testing" section of our web site at: www.steripen.com/testing.html.

Product Quality

At Hydro-Photon, product quality is our first priority. Every single SteriPEN™ is tested for correct function and ultraviolet light output. A Limited Lifetime Warranty for any manufacturing defect is included with every SteriPEN™.

Thank you for buying your SteriPEN™ Adventurer or SteriPEN™ Traveler, and congratulations on your purchase. Years of careful research, development and testing have gone into the creation of this unique product.

Directions for Use 40 C.F.R. §156.10(i)(2)

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. 40 C.F.R. §156.10(i)(2)(ii)

SteriPEN™ exceeds U.S. EPA Guide Standard and Protocol for Testing Microbiological Water Purifiers, destroying over 99.9999% of bacteria, 99.99% of viruses, and 99.9% of protozoa when used as directed. SteriPEN™ is not a sterilizer.

Operating the SteriPEN™ Adventurer/Traveler

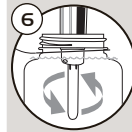
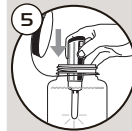
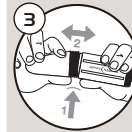
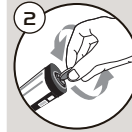
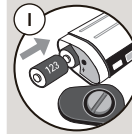
Quick Start Guide

Use SteriPEN™ Adventurer/Traveler with clear water. Discolored or dirty water should be pre-filtered until clear prior to SteriPEN™ Adventurer/Traveler treatment.

SteriPEN™ Adventurer/Traveler treats two ranges of water volume:

A—up to 0.5 liter (16 fl. oz.)

B—between 0.5 – 1.0 liter (16 and 32 fl. oz.)



- 1 Install two CR123 batteries with polarities as shown.
- 2 Tighten coin screw on battery end cap until snug (do NOT over-tighten screw as this may cause damage).
- 3 Remove lamp cover in 2 steps—1) Hold device as shown and gently "bend" upward until lamp cover releases with a click. 2) Remove lamp cover.
- 4A Push On button **twice** – green LED will flash for up to 15 seconds indicating Adventurer/Traveler is ready to treat up to .5 liter (16 fl. oz.). **NOTE: Adventurer/Traveler will not function unless this step is completed before immersing lamp in water.**
- 4B Push On button **once** – green LED will flash for up to 15 seconds indicating Adventurer/Traveler is ready to treat up to 1 liter (32 fl. oz.). **NOTE: SteriPEN™ Adventurer/Traveler will not function unless this step is completed before immersing lamp in water.**
- 5 While green LED flashes the ready signal, dip the ultraviolet (UV) lamp into the water to be treated so that lamp and water sensors are completely immersed. When water is detected, lamp turns on automatically, emitting both UV and visible light. **IMPORTANT NOTE: If visible light is not evident, Adventurer/Traveler lamp is not on, and water should not be consumed.**
- 6 Agitate the water by stirring with the Adventurer/Traveler until the lamp automatically turns off. Once lamp turns off, green indicator LED will turn on to show that the UV dose is complete. **NOTE: If red LED turns on after lamp shuts off, the dose was not complete.**
- 7 Remove Adventurer/Traveler from water. Dry off lamp and water sensors with clean cloth. Replace lamp cover. **IMPORTANT NOTE: Many brands of CR123 batteries have built-in protection circuitry that instantly disables battery function when batteries reach a specific low charge threshold. If this "disable" function is triggered during operation the Adventurer/Traveler will be unable to give the "Low Battery" signal (blinking red LED). Until batteries are replaced or recharged the Adventurer/Traveler will not be operational.**

Safety

SteriPEN™ Adventurer/Traveler may be used in glass, plastic, ceramic or metal containers. They all absorb and reflect UV light, thereby shielding the user from UV exposure. Adventurer/Traveler should not be used in quartz containers. The air/water interface at the top of any drinking container is highly reflective to UV and reflects UV back into the container.

