GS1 US Data Hub® | Product

Working with Variable Measure Trade items User Guide

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Variable Measure Trade Items

In this guide, you'll learn how GS1 US Data Hub | Product enables you to create products that are NOT scanned at retail checkout and vary in measure/quantity.

Is Your Product a Variable Measure Trade Item?

As noted in the GS1 General Specifications, fixed measure trade items are those that are always produced in the same version and composition (size, weight, contents and design). For example, a jar of tomato sauce, a 12 pack of soda, a two-pound chocolate bar). Even if there are slight weight variations during production (such as overfill), this still does not make the product a variable measure trade item. The declared net weight to the consumer is always the same, regardless of overfill.

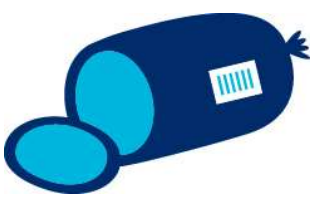
Unlike a fixed measure trade item, a variable measure trade item has at least one characteristic that varies, and the item may be sold at any point in the supply chain **without** one of these characteristics predefined:

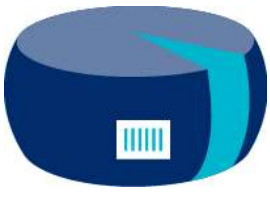
- Weight
- Dimension (size)
- Quantity contained
- Volume information

Here are examples:

Examples of Variable Measure Trade Items:

- A wheel of cheese (not intended for Point-of-Sale) is ordered by a GTIN-14 and includes the indicator digit 9. It's cut and packaged in variable weight packages in the deli department and sold by weight.
- Bulk lunch meat (not intended for Point-of-Sale) is ordered by a GTIN-14 and includes the indicator digit 9. It is then packaged into individual variable weight packages and sold by weight.





Items that ARE Not Variable Measure Trade Items:

- Tomato sauce that is sold in three "varied" jar sizes (20 oz., 40 oz., and 60 oz.) – each jar is a fixed measure trade item and would receive its own GTIN.
- T-shirts sold in "varied" sizes or colors (gray, blue, red); each t-shirt "variation" is a fixed measure trade item and would receive its own GTIN.

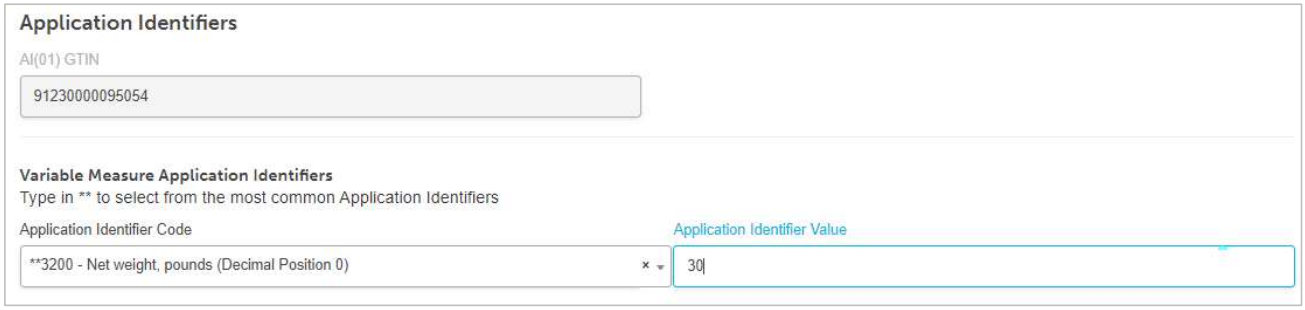
Variable Measure Trade Items

In many business situations, a variable measure trade item may have fixed dimensional attributes when sold to a retailer (such as deli meats sold by the pound, or fabric sold by the foot) and identified with a GTIN, but then sold in pieces to the consumer, so the unit of measure at the consumer level will often vary.

