LIFESAVER®

BOTTLE

FILTER CLEAN WATER instantly

FILTER OUT viruses, bacteria, cysts & parasites

INVENTED, DESIGNED AND MANUFACTURED in Great Britain Patented Worldwide

INSTRUCTION MANUAL

SLI0029-3

- The LifeSaver® Bottle filters out bacteria, viruses, cysts, parasites and fungi from water.
- LifeSaver water filters meet an adaption of NSF Protocol 231 based on recommendations of the U.S. Environmental Protection Agency (EPA). LifeSaver Bottles filter bacteria to a minimum of Log 6 (99.9999%), Viruses to a minimum of Log 4 (99.99%) and Cysts to a minimum of Log 4 (99.99%).
- LifeSaver Bottle incorporates Failsafe™ technology – an automatic indicator of when the cartridge needs replacing. When the service life of the cartridge has been fulfilled, the filter stops passing water, taking away the guess work of knowing if your filter is still effective in filtering out contaminants.

EN

CONTENTS

IMPORTANT

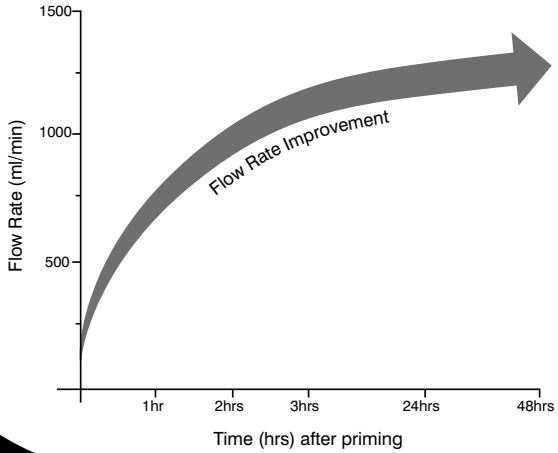
Please read this manual before using the LifeSaver Bottle

PRIMING THE LIFESAVER BOTTLE

Priming is an essential step that must be performed within 3 years* from the date of manufacture and before you start to use the Bottle to drink from. The cartridge membranes are infused with glycerin during the manufacturing process to keep them hydrated up until the Bottle is primed. During priming you are flushing water through the cartridge, which removes this glycerin. Glycerin is a natural food source and whilst the presence of glycerin is not harmful, you should not drink the water used for priming the Bottle. It is imperative to follow the priming instructions to ensure that you flush all of the glycerin from the Bottle; this will mitigate the risk of bacteria forming on the output side of the cartridge.

* Except where foil wrapped cartridges are purchased.

IMPROVED FLOW RATE OF THE LIFESAVER® BOTTLE OVER TIME



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1. Unscrew and remove the pump base from the Bottle. Fill the Bottle to within 1 inch / 2.5 cm of the brim. Screw the pump base back into place and leave to stand for 10 minutes.

2. After 10 minutes, unscrew the pump base and empty the water out of the Bottle end. Fill the Bottle to within 1 inch/2.5cm of the brim and screw the pump base back into place.

3. Pop open the snap fit lid, then open the nozzle with clean hands or teeth; hold the Bottle over a sink or drain. Turn and unlock the pump handle and pump the Bottle a maximum of 4 times. After a short time the water will start to flow from the nozzle. Drain this water away.

When flow slows to a dribble, pump another 4 times to increase water flow, until 1 inch / 2.5 cm of water remains in the Bottle when held with the nozzle facing downward.

5. Repeat steps 2–4 twice more.

ROUTINE USE - AFTER PRIMING THE LIFESAVER BOTTLE

After priming, fill the Bottle with water. Cleaner water will result in a faster flow rate and longer cartridge life. When filling the Bottle with water keep the snap-fit lid closed to keep the nozzle clean and free from contamination.

1. Unscrew and remove the pump base from the Bottle. Fill with water through the blue pre-filter sponge to within 1 inch / 2.5 cm of the brim. The flow rate will be faster when the Bottle is full of water. Screw the pump base back into place.

2. Open the snap-fit lid and pump a maximum of 4–6 times.

3. Open the nozzle with your teeth to drink directly from the Bottle or open with clean hands to allow the water to flow into a clean cup.

