

A dynamic splash of water against a light blue background, with ripples visible at the bottom. The splash is captured in mid-air, creating a sense of movement and freshness.

ALPRO Water-care Systems

Guide offers:

Water testing

Biofilm Removing

Daily decontamination

Weekly disinfection

 **ALPRO**[®]
ALPRO MEDICAL GMBH

Crystal clear and safe

Decontamination of treatment water by ALPRO



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Why BRS® from ALPRO?

Alpro Medical GMBH is a chemical company from Germany, specializing exclusively in research and development of innovative, non toxic and fully biodegradable chemicals for the medical industry. The company has over 30 years of experience in the development of it's own Alpro products as well as manufacturing branded products for the manufacturers of dental equipment such as Sirona, Planmeca, EMS, W&H and NSK.

Alpro's unique formulations have been fully tested and validated by many University studies over the last 20 years (refer to www.biodegree.com.au/studies). Alpro's BRS® system has been used in Europe for the last 10 years. It is the number one choice for removal and control of biofilm overgrowth in DUWL. BRS® does not contain peroxide, chlorine, silver and iodine. The unique composition of the BRS® chemicals breaks down biofilm without harming equipment or polluting the environment.

The BRS® both cleans (the most important part of the biofilm removal process) and disinfects the DUWL. Most other systems just disinfect the top layer of the biofilm.

Over 10.000 satisfied users are equipped with BRS® systems comprehensively and successfully maintaining the required hygiene water status in DUWL.

Using BRS® followed by Alpron/Bilpron, EN ISO 16954:2015 requirements are met and drinking water quality in dental units is achieved.



What is Biofilm?

Biofilm is an accumulation of different types of bacteria in a protective matrix of extracellular polymer substances (EPS).

Bacterial colonisation in dental units

It is a fact that bacterial colonisation in dental unit waterlines develops and it cannot be prevented without an adequate hygiene management.

The typical aquatic bacteria (including e. g. legionella, pseudomonads, staphylococci, streptococci ranging to fungi) are found (according to nutrient supply) in various concentrations in the water supply in dental units. This is due to contamination of public water, moisture trapped in dental unit tubings, the general design of dental equipment and other factors.

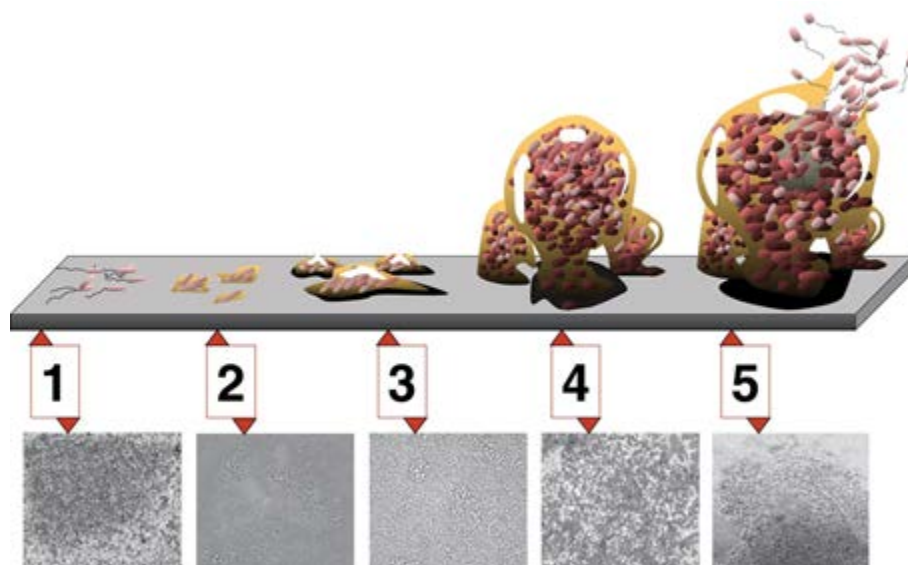
Retrograde contamination (suck back) also allows typical bacteria from the oral flora to sneak in to the dental unit water line. These bacteria find ideal conditions in DUWL for growth and colonization due to stagnation of the water and temperature fluctuation. When the biofilm is established it is extremely difficult to remove it.

Four stages of biofilm growth

- Bacterial attachment to the surface
- Micro colony formation
- Biofilm maturation (Every 20 minutes cells can double, in 10 hours under perfect conditions biofilm can reach over 1 billion cells)
- Detachment of the biofilm particles.