The retailer uses commercially available equipment to weigh items and print the appropriate weight and pricing information on the bar code label.

A variable measure trade item consists of both an identification number (GTIN) and information about the variable data (which is provided via Application Identifiers).

In GS1 US Data Hub, after you assign the GTIN to the product, you can click the **View Barcode** button. You can then apply variable measure trade item characteristics to the barcode for this product.



Please refer to the GS1 General Specifications for more details, including the main types of variable measure trade items (Figure 2.1.10-2)

Packaging Levels

GS1 US Data Hub supports Variable Measure Trade Items that are NOT scanned at retail checkout. In other words, if you select "Yes" for **Variable Measure?**, you cannot select "Yes" for **Purchasable by Consumer?**

You can select the "Each" packaging level and still select "Yes" for **Variable Measure?.** Here are the most frequently used packaging levels.

Packaging Level	Description	Examples of use
Case as Each	Used by industries, such as foodservice, that need to designate the case as its lowest orderable unit. The contents inside are neither assigned GTINs, nor are they sold at checkout or online. This is different than a multipack, which is a retail unit.	Bag of Donut holes, a cheese wheel, 25 lb. pack of bulk mushrooms, case of chicken parts
Mixed Case	A mixed case contains more than one type of "each," and must contain more than one GTIN.	A cheese wheel and salami meat, sold by the pound, making them both variable measure items.
Pallet	A shipping unit that contains either cases, inner packs, or "eaches." It must contain one GTIN regardless of the number of items in the grouping.	18 cheese wheels (variable measure) shrink wrapped together
Mixed Pallet	A shipping unit that can contain any combination of cases, inner packs, and/or "eaches" and must contain more than one GTIN.	Nine cases of meat and nine cheese wheels, shrink-wrapped together.

Constructing the GTIN (Global Trade Item Number)

GS1 US Data Hub automatically constructs the GTIN-14 for a variable measure product using these four steps:

Step 1

Adds an Indicator Digit: The indicator digit 9 indicates a variable measure trade item. GS1 US Data Hub automatically assigns "9" to the variable measure trade item.

Step 2

Uses the GS1 Company Prefix: The GS1 Company prefix is assigned to the brand owner by GS1 US or another GS1 Member Organization. The Prefix is a global unique number that identifies a company in the supply chain.

Step 3

Assigns the Item Reference: Assigned by the holder of the GS1 Company Prefix to uniquely identify the variable measure product.

