USDA SURVEY NUTRIENT DATABASE SYSTEM

SYSTEM COMPONENTS AND FILE FORMATS

U.S. Department of Agriculture
Human Nutrition Information Service

USDA SURVEY NUTRIENT DATABASE SYSTEM COMPONENTS

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Nutrient Description File

USDA SURVEY NUTRIENT DATABASE SYSTEM COMPONENTS

The data files described in this document are designed and developed for nutritional analysis in USDA Food Consumption Surveys.

Formats for all system files include the name of the field, followed by the type of field (N=numeric, A=alphanumeric, and D=date), the length of each field, including decimals, and a * symbol to indicate that a field is indexed. The files described here will be released in ASCII delimited format and thus will not have indexes. Indexes are identified in this document to show the order of records within the Human Nutrition Information Service database system. Each of the fields in the ASCII released format wil be separated by a caret (^) symbol and character fields will be enclosed in double quotation marks.

SURVEY FOOD CODEBOOK

The SURVEY FOOD CODEBOOK contains information needed for coding foods and amounts. For each food on the data base, there is a food identification code, a long and short description of the food, a set of measures for the food, and gram weights for those measures. Some codes may have "includes" for similiar foods with comparable nutrient values and weights. Some codes may also have subcodes for foods with comparable nutrient values but different weights for the same measure.

The SURVEY FOOD CODEBOOK consists of 7 files. They are the **CODEBOOK DESCRIPTION, CODEBOOK INCLUDE, CODEBOOK SUBCODE, CODEBOOK SUBCODE DESCRIPTION, CODEBOOK SUBINCLUDE, CODEBOOK MEASURE DESCRIPTION** and **CODEBOOK GRAM WEIGHTS** files. The **CODEBOOK DESCRIPTION, CODEBOOK INCLUDE,** and **CODEBOOK GRAM WEIGHTS** files and the 2 subcode files, **CODEBOOK SUBCODE** and **CODEBOOK SUBINCLUDE,** are linked together by the 8 digit survey code. The **CODEBOOK MEASURE DESCRIPTION** file is linked to the **CODEBOOK GRAM WEIGHT** file by the measure description number and the **CODEBOOK SUBCODE DESCRIPTION** file is linked to the **CODEBOOK SUBCODE** file by the subcode number.

CODEBOOK DESCRIPTION FILE (CBDES) contains the primary code description and the abbreviated version of the description.

Field	Type	Description
Survey Code	N 8*	
Descriptor	A 200	
Abbreviated Descriptor	A 60	
Status	A 1	whether or not code is discontinued
Fl oz/Wt oz	A 1	type of ounce used with food
Start Date	D	date code started
End Date	D	date code no longer to be

```
                                            used
Last Modified Date              D           date of last change
```

CODEBOOK INCLUDE FILE (CBINCL) contains "includes" (similiar foods with comparable nutrient values and weights for the same measure) associated with a particular code. For example, Wisconsin, New York, Hoop and Tillamook cheeses are includes with the code for cheddar cheese because of their similar nutrient profile. Brand name foods can also be includes.   Each include for the same code number has its unique line number for easier management.

```
Survey Code                     N 8*
Include Line Number             N 2*       unique line number for
                                           each include
Include Description             A 80
Start Date                      D
End Date                        D
Last Modified Date              D
```

CODEBOOK SUBCODE FILE (CBSUBCOD) contains information directly related to a unique subcode. This file and the next 2 files (**CODEBOOK SUBCODE DESCRIPTION** and **CODEBOOK SUBINCLUDE**) are new concepts introduced into the codebook. They will allow the separate listing of brand name food items and special case food items for the purpose of identifying unique weights for the same food measure for foods with the same nutrient profile. For example, Hostess cupcakes, Drake's Yodels, Tasty-Kake cupcakes and Little Debbie Snak Cakes are subcodes of the code for chocolate cupcake with icing or filling because of their similar nutrient profile. However, each of the brand name cupcakes has a unique weight for the same measure.

```
Survey Code                     N 8*
Subcode Number                  N 7*       linked to CBSCDES file
Nutrients                       A 2        specifies whether
                                           nutrients are available
                                           for this product
Start Date                      D
End Date                        D
Last Modified Date              D
```

CODEBOOK SUBCODE DESCRIPTION FILE (CBSUBDES) contains a code for each unique brand name item or special case food item.

```
Subcode Number                  N 7*       linked to the CBSUBCOD
                                           file
Subcode Descriptor              A 60*
Start Date                      D
End Date                        D
Last Modified Date              D
```

CODEBOOK SUBINCLUDE FILE (CBSUBINC) describes the includes for a subcode.

Survey Code	N 8*	
Subcode Number	N 7*	linked to **CBSCDES** file
Seq Number	N 2*	unique line number
Include Descriptor	A 60	description of subinclude
Start Date	D	
End Date	D	
Last Modified Date	D	

CODEBOOK WEIGHTS AND MEASURES

Two files--**CODEBOOK MEASURE DESCRIPTION** and **CODEBOOK GRAM WEIGHTS**--are shared by the SURVEY and PDS CODEBOOKS. Sharing these files between the two codebooks avoids duplication of measure descriptions and insures that the weights for a PDS food which is similar to a Survey food contain the same weights and measure descriptions.

