



**United States
Department of
Agriculture**

Food and
Nutrition
Service

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Alexandria, VA
22302-1500

Child Nutrition Labeling for Juice Drinks and Juice Drink Products

2-10-2006. This is a DRAFT revision. Please call FNS in a few months to obtain a final version of this manual.

Prepared by
Food and Nutrition Service
Child Nutrition Division
Nutrition Promotion and Training Branch
Technical Assistance Section

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Revised 2/2006

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Introduction

This publication has been prepared for juice drink manufacturers. It contains directions for calculating the contribution that a juice drink or juice drink product makes toward meeting meal pattern requirements for the Child Nutrition Programs. It also contains instructions on how to apply for and obtain approval of a label with a Child Nutrition (CN) statement. These procedures supersede all other instructions, written or oral that the Food and Nutrition Service (FNS) of the U. S. Department of Agriculture (USDA) may have provided.

The procedures outlined in this manual apply only to juice drinks and juice drink products that contain a minimum of fifty percent full strength juice. These products must be produced under in-plant continuous USDA official inspection service for processed fruits and vegetables administered by the Agricultural Marketing Service (AMS). All CN labels must be approved in final by both FNS and AMS before production of CN labeled product may occur.

CN Label Application Materials

What To Submit

Submit the following information collated and stapled in the order listed below. Submit 4 copies of each application.

Product Formulation

In order for the Food and Nutrition Service (FNS) to verify that there is 50% juice in the juice product or drink, the information listed below is required. FNS realizes that there is a normal variation in the brix values of the juice and juice concentrate components of the manufacturing formula, and that this will cause the percent of these ingredients to vary in the formula. However, in order to be able to compute the percent of single strength juice in the reconstituted juice product or drink, or in the single strength juice product or drink, FNS needs to have a formula with set Brix values and pounds of juice or juice concentrates used. In the actual manufacturing of the juice drink or product, the AMS inspector in the manufacturer's plant will insure that the product is always at least 50% single strength juice.

- ◆ Product ingredients in one batch.
- ◆ Formulation in pounds and volume.
- ◆ Brix value of the juice concentrate(s) used in the formula.
- ◆ Total pounds and volume of one batch of product.
- ◆ % Overrun (where appropriate).

- ◆ Directions for reconstitution (where appropriate).
- ◆ Brix value for 100 percent single strength juice.

Product Label

- ◆ For sketch approval, submit a legible draft of the label as it will appear on the package. Submit 4 copies.
- ◆ For final approval, submit either the actual label that will appear on the package or a clear representation of the label, with the actual label size and colors noted (ie. A printer's proof). Submit 4 copies.

The following information must be printed on the label: (It is the responsibility of the manufacturer to comply with Food and Drug Administration (FDA) regulations regarding legality of the product name, ingredient listing, type of print and other FDA requirements. FNS may request a letter indicating FDA's concurrence.)

- ◆ Product name
- ◆ Federal inspection legend. Juice drinks and juice drink products must bear the appropriate AMS Approved Identification mark. See 7 CFR chapter 1, 52.53 which can be found online at http://a257.g.akamaitech.net/7/257/2422/11feb20051500/edocket.access.gpo.gov/cfr_2005/janqtr/pdf/7cfr52.53.pdf
- ◆ Net contents - "fluid measure"
- ◆ Name and address of manufacturer or distributor
- ◆ Ingredient listing in descending order of predominance
- ◆ CN label statement which must be an integral part of the product label and must include:
 - logo
 - product identification number assigned by FNS. You may call the CN Labeling Staff at 703-305-2609 to obtain a CN identification number prior to submitting your label application(s)
 - statement of credit (see below)
 - authorization statement

The statement of credit identifies the contribution that a juice drink or juice drink product makes toward the vegetable/fruit component of the meal pattern requirements. In order to receive a vegetable/fruit credit, a product must provide a minimum of 1/8 cup serving. Larger servings must be expressed as a fraction in increments of 1/8 cup serving (1/8, 1/4, 3/8, etc.).

AMS Plant Survey/Inspection Acceptance Letter

All CN labeled juice and juice drink products must be produced under AMS in-plant continuous inspection. In order for a company to obtain

AMS inspection, the company must pass a plant survey conducted by AMS. Once the company meets AMS criteria and passes the plant survey, AMS will issue a letter stating that the company has passed the plant survey, that AMS will be able to arrange inspection for the company each time CN product is produced, and how long the letter validates AMS inspection arrangements. (See page 12 for AMS National office contact information.)

A copy of the AMS letter should be attached to each copy of each label application submitted for review. The AMS letter will be required in order to obtain FNS final (or temporary until letter expires??) label approval, otherwise only a sketch approval or rejection will be granted.