Step 4

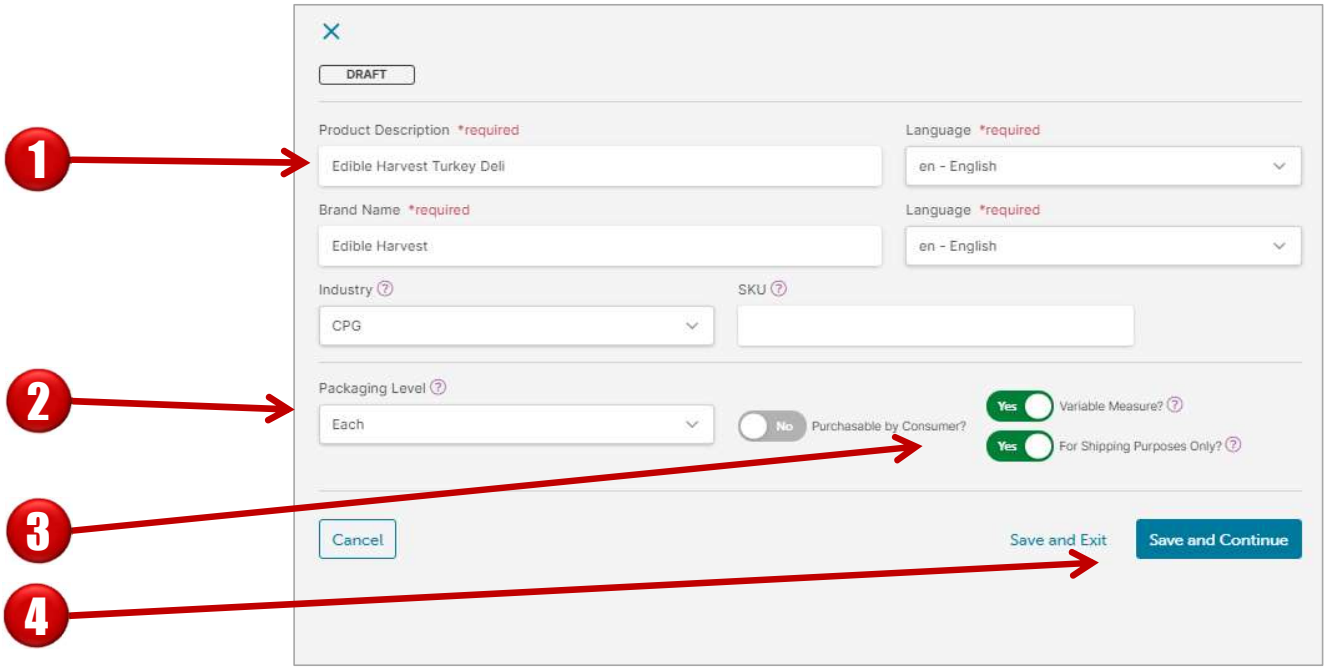
Calculates the Check Digit: Modulo 10 calculation based on previous 13 digits. Position 14 is reserved for a check digit for the entire GTIN. The GS1 Check Digit Calculator is available at www.gs1us.org/checkdig.

Example: GTIN-14 Structure

If you select **Let Us Pick a GTIN For You** and you have selected "Yes" for **Variable Measure?**, GS1 US Data Hub | Product assigns the GTIN-14 automatically to this item. Refer to this structure when assigning the GTIN manually.

Creating a Variable Measure Product

In GS1 Data Hub | Product, after selecting **My Products -> New Product**, complete the following to create a new variable measure product:



START

1. Enter the Product Description, Brand Name, and Product Industry.

   Product Description - This is a "functional description" to share with retailers, not the marketing description that is used for consumers. A best practice is to include brand name, type of product, variation (color, flavor, scent, etc), and net contents. There is a 200-character limit.

   Brand Name - Indicates the name of the product line used with consumers. *There is a 75-character limit*.

   Product Industry - The primary industry where the product is sold. This will help retailers and other Product View/Use subscribers filter by "industry" when searching for products.

   Optional: **SKU** - Enter your internal "Stock Keeping Unit" number.

