

Vacuum Food Sealers

We agree that there is an increased food safety risk when an uninformed person uses a vacuum sealer to package food.

But if one is careful in using the packager and in storing the vacuum-packed food, the results can be safe.

If someone in the family makes a mistake, it could be fatal, as botulism often is. The risk here of course is creating conditions where the bacterium, *Clostridium botulinum*, can grow, the conditions being without air (oxygen) in and around the food (low acid), at warm temperatures. *C. bot.* is everywhere in the environment, or can be, so there is no way to be sure it is washed off food. It forms spores that are extremely heat resistant; killing these spores requires **pressure** canning temperatures and pressure.

So, anything vacuum packaged should be refrigerated or frozen until consumption. In addition, they should make sure the refrigerator is around 40°F, not 45 to 50°F. The big "mistake" a family member could make is using the vacuum sealer to package food, then storing it on a pantry shelf at ambient temperature, and then eating it later.

Foods such as cheese, beef jerky, and salami, have **low water activity** so in addition to refrigeration, they would have the barrier of not as much water available for bacterial growth: this would be a second "hurdle" against bacterial reproduction. Plain, uncured meats should be frozen within one to two days if they are not going to be cooked and consumed, to keep them safe in a vacuum package.

A vacuum sealer combined with refrigeration DOES prolong shelf life of foods with regard to spoilage (which is caused by different organisms than the ones that can make people sick.) Most (but not all) spoilage organisms are aerobic, or need air to grow. Molds are thus prevented from growing in a non-air environment. Bacteria need air, so the growth of those spoilage organisms are delayed. Oxidation reactions and discoloration are decreased greatly. This helps the frozen vegetables stay at better quality; however, they still need to be blanched before packaging to destroy quality-lowering enzymes. And while vacuum packaged apples slices would be much less likely to turn brown than if they were in air, they would still ferment and spoil in the package over a longer time.

As long as the user of the vacuum sealer has full knowledge of the risks and the proper ways to protect the sealed food, food in vacuum packages can be safe to consume.

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