



## General Recommendations

The vaccine cold chain should be maintained at all times during vaccine storage and transport. Due to the risk of temperature excursion associated with vaccine transport, the number of times vaccines are transported should be kept to a minimum.

**Refrigerated vaccines should be transported at 2°C to 8°C (36°F to 46°F).**  
**Frozen vaccines should be transported at -15°C to -50°C (+5°F to - 58°F).**

### Containers

CDC recommends the use of portable refrigerators and freezers for vaccine transport. In the absence of portable refrigerators, other containers can be used. See the table below for details. The equipment used for vaccine transport should maintain the required temperature during vaccine transport.

**Note the following products are used for transport of refrigerated vaccines only.**

The North Dakota Department of Health and Human Service does not recommend or endorse products or manufacturers. Providers may purchase containers that are not manufactured by companies on the list. However, it is important to ensure that any refrigerator/freezer you purchase meets the health department's standards for vaccine storage.

Product	Volume in L	Holding time	Temperature range	Price	Website
CSafe PX3L-U-2-8	3.5 L	12 hours	2 - 8°C	Contact Manufacturer	<a href="https://csafeglobal.com/specialty-solutions/csafecouriers/#couriers">https://csafeglobal.com/specialty-solutions/csafecouriers/#couriers</a>
CSafe PX6L-S-2-8-48	6.3 L	48 hours	2 - 8°C	Contact Manufacturer	<a href="https://csafeglobal.com/specialty-solutions/csafecouriers/#couriers">https://csafeglobal.com/specialty-solutions/csafecouriers/#couriers</a>
CSafe PX6L-S-2-8	8.2 L	12 hours	2 - 8°C	Contact Manufacturer	<a href="https://csafeglobal.com/specialty-solutions/csafecouriers/#couriers">https://csafeglobal.com/specialty-solutions/csafecouriers/#couriers</a>
CSafe PX6L FROZEN	9.3 L	12 hours	< Less than - 20°C	Contact Manufacturer	<a href="https://csafeglobal.com/specialty-solutions/csafecouriers/#couriers">https://csafeglobal.com/specialty-solutions/csafecouriers/#couriers</a>
Cool Cube 03	3 L	65 hours	2 - 8°C	\$649	<a href="https://www.vericormed.com/product/cool-cube-03-at-fridge-temperatures-vt-03-vaccine-transport-cooler/">https://www.vericormed.com/product/cool-cube-03-at-fridge-temperatures-vt-03-vaccine-transport-cooler/</a>
Cool Cube 28	2 L	103+ hours	2 - 8°C	\$ 1,499	<a href="https://www.vfcdataloggers.com/product/cool-cube-28-at-refrigerated-temps-vaccine-transport-cooler/">https://www.vfcdataloggers.com/product/cool-cube-28-at-refrigerated-temps-vaccine-transport-cooler/</a>
TempArmour	8 L	72 hours	2 - 8°C	Contact Manufacturer	<a href="https://www.temparmour.com/vaccine_carrier">https://www.temparmour.com/vaccine_carrier</a>

### Transportation of frozen vaccines

Vaccine manufacturers do not recommend transportation of varicella containing vaccines. If the vaccines must be transported, a portable freezer must be used.

### Vaccine Transport Guidance

CDC recommends the use of portable refrigerators and freezers for vaccine transport.

The transport containers listed have a specific guide on how to pack vaccines. Providers must refer to the specific guide provided by the manufacturer.

Dry ice should not be used for transportation of varicella-containing vaccines.



**Do not transport diluents at freezer temperature.**

**The North Dakota Health and Human Services Immunization Unit requires providers to use a certified, calibrated thermometer during vaccine transport.**

**Do not store vaccines in transport containers.**

**Do not ship vaccines.**

**Vaccines should be attended at all time during transport.**

**If a vaccine is exposed to out-of-range temperature during transport, label the vaccine “Do Not Use” and contact vaccine manufacturers for further guidance.**

If you have questions, please contact the Immunization Unit at: 701.328.3386 or vaccine@nd.gov

## Transportation of diluents

Diluents should be transported with their corresponding vaccines. Diluents that do not contain antigens (diluents for MMR and varicella) can be transported at room temperature or refrigeration temperature. Diluents for ActHIB®, MCV4, Shingrix® and Pentacel® as well as other diluents that contain antigens must be transported at refrigerator temperature. Diluent for rotavirus (Rotarix) may be transported at room temperature or at refrigeration temperature.

## Thermometers

Vaccine temperatures should be monitored at all times during vaccine transport. Data loggers with a probe in glycol are required for vaccine transport, as they measure vial temperature and provide detailed information on temperature during transport. The temperature of the vaccine should be documented at least every hour during transport. Data loggers should be downloaded after each transport and the temperature logs should be submitted with the monthly temperature logs.

## Tips for vaccine transport

- Pack vaccines with their original package. Do not remove vaccine vials from their boxes.
- Record the vaccine type, amount and the time of packaging before transport.
- Make sure that staff participating in vaccine transport are aware of the vaccine cold chain and its importance.
- Vaccine transportation containers should be labeled by appropriate labels such as “fragile” or “refrigerated material.”
- Never transport a multidose vial that is opened.
- Coolant packs should be conditioned before use by leaving them at room temperature for one to two hours until the edges have defrosted and the packs look like they are sweating.
- When you transport vaccines, be sure to place an insulating barrier (bubble wrap, crumpled brown packaging paper, Styrofoam peanuts) between vaccines and conditioned coolant packs to prevent accidental freezing of vaccines.
- Vaccine should not be placed in the trunk of a vehicle. It should be placed in the passenger compartment.
- When you transport vaccines, make sure the immunization staff at the designated location is available to receive and store the vaccines.
- Vaccine should be delivered directly to the receiving facility and upon arrival it should be unpacked and stored at the appropriate temperature (2 to 8°C).

## Vaccine transfer

The Immunization Unit encourages providers to transfer vaccines when they have a state supplied vaccine which they do not anticipate administering before the expiration date. For further guidance on transportation of vaccines, refer to the Vaccine Storage and Handling Toolkit available at:

<https://www.cdc.gov/vaccines/hcp/admin/storage/toolkit/storage-handling-toolkit.pdf>