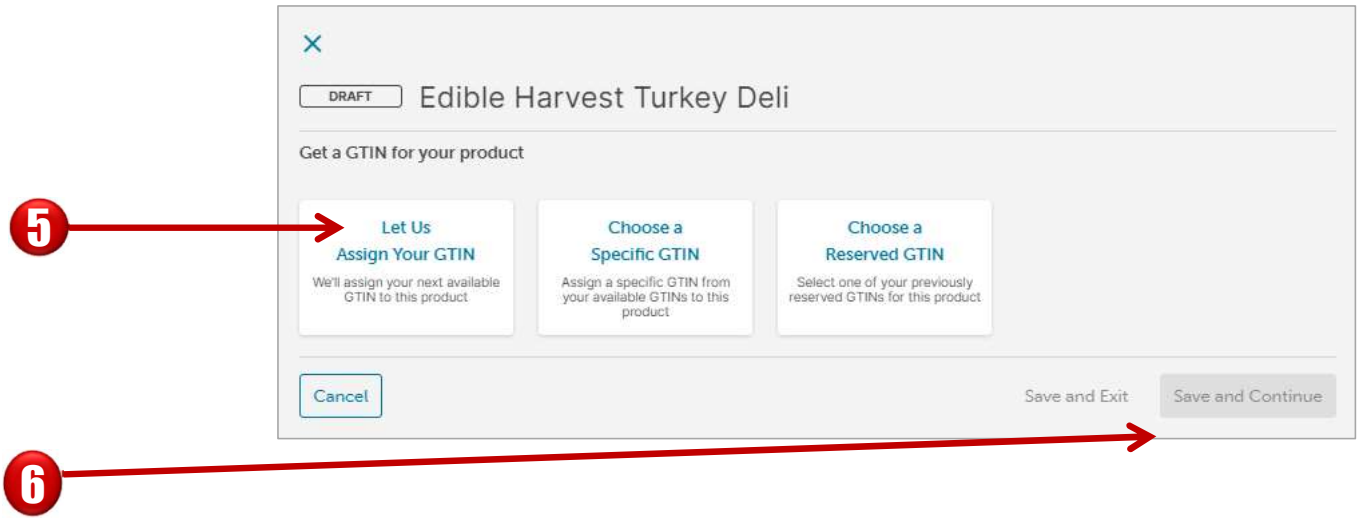
2. Select the **Packaging Level.**

3. Select "Yes" for **Variable measure?.** This selection will set the **Purchasable by Consumer?** to "No" and **Shipping Purposes Only?** to "Yes."

4. Click **Save and Continue**. This product is saved in the **Draft** status.

CONTINUE

Creating a Variable Measure Product *(Continued)*



START

5 You can now assign the GTIN, which will move the product to **PreMarket** status after you save. After you take this step, and decide at a later date to delete this product, you can click the **Retract PreMarket