The label approval is good only for as long as the AMS letter validates inspection. A new letter must be submitted to FNS to extend the approval for the product or label approval will be rescinded once the AMS letter expires.

Samples (Upon Request Only)

FNS may request a sample of the product as part of the review process. If a sample is requested, final label approval may be delayed until the sample is received and reviewed. Label applications must be for products that have been made and tested in a pilot plant or on an assembly line.

Procedures for Submitting CN Labels

Where to Submit

All label information should be sent to:

CN Label Staff
U. S. Department of Agriculture
Food and Nutrition Service
Child Nutrition Division
3101 Park Center Drive, Room 632
Alexandria, Virginia 22302
(703)-305-2609

Procedures for Reviewing CN Labels

Queuing System

When FNS receives a label, it is placed in a queuing system. Each label is reviewed in turn based on the date it is received. Exceptions to the queuing system will not be granted except in extreme emergencies. The

review time in FNS will be approximately 3 weeks; however, this may vary depending on the volume of labels. In addition, label approval for products that are exceptionally complex may take longer.

Identification Numbering System

FNS will assign a 6-digit identification number (CN ID No.) to each label. This system will help FNS keep track of label approvals and provide certain information to regional, state, and local Child Nutrition Program staff as needed. FNS will also use identification numbers to notify the appropriate manufacturers when circumstances require them to resubmit labels.

When a label is submitted in sketch, FNS assigns an identification number to it. Before a label is resubmitted in final the identification number must be printed on it. To obtain a CN identification number prior to submitting for sketch approval, the manufacturer must call FNS. However, due to label cost, it is not recommended for companies to print labels until after the review process in order to incorporate any required changes. In this case, submit a printer's proof for final approval.

Label Review Process

Label applications are first reviewed at FNS. Once a label has been reviewed and approved by FNS, it is forwarded to the Agricultural Marketing Service (AMS) for their concurrence. If AMS concurs, it will notify FNS and the AMS inspector in the manufacturer's plant. FNS will return a copy of the reviewed label application to the manufacturer. All labels must be approved in final by FNS and have AMS concurrence before production of CN labeled product may occur.

All questions regarding the status of a label application should be directed to FNS CN Labeling staff at 703-305-2609. Companies should not contact AMS regarding the status of a label application. In addition, AMS should not be contacted as a means of facilitating or expediting the approval of a CN label application. Companies should contact AMS regarding the inspection of CN labeled products.

Label Applications Returned

Label applications that are incorrect, illegible, or lacking appropriate information will be returned to the applicant with notations of the errors. FNS will keep one copy of every label application submitted for review. Labels that are resubmitted for review will be placed in the queuing system based on the date of resubmittal.

Label Applications Resubmitted

Resubmit labels through FNS and receive a new CN identification number when there is a:

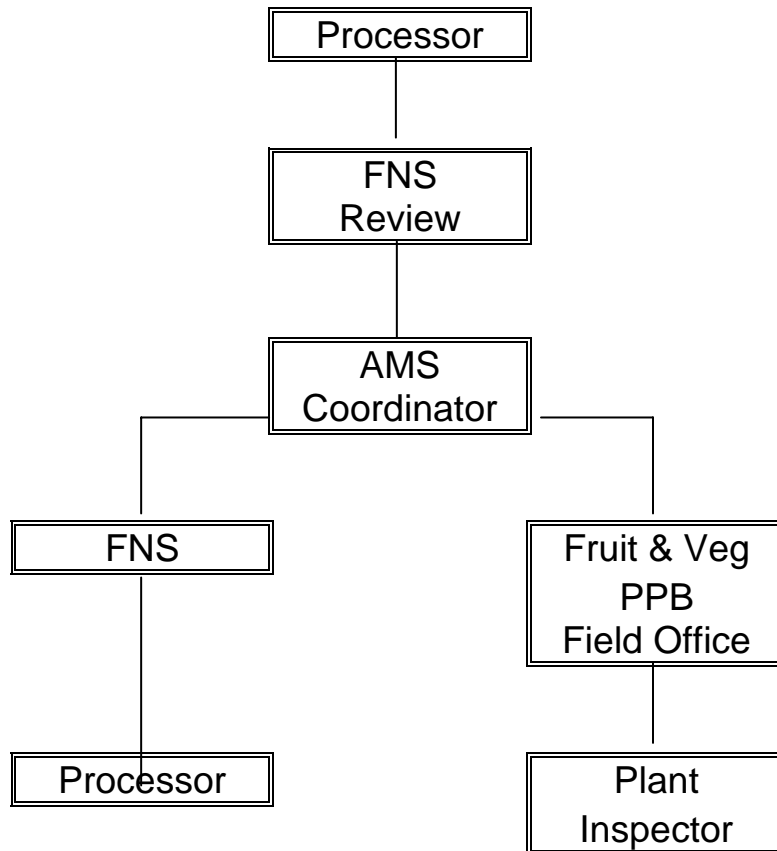
- ◆ change in the label (e.g., CN label statement, ingredient listing, product name)
- ◆ change in the product formulation or wording
- ◆ change in the plant location where the product is produced
- ◆ change in AMS or FNS policies, regulations, or crediting standards. AMS or FNS will notify you of any changes.

