

# Technical Background Screw Cap Tubes (-200°C to 110°C)

BIOplastics Screw Cap Tubes are an excellent means of storage. They are made of polypropylene, with frosted writing areas and with a plain, homogeneous surface inside. Screw Cap Tubes are categorized into three different volumes: 0.5 ml, 1.5 ml and 2.0 ml. Screw Cap Tubes are available as conical or free standing and sterile as well as non-sterile. The screw cap tubes have a working range of -200°C to 110°C and can be centrifuged up to 20,000 g.

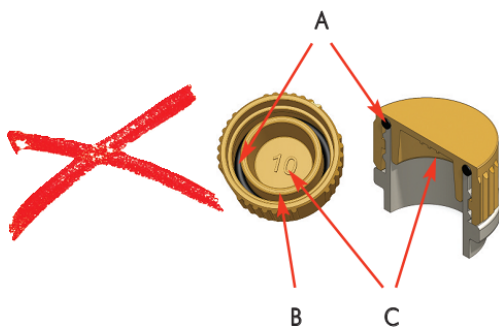
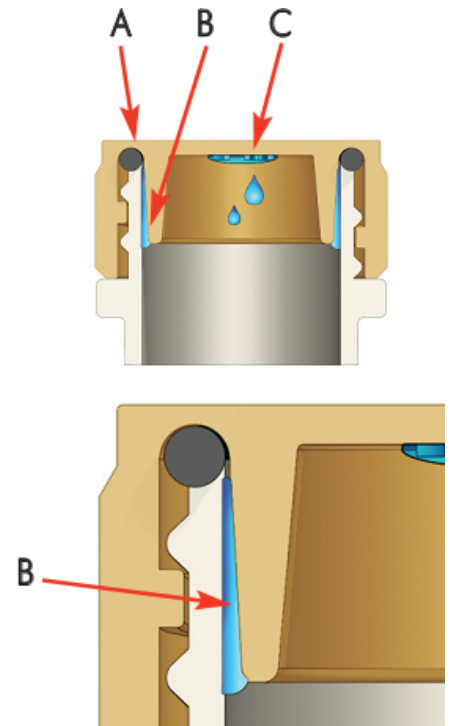
## Screw Cap closure technology

BIOplastics recently introduced a new innovative product, Screw Cap Tubes with Smart Secure Closure Technology, which results in superior Screw Cap Tubes. The screw caps are designed in a way that the use of "old fashioned" rubber rings has become obsolete since its performance is superior, when compared to regular screw cap tubes. The absence of a rubber ring assures that the closure is not affected when in contact with organic solvents nor that leakage occurs due to hardening and unbalanced shrinkage caused by low and high temperatures and pressure. The new Smart secure closure design allows frequent opening and closing, even in extreme conditions, without compromising the closure and avoiding leakage.

## Colored Screw Cap Tubes and colored screw caps

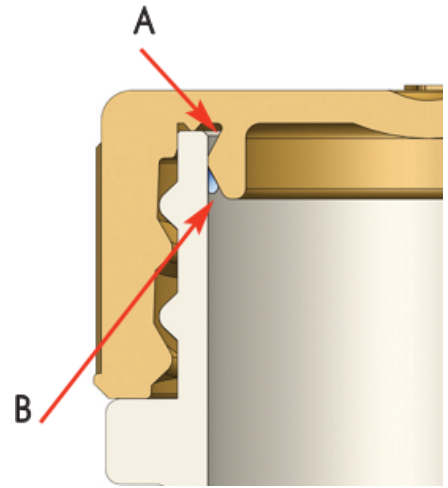
The marketplace uses natural colored screw cap tubes with colored caps. In some cases screw cap tubes are used with the caps attached to the tubes to prevent contamination of similar tubes by means of mixing up caps. However pipetting with an attached lid is not optimal since the spacing of tubes, the overall footprint, and the chance of touching the inner part of the cap are all major drawbacks. To overcome these drawback and prevent cross contamination, we have not only colored our screw caps but also offer screw cap tubes in 10 different colors. BIOplastics is the first company in the world offering COLORED SCREW CAP TUBES AND COLORED SCREW CAPS which enable not only a wide variety of color coded combinations (colored tube and colored cap) but also significantly reduces the chance of cross contamination caused by mixing up incorrect colored cap to tube closure.