GTIN** button to delete the product detail record and make the GTIN available to be assigned again.

Let Us Assign Your GTIN – GS1 US Data Hub creates the GTIN-14 as discussed on page 6 of this user guide. If your company has more than one prefix, you will be prompted to select the prefix to use.

Choose a Specific GTIN – Type the desired GTIN in yourself and assign it to this product, as discussed on page six of this user guide.

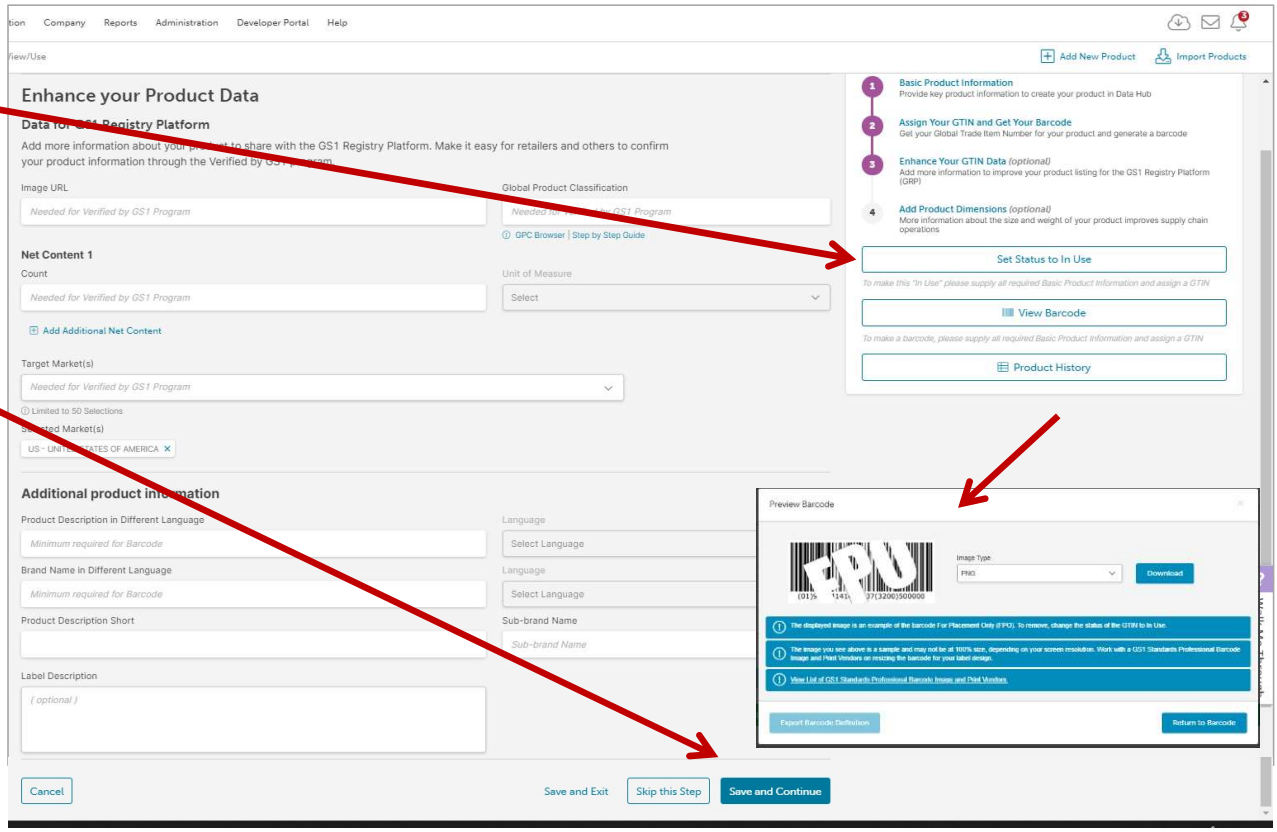
Choose a Reserved GTIN – Because a GTIN-14 cannot be reserved in GS1 US Data Hub, this option is not available.