Juice labels that contain any changes in label graphics (color, letter size, etc.) must be sent through the officer-in-charge who forwards the change to the AMS national office. The AMS national office will notify FNS of the changes.

Label Routing Process

AMS In-Plant Continuous Inspection

FINAL & SKETCH LABELS



Procedures for Determining Ounces of Creditable Juice

The six steps to determine the contribution of juice drinks and juice drink products toward the meal pattern requirements are:

Step 1: Convert the pounds of juice concentrate to gallons by dividing the pounds of

$$\frac{\text{pounds of juice concentrate}}{\text{weight/gal in air at } 20^{\circ}\text{C}} = \text{gallons of juice concentrate}$$

NOTE: The weight/gallon figure should correspond to the degree Brix (i.e., grape juice concentrate 68° Brix).

Step 2: Determine the product fold by dividing pounds solids/gallon (corresponding to the Brix value of the concentrate) by pounds solids/gallon (corresponding to the Brix value of single strength).

$$\frac{\text{pounds solids/gallon (corresponding to Brix value of concentrate)}}{\text{pounds solids/gallon (corresponding to Brix value of single strength)}} = \text{fold}^2$$

Step 3: Determine the gallons of reconstituted juice by multiplying the gallons of juice concentrate (step 1) by the fold (step 2).

$$\text{gallons of juice concentrate} \times \text{fold} = \text{gallons reconstituted single strength juice}$$

Step 4: Determine the percent of creditable juice by dividing the gallons of reconstituted

$$\frac{\text{gallons reconstituted single strength juice}}{\text{total gallons juice drink as served}} = \text{percent of creditable juice}^3$$

¹ Data derived from the Sucrose Conversion Table, U.S. Department of Agriculture, Consumer and Marketing Service, Fruit and Vegetable Division, Processed Products Standardization and Inspection Branch, File Code 135-1-50, 1970.

² A dilution factor to convert gallons of juice concentrate to gallons of single strength juice.

³ This percent (in decimal form) must be equal to or greater than 0.50 (50 percent single strength juice) in order to credit for meal pattern requirements and to be eligible for a CN label.

000000*

Each 3.0 oz portion of this frozen juice drink bar provides the equivalent of 1/4 cup (2 fluid ounces) ounces single strength juice for the Child Nutrition Meal Pattern Requirements. (Use of this logo and statement authorized by the Food and Nutrition Service, USDA 09-04**).

Frozen Yogurt Bar

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Each 3.0 oz portion of this frozen yogurt bar provides the equivalent of 1/4 cup (2 fluid ounces) single strength juice but may not contribute to the meat/meat alternate component for the Child Nutrition Meal Pattern Requirements. (Use of this logo and statement authorized by the Food and Nutrition Service, USDA 02-05**)

* The 6-digit CN identification number is assigned by USDA, FNS, CN Labeling Staff.

** Date is written using numbers to represent the month/year of final FNS label approval.

SIPPERS

SIPPERS

SIPPERS

CONCENTRATE FOR GRAPE JUICE DRINK

Contains 50 Percent Grape
Juice When Reconstituted
According to Directions

Contains no artificial colors, flavors,
or preservatives. No refrigeration
necessary. Store in a cool place.
Rotate stock to insure freshness.

INGREDIENTS: Concentrated Grape Juice,
High Fructose Corn Syrup, Water, Citric
Acid, Ascorbic Acid.

DIRECTIONS: Add contents
of this can (25.6 Fl Oz)
to four cans (102.4 Fl
Oz) of cold water. Mix
thoroughly. Makes one
gallon (128 Fl Oz)

NET CONTENTS: 25.6 Fl Oz
(1 Pt 9.6 Oz) 757 ML

Distributed By: Sippers, Incorporated
Frattstown, Virginia 12345

	CN	
		000000*
CN	<p>When reconstituted according to label directions, 1/2-cup (4 fluid ounces) of this juice drink product will contain the equivalent of 1/4-cup (2 fluid ounces) single strength grape juice for the Child Nutrition Meal Pattern Requirements. (Use of this logo and statement authorized by the Food and Nutrition Service, USDA 04/05*.)</p>	CN
	CN	

* CN identification number is assigned by USDA, FNS. Date represents date of final FNS approval.

