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

Revised 4/1997
Revised 6/2005
Revised 2/2006

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Contents

Introduction ...................................................................................................................... 1

CN Label Application Materials .................................................................................. 1
  What to Submit ............................................................................................................. 1
  Product Formulation ................................................................................................. 1
  Product Label ............................................................................................................ 2
  AMS Plant Survey/Inspection Acceptance Letter ................................................... 2
  Samples (Upon Request Only) .................................................................................. 2

Procedures for Submitting CN Labels ....................................................................... 3
  Where to Submit ......................................................................................................... 3

Procedures for Reviewing CN Labels ......................................................................... 3
  Queuing System .......................................................................................................... 3
  Identification Numbering System .............................................................................. 3
  Label Applications Returned ..................................................................................... 4
  Label Applications Resubmitted ................................................................................ 4

Label Routing Process ................................................................................................. 5

Procedures for Determining the Ounces of Creditable Juice ....................................... 6

Sample CN Label Statements ....................................................................................... 7
  Juice Drink Base ......................................................................................................... 7
  Frozen Juice Drink Bar ................................................................................................. 7
  Frozen Yogurt Bar ........................................................................................................ 7

Sample Label for Juice Drink Product .......................................................................... 8

Federal Inspection for CN Labeled Juice Drinks and Juice Drink Products .................. 9

AMS Field Offices ....................................................................................................... 9
  Western Region .......................................................................................................... 9
  Eastern Region ........................................................................................................... 10
  Branch Administrative Offices .................................................................................. 11

Formulation Listing Form ............................................................................................. 12

Sample Calculations for Juice Drinks and Juice Drink Products .................................. 12
Example 1 - Frozen Juice Drink Product with Overrun... 13
Example 2 - Grape Juice Base........................................16
Example 3 - Frozen Orange Juice Drink Bar ...............19

Minimum Brix Values and Pounds Solids/Gallon for
Single Strength Juice ......................................................21
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 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

1. Processor
2. FNS Review
3. AMS Coordinator
   - FNS
   - Fruit & Veg PPB Field Office
   - Plant Inspector
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 juice concentrate by the weight/gallon figure, assuming the weight/gallon figure should correspond to the degree Brix (i.e., grape juice concentrate 68° Brix).

\[
\text{pounds of juice concentrate} = \frac{\text{gallons of juice}}{\text{weight/gal in air at 20°C concentration}}
\]

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).

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

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

\[
\text{gallons of juice} \times \text{fold} = \text{gallons reconstituted single strength juice}
\]

**Step 4:** Determine the percent of creditable juice by dividing the gallons of reconstituted single strength juice by the total gallons juice drink as served.

\[
\frac{\text{gallons reconstituted single strength juice}}{\text{total gallons juice drink as served}} = \text{percent of creditable juice}
\]

---

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.
**Step 5:** Determine the fluid ounces of creditable juice in one serving of the product by multiplying the serving size in fluid ounces by the percent of creditable juice (step 4).

Fluid ounce $\times$ percent of creditable juice = unrounded fluid ounces of serving size creditable juice/serving

**Note:** For products that contain overrun (air incorporated into the product), the fluid ounce serving size (used in step 5) must be converted to the volume of product without overrun. To determine the volume of serving size of the mix without overrun use the following formula:

$$\text{fluid ounces of frozen product (with overrun)} = \text{fluid ounce serving size of 1 plus the percent (in decimal form) overrun}$$

**Step 6:** Round down to the nearest one-eighth cup (one fluid ounce) serving.

**Sample CN Statements**

**Juice Drink Base**

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 juice for the Child Nutrition Meal Pattern Requirements. (Use of this logo and statement authorized by the Food and Nutrition Service, USDA 01-04**).

**Frozen Juice Drink Bar**

Child Nutrition Labeling for Juice Drinks and Juice Drink Products,
Each 3.0 oz portion of this frozen juice drink bar provides the equivalent of 1/4 cup (2 fluid 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

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

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.

DISTRIBUTED BY: Sippers, Incorporated Frattstown, Virginia 12345

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)

CONCENTRATE FOR GRAPE JUICE DRINK
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*.)

* 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

108 South 6th Ave.
Suite 212
Yakima, WA 98902-2791
Phone: (509) 575-5869
Fax: (509) 575-5881
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

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

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

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.  Phoenix Center Office Park
Winter Haven, FL  33880-2905  1651 Phoenix Blvd., Suite 1
Phone: (863) 294-7416  College Park, GA  30349-5552
Fax: (863) 294-4219  Phone: (770) 909-6780
Hours: 8:00 – 4:30 EST  Fax: (770) 909-7540

4318 N. Technology Dr.  3622 Moreland Drive
South Bend, IN  46628-9752  Weslaco, TX  78596-9131
Phone: (574) 287-5407  Phone: (956) 514-5562
Fax: (574) 287-5456  Fax: (956) 825-7296
Hours: 8:00 – 4:30 CT A-O  Hours: 8:00 – 4:30 CT
(Daylight Savings Time not observed)

Park Plaza Prof. Bldg.  165 Lancaster St.
Suite 304  Portland, ME  04101-2499
622 George Rd.  Phone: (207) 772-1588
North Brunswick, NJ  08902-3377 Fax: (207) 780-3243
Phone: (732) 545-0939  Hours: 8:00 – 4:30 EST
Fax: (732) 545-1909

Hunt Valley Prof. Bldg.  742 E. Fond du Lac St.
Suite 213  Ripon, WI  54971-9555
9 Schilling Road  Phone: (920) 748-2287
Hunt Valley, MD  21031-8604  Fax: (920) 748-5828
Phone: (410) 527-0400  Hours: 8:00 – 4:30 CT
Fax: (410) 527-0402

600 North 5th Street  PUERTO RICO OFFICE
Room B38  GSA Center
Richmond, VA  23219  651 Federal Drive
Phone: (804) 786-2422  Suite 103-05
Fax: (804) 786-7130  Guaynabo, PR  00965-5703
Hours: 8:00 – 4:30 EST  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
or call 202-720-4693.

