

There are still a number of questions regarding the freeze/thaw characteristics of the BioGuard Soft Swim products, more specifically the Soft Swim Bactericide B. This document serves as a follow-up to a previous Technical Information Bulletin to clarify any remaining business. Laboratory tests show that the Soft Swim Bactericide B product becomes cloudy after freezing. Furthermore, the degree of turbidity increases with subsequent freezing and thawing. Turbidity can be simply defined as the degree of cloudiness of water and is measured in Nephelometric Turbidity Units or NTUs. Basically, the greater the turbidity or the higher the NTUs, the cloudier the sample appears. (The chart below demonstrates the increase in turbidity resulting from freezing and thawing of the Soft Swim Bactericide B.)

**SOFT SWIM BACTERICIDE B
FREEZE/THAW STUDY**

Freeze/Thaw Cycle	Turbidity (NTU)
1	
2	
3	
4	
5	
6	
0	
62	
100	
226	
375	
410	
506	

Laboratory and field experiments were performed using a sample of Soft Swim Bactericide B which had been frozen three times. These experiments demonstrated that neither the biocidal activity nor the ability to measure the product in a pool using the Soft Swim Test Kit is adversely affected by three freeze/thaw cycles. Although Soft Swim Bactericide B may acquire a cloudy appearance after it has been frozen, the actual field performance of the product is not affected. No clouding of pools has been observed when cloudy Soft Swim B was used. As a general rule, the Soft Swim Bactericide B should not be allowed to freeze. To prevent freezing, we recommend that these products not be stored below 50° C. Should these products freeze, allow them to thaw at a warm temperature (19° C - 24° C) for 24-36 hours. Shake thoroughly before using. The above information is supplied by Bio-Lab and represents its best interpretation of available technical information at the time of preparation. The sole purpose is to supply factual information to Bio-Lab customers. It is not to be taken out of context nor used as support for any other claim not made herein.