Federal Inspection for CN Labeled Juice Drinks and Juice Drink Products

The Agricultural Marketing Service makes available an impartial, official inspection service for processed fruits and vegetables. This service is mandatory for juice drinks and juice drink products that have a CN label statement. The service is offered on a fee-for-service basis through the Fruit and Vegetable Division, AMS.

Further *information regarding the inspection service* may be obtained by contacting the Officer-in-Charge, Processed Products Branch, Fruit and Vegetable Division, AMS, U.S. Department of Agriculture, at the field office nearest you. The addresses and phone numbers of these offices are:

AMS FIELD OFFICES

WESTERN REGION

5635 Stratford Circle
Suite 11
Stockton, CA 95207-5055
Phone: (209) 946-6301
Fax: (209) 476-8919
Hours: 8:00 – 4:30 PT

720 E. Arrow Highway
Suite F
Covina, CA 91722-2103
Phone: (626) 732-9178
Fax: (626) 732-0159
Hours: 7:30 – 4:00 PT

2202 Monterey St.
Suite 102-A
Fresno, CA 93721-3175
Phone: (559) 487-5210
Fax: (559) 485-5914
Hours: 8:00 – 4:30 PT

108 South 6th Ave.
Suite 212
Yakima, WA 98902-2791
Phone: (509) 575-5869
Fax: (509) 575-5881
Hours: 8:00 – 4:30 PT

State of Hawaii
Dept. of Agriculture
1851 Auiki St.
Honolulu, HI 96819-3100
Phone: (808) 832-0713
Fax: (808) 832-0683
Hours: 7:45 – 4:30 HIT

For up to date contact information for AMS, go online to <http://www.ams.usda.gov/fv/ppbweb/ppboffices.html> or call 202-720-4693.

AMS FIELD OFFICES (Continued)

EASTERN REGION

98 Third St., S.W.
Winter Haven, FL 33880-2905
Phone: (863) 294-7416
Fax: (863) 294-4219
Hours: 8:00 – 4:30 EST

Phoenix Center Office Park
1651 Phoenix Blvd., Suite 1
College Park, GA 30349-5552
Phone: (770) 909-6780
Fax: (770) 909-7540
Hours: 8:00 – 4:30 EST

4318 N. Technology Dr.
South Bend, IN 46628-9752
Phone: (574) 287-5407
Fax: (574) 287-5456
Hours: 8:00 – 4:30 CT A-O
(Daylight Savings Time not observed)

3622 Moreland Drive
Weslaco, TX 78596-9131
Phone: (956) 514-5562
Fax: (956) 825-7296
Hours: 8:00 – 4:30 CT

Park Plaza Prof. Bldg.
Suite 304
622 George Rd.
North Brunswick, NJ 08902-3377
Phone: (732) 545-0939
Fax: (732) 545-1909
Hours: 8:00 – 4:30 EST

165 Lancaster St.
Portland, ME 04101-2499
Phone: (207) 772-1588
Fax: (207) 780-3243
Hours: 8:00 – 4:30 EST

Hunt Valley Prof. Bldg.
Suite 213
9 Schilling Road
Hunt Valley, MD 21031-8604
Phone: (410) 527-0400
Fax: (410) 527-0402
Hours: 8:00 – 4:30 EST

742 E. Fond du Lac St.
Ripon, WI 54971-9555
Phone: (920) 748-2287
Fax: (920) 748-5828
Hours: 8:00 – 4:30 CT

600 North 5th Street
Room B38
Richmond, VA 23219
Phone: (804) 786-2422
Fax: (804) 786-7130
Hours: 8:00 – 4:30 EST

PUERTO RICO OFFICE
GSA Center
651 Federal Drive
Suite 103-05
Guaynabo, PR 00965-5703
Phone: (787) 783-2230
Fax: (787) 782-3768
Hours 7:30 – 4:00 EST

For up to date contact information for AMS, go online to
<http://www.ams.usda.gov/fv/ppbweb/ppboffices.html>
or call 202-720-4693.