Water Sense Circuitry

SteriPEN™ Adventurer/Traveler water sense circuitry is an important safety feature. It is intended to prevent UV exposure by permitting operation only when lamp is completely immersed in water. Never attempt to bypass this feature. If Adventurer/Traveler is not immersed in water within 15 seconds of being activated, it will deactivate.

Agitation of Water

Agitation of the water by stirring with Adventurer/Traveler or rocking the container is essential for proper operation as this insures uniform exposure of all water to germicidal UV light.

Cold Weather Considerations

Bring Adventurer/Traveler up to a temperature above 32°F/0°C before using. Battery performance may be adversely affected by cold weather.

SteriPEN™ Adventurer/Traveler LED (Light Emitting Diode) Signals

LED Color and Pattern Display	Indication
Operating Signals	
Green, fast flashing (after button push)	Unit is armed and ready to treat water
Green, slow flashing: 1 second on, 1 second off (after dose completion)	1 liter (32 fl. oz.) dose completed
Green, steady (after dose completion)	0.5 liters (16 fl. oz.) dose completed
Green blinks for 15 seconds followed by a quick Red flash	Time expired, try again. The user has 15 seconds to put the SteriPEN™ in water after activation.
Green flash followed by Red flash	(1) Dry water sensing pins before use. (2) Press On/Off Button for 1 second to activate for 32 oz. timer; again for 16 oz. (3) Clean water sensing pins.
Red, steady	Dose incomplete. Repeat treatment.
Battery Warnings	
Red, fast flashing	Replace or recharge batteries
Green slow blinking with Red flashes	1 liter (32 Fl. Oz.) dose completed; battery getting low
Green, steady with Red flashes	0.5 liter (16 Fl. Oz.) dose completed; battery getting low
LED will not come on	(1) Charge or replace batteries (2) Clean battery contacts (3) Return SteriPEN™ for repair
Lamp Warnings	
Red 2 flashes, Green 2 flashes (repeating)	Over 7,900 treatments completed; lamp replacement needed in under 100 doses
Red 3 flashes, Green 1 flash (repeating)	Lamp failure; replace lamp
UV lamp emits no visible blue light	Lamp failure. Follow warranty procedure.

Lamp Life

After Lamp Life = 8,000 Treatments. Lamps must be replaced by manufacturer or licensed technician.

Battery Selection & Installation

SteriPEN™ Adventurer and SteriPEN™ Traveler use two CR123 batteries. CR123 batteries are nominally 3 volts and are available in both rechargeable and non-rechargeable (disposable) varieties.

Our testing has shown that a single set of non-rechargeable (disposable) CR123's will treat approximately 50 liters of water. Testing on rechargeable CR123's (750mAh) indicates that approximately 35 liters may be treated between battery charges.

Cold ambient temperatures may reduce the number of doses available from batteries. To maximize available battery power keep your batteries in a warm place (i.e. your pocket) when in cold weather conditions.

To replace batteries, loosen screw in battery end cap with a coin and then remove end cap (see diagram 2). Install new or recharged batteries with battery polarity as shown—positive ends of batteries facing out, toward battery compartment end cap (see diagram 1). Replace the battery end cap and tighten screw until snug. Do not over tighten screw as this may damage the device. Note that if you will be storing your SteriPEN™ Adventurer or SteriPEN™ Traveler for a long period of time, it is best to remove the batteries from the device.

IMPORTANT NOTE: Many brands of CR123 batteries have built-in protection circuitry that instantly disables battery function when batteries reach a specific low charge threshold. If this "disable" function is triggered during operation the Adventurer/Traveler will be unable to give the "Low Battery" signal (blinking red LED). Until batteries are replaced or recharged the Adventurer/Traveler will not be operational.