CODEBOOK MEASURE DESCRIPTION FILE (CBMDES) contains a 5 digit code for each unique measure description that can be found in the codebook. The same measure can be used for many different foods. For example, the "cup" measure, #10205, is used for many codes.

Meas Descr Number	N 5*	unique measure description code, linked to the **CBGMWT** file
Description	A 120*	
Start Date	D	
End Date	D	
Last Modified Date	D	

CODEBOOK GRAM WEIGHTS FILE (CBGMWT) contains weight information for each measure description for a particular food item. All weights are in grams. Weights for similar foods in the Survey and PDS codebook are shared. Other weights are unique to either a PDS or Survey food.

Survey Code	N 8*	
Subcode Number	N 7*	either a brand name food item or special case item, linked to the **CBSCDES** file
NDB Code	N 5*	
Seq Number in Wt Category	N 2*	unique line number for each measure weight
Meas Desc Number	N 5*	unique measure description code, linked to the **CBMDES** file
Gram Weight	N 8.3	weight of food item
Start Date	D	
End Date	D	
Last Modified Date	D	

☞ NDB code may be expanded by one or two additional digits

PDS CODEBOOK

The PDS CODEBOOK contains information on codes and subcodes for the Primary Nutrient Data Set, short and long name descriptors for each food, code and subcode inclusions, and gram weights for various portion sizes. Two files which are components of the Survey Codebook--**CODEBOOK MEASURE DESCRIPTION** and **CODEBOOK GRAM WEIGHTS**--are also included in the PDS Codebook. Other files included are the **CODEBOOK DESCRIPTION**, **CODEBOOK INCLUDE**, **CODEBOOK SUBCODE**, **CODEBOOK SUBCODE DESCRIPTION** and **CODEBOOK SUBINCLUDE**. These files will have the same formats as their comparable files in the Survey Codebook, but will contain data relative to PDS foods.

SURVEY NUTRIENT FILE

The SURVEY NUTRIENT FILE contains nutrient values for foods to be used in analysis of food intakes from the USDA Nationwide Food Consumption Surveys and DHHS National Health and Nutrition Examination Surveys. Multiple nutrient values will exist, when necessary, to reflect changes that have occurred in foods. Included with each set of values will be a start and end date reflecting the effective time period covered by the values.

Survey Code	N 8*	
Nutrient Code	N 5*	identifies a nutrient, linked to **Nutrient Description** file
Nutrient Value	N 10.3*	
Start Date	D	
End Date	D	

SURVEY NUTRIENT FILE SYSTEM COMPONENTS

USDA maintains an automated system for producing the Survey Nutrient File. Files included in this system are the **PRIMARY NUTRIENT DATA SET** and **PDS CODEBOOK**, **RECIPE HEADER** and **RECIPE INGREDIENT**, **RETENTION FACTORS** and **RETENTION FACTORS DESCRIPTION**, **MOISTURE AND FAT CHANGE** and **MOISTURE AND FAT CHANGE DESCRIPTION**, and **NUTRIENT DESCRIPTION**. Multiple values will exist for foods, nutrients or other designated variables in these files, when necessary. Each set of values will include a start and end date reflecting the effective time period covered by the values.

PRIMARY NUTRIENT DATA SET (PDS) contains nutrient values for foods needed to create the Survey Nutrient File. The primary source of data for the PDS is the USDA Nutrient Data Base for Standard Reference, which is the output from the USDA Nutrient Data Bank System. Nutrient values are added for nutrients not in the Standard Reference File and complete nutrient profiles are added for foods not in the Standard Reference.

NDB Code	N 5*	identifies a food in the Nutrient Data Bank System
Nutrient Code	N 5*	
Nutrient Value	N 10.3*	
☞ Change Code	A 3	reason for change in a nutrient value when multiple values exist for the same nutrient
Source Code	N 2	type of data value based on analytical, calculated, label
Start Date	D	
End Date	D	
Date Added	D	

PDS file-cont.

* Changes will be classified as due either to fortification, reformulation, or other agricultural, food processing or marketing change.

RECIPE FILE

The Recipe File controls the generation of the Survey Nutrient File using the PDS and other supporting files. Each survey food code is linked to one or more PDS foods through a set of recipe codes. Links to single PDS items are treated as one-component recipes. The Recipe File has been separated into two files-- **RECIPE HEADER** and **RECIPE INGREDIENT**.

RECIPE HEADER FILE contains information on changes in moisture and/or fat that occur during cooking, expressed as a percentage (plus or minus) of the total weight of the uncooked recipe. If there is a fat gain or loss during cooking, the type of fat used in cooking is also designated in this file.