THE BRANCH ADMINISTRATIVE OFFICES ARE:

**EASTERN REGIONAL
OFFICE**

800 Roosevelt Road
Building A, Suite 380
Glen Ellyn, IL 60137-5839
Phone: (630) 790-6937
Fax: (630) 469-5162

**WESTERN REGIONAL
OFFICE**

2202 Monterey St.
Suite 102-C
Fresno, CA 93721-3129
Phone: (559) 487-5891
Fax: (559) 487-5900

NATIONAL OFFICE

Processed Products Branch
Fruit and Vegetable Programs, AMS
U.S. Dept. of Agriculture
1400 Independence Ave., SW
STOP 0247
Washington, D.C. 20250-0247
Phone: (202) 720-4693
Fax: (202) 690-1527

For up to date contact information for AMS, go online to
<http://www.ams.usda.gov/fv/ppbweb/ppboffices.html>
or call 202-720-4693.

PRODUCT INFORMATION or DATA:

Company Name: _____

Manufacturing Plant Location: _____

Distributor's Name: _____

Product Name: _____

Serving Size: _____

Does formula include OVERRUN? YES: ____ NO: ____

IF YES, PERCENT OVERRUN: ____

INGREDIENTS PER BATCH

<u>ALL INGREDIENTS</u>	<u>POUNDS</u>	<u>GALLONS</u>	<u>BRIX VALUE OF JUICE CONCENTRATE</u>
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BATCH TOTALS: LBS: ____ GAL: ____

Is product "as-sold" a concentrate? YES: ____ NO: ____

IF YES, provide directions for reconstitution: _____

and the finished batch size of the reconstituted juice drink in gallons: _____

Final Brix value of reconstituted juice product or drink from concentrate, or single strength juice product drink if produced that way: _____

**JUICE DRINKS AND JUICE DRINK PRODUCTS
CN LABEL EVALUATION**

EXAMPLE 1

ORANGE FLAVORED FROZEN DESSERT

PRODUCT INFORMATION or DATA:

Company Name: COOL FREEZE, INCORPORATED

Manufacturing Plant Location: Atlanta, Georgia

Distributor's Name: Cool Freeze, Incorporated

Product Name: Orange Naturally Flavored Frozen Dessert

Serving Size: 4.00 oz.

Does formula include OVERRUN? YES: X NO:

IF YES, PERCENT OVERRUN: 29% *

INGREDIENTS PER BATCH

<u>ALL INGREDIENTS</u>	<u>POUNDS</u>	<u>GALLONS</u>	<u>BRIX VALUE OF JUICE CONCENTRATE</u>
Water	4,831.400	580.0	
Orange Juice Concentrate	898.158	79.6	71° Brix
High Fructose Corn Syrup	800.556	71.2	71° Brix
Natural Orange Flavor	21.491	2.6	
Citric Acid	15.284	1.1	
Ascorbic Acid	5.675	0.4	
<u>Guar Gum</u>	<u>5.926</u>	<u>1.5</u>	

BATCH TOTALS: LBS: 6,578.490 GAL: 950 (* volume includes overrun)

Is product "as-sold" a concentrate? YES: NO: X

IF YES, provide directions for reconstitution: N/A

and the finished batch size of the reconstituted juice drink in gallons: N/A

Final Brix value of reconstituted juice product or drink from concentrate, or single strength juice product if produced that way: 11.8° Brix – 1.029 solids per gallon

CN Label Calculations for **Example 1: Orange Flavored Frozen Dessert**

1. $\frac{\text{pounds of juice concentrate}}{\text{weight/gal in air at } 20^{\circ}\text{C}^{\text{iv}}} = \text{gallons of juice concentrate}$

$$\frac{898.158}{11.286} = 79.581$$

NOTE: The weight/gallon figure should correspond to the % sucrose or degrees Brix (i.e. orange juice concentrate 71° Brix)

2. $\frac{\text{pounds solids/gallon (corresponding to Brix value of concentrate)}}{\text{pounds solids/gallon (corresponding to Brix value of single strength)}} = \text{fold}^{\text{v}}$

$$\frac{8.013}{1.029} = 7.787$$

3. $\text{gallons juice concentrate} \times \text{fold} = \text{gallons reconstituted single strength juice}$

$$79.581 \times 7.787 = 619.697$$

4. $\frac{\text{gallons reconstituted juice}}{\text{total gallons of juice drink}} = \text{percent of creditable juice}$

$$\frac{619.697}{950} = 0.652$$

5. Determine the volume of serving size of the mix without the overrun (air incorporated into the product). This is done by using the following formula:

Volume of frozen product divided by 1 plus overrun equals the volume of the serving size of the mix without the overrun.

$$\frac{4.00 \text{ fl oz}}{(1 + .29)} = 3.10 \text{ fl oz}$$

^{iv} Sucrose Conversion Table, U. S. Department of Agriculture, Consumer and Marketing Service, Fruit and Vegetable Division, Processed Products Standardization and Inspection Branch, File Code 135-1-50.