4. During use, pump another 4–6 times to increase water flow.

⚠ CAUTION

- *The Bottle should not require more than 4–6 pumps to work effectively. If you need to pump more to induce water flow, always do so with the nozzle open to gauge whether you need to re-pump the Bottle. If the Bottle requires more pumping than expected, the Bottle may need to be cleaned (see page 10 for how to clean the Bottle). Alternatively the cartridge may be reaching the end of its service life (see page 19 for Fail Safe Technology).*
- *Do not pump if water is not flowing from the Bottle; this will over pressurise the Bottle, which will result in the product becoming over stressed. To release pressure from the Bottle unscrew the pump base slowly by ¼ turn until you hear a hiss sound. Hold on to the pump base and Bottle firmly whilst unscrewing.*
- *Keep the membranes of the cartridge hydrated by storing at least 1 inch / 2.5 cm of water in the Bottle at all times whilst keeping the Bottle sealed with the pump, nozzle and snap fit lid in place. Failure to do so will cause the membranes to dry out, the nano-filter pores to close and the system to shut down. This is not covered under your warranty and you will need to purchase another cartridge (see page 16 for storage instructions).*
- *Do not operate the pump whilst the Bottle is empty.*

THE CUT AWAY OF THE LIFESAVER BOTTLE

ACTIVATED CARBON FILTER

How to install a new activated carbon filter

The activated carbon filter is made of high specification activated carbon, which improves taste and smell by reducing trace elements of chlorine, pesticides and some heavy metals.

- Unscrew and remove the pump base from the Bottle. Empty the Bottle of any water.
- Place your hand over the base of the Bottle and turn the Bottle to the vertical, upright position with the screw top facing upwards.
- Unscrew and remove the screw top from the Bottle shell, at the same time this will cause the cartridge to drop into your hand. Carefully place the Bottle shell and cartridge on a flat surface.
- On the underside of the screw top, screw into place the new activated carbon. If there is an old activated carbon filter already installed, remove and discard this first. ❶
- Now reassemble the Bottle. Turn the Bottle shell to the vertical down, position with the screw top facing downwards and insert the Bottle cartridge. Twist the cartridge until you feel the cartridge engage in the 4 locators in the neck of the Bottle shell. Hold the cartridge in place with one hand and screw the screw top into place. Close the snap-fit lid.
- Re-screw the pump base into the Bottle.

When fitted, you may notice that the water flowing out of the Bottle contains grey/black particles. This is harmless carbon dust and once the activated carbon filter has been used 2–3 times, this will disappear.

⚠ CAUTION

DO NOT over tighten the activated carbon filter as this risks damage.

⚠ CAUTION

Leaving the activated carbon filter inside the Bottle whilst in long term storage may cause microbiological growth to occur. This will not have come from the Bottle but may come from the user's saliva. Always remove and discard the activated carbon filter when storing the LifeSaver Bottle long term.

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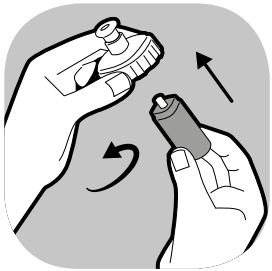


> **⚠ CAUTION**
>
> *Do not attempt to touch the membranes of the cartridge through the protective mesh as this can cause damage and will void your warranty. Keep the cartridge free from dirt and debris.*

MAINTENANCE AND CARE

Do not allow grit, sand or other abrasive matter to enter the Bottle. If this happens it should be removed. Abrasive matter remaining in the Bottle will cause the O-ring to prematurely wear which could cause the Bottle to leak. This is not covered under your warranty and you will need to purchase replacement parts.

If the O-ring situated in the pump base begins to wear, apply a thin layer of silicone grease to the outer lip edge of the Bottle shell. This will help seal the Bottle and prevent leakage. If leaking continues then you will need to replace it with a new O-ring.

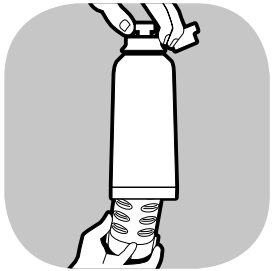
Over the life of the cartridge, dirt and debris will build up on its surface. To reduce this build-up, clean the Bottle on a regular basis.