Survey Code	N 8*	
Food Name	A 240	
Moisture Fat Code	N 8	code that specifies a moisture change, linked to **Moisture Fat Change File**
Moisture Change	N 5.1	percentage gain/loss in moisture during cooking
Fat Change	N 5.1	percentage gain/loss in fat during cooking
Moisture Fat Change Code	A 3	reason for change in a moisture or fat gain/loss when multiple values exist
Fat Type Code	N 8	fat used in cooking
Fat Type Change Code	A 3	reason for change in fat used in cooking when multiple codes exist
Start Date	D	
End Date	D	
Last Modified Date	D	

RECIPE INGREDIENT FILE contains information on recipe ingredients--ingredient descriptions with their corresponding codes, measure descriptions for each ingredient, weight of each measure in grams (excluding refuse weight), and appropriate retention codes for the ingredients.

A maximum of two amount descriptors is allowed for an ingredient. For example, a recipe may call for 1 cup + 1 tablespoon of flour. The information required to code 1 cup is listed in the first group of fields with a "1" after the field names. The information for coding 1 tablespoon is listed in the second group of fields with a "2" after the field names.

Survey Code	N 8*	
Ingredient Seq Number	N 2*	unique line number for each ingredient
Ingredient Code	N 8*	either a PDS or Survey food, linked to **Survey Nutrient** file or **PDS** file
Ingredient Subcode	N 7*	either a brand name food item or special case item, linked to **CBGMWT** file
Ingredient Name	A 60	
Flag	N 2	signals special conditions for an ingredient
Ingredient Change Code	A 3	reason for change in an ingredient when multiple codes exist for the same sequence number
Amount 1	N 11.3	specifies the part of a portion size
Measure 1	A 3	type of measure, such as c for cup
☞ Dimension 1_1	N 7.4	ruler length
☞ Dimension 1_2	N 7.4	ruler width
☞ Dimension 1_3	N 7.4	ruler height
Measure Desc Code 1	N 5	unique measure, linked to **CBMDES** and **CBGMWT** files
Amount operator	A 1	indicates the addition to (+) or subtraction from (-) the second ingredient to the first ingredient
Amount 2	N 11.3	
Measure 2	A 3	
☞ Dimension 2_1	N 7.4	ruler length
☞ Dimension 2_2	N 7.4	ruler width
☞ Dimension 2_3	N 7.4	ruler height
Measure Desc Code 2	N 5	
Gram Weight	N 11.3	weight of ingredient
Weight Change Code	A 3	reason for change in ingredient weight, if multiple weights exist for the same ingredient
Retention Code	N 4	food category with factors for calculating vitamin and mineral retentions during cooking, linked to **Retention Factors** file
Retention Change Code	A 3	reason for change in retention code when multiple values exist
Start Date	D	
End Date	D	
Last Modified Date	D	

☞ Ruler measures are used to estimate gram weights of pieces of food, such as a wedge of cheese. Dimension fields are filled in

for food measures not included in the **CODEBOOK GRAM WEIGHTS FILE**.
A computer program calculates gram weight based on dimensions in
these fields.

RETENTION FACTORS FILE contains factors for calculating the
retention of vitamins and minerals during cooking. The factors,
expressed as a percentage of the nutrient retained, are organized
into food categories according to cooking method for food
categories. Each food category is assigned a code for computer
access, designated the retention code.

Retention Code	N 4*	food category with factors for vitamin and mineral retentions during cooking, linked to **Retention Factors** file
Nutrient Code	N 5*	
Factor	N 5.2*	percentage nutrient retained during cooking
Change Code	A 3	reason for change in a retention code when multiple values exist for same food category
Start Date	D	
End Date	D	
Last Modified Date	D	

RETENTION FACTORS DESCRIPTION FILE contains descriptions
associated with each retention code in the Retention Factors
File.

Retention Code	N 4*
Food Category Desc.	A 200
Food Category Desc. (abbrev.)	A 60
Start Date	D
End Date	D
Last Modified Date	D

MOISTURE AND FAT CHANGE FILE contains information on moisture and/or fat changes that have occurred during cooking for current survey recipes. Survey codes for current recipes serve as moisture and fat codes. The purpose of this file is to provide guidelines for assigning moisture or fat gain or loss percents to new or modified recipes. Additional information and fields may be included int this file in the future.

Moisture/Fat Code	N 8*	
Moisture Change	N 5.1*	percentage gain/loss during cooking
Fat Change	N 5.1*	percentage gain/loss during cooking
Change Code	A 3	reason for change in a moisture or fat percentage when multiple values exist for the same food
Start Date	D	
End Date	D	
Last Modified Date	D	

MOISTURE AND FAT CHANGE DESCRIPTION FILE contains descriptions of foods associated with each moisture or fat code in the Moisture and Fat Change File.

Moisture/Fat Code	N 8*
Food Description	A 200
Food Description (abbrev.)	A 60
Start Date	D
End Date	D
Last Modified Date	D

NUTREINT DESCRIPTION FILE contains the names and codes for nutrients included in the Survey Nutrient, PDS, and Retention Factors Files.

Nutrient Code	N 5*
Nutrient description	A 30
Nutrient Description (abbrev.)	A 5