

# Fruit Juice, Single Strength Apple

Revised 2008

## Storage Conditions

Single Strength, 9-16° Brix, Unpasteurized in Process

Temperature	0°F (-18°C)	30-32°F (-1.1 to 0°C)	40°F (4.4°C)
Storage Period	30 days	1 week	2 days

	Aseptic	Pasteurized (Canned)
Temperature	32-45°F (0-7.2°C)	45-70°F (7.2-21°C)
Storage Period	1 year	1 year

Apples to be used in single strength juice processing should be washed with a wetting agent, as well as a sanitizer to reduce the bacterial load. Apple juice as extracted from fresh or stored apples may require enzyme treatment to remove starch or pectinose substances, to reduce and control haze, to improve production yield, and/or to allow for concentration.

Fresh extracted, unpasteurized apple juice should be cooled to 32-40° F (0-4.4° C) within 18 hours to reduce fermentation possibilities. To reduce deterioration from microbial growth, it is essential that cooling be as rapid as possible.

The quality attributes and nutritive loss in pasteurized single strength apple juice are negligible, provided it remains at 32-45°F (0-7.2°C) and has been properly short-time heated to 190-200°F (87.7-93.3°C) and immediately cooled under sterile aseptic conditions of processing and storage. Single strength apple juice does not provide economics for long-term storage, unless it is to be used in immediate retail sales or will be processed to canned or bottled apple juice.

The issue with unpasteurized juice for sales to consumers should be noted. All unpasteurized juice must be labeled as such, per the U.S. Food and Drug Administration (FDA), due to potential microbial hazard. Hazards include *Listeria* and *E. coli* 0157:H. It is not recommended that this item be maintained in a non-pasteurized form.

## Packaging

Modern packaging of purees and puree concentrates utilizes some form of aseptic totes. There are a number of different styles, including stainless steel totes that can be sterilized and reused; reusable plastic totes with disposable aseptic liners; or large (275 to 300 gallon) fiberboard disposable totes. It is important to note that none of these container types are designed for frozen use. Freezing and thawing destroys the integrity of the disposable fiberboard totes, and the plastics can become brittle and/or break.

Stainless steel totes can burst with freezing due to internal gas pressure. As a result, containers should be stored in either ambient or refrigerated areas using similar storage length as drums under the same conditions. This limits their use to aseptic products. After opening, the items either need to be used immediately or transferred into another container for refreezing and storage.

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