

## **FROZEN JUICE CONCENTRATE**

Fruit juice concentrate is convenient. If you drink a great deal of juice, the benefits of using concentrate are clear. The frozen concentrate takes up much less space in your freezer than several cartons of ready-to-drink juice. You can mix up the concentrate at your leisure. You can leave it in your freezer until you are ready to use it. You simply mix it with water, using the can as a measuring cup.

Beginning around 1917, a company in Florida, began packing orange juice. As more and more citrus was produced, inventors went to work to try to find ways of canning, dehydrating and otherwise preserving the juice so that it could be shipped and stored. Events of history, technical innovations, and reliable refrigeration systems were the main reasons to bring the patent of frozen concentrated to the forefront. The research process was instituted to provide a better tasting juice for WWII troops.

Interestingly, the process to make fruit juice concentrate is almost identical to the process for making not-from-concentrate juice. A fruit sample is tested for quality and approved by state authorities. The fruit is then cleaned and washed. In the case of oranges, the orange oil is recovered from the peel of the fruit. Juice is extracted from the fruit and screened to remove pieces of seeds. The juice is then pasteurized (heated) to inactivate the natural enzymes present in the juice. If not inactivated these enzymes can cause loss of quality. It then separates juice that it will sell as liquid, not-from-concentrate juice, and frozen fruit juice concentrate. The juice is then concentrated in a high vacuum evaporator. Water in the juice is evaporated and the juice sugars and solids are concentrated. The concentrate is frozen and stored until needed. Some concentrates mix fresh juice with frozen concentrate depending upon the flavor or sweetness needed.

Nutrition content of frozen juice concentrate varies depending upon the type of fruit or fruits used. In the case of frozen pineapple juice concentrate (diluted with water to make 1 cup): 130 calories, 32g carbohydrates, 31g sugar, 50% DV vitamin C. For frozen orange juice concentrate (diluted with water to make 1 cup): 112 calories, 27g carbohydrates, 21g sugar, 161% DV vitamin C. Frozen apple juice concentrate (diluted with water to make 1 cup) yields: 112 calories, 28g carbohydrates, and 100% DV vitamin C.

The shelf life of most frozen juice concentrates: no more than 6 months if kept frozen, ten days after thawing if stored in a nonmetal container. Frozen juice concentrate should never be refrozen.

Frozen juice concentrates are not included in the USDA's top eight food allergens, although any food can potentially cause an allergic reaction. Consumers who are allergic or sensitive to the types of fruits included in the juice should be vigilant and always read the labels, especially in juice blends such as fruit punch, etc.