

# Fruit Juice, Natural and Artificial Flavors

Revised 2018

## Storage Conditions

Temperature	35-50°F (1.7-9.9°C)
Storage Period	6-9 months maximum

The food and beverage manufacturers today often use artificial flavors or blends of artificial and natural flavors in formulation of food or beverage products. These flavors may encompass dairy, fruit, grain, nuts, meat, and vegetable flavor variations.

Artificial or synthetic flavors often contain butylated hydroxyanisole (BHA), which is an antioxidant chemical additive to assist in flavor preservation. Alcohol or propylene glycol is often the carrier solvent of the flavor and may consist of 40-50% of the flavor formulation. The flash-point of the flavors will often be identified as 70-72°F (21.1-22.2°C). Because of the high alcohol content, the labels will require the notation "flammable." The risk of flammability is not great under storage temperatures of 45-50°F (7.2-10°C) if the containers remain sealed to prevent escape of the flavor vapors.

Flavors are often packaged in plastic 1-gal (4-L) containers, 5-gal (19-L) metal pails, and 55-gal (208-L) metal or plastic drums. It is recommended that storage of flammable flavors be contained to 35-50°F (1.6-10°C) storage, with control of ignition sources maintained, such as no smoking, cutting and welding, electrical equipment, wiring, etc., within the area. In a manufacturing operation, it is also recommended that flammable flavors be confined to a specific storage area, which provides temperature control as well as overhead water or CO<sub>2</sub> extinguishers.

If a strong volatile flavor vapor is noted in the storage area, correction should be made immediately to check for flavor leakage and assure that all containers are properly sealed. Flavor volatiles may also transfer to other food products or packaging stored near the flavors in the storage; therefore, it is essential that the flavor inventory be closely monitored.

It is recommended that Safety Data Sheets (SDS) be maintained on all synthetic flavorings in storage. It is also recommended that the manufacturer's data sheets be reviewed to determine flash-point control and other information necessary in event of spillage. A review with your insurance company relative to storage of products labeled "flammable" would be advisable.

**Note:** Flavors should not be frozen. Similar to fruit essences, freezing will freeze the water-phase and separate the alcohol components of the mix. Certain flavor components are also subject to degradation caused by freezing, destroying the quality of the flavor.

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