Signs of biofilm presence in DUWL

- Low water pressure
- Bad smell
- Visible green or gray film coating at the end of tubing or water bottle
- Blockages in the handpiece
- Water colour change



Water testing

Why do we need to test the water in DUWL?

- to check the general water quality in the Dental Units for the presence of the biofilm
- to monitor the efficacy of the chemical treatment agents currently used

By performing the simple water test we can determine the level of bacterial contamination and prove the efficacy of the disinfecting solution currently used.

What is the Biotest?

It is a strip of jelly like substance called agar agar derived from red algae. It provides the food for the bacteria to grow and multiply.

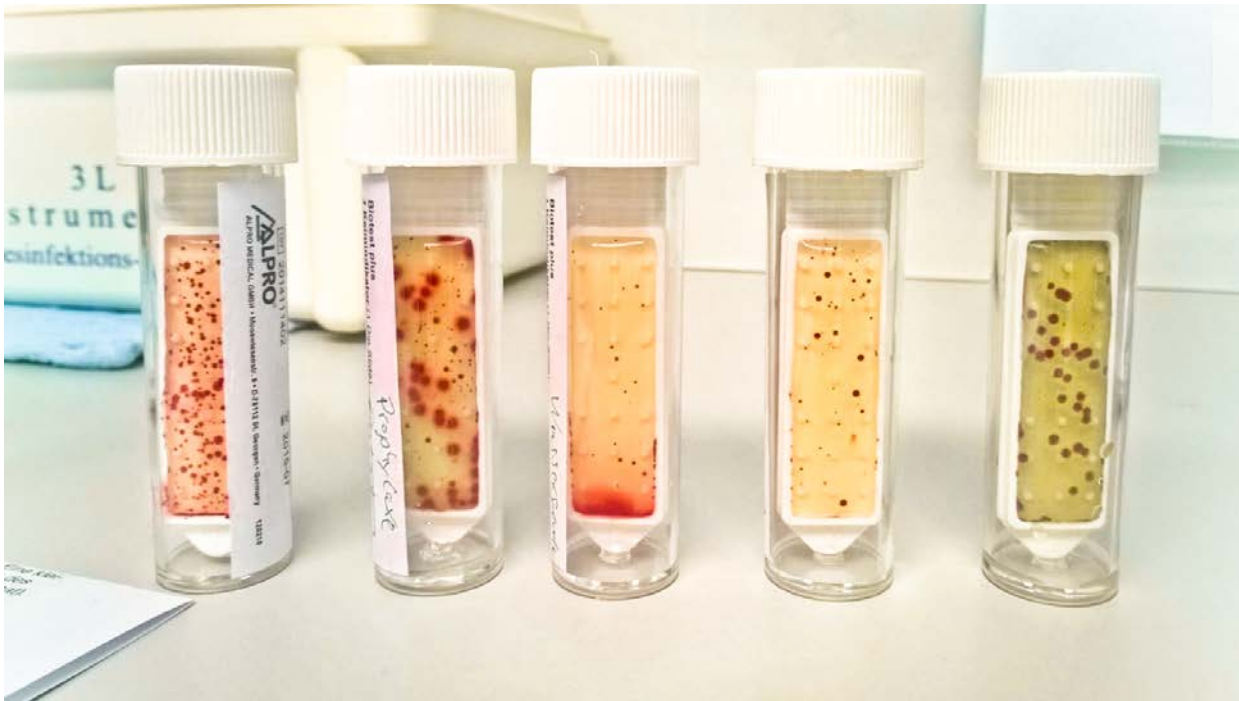
Understanding of the Biotest results

The microbial count on the surfaces is measured in **CFU per mL**.

CFU stands for COLONY FORMING UNIT, the amount of the bacteria and fungi present in the sample unit.

Biotest does not replace the microbiological lab test!

Biotest is considered to be an indicator only. Based on the pattern formed, we can only speculate on the level of possible contamination.



The size of the visible dots is not as important as the quantitative response. Each dot represents approximately **100 CFUs per mL**. A high number of visible dots represents higher contamination. According to the current ADA guidelines when treating medically compromised patient it is recommended that the water from the dental unit water lines contains no more than **200 CFUs per mL**.

How to use the blotest?



Fill a cup with a mixture of water coming from all the water lines (turbines, contra-angles, handpieces, scalers, triplex syringes and spittoon)



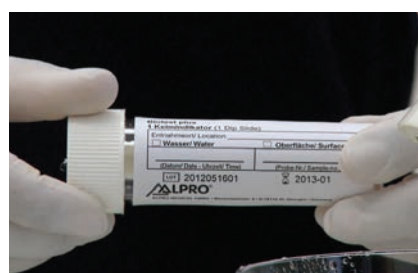
Just before use turn the dip slide counterclockwise and remove it from the tube.