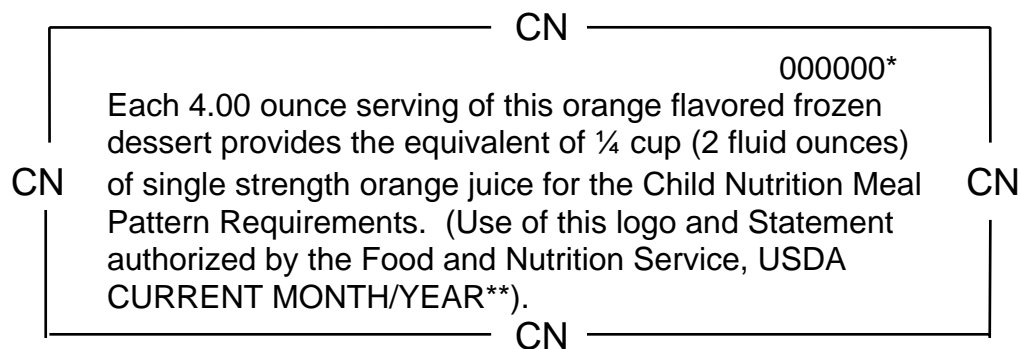
^v Fold - A dilution factor to convert gallons of concentrate to gallons of single strength juice.

6. serving size without overrun X percent of creditable juice = fluid ounces creditable juice/serving

$$3.10 \text{ fl oz Serving} \times 0.652 = 2.02 \text{ fl oz}$$

7. Round down the number of ounces creditable juice per serving to the nearest 1/4 serving. This juice drink product provides 2 ounces of single strength juice.

SAMPLE CN LABEL STATEMENT for Example 1



* Obtain a CN identification number from USDA, FNS, CN Labeling Staff.

** CURRENT MONTH/YEAR should be stated using numbers to represent the month/year of final FNS approval, i.e. 05-05.

EXAMPLE 2

GRAPE JUICE BASE

PRODUCT INFORMATION or DATA:

Company Name: GREAT BEVERAGES, INCORPORATED

Manufacturing Plant Location: Atlanta, Georgia

Distributor's Name: Happy Juice Brand

Product Name: Grape Juice Base

Serving Size: 4.00 fl oz reconstituted

Does formula include OVERRUN? YES: NO: X

IF YES, PERCENT OVERRUN: N/A

INGREDIENTS PER BATCH

<u>ALL INGREDIENTS</u>	<u>POUNDS</u>	<u>GALLONS</u>	<u>BRIX VALUE OF INGREDIENTS</u>
Grape Juice Concentrate	5218.0	468.82	68° Brix
High Fructose Corn Syrup	3966.0	351.41	71° Brix
Citric Acid	29.3	2.11	
Ascorbic Acid	21.5	1.45	
<u>Water</u>	<u>1467.8</u>	<u>176.21</u>	

BATCH TOTALS: LBS: 10,702.6 GAL: 1000

Is product "as-sold" a concentrate? YES: X NO:

IF YES, provide directions for reconstitution: mix 1 part base with 4 parts water
and the finished batch size of the reconstituted juice drink in gallons: 5000 gallons

Final Brix value of reconstituted juice product or drink from concentrate, or single strength juice product if produced that way: 16° Brix – 1.419 lbs solids per gallon

CN Label Calculations for **Example 2: Grape Juice Base**

1.
$$\frac{\text{pounds of juice concentrate}}{\text{weight/gal in air at } 20^{\circ}\text{C}^{\text{vi}}} = \text{gallons of juice concentrate}$$

$$\frac{5218.0}{11.130} = 468.823$$

NOTE: The weight/gallon figure should correspond to the % sucrose or degrees Brix (i.e. grape juice concentrate 68° Brix)

2.
$$\frac{\text{pounds solids/gallon (corresponding to Brix value of concentrate)}}{\text{pounds solids/gallon (corresponding to Brix value of single strength)}} = \text{fold}^{\text{vii}}$$

$$\frac{7.568}{1.419} = 5.333$$

3.
$$\text{gallons juice concentrate} \times \text{fold} = \text{gallons reconstituted Single strength juice}$$

$$468.823 \times 5.333 = 2500.233$$

4.
$$\frac{\text{gallons reconstituted juice}}{\text{total gallons of juice drink}} = \text{percent of creditable juice}$$

$$\frac{2500.233}{5000} = 0.50004$$

5.
$$\text{serving size} \times \frac{\text{percent of creditable juice}}{\text{creditable juice}} = \text{ounces creditable juice/serving}$$