6 Click **Save and Continue**. The GTIN-14 is assigned. The first digit is 9 followed by the GS1 Company Prefix, Item Reference Number, and Check Digit. Since the product is not being sold at the register or on-line, the GTIN-12 (U.P.C.) is not applicable.

CONTINUE

NOTE: Because variable measure trade items may have dimensions or weights that vary, you may not want to add these attributes in the Verified by GS1 or Physical Product Dimensions pages. They may need to be entered as Application Identifiers in the GS1-128 barcode.

Creating a Variable Measure Product *(Continued)*



Note: While the product is in the **PreMarket** status, you can click the **Preview Barcode Button** to generate a "For Placement Only" (FPO) barcode for packaging design purposes, and add Application Identifiers. This barcode cannot be used in the marketplace, and these Application Identifiers will have to be entered again after you set the status to **In Use**.

7 After you have confirmed all the product details are correct, and you are ready to share this product with the marketplace, click **Set Status to In Use.**

The **Status Change to In Use** dialog box opens. Click **Continue** to update the product to **In Use**. You can now generate a scannable barcode.

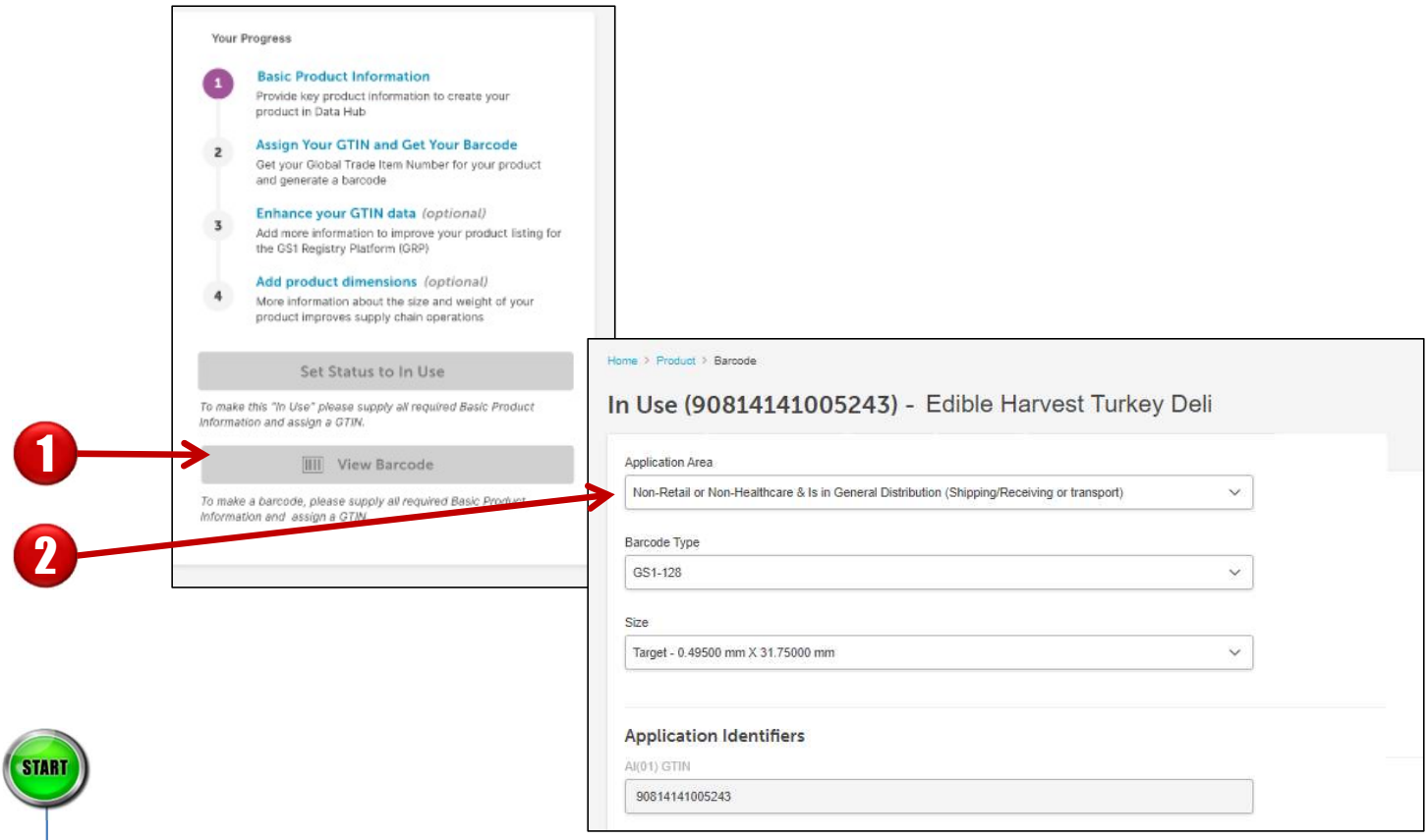
8 Click **Save and Continue**.

NOTE: If at a later date you decide to discontinue this product, you can "archive" the product by clicking the **Archive** button. A product in the **Archived** status cannot be viewed by GS1 US View/Use Subscribers.

Creating the GS1-128 Barcode

After you change the status to **In Use**, you can then generate a scannable barcode.

The GS1-128 barcode uses Application Identifiers so additional information, such as Count of Items, Net Weight, Package Date, etc., can be included. Depending on your variable measure trade item product, you may want to assign variable measure trade item Application Identifiers to your barcode, such as (30), which indicates the number of items contained in this item.



START

1 Click the **View Barcode button** to open the barcode screen.

2 Select the Application Area, Barcode Type, and Size.

Application Area - Where the barcode is going to be scanned. The list of available choices is based on your product details.