Dip the gel culture medium completely into the cup of collected water and keep it there for **10 seconds**.



Remove the dip slide from the water and place it back into the tube.



Close the tube tightly.

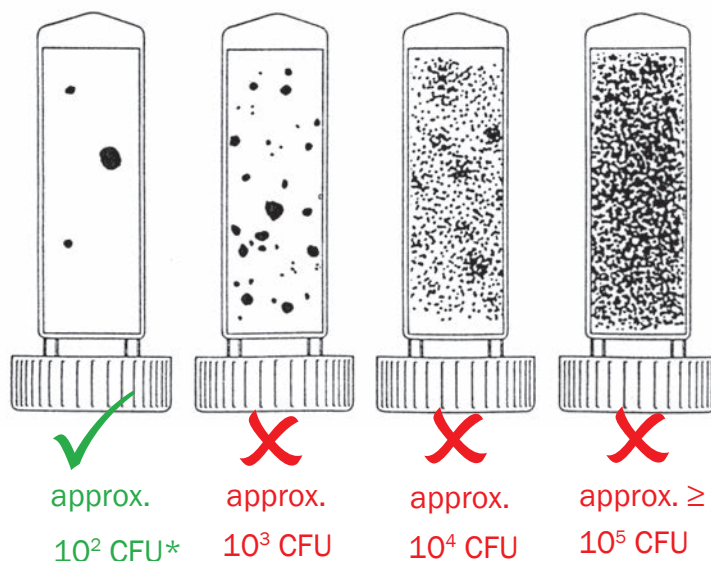


Label the tube with the date when sample was collected.

Incubation

Wrap the tube in a towel and place it in a warm spot with a minimum temperature of **25 deg. Celsius** for the **next 5 to 7 days**. Temperature drop increases the chance of false reading, meaning no bacterial population will show on the biotest.

The comparison of the following illustrations gives an indication about the level of contamination of the tested surface or liquid.



*Limit value according to the German Drinking Water Ordinance.

Application of BRS® for units with the external water bottle system

Safety advice



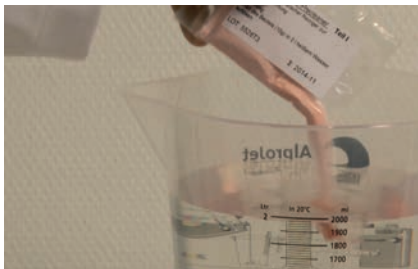
Wear eye, face and hand protection when using BRS® system.

Step 1



Remove all removable instruments such as: handpieces, couplings, contra-angles, scalers (if possible), triplex syringe tips.

Step 2



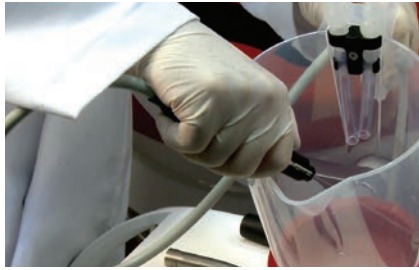
Mix 1 sachet of the pink BRS® PRECLEANER powder with 2L of hot water. The water temperature has to be between **50C and 60C, but not less than 50C!** Use the thermometer to measure the water temperature. Make sure the powder is evenly dissolved in the water and the solution turns pink.

Step 3



Remove the bottle from the external bottle system attached to the chair and pour the pink solution inside the bottle.

Step 4



Reattach the bottle to the unit, and run the pink solution through all the dental chair instrument lines until the pink solution comes out visibly and all the solution from the bottle is used up. Do not forget about running the solution via the spittoon. Make sure all lines are now completely filled with the pink solution. The tubes should feel very warm. Now all the lines are internally covered with the BRS® PRECLEANER.

Step 5



15 to 20 minutes

Leave it without any flushing with water for the next 15 to 20 minutes.

Step 6



Prepare the blue liquid BRS® REMOVER in the same way as previously prepared BRS® PRECLEANER, using same water temperature (always checked with thermometer) and same amount of water (2L).

Step 7

Run the blue solution via the water lines, same way you did with the BRS® PRECLEANER.

Step 8



20 minutes

Leave it inside the tubes for 20 minutes.

