



Refrigerator Compatibility

This document contains excerpts from the document, “*Vaccine, Handling, Storage and Transport Guidelines*,” available at www.saskpharm.ca under the Reference Manual on the QuickLinks menu.

It is important to understand the functions and components of your storage refrigerator to determine if the unit in your pharmacy meets the requirements for vaccine storage.

A purpose-built refrigerator, also known as a lab-style unit, is the standard for storing large inventories of vaccines. Alternatively, a pharmacy may choose to use a food storage refrigerator, as long as the unit has certain qualities that meet the standards for maintaining the cold chain. Ask your refrigerator supplier about the features of your unit to determine its suitability.

These requirements are as follows:

1. For combination freezer and refrigerator units, there must be a separate external freezer and refrigerator door.
2. The unit must be a frost free model, as this will ensure more uniform temperatures than manual/cyclic defrost models, and reduce the risk of freezing vaccines.
3. The unit chosen should be used solely for the purpose of storing vaccines. Other drugs requiring refrigeration or staff lunches should never be stored in the unit as these items can affect the spatial temperature differential, leading to temperature fluctuations within the unit.
4. The unit must maintain required vaccine storage temperatures through all seasons
5. The unit must be large enough to accommodate fluctuations in vaccine supply due to demand, for example during influenza season
6. The unit must have a calibrated thermometer inside each storage compartment
7. The unit must be placed in a secure location away from unauthorized and public access

There are many technical features of refrigerators that can affect the safe storage of vaccines. For further information, consult the complete National Guidelines. If your refrigerator also has an attached freezer, be aware that the unit cools the refrigerator by blowing cold air out of the freezer and into the refrigerator. Ensure you know where this vent is located on your unit and avoid placing vaccines directly under this vent where the temperatures are colder and near 0°C. Additionally, ensure you know where the thermostat inside the refrigerator is located, as different models have different locations.

If a purpose built unit is used, be aware that the glass doors do not adequately protect light sensitive vaccines from denaturation. Additionally, the doors do not provide adequate insulation if there is ever a power interruption.

Jurisdictions in Canada report that use of bar fridges for vaccine storage are a leading cause of cold chain breaks because they are unpredictable at maintaining temperatures. Any style of small single door bar fridge is not recommended for vaccine storage.

To allow for proper heat exchange and cooling, equipment must be placed accordingly to allow for adequate air circulation around the unit. Ensure that the refrigeration coils on the back of the unit measure 10 cm away from the wall and that the wheels or levelling legs at the bottom of the unit sit 2.5 to 5 cm above the floor. Do not place the unit in direct sunlight, near a heat source, or along an outside wall where temperature can fluctuate.

Questions?
Contact: info@saskpharm.ca

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