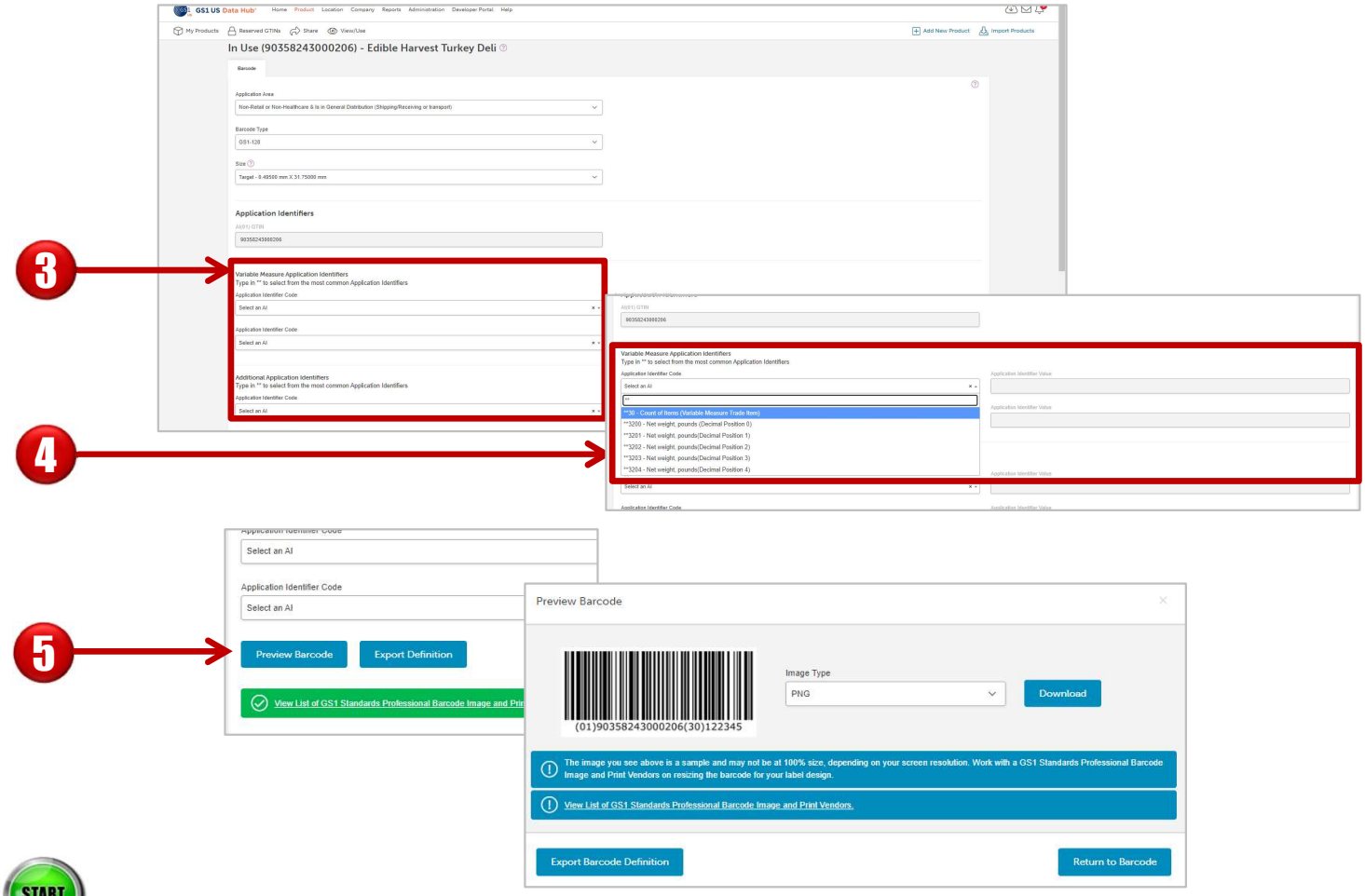
Barcode Type - Select the type of barcode symbol for this product. Choices default to the most likely option based on the application area you selected. In this example, the drop-down menu choice is GS1-128.

Size - Select the size of the barcode symbol. Choices default to the most likely option based on the application area and the barcode type you selected.

Note: Available choices correspond to barcode size in the GS1 General Specifications.

CONTINUE

Creating the GS1-128 Barcode *(Continued)*



START

3 Now you can enter **Application Identifiers**. AI (01) for GTIN is automatically added. Choose from the **Default Application Identifier** drop-down menu an application identifier number. Then enter the **Value**.

