



What Color Should My Accutase Be?

Accutase[®], cell detachment solution, contains phenol red as a pH indicator. When Accutase is frozen, it undergoes a color change. Below is a picture of a frozen bottle and a frozen aliquot of Accutase immediately after being removed from a -20C freezer .



As the Accutase defrosts, it will slowly return to its usual orange color with portions of it orange and the still frozen “ice cube” in the bottle a yellow color. If the bottle is left undisturbed until defrosted, there will be a gradient of color inside the bottle as illustrated below.





The gradient illustrated on the previous page illustrates the importance of mixing the bottle before using by gently shaking the bottle to produce a fully mixed bottle that looks like the picture below



If after defrosting, the bottle of Accutase is not the color illustrated above do not be alarmed. Remember, the color in Accutase is caused by the phenol red in the product, which is a pH indicator. The difference in color was caused because the pH of the Accutase changed because it was shipped on dry ice in a sealed box. As the dry ice melted during shipment, the CO₂ concentration increased in the shipping box and permeated the plastic bottle of Accutase. A little of the CO₂ dissolved in the frozen Accutase, lowering its pH slightly and thus changing the color of the phenol red. This change in pH is approximately down to 6.8, from the original pH of 7.3. This small change in pH will not affect the performance of the Accutase, but to avoid this phenomenon in the future, the Accutase should be placed in a sealed plastic bag prior to shipping on dry ice and the container should not be sealed air tight. Or better yet, ask for the product to be shipped on “blue ice” which is a frozen water product and maybe better for the environment.

Color Changes in Accutase caused by Incorrect Dry Ice Shipping