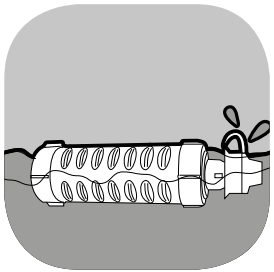
How to clean the Bottle, whilst outdoors

- With the snap-fit lid closed, unscrew and remove the pump base from the Bottle. ❶
- Half fill the Bottle with the cleanest water available through the blue, pre filter sponge and re-screw the pump base back into place. ❷
- Gently move the water around the surface of the Bottle, splashing the water against the walls of the cartridge.
- Unscrew and remove the pump base and empty the water from the pump hole and repeat as necessary.

How to clean the Bottle, whilst indoors in a clean environment

- Unscrew and remove the pump base from the Bottle.
- Place your hand over the base of the Bottle and turn the Bottle to the vertical, upright position with the screw top facing upwards.
- Unscrew and remove the screw top from the Bottle shell, at the same time this will cause the cartridge to drop into your hand. Remove the cartridge from the Bottle shell and place the Bottle shell on a flat surface. ❶
- Screw the screw top directly onto the cartridge end ensuring the snap-fit lid is closed; this will prevent contaminated water from entering the sterile water area of the cartridge during cleaning.
- Soak the cartridge in a basin of warm water for 30 minutes. Gently move the cartridge through the water to dislodge any dirt or debris. ❷
- Rinse the cartridge with clean running water and leave to drain for 4 hours in cool conditions.
- Whilst the cartridge is draining, wash all of the plastic components with a mild detergent solution in warm water with a soft cloth. Rinse thoroughly under running water and drain for 1 hour.
- Now reassemble the Bottle. Remove the screw top from the cartridge end. Turn the Bottle shell to the vertically down position and insert the Bottle cartridge.
- Twist the cartridge until you feel the cartridge engage in the 4 locators in the neck of the Bottle shell. Hold the cartridge in place with one hand and screw the screw top into place. Close the snap-fit lid.
- Re-screw the pump base into the Bottle.





MAINTENANCE AND CARE

How to check for cartridge damage

The ultra filtration membranes have been integrated into a robust cartridge and have been designed for a long service life. However, if treated incorrectly, the cartridge is liable to break.

The membrane integrity check should be performed every time the Bottle has been subjected to shock or when you suspect damage may have occurred to the Bottle.

> **⚠ CAUTION**
>
> *Do not subject the Bottle to shock or misuse the Bottle by inserting objects into the cartridge.*

1

Membrane integrity check

- Unscrew and remove the pump base from the Bottle. Fill with water through the blue pre-filter sponge to within 1 inch / 2.5cm of the brim. Screw the pump base back into place.
- Hold the Bottle in the vertical, upright position with the screw top facing upwards for the duration of the membrane integrity check.
- Open the snap-fit lid and pump 4–6 times.
- Open the nozzle with clean hands to allow the water to flow. Apply another 4–6 pumps when water flow slows down to drain the Bottle of all of its water.
- If the Bottle spits water from the nozzle and water does not flow freely then air is being expelled from the nozzle along with water. ❶ This means that the cartridge is damaged. Stop using the Bottle and replace the cartridge (see page 13 for how to install a new cartridge).
- If water isn't spitting from the Bottle, but flow rate is slower than normal despite the Bottle being ¼ full at either the horizontal or vertical position, clean the Bottle as dirt and debris may be causing slower flow rate. If the Bottle has been cleaned and water flow remains slower than normal, the cartridge may be reaching the end of its life (see page 19 for Failsafe™ technology).

How to install a new cartridge

- Unscrew and remove the pump base from the Bottle. Empty the Bottle of any water.
- Place your hand over the base of the Bottle and turn the Bottle to the vertical, upright position with the screw top facing upwards.
- Unscrew and remove the screw top from the Bottle shell, at the same time this will cause the cartridge to drop into your hand. Remove the cartridge and discard as recyclable plastic waste. ❶
- Wash all of the plastic components with a mild detergent solution in warm water with a soft cloth. Rinse thoroughly under running water and drain for 1 hour.
- Remove the new cartridge from its packaging. Ensure that the white flat seal is seated on the top of the cartridge shoulder. ❷
- Now reassemble the Bottle. Turn the Bottle shell to the vertically down position and insert the new cartridge. Twist the cartridge until you feel the cartridge engage in the 4 locators in the neck of the Bottle shell. Hold the cartridge in place with one hand and screw the screw top into place. Close the snap-fit lid.
- Re-screw the pump base into the Bottle. ❸ You are now ready to prime the cartridge (see page 5 for Priming – before first use).