Treating Turbid, Murky or Cloudy Water

SteriPEN™ Adventurer/Traveler is intended for use, and is most effective, in clear water. However, SteriPEN has been shown to reduce microbial contamination in turbid water. If clear water is not available, first try to filter the water to clarify it. If it is necessary to treat turbid, murky or cloudy water in an emergency situation, use SteriPEN™ as follows:

- To treat 1 liter of turbid water, use two one-liter treatments. To accomplish this, push the operating button one time and complete the first treatment. Then push the button one time again and complete the second treatment.
- To treat 0.5 liters of turbid water, use a single 1 liter dose. To accomplish this, push the operating button once and complete the treatment.

Turbidity is a measure of water clarity as effected by the presence of suspended solids. As turbidity increases, the suspended solids and murkiness of the water also increase. It is difficult to communicate a particular level of turbidity with just a written description. Accordingly, please take into account the following when considering the use of SteriPEN™ in water that is not clear: Laboratory testing has shown that SteriPEN™ is effective in water with a turbidity of not less than 30 ntu (Nephelometric Turbidity Units) as described in the U.S. EPA Guide Standard and Protocol for Testing Microbiological Water Purifiers, section 3.3.4. SteriPEN™ has been successfully tested in water with a turbidity measurement of 33 ntu. If viewing 33ntu water in a clear 1 liter bottle, one might characterize the water as follows: *Much closer to clear than opaque, Obviously not clear, Obviously cloudy, Objects viewed through the water are visible but blurry, As cloudy as weak lemonade.*

Care and Cleaning

When not in use, Adventurer/Traveler should be kept in a clean, dry, non-abrasive area or container. Adventurer/Traveler should not be exposed to ambient temperatures above 140°F/60°C or below -4°F/-20°C. When storing Adventurer/Traveler for long periods, remove batteries.

To clean Adventurer/Traveler, wash with a soft cloth and a mild soap solution. Rinse soap from device and dry with a clean, soft cloth. Note that while the battery compartment of Adventurer/Traveler is designed to be water resistant, it is not guaranteed to be impermeable and should therefore never be submerged.

Troubleshooting

If flashing green LED (Light Emitting Diode) shows that Adventurer/Traveler is armed, but the lamp does not light when immersed in water, check to be sure lamp is completely immersed and that water is contacting both sensors.

If fast flashing green LED will not activate after On button is pushed check to see that the Adventurer/Traveler water sensors are not immersed in water or wet. Remove Adventurer/Traveler from water or dry sensors off and press On button again.

If fresh batteries have been installed, but Adventurer/Traveler will not complete a dose, low temperature may be the cause. Remove batteries from device and warm them (i.e. in your pocket). If after initiating a dose UV lamp shuts off and LED does not come on at all, the batteries may be drained and in need of replacement or recharging. See **"IMPORTANT NOTE"** above.

Repair Information

Any repairs to your Adventurer/Traveler should be done by an authorized technician. Please contact your local distributor/importer for all repairs.

Product Registration & Warranty Information

Limited Lifetime Warranty for any manufacturing defect. For product registration and complete warranty information, please visit www.steripen.com/warranty or contact your local distributor/importer.