Child Nutrition Labeling for Juice Drinks and Juice Drink Products,
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](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

<table>
<thead>
<tr>
<th>ALL INGREDIENTS</th>
<th>POUNDS</th>
<th>GALLONS</th>
<th>JUICE CONCENTRATE</th>
</tr>
</thead>
</table>

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: __________________________
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

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

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. \[ \text{pounds of juice concentrate} = \text{gallons of juice} \]
   \[ \frac{898.158}{11.286} = 79.581 \]

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

2. \[ \text{pounds solids/gallon (corresponding to Brix value of concentrate)} = \text{fold} \]
   \[ \frac{8.013}{1.029} = 7.787 \]

3. \[ \text{gallons juice concentrate} \times \text{fold} = \text{gallons reconstituted single strength juice} \]
   \[ 79.581 \times 7.787 = 619.697 \]

4. \[ \text{gallons reconstituted juice} = \text{percent of total gallons of juice drink creditable juice} \]
   \[ \frac{619.697}{950} = 0.652 \]

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:

   \[ \text{Volume of frozen product divided by 1 plus overrun equals the volume of the serving size of the mix without the overrun.} \]
   \[ \frac{4.00 \text{ fl oz}}{(1 + .29)} = 3.10 \text{ fl oz} \]

---

\( ^{iv} \) 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.

---

Child Nutrition Labeling for Juice Drinks and Juice Drink Products,
6. \[ \text{serving size} \times \text{percent of} \ = \ \text{fluid ounces creditable without overrun} \times \text{creditable juice/serving} \]

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

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**

```
Each 4.00 ounce serving of this orange flavored frozen dessert provides the equivalent of ¼ cup (2 fluid ounces) of single strength orange juice for the Child Nutrition Meal Pattern Requirements. (Use of this logo and Statement authorized by the Food and Nutrition Service, USDA CURRENT MONTH/YEAR**).
```

* 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

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

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. **pounds of juice concentrate** \(=\) **gallons of juice**
   
   \[
   \frac{5218.0}{11.130} = 468.823
   \]

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

2. **pounds solids/gallon (corresponding to Brix value of concentrate)** \(=\) **fold**
   
   \[
   \frac{7.568}{1.419} = 5.333
   \]

3. **gallons juice concentrate** \(\times\) **fold** \(=\) **gallons reconstituted Single strength juice**
   
   \[
   468.823 \times 5.333 = 2500.233
   \]

4. **gallons reconstituted juice** \(=\) **percent of creditable juice**
   
   \[
   \frac{2500.233}{5000} = 0.50004
   \]

5. **serving size** \(\times\) **percent of creditable juice** \(=\) **ounces creditable juice/serving**
   
   \[
   4 \text{ fl oz Serving} \times 0.50004 = 2.0001 \text{ fl oz}
   \]

---

**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.

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

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Child Nutrition Labeling for Juice Drinks and Juice Drink Products,
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

<table>
<thead>
<tr>
<th>CN</th>
<th>000000*</th>
</tr>
</thead>
<tbody>
<tr>
<td>When reconstituted according to label directions, each 4.00 fl oz serving of this Juice Drink provides the equivalent of ¼ cup (2 fluid ounces) of 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 CURRENT MONTH/YEAR**).</td>
<td></td>
</tr>
</tbody>
</table>

* 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

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

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. \( \frac{\text{pounds of juice concentrate}}{\text{weight/gal in air at } 20^\circ C} = \frac{\text{gallons of juice concentrate}}{10.630} \)
   
   \[ \frac{15.3}{10.630} = 1.439 \]

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

2. \( \frac{\text{pounds solids/gallon (corresponding to brix value of concentrate)}}{10.630} = \frac{\text{fold}}{\text{pounds solids/gallon (corresponding to brix value of single strength)}} \)
   
   \[ \frac{6.165}{1.029} = 5.991 \]

3. \( \text{gallons juice concentrate} \times \text{fold} = \text{gallons reconstituted single strength juice} \)
   
   \[ 1.439 \times 5.991 = 8.621 \]

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.

Child Nutrition Labeling for Juice Drinks and Juice Drink Products,
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

```
Each 3.0 oz portion of this frozen orange juice drink bar provides the equivalent of ¼ cup (2 fluid ounces) single strength orange juice for the Child Nutrition Meal Pattern Requirements. (Use of this logo and statement authorized by the Food and Nutrition Service, USDA 03-05**).
```

* 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

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

* Indicates Brix value unless other value specified.

Child Nutrition Labeling for Juice Drinks and Juice Drink Products,
MINIMUM BRIX VALUES and POUNDS SOLIDS/GALLON for SINGLE STRENGTH JUICE used for CALCULATING the PERCENTAGE OF JUICE FROM CONCENTRATE

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

(xi) Indicates anhydrous citrus acid percent by weight.