Installing a new cartridge whilst outdoors causes a heightened risk of cross contamination. When changing the cartridge ensure that you have clean, dry hands and the snap-fit lid remains closed.

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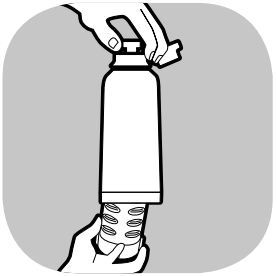

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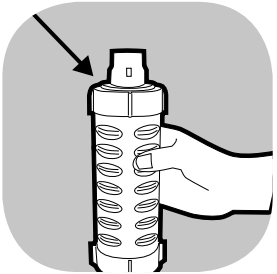

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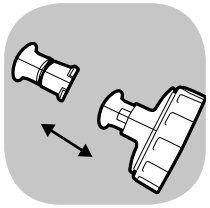

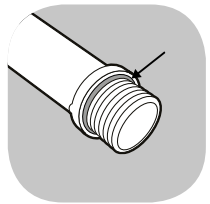

How to replace the nozzle

The Bottle's nozzle has been designed to be non-tasting, replaceable and chew-proof.

- Open the snap-fit lid.
- Pull out the nozzle and discard as recyclable plastic waste. 1
- Remove the new nozzle from its packaging and make it wet.
- Align the position dot on the nozzle with the seam on the screw top and insert the nozzle firmly.

Helpful tip – Apply a small amount of silicone grease to the outside of the nozzle before fitting, this will make the nozzle easier to fit and use.

Maintaining the pump

The Bottle's pump has been designed for high workloads. Over time it is possible for the pumping action to become stiff.
To maintain the pump:

- Unscrew and remove the pump base from the Bottle and empty the Bottle of any water.
- Hold the pump tube in one hand and with the other hand unscrew the pump base, pull away and remove from the pump tube. 2
- Place a small amount of silicone grease around the black O-ring, which sits on the top of the pump shaft. 3
- Ensure that the red O-ring is correctly seated on the pump tube at the base of the thread. 4
- Place the pump tube over the top of the pump shaft and re-screw the pump base.
- Do not over tighten.

Standard packaged cartridge

The Bottle can be stored unused for up to 3 years from the date of manufacture. Priming is an essential step that must be performed within 3 years from the date of manufacture and before you start to use the Bottle to drink from.

If stored longer than 3 years the Bottle membranes may dry out, causing the membrane pores to close and the system to shut down.

Aluminium barrier foil, heat sealed cartridge

An aluminium foil, heat sealed cartridge provides the lowest moisture transition rate available. This protection means that if sealed in the condition it was purchased the shelf life of the product can be extended up to 10 years from the date of manufacture.

Standard packaged activated carbon filter

An activated carbon filter, if sealed in its original polythene wrapping, can be stored for approximately 3 years from the date of manufacture subject to storage conditions. If left unsealed the activated carbon filter can be stored for up to 2 months before expiry. Carbon is a natural absorbent, so if left unsealed it will absorb pollutants in the air around it.

Aluminium barrier foil, heat sealed activated carbon filter

An aluminium foil, heat sealed carbon filter provides the lowest moisture transition rate available. This protection means that if sealed in the condition it was purchased the shelf life of the product can be extended up to 10 years from the date of manufacture. On opening of the foil wrapped packaging, the activated carbon filter can be stored for 3 years if sealed in the zip lock foil bag it was supplied in.

SERVICE LIFE

Cartridge

In ideal conditions the cartridge will process the number of litres specified. As an example a 4000 litre cartridge will last approximately 3 years & 7 months. This is based on the user filtering 3 litres per day; as per the WHO guidelines for drinking water recommendations*

Activated carbon filter

Each activated carbon filter will process 250 litres of water. If the Bottle is used to process 3 litres of water per day, each activated carbon filter will last approximately 2 ½ months before a replacement activated carbon filter is recommended.

*These are approximate life spans based on the Bottle cartridge being kept hydrated as per the storage instructions and well maintained as per the maintenance and care instructions.

STORAGE

The Bottle

Before first use, the Bottle should be kept in a dry place out of direct sunlight. After first use, protect the Bottle against extreme temperatures.

Keep the membranes of the cartridge hydrated by storing at least 1 inch / 2.5 cm of water in the Bottle at all times whilst keeping the Bottle sealed with the pump, nozzle and snap fit lid in place. Failure to do so will cause the membranes to dry out, the nano-filter pores to close and the system to shut down. This is not covered under your warranty and you will need to purchase another cartridge.

