

COVID-19 Vaccine Storage Information

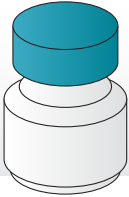

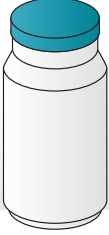
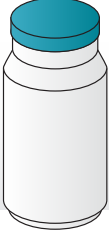
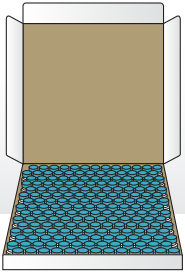
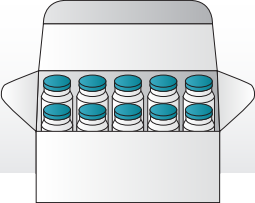
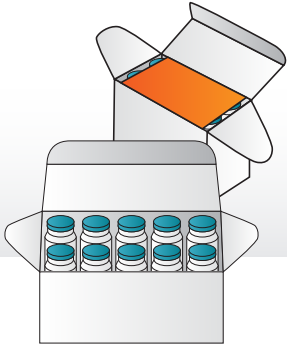
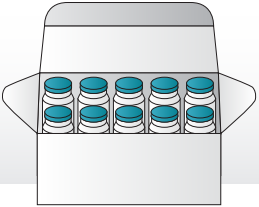
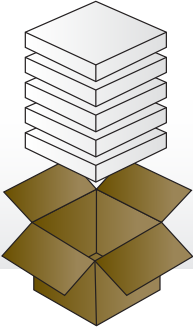
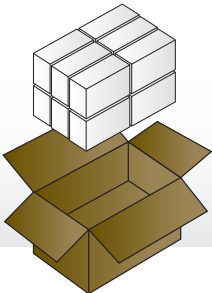
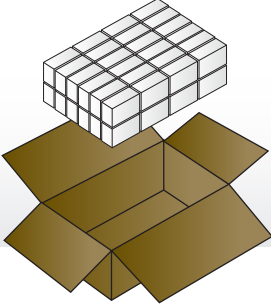
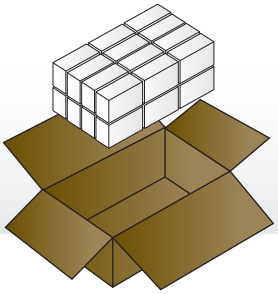
Proper vaccine storage has never been more important. To ensure continued efficacy, vaccine storage conditions must follow strict and consistent temperature requirements. All vaccines must be stored and administered following the vaccine manufacturer's specifications. While these requirements are often similar for different brands of the same vaccine, this is not always the case. This informational guide provides an overview of storage temperature requirements for COVID vaccines currently approved and answers some frequently asked questions about storage for COVID-19 and other vaccines.

This document is intended as a recommendation and is based on storage guidelines available at the publication time for emerging vaccines associated with COVID-19.



COVID-19 Vaccine Storage				
Manufacturer	Pfizer	Moderna	Janssen (J&J)	Oxford - AstraZeneca
Vaccine Type, Brand Name	mRNA, BNT162b1	mRNA, mRNA-1273	Viral Vector, Ad26.COV2.S	Viral Vector, ChAdOx1-S [recombinant]
Shipment Storage	-80°C to -60°C	-25°C to -15°C	+2°C to +8°C	+2°C to +8°C
On-Site Storage	Freezer: -80°C to -60°C	Freezer: -25°C to -15°C	Do not store frozen	Do not store frozen
	Biomedical Freezer: -25°C to -15°C for up to 2 weeks			
	Refrigerator: +2°C to +8°C for up to 120 hours (5 days)	Refrigerator: +2°C to +8°C or up to 30 days	Refrigerator: +2°C to +8°C	Refrigerator: +2°C to +8°C
Time to Use After Thaw	Up to 120 hours (five days) refrigerated	Up to 30 days refrigerated	See carton QR code for expiration information when refrigerated	Up to 6 hours room temperature, up to 30°C refrigerated
	Up to 2 hours (including thaw time) room temperature, up to +25°C	Up to 12 hours room temperature, +8°C to +25°C	Up to 12 hours room temperature, +9°C to +25°C	
Time to Use After Thaw, Reconstituted	6 hours	N/A	N/A	N/A
Dose	Multi, 6 doses per vial	Multi, 10 doses per vial	Multi, 5 doses per vial	Multi, 8 or 10 doses per vial
Doses Required, Wait Time	Two, 21-day wait	Two, 28-day wait	Single-dose	Two, 4 to 12 weeks wait