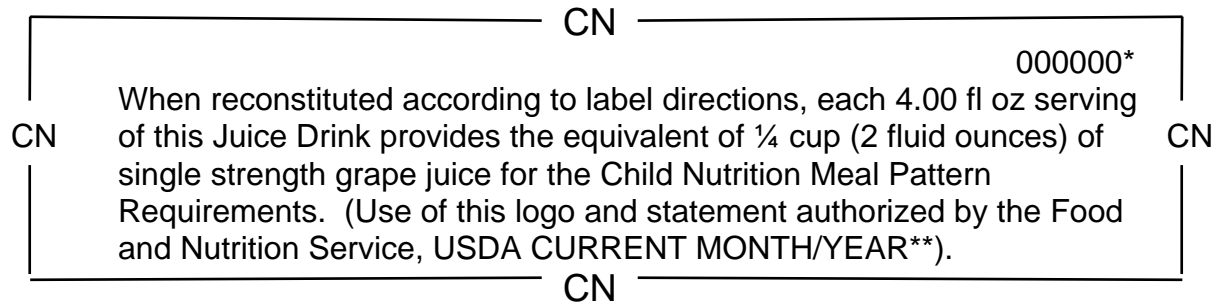
$$4 \text{ fl oz Serving} \times 0.50004 = 2.0001 \text{ fl oz}$$

^{vi} Sucrose Conversion Table, U. S. Department of Agriculture, Consumer and Marketing Service, Fruit and Vegetable Division, Processed Products Standardization and Inspection Branch, File Code 135-1-50.

^{vii} Fold - A dilution factor to convert gallons of concentrate to gallons of single strength juice.

6. Round down the number of ounces creditable juice per serving to the nearest 1/4 serving. This juice drink product provides 2 fluid ounces of single strength grape juice.

SAMPLE CN LABEL STATEMENT for Example 2



* The CN identification number is assigned by USDA, FNS, CN Labeling Staff.

** CURRENT MONTH/YEAR should be stated using numbers to reflect the date of final FNS approval, i.e. 02/05

EXAMPLE 3

FROZEN ORANGE JUICE DRINK BAR

PRODUCT INFORMATION or DATA:

Company Name: COOL FREEZE, INCORPORATED

Manufacturing Plant Location: Atlanta, Georgia

Distributor's Name: Cool Freeze, Incorporated

Product Name: Frozen Orange Juice Drink Bar

Serving Size: 3.00 oz.

Does formula include OVERRUN? YES: NO: X

IF YES, PERCENT OVERRUN: N/A

INGREDIENTS PER BATCH

<u>ALL INGREDIENTS</u>	<u>POUNDS</u>	<u>GALLONS</u>	<u>BRIX VALUE OF INGREDIENTS</u>
Water	72.4	8.69	
Orange Juice Concentrate	15.3	1.44	58° Brix
Sugar	9.6		
Corn Syrup Solids	1.9		
Guar Gum	0.2		
Citric Acid	0.1		
Natural Orange Flavor	0.5		

BATCH TOTALS: LBS: 100.0 GAL: 11.5

Is product "as-sold" a concentrate? YES: NO: X

IF YES, provide directions for reconstitution: N/A
and the finished batch size of the reconstituted juice drink in gallons: N/A

Final Brix value of reconstituted juice product or drink from concentrate, or single strength juice product if produced that way: 11.8° Brix – 1.029 lbs solids per gallon

CN Label Calculations for **Example 3: Frozen Orange Juice Drink Bar**

1.
$$\frac{\text{pounds of juice concentrate}}{\text{weight/gal in air at } 20^{\circ}\text{C}^{\text{viii}}} = \text{gallons of juice concentrate}$$

$$\frac{15.3}{10.630} = 1.439$$

NOTE: The weight/gallon figure should correspond to the % sucrose or degrees Brix (i.e. orange juice concentrate 58° Brix)

2.
$$\frac{\text{pounds solids/gallon (corresponding to brix value of concentrate)}}{\text{pounds solids/gallon (corresponding to brix value of single strength)}} = \text{fold}^{\text{ix}}$$

$$\frac{6.165}{1.029} = 5.991$$

3.
$$\text{gallons juice concentrate in formula} \times \text{fold} = \text{gallons reconstituted single strength juice}$$

$$1.439 \times 5.991 = 8.621$$

4.
$$\frac{\text{gallons reconstituted juice}}{\text{total gallons of juice drink}} = \text{percent of creditable juice}$$

$$\frac{8.621}{11.5} = 0.749$$

5.
$$\text{-serving size} \times \text{percent of creditable juice} = \text{fluid ounces creditable juice/serving}$$

