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.

ALPRO®

ALPRO MEDICAL GMBH

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

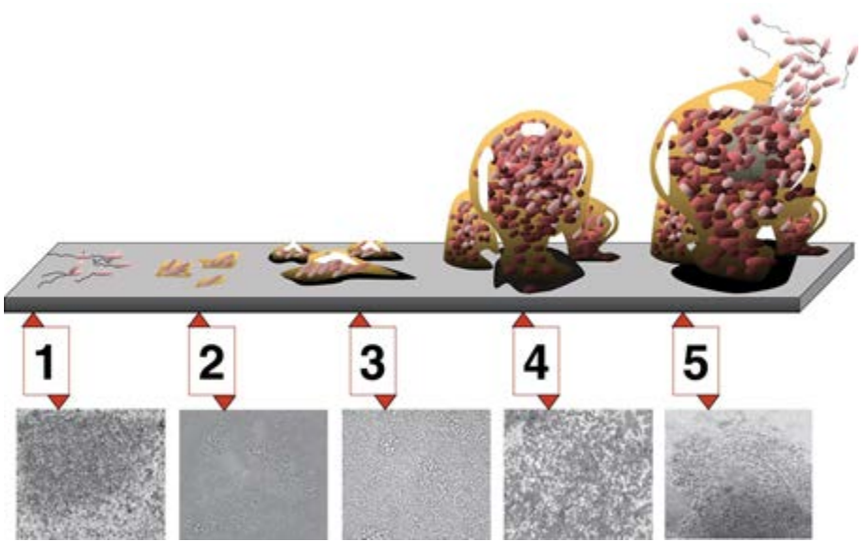
It is a fact that bacterial colonisation in dental unit waterlines develops and it cannot be prevented without an adequate hygiene management.
The typical aquatic bacteria (including e. g. legionella, pseudomonads, staphylococci, streptococci ranging to fungi) are found (according to nutrient supply) 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?

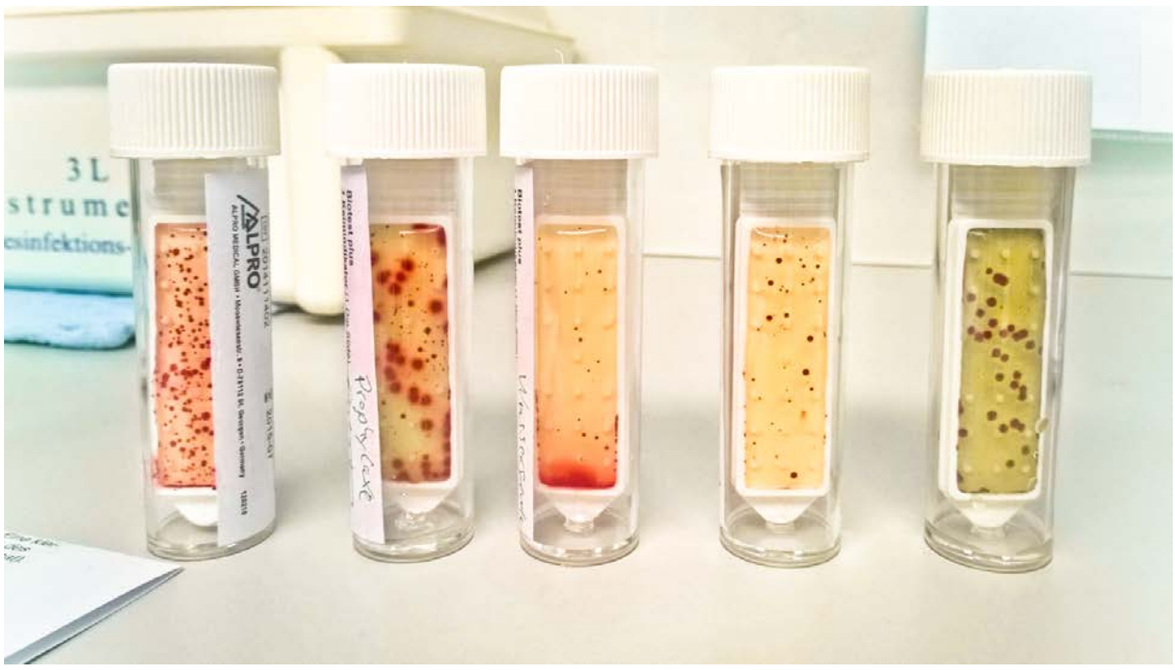
It is a strip of jelly like substance called agar agar derived from red algae.
It provides the food for the bacteria to grow and multiply.

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.

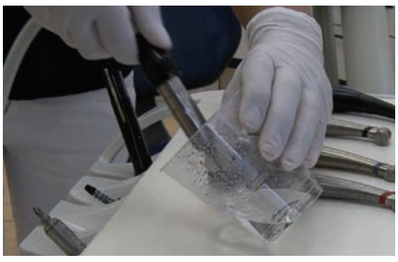
Biotest does not replace the microbiological lab test!

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.**

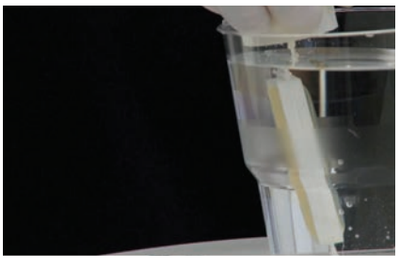
How to use the biotest?



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



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



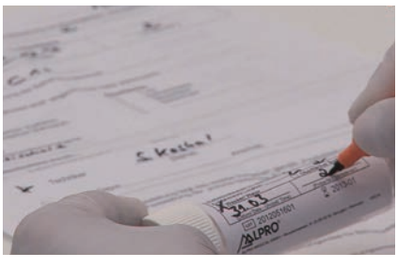
Dip the gel culture medium completly into the cup of collected water and keep it there for **10 seconds.**



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



Close the tube tightly.

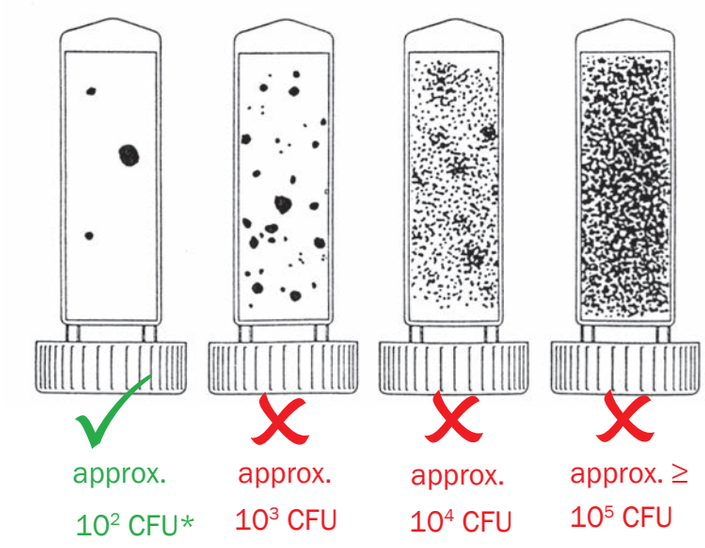


Label the tube with the date when sample was collected.

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.