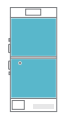
















COVID-19 Vaccine Storage Information

Manufacturer			
Pfizer packaging ¹	Moderna Packaging ²	Janssen Packaging ³	Oxford - AstraZeneca Packaging
			
<p>Primary Packaging</p> <ul style="list-style-type: none"> • 2ml type 1 glass preservative free multi-dose vial (MDV) • 0.45 ml frozen liquid drug • 6 doses per vial 	<p>Primary Packaging</p> <ul style="list-style-type: none"> • Multi-dose vial (MDV) • 10 doses per vial 	<p>Primary Packaging</p> <ul style="list-style-type: none"> • 2.5ml preservative free multi-dose vial (MDV) • 0.5 ml liquid drug • 5 doses per vial 	<p>Primary Packaging</p> <ul style="list-style-type: none"> • 4ml multi-dose vial (MDV) • 10 doses per vial
			
<p>Secondary Packaging</p> <ul style="list-style-type: none"> • Tray: 229 x 229 x 40 mm • Holds 195 vials (1,170 doses) 	<p>Secondary Packaging</p> <ul style="list-style-type: none"> • 10 vials per carton • Carton: 140 x 55 x 64 mm (L x W x H) 	<p>Secondary Packaging</p> <ul style="list-style-type: none"> • 10 vials per carton • Carton: 93 x 38,1 x 54,1 mm (L x W x H) 	<p>Secondary Packaging</p> <ul style="list-style-type: none"> • 10 vials per carton • Carton: 132 x 57 x 50 mm (L x W x H)
			
<p>Tertiary Packaging</p> <ul style="list-style-type: none"> • Internal Carton: 245 x 245 x 241 mm • External Carton: 400 x 400 x 560 mm • Holds 5 trays (5,850 doses) 	<p>Tertiary Packaging</p> <ul style="list-style-type: none"> • 12 cartons per case (1,200 doses) 	<p>Tertiary Packaging</p> <ul style="list-style-type: none"> • 48 cartons per case (2,400 doses) • Case: 388.8 x 242.8 x 120.6 mm (L x W x H) 	<p>Tertiary Packaging</p> <ul style="list-style-type: none"> • 24 cartons per case (2,400 doses) • Case: 288 x 248 x 180 mm (L x W x H)

1) Advisory Committee on Immunization Practices (ACIP) [cdc.gov/vaccines/acip/](https://www.cdc.gov/vaccines/acip/)
 2) [modernatx.com/covid19vaccine-eua/providers/storage-handling](https://www.modernatx.com/covid19vaccine-eua/providers/storage-handling)
 3) Advisory Committee on Immunization Practices (ACIP) [cdc.gov/vaccines/acip/](https://www.cdc.gov/vaccines/acip/)

COVID-19 Vaccine Storage Information

Note: All vial volumes listed are dependent upon storage trays.

Temperature	Manufacturer	High Traffic Capacity	Moderate Traffic Capacity	Low Traffic Capacity
-80°C to -60°C	Pfizer	 MDF-DU901VHL-PE 845 L. 192 Trays 37,440 Vials 224,640 Doses	 MDF-DU702VH-PE 729 L. 144 Trays 28,080 Vials 168,480 Doses	
			 MDF-DU502VH-PE 528 L. 96 Trays 18,720 Vials 112,320 Doses	
-20°C to -15°C	Pfizer ⁴	 MDF-U731M-PE 690 L. 26,520 Vials 159,120 Doses	 MDF-MU539H-PE 504 L. 19,500 Vials 117,000 Doses	 MPR-N450FH-PE 136 L. (Freezer Chamber) 1,755 Vials 10,530 Doses
	Moderna	 MDF-U731M-PE 690 L. 8,800 Vials 88,000 Doses	 MDF-MU539H-PE 504 L. 5,760 Vials 57,600 Doses	 MPR-N450FH-PE 136 L. (Freezer Chamber) 750 Vials 7,500 Doses
+2°C to +8°C	Pfizer ⁵	 MPR-1412-PE 1364 L. 43,680 Vials 262,080 Doses	 MPR-722-PE 684 L. 21,840 Vials 131,040 Doses	 MPR-S300H-PE 345 L. 9,750 Vials 58,500 Doses
			 MPR-S500H-PE 554 L. 15,000 to 20,000 Vials 120,000 Doses	
	Moderna ⁶	 MPR-1412-PE 1364 L. 14,400 Vials 144,000 Doses	 MPR-722-PE 684 L. 7,200 Vials 72,000 Doses	 MPR-N450FH-PE 326 L. (Refrigerator Chamber) 2,640 Vials 26,400 Doses
		Janssen ⁷	 MPR-1412-PE 1364 L. 40,000 Vials 200,000 Doses	 MPR-722-PE 684 L. 20,000 Vials 100,000 Doses
			 MPR-1014-PE 1033 L. 26,000 Vials 133,000 Doses	 MPR-S500H-PE 554 L. 12,500 Vials 62,500 Doses
	Oxford - AstraZeneca	 MPR-1412-PE 1364 L. 17,600 Vials 176,000 Doses	 MPR-722-PE 684 L. 8,800 Vials 88,000 Doses	 MPR-S300H-PE 345 L. 4,000 Vials 40,000 Doses
				 MPR-N450FH-PE 326 L. (Refrigerator Chamber) 3,900 Vials 39,000 Doses