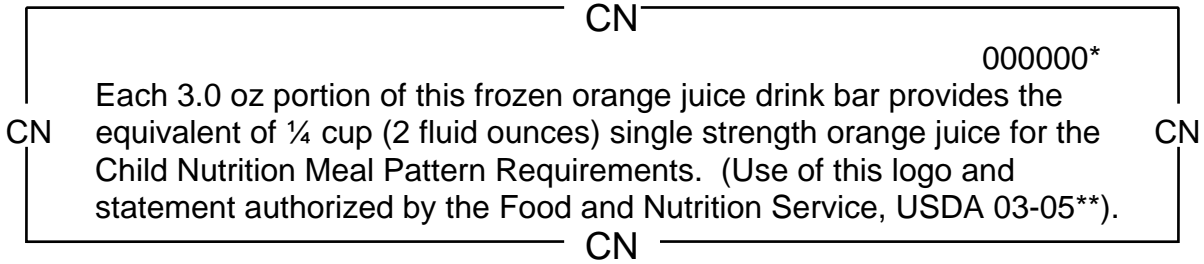
$$3\text{fl oz serving} \times .749 = 2.247 \text{ fl oz}$$

^{viii} Sucrose Conversion Table, U. S. Department of Agriculture, Consumer and Marketing Service, Fruit and Vegetable Division, Processed Products Standardization and Inspection Branch, File Code 135-1-50.

^{ix} Fold - A dilution factor to convert gallons of concentrate to gallons of single strength juice.

6. Round down the number of ounces creditable juice per serving to the nearest 1/4 serving. This juice drink product provides 2 fluid ounces of single strength orange juice.

SAMPLE CN LABEL STATEMENT for Example 3



* Obtain a CN identification number from USDA, FNS, CN Labeling Staff.

** The Date should be stated using numbers to represent the month/year of final FNS approval.

**MINIMUM BRIX VALUES and POUNDS SOLIDS/GALLON
for SINGLE STRENGTH JUICE used for CALCULATING the**

PERCENTAGE OF JUICE FROM CONCENTRATE

JUICE	BRIX FOR 100 PERCENT JUICE^x	LBS SOLIDS/GALLON FOR SINGLE STRENGTH JUICE
Acerola	6.0	0.511
Apple	11.5	1.001
Apricot	11.7	1.020
Banana	22.0	1.999
Blackberry.....	10.0	0.866
Blueberry	10.0	0.866
Boysenberry	10.0	0.866
Cantaloupe melon	9.6	0.830
Carambola (Star Fruit).....	7.8	0.669
Carrot	8.0	0.687
Casaba melon	7.5	0.643
Cashew (Caju).....	12.0	1.047
Celery	3.1	0.261
Cherry, dark, sweet	20.0	1.802
Cherry, red, sour.....	14.0	1.231
Crabapple.....	15.4	1.362
Cranberry	7.5	0.643
Currant (Black)	11.0	0.956
Currant (Red).....	10.5	0.911
Date.....	18.5	1.657
Dewberry	10.0	0.866
Elderberry	11.0	0.956
Fig	18.2	1.628
Gooseberry.....	8.3	0.714
Grape	16.0	1.419
Grapefruit	10.0	0.866
Guanabana (Soursop).....	16.0	1.419
Guava.....	7.7	0.660

^x Indicates Brix value unless other value specified.

**MINIMUM BRIX VALUES and POUNDS SOLIDS/GALLON
for SINGLE STRENGTH JUICE used for CALCULATING the**

PERCENTAGE OF JUICE FROM CONCENTRATE

JUICE	BRIX FOR 100 PERCENT JUICE	LBS SOLIDS/GALLON FOR SINGLE STRENGTH JUICE
Honeydew melon.....	9.6	0.830
Kiwi.....	15.4	1.362
Lemon	^{xi} 4.5	
Lime.....	^{xi} 4.5	
Loganberry	10.5	0.911
Mango	13.0	1.139
Nectarine	11.8	1.029
Orange	11.8	1.029
Papaya	11.5	1.001
Passion Fruit.....	14.0	1.231
Peach	10.5	0.911
Pear	12.0	1.047
Pineapple.....	12.8	1.120
Plum	14.3	1.259
Pomegranate	16.0	1.419
Prune.....	18.5	1.657
Quince	13.3	1.166
Raspberry (Black).....	11.1	0.965
Raspberry (Red).....	9.2	0.794
Rhubarb.....	5.7	0.485
Strawberry	8.0	0.687
Tangerine	11.8	1.029
Tomato	5.0	0.424
Watermelon	7.8	0.669
Youngberry	10.0	0.866

^{xi} Indicates anhydrous citrus acid percent by weight.