Refresh this water on a regular basis to avoid water stagnating. Always store the Bottle in a cool dry place when not in use, ideally between 5-20°C

Activated carbon filter

After opening a pack of activated carbon filters ensure that you store the additional, spare activated carbon filters within the foil zip lock bag or within a sealed container. This will preserve their shelf life for up to 3 years. If left unsealed, the activated carbon filters will expire within 2 months.

When storing the Bottle for a period of 1 month or more, the activated carbon filter should be removed and discarded. Replace with a new carbon filter before next use.

STORAGE CONT.

Before re-using the Bottle:

- Clean the Bottle before re-use (see page 10 for how to clean the Bottle).
- Replace with a new activated carbon filter before re-use (see page 9 for how to install an activated carbon filter).
- If the Bottle has been stored for 12 months or more without use, fit a new blue pre-filter sponge and wash the nozzle in warm detergent solution before re-use.

How to prevent hardness salts building up on the cartridge during long-term storage

Prolonged storage in areas of hard water will result in the crystallisation of calcium, magnesium and salts on and within the membranes of the cartridge. To prevent this from happening, keep the membranes of the cartridge in the Bottle hydrated by storing at least 1 inch/2.5cm of water in the Bottle at all times whilst keeping the Bottle sealed with the pump, nozzle and snap fit lid in place.

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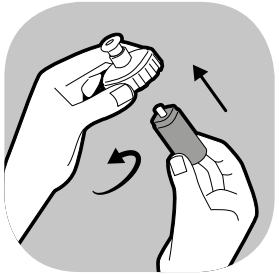

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EXTREME TEMPERATURES

Cold temperatures

After first use, the Bottle should be protected from freezing. Freezing can compromise the integrity of the cartridge. If you suspect the Bottle has been frozen, perform a membrane integrity check, page 12.

Hot temperatures

Do not leave your Bottle in direct sunlight for long periods of time.

For minimum and maximum operating and storage temperatures refer to Performance and Technical data, page 20.

Transporting your LifeSaver® Bottle

When taking the Bottle on an aeroplane ensure that:

- Release pressure from the Bottle by unscrewing the pump base slowly by ¼ turn untill you hear a hiss sound. 1 Hold on to the pump firmly whilst unscrewing.
- Remove the pump.
- Completely drain the Bottle of water. 2
- Screw the pump base back into place.
- Ensure the pump base, screw top, and snap-fit lid are sealed.
- Pack the Bottle securely in the hold or within hand luggage where it will be protected from any impact.
- Pour 1 inch / 2.5cm of water into the Bottle when the destination is reached. 3
- Perform a membrane integrity check before re-use.

FAILSAFE™ TECHNOLOGY

The Bottle incorporates Failsafe™ technology - an automatic indicator of when the cartridge needs replacing. When the service life of the cartridge has been fulfilled, the pores in the membranes will be blocked by contaminants. The filter stops passing water taking away the guess work of knowing whether your filter is still effective in filtering out contaminants. At this point you should replace your cartridge.

As the cartridge reaches the end of its life

As the cartridge reaches the end of its life, a greater number of pumps are required to induce water flow. There will come a point at which despite the recommended maximum number of pumps water does not flow. Before you install a new cartridge, check:

- The level of water in the Bottle. As the water level becomes low, flow rate can reduce.
- Clean the Bottle as the cartridge may be covered in dirt and debris causing flow rate to be reduced (see page 10 for how to clean the Bottle).

PERFORMANCE AND TECHNICAL DATA

Minimum operating temperature	>0°C (32°F)
Maximum operating temperature	50°C (122°F)
Minimum storage temperature *	-10°C* (14°F)
Maximum storage temperature	50°C (122°F)
Initial flow rate**	1500 litres (1.3L/min @ 0.25 Bar (g)) 4000 litres (2L/min @ 0.25 Bar (g)) 6000 litres (2.5L/min @ 0.25 Bar (g))
Cartridge service rating**	1500 litres (396 US gallons) 4000 litres (1056 US gallons) 6000 litres (1585 US gallons)
Dry weight of Bottle inc. cartridge	635 grams approx (approx 22 oz)
Bottle storage capacity	750ml (1.6 US pints)

Product materials and water effluent BPA and BPS free

MICROBIOLOGICAL FILTRATION EFFICACY

Bacteria retention***	>99.9999% (Log 6)
Virus retention***	>99.99% (Log 4)
Cysts reduction***	>99.99% (Log 4)
Chemical reduction	Optional activated carbon filter improves taste and smell by reducing trace elements of chlorine, pesticides and some heavy metals.