Warnings for Safe Use

- Improper operation of Adventurer/Traveler may cause injury. Read and understand all warnings prior to operating Adventurer/Traveler.
- Do not allow water to enter Adventurer/Traveler through the battery compartment. While the battery compartment seal is designed to be water resistant, it is not guaranteed to be impermeable.
- Do not submerge the battery compartment end of the device.
- Do not operate Adventurer/Traveler in quartz containers such as quartz laboratory beakers.
- Adventurer/Traveler is not intended for use by children.
- Adventurer/Traveler is a high voltage device. Removal or tampering with the electronic circuit board or lamp assembly may cause injury, or damage Adventurer/Traveler.
- Do not open, expose, modify or touch internal circuitry; this can lead to high voltage shock.
- Do not attempt to bypass water sensor; this is an important safety feature.
- As with any water treatment system, you should always have a backup method available.
- Like most fluorescent-type lamps, the Adventurer/Traveler lamp contains a small amount of mercury. Please return your Adventurer/Traveler at the end of its productive life to your distributor/importer to permit correct recycling or safe disposal.
- Adventurer/Traveler is not intended to disinfect surfaces of a drinking container, i.e. those that typically contact the mouth when drinking. Be certain that your drinking container has been properly cleaned/washed prior to using Adventurer/Traveler.
- Adventurer/Traveler is not intended to disinfect water above the surface of the water in the container, i.e., droplets of water suspended on the side of the glass.
- Adventurer/Traveler is intended for use with clear water but in emergencies may be used in moderately turbid water. See "Treating Turbid, Murky or Cloudy Water" section above before deciding to use SteriPEN™ on turbid water.
- Adventurer/Traveler is designed to treat 0.5 or 1.0 liter (16 or 32 fl. oz.) of clear water. If in doubt about volume of water to be treated, confirm volume with a measuring device such as a measuring cup.
- Do not store Adventurer/Traveler for long periods with batteries installed. Batteries may in rare instances leak or corrode and cause damage to device.
- When operating properly, the Adventurer/Traveler lamp will emit visible light as well as UV. If lamp is not emitting visible light, it is not functioning properly, and should not be used until repaired.
- The Adventurer/Traveler lamp assembly must be clean prior to use.
- If Adventurer/Traveler is below 32°F/0°C it should be warmed above 32°F/0°C before operating.
- Do not allow impact to the lamp end. If lamp assembly (lamp or quartz sleeve) is cracked, chipped or damaged, do not operate.

Return to your local distributor/importer for repair.

- Do not use as a light source.
- Do not use in liquids other than clear water.
- Do not use in water with ice.
- Do not use in water above 140°F/60°C.
- UV light can be harmful to eyes and skin. Never look at an unshielded UV lamp during operation. When used properly, according to instructions, the user is well shielded from Adventurer/Traveler UV light.
- Do not operate near skin.
- Do not operate near eyes.
- Do not insert into bodily orifices.
- While carefully controlled microbiological testing has been conducted, use of Adventurer/Traveler in non-laboratory conditions may produce results that vary from our laboratory test data.
- Do not use in any manner other than instructed in this User's Guide.

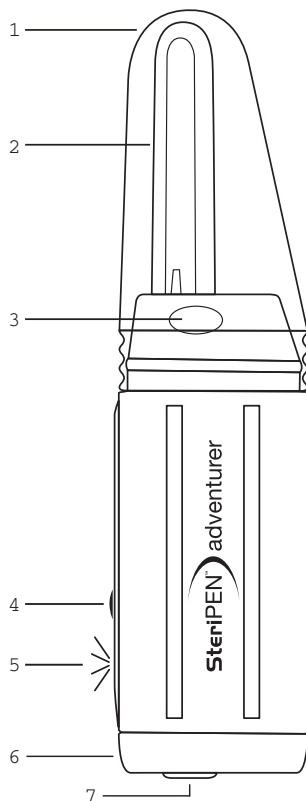
Certifications & Patents

Compliance testing of SteriPEN™ Adventurer and Traveler for the cETLus and CE marks was successfully completed at Intertek Testing Services (ITS), Boxborough, MA, USA. Testing is described in ITS test report number: J20027894, Issued October 25, 2000, revised August 17, 2006.



Listed 3058969. Conforms to Standard UL 61010B-1
Certified to CAN/CSA C22.2 No. 1010.1-92

Conforms to EN 61010-1: 1993 + A1 + A2 and EN 61326 U.S.E.P.A.
Company #73679, U.S. EPA Establishment #07369-ME-001



Guide to SteriPEN™ Adventurer and Traveler Parts

- 1) UV Lamp Cover
- 2) UV Lamp Assembly
- 3) Water Sensors (2)
- 4) On Button
- 5) Indicator LED (Light Emitting Diode): shows activation status
- 6) Battery Compartment End Cap
- 7) Battery Compartment End Cap Screw

Distributors/Importers

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