## Old traditional Screw Cap Tubes and Caps with O-Rings

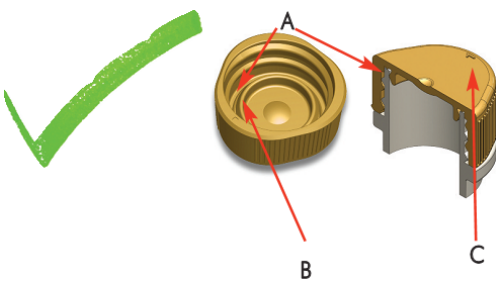


- A. Rubber ring, may contaminate your sample, dissolves in organic solutions, become brittle in time and may break at lower temperatures
- B. Inner cylinder sitting in the tube and causing loss of sample, inconsistency of result and increases contact sample to tube surface
- C. Cavity number inside the cap: source of binding and contamination

## Screw Cap Tubes And Caps With Smart Secure Closure Technology



- A. Smart closure, avoids sample contaminate, withstands organic solutions, remains soft at extreme low and high temperatures
- B. Absence of cylinder sitting in the tube assures maximum sample recovery, consistency of result and decreases contact sample to tube surface
- C. Cavity number outside of the cap avoids binding and contamination



## Tube and cap facts. Why and how it works better for you.

- Triangular cap:
  - decreases chance of rolling away
  - easy handling & holding in hand
- Smart closure:
  - avoids sample contamination
  - remains soft at extreme low and high temperatures
  - enables the use of organic solvents
  - assures no leakage
- Absence of cylinder sitting in the tube:
  - assures maximum sample recovery, consistency of results and decreases contact sample to tube surface
- No logo inside of cap:
  - avoids sticking of molecules in corners and reducing total contact surface

## Secure closure and easy closure cap range for Screw Cap Tubes

Screw caps for screw cap tubes are offered in two selectable versions: The regular Secure Closure and the new Easy Closure Screw Cap.

For robust applications such as long term storage:  $\geq 3$  years below  $-80\text{ }^{\circ}\text{C}$  or incubation at  $\geq 95\text{ }^{\circ}\text{C}$  for  $\geq 2$  hours, one should opt for the regular Secure Closure Caps. For less robust applications:  $\leq 3$  years higher than  $-80\text{ }^{\circ}\text{C}$  or less stringent incubation  $\leq 100\text{ }^{\circ}\text{C}$   $\leq 1.5$  hours, one can opt for the Easy Closure Cap. Both types of caps incorporate BIOplastics' non leaking Smart Closure Cap Technology. The Easy Closure Cap is produced from a completely different material. All types of screw caps and screw tubes are offered in 10 different colors, DNase, RNase, Pyrogen, Metal and ATP free.

## Screw Cap Tubes and Screw Cap Properties

Type of Screw Cap Tube and Cap	Storage $< -80\text{ }^{\circ}\text{C} \geq 3$ years	Storage $< -80\text{ }^{\circ}\text{C} < 3$ years	Incubation $\geq 95\text{ }^{\circ}\text{C} \geq 2$ hours	Incubation $\geq 95\text{ }^{\circ}\text{C} < 2$ hours	Storage $> -80\text{ }^{\circ}\text{C} \geq 3$ years	Storage $> -80\text{ }^{\circ}\text{C} < 3$ years
Regular Screw Cap Tubes with Secure Closure Cap	yes	yes	yes	yes	yes	yes
Regular Screw Cap Tubes with Easy Closure Screw Cap	no	yes	no	yes	no	yes
Low Binding Screw Cap Tubes with Secure Closure	yes	yes	yes	yes	yes	yes

Cap							
Low Binding Screw Cap Tubes with Easy Closure Screw Cap	no	no	yes	yes	no	yes	
Bead-Beat Screw Cap Tubes with Secure Closure Cap	yes	yes	yes	yes	yes	yes	yes
Bead-Beat Screw Cap Tubes with Easy Closure Screw Cap	yes	yes	no	yes	yes	yes	yes

**How to open and close the tubes easily**

This is how you do it.....

**SCREW THE TUBE TO THE CAP** instead of the cap to the tube!