Bottle compliance:

Testing is based on a suitable adaption of NSF/ANSI P231. These units are tested with two different types of water to challenge the filtration capability beyond the standard use. All figures quotes are taken from the stressed challenge phase of the test imitating sewage contaminated water.

* After first use the product should be protected against freezing

** Flow rates and service rating dependant on the composition and turbidity of the feed water

***Tested by BCS laboratories issued 05/01/15 based on an adaption of NSF/ANSI P231 Protocol

FAQ'S:

Q. Where do I purchase additional cartridges & replacement items?

A. Replacement cartridges and other LifeSaver Bottle consumables are available for purchase from www.iconlifesaver.com

Q. Where do I dispose of used cartridges?

A. The cartridge is made of recyclable plastic and should be disposed of at a recycling centre. If this is not possible, you can dispose of it in your normal household waste.

Q. Can the LifeSaver® Bottle filter other liquids apart from water?

A. The LifeSaver Bottle is designed to filter water only. It is not designed for filtering sugared or carbonated drinks, alcohol or any other liquids.

Q. What are the dimensions of the LifeSaver® Bottle?

A. LifeSaver Bottle is approximately 300mm in height and 90mm in diameter (12in x 3 1/5in) at its widest point.

Q. How long does an activated carbon filter last?

A. Each activated carbon filter will last approximately 250 litres before a replacement is recommended. If you are storing the Bottle for prolonged periods, before re-use remove the old activated carbon filter and replace with a new one. See page 9 for how to install a new carbon filter.

Q. Could the LifeSaver Bottle be used to filter and drink urine?

A. You can filter urine with the LifeSaver Bottle and it will remove all the microbiological contamination however as there is a certain quantity of salts in urine the resulting water will have a level of salts dissolved into it that the LifeSaver Bottle will not remove. This will increase as the urine is repeatedly filtered.

We suggest you could potentially do this up to four times before the salts levels become dangerous. However it is recommended that you seek alternate water sources before using the LifeSaver Bottle in this way.

Q. Does the LifeSaver Bottle filter salt from sea water?

A. The Bottle will not filter seawater or any other salts from water; because salt is in solution. LifeSaver technology only removes particles held in suspension.

Q. The pumping action has become stiff

A. The most likely reason for this is a lack of silicone grease in the pump tube. See page 14.

Q. I am finding it difficult to unscrew the base

A. This could be due to over pressurisation or over tightening of the base. To help resolve this, leave the teat in the open position for 1 hour and try again to unscrew the base. If this doesn't work, soak the Bottle in hot water to soften the plastic base and try again to unscrew.

Q. I am pumping but no water is coming out

A. Your cartridge may have expired or may require cleaning. See page 10 for how to clean your Bottle.

INTERNATIONAL LIMITED WARRANTY:

Thanks again for purchasing LifeSaver Bottle. If you have any questions relating to this or any other product in our range please contact us via our website where we will be more than happy to help.

If purchased from Icon LifeSaver ltd directly or an authorised LifeSaver reseller the LifeSaver Bottle comes with a 2 year international warranty from the date of purchase against defects in materials and workmanship. Should your LifeSaver Bottle prove defective within 2 years from the date of purchase you should return it to the retailer that you originally purchased it from. Icon LifeSaver ltd will, at its sole discretion, repair or replace the damaged item(s).

You should ensure that you retain your proof of purchase showing the date on which you purchased your LifeSaver Bottle. Without it we are unable to offer warranty assistance. This International Limited Warranty does not affect your statutory legal rights.

The warranty is non-transferable and does not apply to second hand purchases.

DISCLAIMER

The information and data contained in this document are based on our general experience and are believed to be correct. They are given in good faith and are intended to provide a guideline for the selection and use of our products. Since the conditions under which our product may be used are beyond our control, this information does not imply any guarantee of final product performance and we cannot accept any liability with respect to the use of our products. The quality of our products is guaranteed under our conditions of sale. Existing industrial property rights must be observed.

All details given on and in this instruction manual are believed to be correct at the time of going to press. We reserve the right to make improvements and/or modifications to the equipment herein.

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