4) For up to 2 weeks. 5) Must be used within 5 days. 6) Must be used within 30 days. 7) Do not freeze.

COVID-19 Vaccine Storage FAQs

Q: Can Pfizer, Moderna, Janssen and AstraZeneca COVID-19 vaccines all be stored in the same model?

A: We understand that distributors don't always have a choice when it comes to COVID vaccine shipments. You might not even know what you're going to get until it arrives. That's why we offer combination freezer/refrigerator units that can allow storage of vaccines across the temperature spectrums. Your PHCbi representative can assist you in making the appropriate selection for storage of COVID-19 and other vaccines.

Q: What should I look for when purchasing a vaccine storage unit?

A: Because of the tight storage temperature requirements for COVID and other vaccines, conventional refrigerators are not recommended. In fact, the CDC recommends freezers or refrigerators that are specifically designed for pharmaceutical and medical-grade storage. These purpose-built models have the superior ability to maintain precise, uniform temperatures throughout the cabinet. This is especially important for vaccines that must not be frozen.

Q: Can the vaccines be stored directly in the PHCbi brand units?

A: You can configure the unit racking to meet your needs for storage of the shipping boxes. Follow the vaccine manufacturers' directions for storage.

Q: Can the door be left open without affecting the vaccines?

A: A temporary temperature rise is normal, especially during a busy clinic day. Be sure to evaluate how quickly the refrigerator or freezer you are considering returns to the setpoint temperature. PHCbi brand models are designed to ensure quick temperature recovery following frequent door openings.

Q: Can dry ice be added to the unit?

A: It is not recommended to add dry ice directly to any PHCbi brand freezer or refrigerator. Dry ice might expose the vaccines to temperatures colder than -50°C. Janssen (J&J) and Moderna vaccines should not be stored using dry ice.^{8,9} You should make an emergency plan to prepare for emergency vaccine storage in response to natural disasters or power outages. PHCbi offer preventive and safe measures like dual cooling devices, or the possibility to install CO₂ back-ups.

Q: At what temperatures can the models be set?

A: We offer a range of models with temperatures suitable for vaccines that require ultra-low temperature storage between -86°C and -40°C as well as models that accommodate vaccines requiring +2°C to +8°C storage temperatures. Additionally, only PHCbi brand products offer combination units with freezer chambers to store vaccines at -30°C to -20°C and +2°C to +14°C in the same footprint.

Q: What type of power source do the models need?

A: PHCbi brand freezers and refrigerators use standard AC outlets. We have models available in 220/230/240 V. Visit our website to view specifications or simply contact your local PHCbi brand representative for details.

Q: Are there energy-efficient PHCbi brand models available?

A: We offer 11 different PHCbi brand models with a high temperature performance and energy efficiency. These include both biomedical and ultra-low temperature freezers as well as high performance refrigerators. Our devices meet EU F-Gas regulation (EU) 517/2014 to help you meet sustainability goals.

Not finding all of the answers you need? Your local PHCbi representative is here to help.

- 8) If the Moderna vaccines are still frozen upon arrival, they can be stored in a freezer between -25°C and -15°C. The CDC Moderna Storage and Handling Summary specifically cautions against the use of dry ice for storage: [cdc.gov/vaccines/covid-19/info-by-product/moderna/downloads/storage-summary.pdf](https://www.cdc.gov/vaccines/covid-19/info-by-product/moderna/downloads/storage-summary.pdf)
- 9) The Janssen (J&J) vaccine should not be frozen and should not be stored at temperatures below +2°C, as recommended in the CDC Janssen Storage and Handling Summary: [cdc.gov/vaccines/covid-19/info-by-product/janssen/downloads/janssen-storage-handling-summary.pdf](https://www.cdc.gov/vaccines/covid-19/info-by-product/janssen/downloads/janssen-storage-handling-summary.pdf)



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