

SILVER FUTURE ANTIBACTERIAL BEVERAGE BOTTLE



A NEW TYPE OF BEVERAGE BOTTLE

Did you know that conventional plastic and stainless steel beverage bottles are breeding grounds for bacteria?

A conventional bottle becomes polluted when it comes into contact with the mouth or saliva of a person, thereby allowing various bacteria to enter the bottle and proliferate inside it. It is mistakenly believed that bacteria have difficulty in surviving in hot liquid contained in the bottle but when the temperature of the liquid is reduced to level that is capable of being drunk by humans, bacteria actively proliferate.



There is a risk of contamination by harmful bacteria such as *Streptococcus mutans* (a major cause of tooth decay) and *E coli* (a food-poisoning bacteria). Children frequently drink from the same bottle and this too is a cause of contamination.

Until now and the development of FOREVER's *Silver Future* bottle, there has never been a bottle with the effective function of preventing bacteria from proliferating, or of destroying and eliminating bacteria. No other bottle on the market has such beverage quality maintaining functions.

ANTIBACTERIAL PROTECTION

The antibacterial effectiveness of silver has been known for centuries. The history of using silver in dishes or to store beverages is long, and the antibacterial and bacteria-reducing functions of silver are well-known. Silver is not at all harmful to humans and does not have a harmful effect upon bacteria that are beneficial to humans, such as *Lactobacillus*.

At FOREVER we have for many years applied, at high temperature, a sintered silver oxide surface layer to our line of kitchen knives to give them an additional, hygienic feature. We have used the same method to apply a sintered silver oxide surface layer to the interior of the *Silver Future* bottle. The ultra thin surface layer is permanent and won't fade away with washing.

ANTIBACTERIALIZE

When a drink - water, tea, coffee etc. - is left in the *Silver Future* bottle for a minimum period of 6 hours (the time required to achieve antibacterial effect) that drink becomes antibacterialized. This does not affect the taste or the quality of the drink in any way.

Interior of
regular bottle



Interior of *Silver Future* bottle

The color of the inside is different because of the antibacterial surface layer.



6
hrs

TESTING TO PROVE EFFECTIVENESS AGAINST BACTERIA

A typical antibacterial effectiveness test requires that antibacterial effect be achieved within a reference time of 24 or 48 hours. However, in practice bottle users expect effectiveness much sooner. Independent testing, conducted at the internationally respected Japan Food Research Laboratories in Tokyo, showed that the *Silver Future* bottle could destroy and eliminate *E Coli* bacteria within 6 hours. In another test, *Streptococcus mutans* (tooth decay bacteria) was eliminated within 3 hours. This shows that the *Silver Future* bottle is an ultra-hygienic bottle and carries the SIAA mark.

ANTIBACTERIAL EFFECTIVENESS TEST		
Test Bacteria: <i>E Coli</i> (food poisoning bacteria)		
TEST SPECIMEN	NO. OF LIVE BACTERIA (per ml)	
	TEST START	AFTER 6 HOURS
SILVER FUTURE BOTTLE	640,000	< 10
REGULAR BOTTLE	640,000	570,000

※ 200ml of mineral water, including *E coli* was added to a *Silver Future* bottle and a regular bottle. The number of bacteria present was measured at the start of the test and then again after a period of 6 hours.
※ < 10 = Below detectable level

ANTIBACTERIAL EFFECTIVENESS TEST		
Test Bacteria: <i>Streptococcus Mutans</i> (tooth decay bacteria)		
TEST SPECIMEN	NO. OF LIVE BACTERIA (per cm ²)	
	TEST START	AFTER 3 HOURS
SILVER FUTURE BOTTLE	13,000	< 63
REGULAR BOTTLE	13,000	16,000

※ 200ml of mineral water, including *Streptococcus mutans* was added to an antibacterial plate and a non-antibacterial plate. The number of bacteria present was measured at the start of the test and then again after a period of 3 hours.
※ < 63 = Below detectable level

Testing conducted at the Japan Food Research Laboratories



SIAA mark

The SIAA brand mark is borne on products that meet JIS Z 2801, and are under quality control and information disclosure by the guidelines of the Society of Industrial Technology for Antimicrobial Articles.



USER FEEDBACK

We have tested the Silver Future bottle widely and received feedback from many users. From this we have been able to see that antibacterialized drink has many benefits. These are summarized below, though the results differ from person to person. All respondents waited *6 hours* for antibacterial effect to be achieved before using the bottle.

- *"Sticky feeling in mouth went away after rinsing with water from the bottle."*
- *"Improved mouth odor and freshened breath."*
- *"Condition of stomach improved."*
- *"Symptoms of constipation were relieved after using the bottle for several days."*
- *"Frequency of urination increased and swelling in legs and knees decreased."*
- *"Blood pressure became more stable."*
- *"Complexion of skin was improved after washing face with water from the bottle."*
- *"Itchy feeling on leg disappeared after rubbing the water on it."*



SERIES LINE UP

Bottles are available in 3 styles – Flip Top Type/ Push Button Type / Twist Top Type – each with a maximum capacity of 500ml. The bottles are insulated and will keep drinks warm or cold for a period of several hours.

FLIP TOP TYPE



GMOB-048BK/GO/R

PUSH BUTTON TYPE



GMPB-048BK/GO/R

TWIST TOP TYPE



GMHB-048BK/GO/R