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United States Standards for Grades of Canned Apple Juice

Effective March 11, 1982

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This is a reprint of the United States Standards for Grades of Canned Apple Juice (47 FR 5877) which have been in effect since March 11, 1982 and were updated to modify the format and to correct and align the text as originally published in the CFR.

Voluntary U.S. grade standards are issued under the authority of the Agricultural Marketing Act of 1946, which provides for the development of official U.S. grades to designate different levels of quality. These grade standards are available for use by producers, suppliers, buyers, and consumers. As in the case of other standards for grades of fresh and processed fruits, vegetables, and specialty crops these standards are designed to facilitate orderly marketing by providing a convenient basis for buying and selling, for establishing quality control programs, and for determining loan values.

The U.S. grade standards and inspection instructions for all fresh and processed fruits, vegetables, and specialty crops are available on the internet and upon request at the address below. These documents provide detailed interpretations of the grade standards and provide step-by-step procedures for grading the product.

Grade standards are issued by the U.S. Department of Agriculture (USDA) after careful consideration of all data and views submitted during rulemaking. The Department welcomes suggestions for improving the standards in future revisions. Comments may be submitted to, and copies of standards and inspection instructions obtained from:

Director, Specialty Crops Inspection Division
Specialty Crops Program,
USDA, Agricultural Marketing Service
1400 Independence Avenue, SW, STOP 0240
Washington, D.C. 20250

Authority: 7 U.S.C. 1621-1627.

Note: Compliance with the provisions of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act, or with applicable State laws and regulations.

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§52.301 Product description.

- (a) Canned apple juice is the unfermented juice obtained from sound, ripe apples, with or without parts. Concentrated apple juice may be added, provided that any added apple juice concentrate shall not contribute more than one-fourth of the total apple juice solids in the finished apple juice. No water may be added directly to the finished food. Natural volatile apple juice components (apple essence) may be restored to a level that provides a natural apple juice flavor.
- (b) The apple juice may be processed with or without the addition of antioxidants and is sufficiently processed to assure preservation of the product in hermetically sealed containers.

§52.302 Styles of canned apple juice.

- (a) Style I, Clear – typical of clarified apple juice.
- (b) Style II, Cloudy – typical of non-clarified apple juice, but not a crushed or disintegrated apple product.

§52.303 Definitions of terms.

- (a) **Absence of defects** means the degree of freedom from sediment or other residue, dark specks, particles of seeds, coarse particles of pulp, or other defects.
- (b) **Acid** means grams of acid calculated as malic acid, per 100 g of apple juice determined by titration with standard sodium hydroxide solution, using phenolphthalein as indicator.
- (c) **Brix** means the percent, by weight, of natural apple soluble solids in the apple juice, corrected to 20 °C (68 °F).
- (d) **Color** means the apple juice is typical of freshly pressed juice.
- (e) **Flavor** means the degree of excellence and palatability of the apple juice with a distinct flavor and aroma typical of apple juice that has been properly processed.

§52.304 Grades.

- (a) **U.S. Grade A** is the quality of canned apple juice that:
 - (1) Meets the applicable requirements of Table I or Table II; and
 - (2) Scores not less than 90 points.

- (b) **U.S. Grade B** is the quality of canned apple juice that:
- (1) Meets the applicable requirements of Table I or Table II; and
 - (2) Scores not less than 80 points.
- (c) **Substandard** is the quality of canned apple juice that fails to meet the requirements for U.S. Grade B.

§52.305 Fill of container.

The recommended fill of container is not incorporated in the grades of the finished product since fill of container is not a factor of quality for the purposes of these standards. It is recommended that each container be filled as full as practicable with apple juice and that the product occupies at least 90 percent of the volume of the container.

§52.306 Determining the grade.

- (a) The grade of canned apple juice is determined by considering the requirements of each grade with respect to the factors of color, absence of defects, and flavor.
- (b) The relative importance of each factor is expressed numerically on the scale of 0 to 100 points. The maximum number of points that may be given each factor is:

Factors:	Points
Color	20
Absence of defects	20
Flavor	<u>60</u>
Total Score	100

§52.307 Determining the rating for each factor.

The essential variations within each factor are so described that the value may be determined for each factor and expressed numerically. The numerical range within each factor is inclusive (for example, **18 to 20 points** means 18, 19, and 20 points).

§52.308 Requirements for grades.

**TABLE I
STYLE I, CLEAR**

Factors	Grade A	Grade B
Color		
	Good (bright, sparkling)	Reasonably good (slightly translucent)
Score Points	18 - 20	16 - 17
Absence of Defects		
Amorphous sediment or residue	Slight	Moderate
Non-amorphous sediment or residue, dark specks	Trace	Moderate
Particles of seeds, pulp or other defects	None	Slight
Score Points	18 - 20	16 - 17
Flavor		
	Good	Reasonably good
Score Points	54 - 60	48 - 53
Total Score	90 - 100	80 - 89
Analytical		
Brix: Minimum (degrees)	11.0	10.5
Acid (calculated as malic)		
Minimum (g/100g)	0.24	0.19
Maximum (g/100g)	0.67	0.77

**TABLE II
STYLE II, CLOUDY**

Factors	Grade A	Grade B
Color		
	Good (slightly translucent to definitely cloudy)	Reasonably good (typical but not off-color)
Score Points	18 - 20	16 - 17
Absence of Defects		
Amorphous and non-amorphous sediment or residue	Normal	Normal
Dark specks	Trace	Moderate
Particles of seeds, coarse particles of pulp or other defects	None	Slight
Score Points	18 - 20	16 - 17
Flavor		
	Good	Reasonably good
Score Points	54 - 60	48 - 53
Total Score	90 - 100	80 - 89
Analytical		
Brix: Minimum (degrees)	11.0	10.5
Acid (calculated as malic)		
Minimum (g/100 g)	0.24	0.19
Maximum (g/100 g)	0.67	0.77

§52.309 Determining the grade of lot.

The grade of a lot of canned apple juice covered by these standards is determined by the procedures found in the **Regulations Governing Inspection and Certification of Processed Fruits and Vegetables, Processed Products Thereof, and Certain Other Processed Food Products** (7 CFR 52.1 through 52.83).

§52.310 Score sheet for canned apple juice.

Size and kind of container			
Container mark or identification			
Label			
Liquid measure (fl oz and/or mL)			
Vacuum (in inches)			
Brix (degrees)			
Acid (malic: g/100g)			
Factors		Score points	
Color	20	"A"	18 - 20
		"B"	16 - 17 <u>1/</u>
		"SStd"	0 - 15 <u>2/</u>
Absence of defects	20	"A"	18 - 20
		"B"	16 - 17 <u>1/</u>
		"SStd"	0 - 15 <u>2/</u>
Flavor	<u>60</u>	"A"	54 - 60
		"B"	48 - 53 <u>1/</u>
		"SStd"	0 - 47 <u>2/</u>
Total Score		100	
Grade			

1/ May not be graded above Grade B.

2/ May not be graded above Substandard.