

Possible candidates for the COVID-19 vaccine require storage of the vaccines to be kept at extremely cold temperatures, such as -70 degrees Celsius. To put this climate in perspective, rubber becomes brittle and may even cause tires to shatter in such conditions.

The vaccines are to be shipped with an ample amount of dry ice in order to maintain the required below freezing temperature. Once the vaccine is ready to be administered, they must be thawed at a temperature range between 2 – 8 degrees Celsius. Pfizer's vaccines must be kept in an organized fashion and discarded if unused after 5 days of being kept at the 2 - 8 degrees Celsius temperature range, or 30 days for Moderna's vaccine. Dilution is not required prior to vaccination. Moderna's vaccine can be kept at room temperature for 12 hours.

Crystal has freezer racks suitable for all vial sizes in order to efficiently store vaccines. For any use outside of a freezer or refrigerator, Crystal's FreezeBox authorizes samples to be stored in low temperatures between being taken out of the refrigerator to a benchtop. For low temperatures, no ice is required. The FreezeBox has an easy open lid to avoid frostbite, is light weight and assists in an organized storage environment. The product is a convenient way to ensure that samples are kept at required temperatures.

The FreezeBox can be used with dry ice or a variety of Crystal's Ice Core and tube module accessories. Depending on the size of the samples, 4 different tube modules are available for use; a 30 x 2 ml Cryo Tube module, a 48 x 1.5 ml Cryo Tube module, a 30 x 5 ml Cryo Tube module, and a PCR module. Each module's dimensions measure 119 x 101 x 38 mm. To use the FreezeBox, the corresponding ice core must be stored in a ultra-low temperature refrigerator. The tube module, where samples are to be inserted, must then be placed on the chilled core. Dry ice can be used rather than the ice core if desired. 200g of dry ice must be laid below the tube module containing samples. It is important to remember that the FreezeBox is not to be used inside the freezer.