Step 9



Flush out the residues of BRS® PRECLEANER and BRS® REMOVER from the bottle and clean the bottle internally with BC-San or alternative cleaner, leaving the bottle without any residues of biofilm such as yellow, green or grey coating. **Dirty bottles easily become the source of biofilm recontamination!**

Step 10



Fill clean bottle with the warm clean water (**min 40 deg.C**) and run the water through all the hoses, until all solutions are completely flushed out and the water looks clear. Do not forget about the spittoon!

Step 11



Fill the bottle with 300 ml of **BILPRON**.

Step 12

Run it through all the instruments until the blue solution comes out visibly. Stop at this stage and leave the solution inside all of the lines for minimum 12 hours or preferably over the weekend. Do not flush the lines at this stage with water.

Step 13



Upon returning (**12 hours minimum or full weekend**), fill the bottle with water containing **ALPRON** solution (**10 mL to 900 mL** of water) for daily decontamination (not a part of BRS® kit) or plain clean water. Remove the input filter, and replace it with the new one, since it can become the source of the recontamination. Run it through all the lines and the spittoon until all blue solution is completely out and the water looks clear.

Step 14



Do not forget to retest the water after **3 days**.

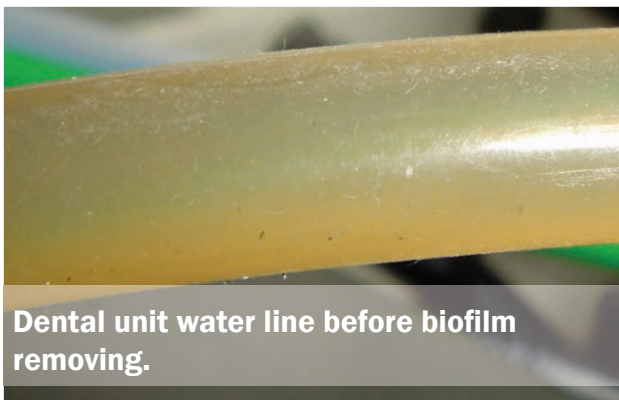
Step 15

Repeat the whole process if CFU count is still too high.

Application of BRS® for units without the bottle system

When the dental unit is directly connected to the public water system (main city water) the biofilm removing process has to be performed by your trusted dental service technician. The process will involve disconnecting the dental chair from the public water source and pumping the BRS® precleaner, remover and BILPRON disinfectant via reciprocating plunger pump into the water line of the dental unit.

For more information contact the company servicing your dental equipment.



Post BRS® follow up water management protocol

Once the water lines have been cleaned, disinfected, retested and the bacterial count is **below 200 CFUs per mL** it is time to introduce the daily decontamination and weekly intense disinfection.

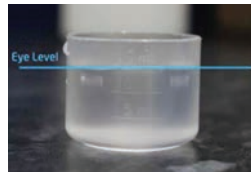
Daily treatment water decontamination

For the daily treatment of procedural water the use of **ALPRON** is recommended in the bottle care system.



Mixture ratio for ALPRON

10mL of ALPRON mixed with 990mL of water



Pour the solution into the bottle care system and use it during the treatment. Life shelf of the mixed solution is maximum 24 hours.



Intensive weekly water line disinfection

In order to stop the biofilm from quick regrowth in dental unit water lines it is essential to carry out weekly disinfection of the lines over the weekends, holiday periods or surgery shutdowns lasting longer than 24 hours.

The weekly disinfection takes place over night when the full strength **BILPRON** solution is run through all the instrument hoses and left inside the tubes without rinsing.

Step 1

Pour **250mL to 300mL** of full strength **BILPRON** into the bottle care system.

Step 2

Remove all instruments from the hoses. Run the solution through all the lines including spittoon until you see blue colour solution coming out of the tubes.

Step 3

Stop the process without rinsing with water and let the **BILPRON** settle inside the unit.

Step 4

The solution can stay inside the water lines for up to **3 months** without the top up.

Step 5

Upon returning from the weekend, holiday or longer shut down of the surgery flush out the water lines with procedural water or **ALPRON** mixture until blue coloring from **BILPRON** is no longer visible and the water comes out clear.

**For all product info and safety data sheets please refer to our website
www.biodegree.com.au**

Order codes

Use below reference codes when placing your order in Australia.

ARTG # 226414 (BRS kit)

Ref codes:

3079 Biotester (10)



3179 BRS kit



3181 Bilpron 1L



3183 Alpron 1L



4022 Dosage pump for Alpron/Bilpron



3199 BC-San 100ml



Safe. Clean. **ALPRO.**

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