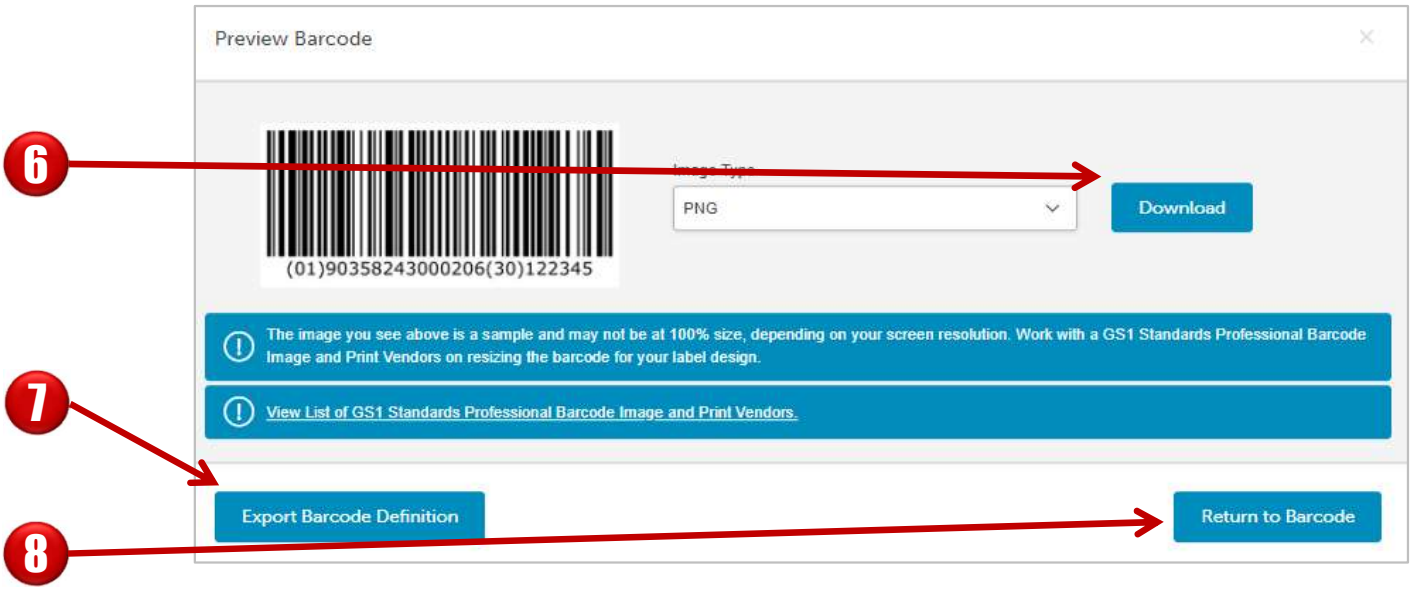
4 You can also enter other Application Identifiers as needed. In this example, two Application Identifiers were selected: AI (30) Count of Items, AI (3201) Net weight (must be entered as six digits) in pounds with two decimal position (22.75 lbs. is entered as 002275). Please see "Partial List of Application Identifiers" in this user guide for more details.

5 Click **Preview Barcode** to view the GS1-128 barcode with the Application Identifiers contained in the barcode.

CONTINUE

NOTE: To see the list of most common Application Identifiers for Variable Measure Products, **type** ** in the space provided. Refer to Section 3 of the GS1 General Specifications for a full list and explanation of the AI formats.

Creating the GS1-128 Barcode *(Continued)*



START

6 **Download Barcode Image -** Save the barcode image as a PNG file to your computer to share with print vendors.

7 **Export Barcode Definition-** Download the barcode symbol specifications to be shared with your print vendors.

8 **Return to Barcode -** Click this button to return to the Barcode tab.

CONTINUE

NOTE: The Application Identifier values are not saved with the product detail record. But you have a record of the specific values you entered when you click the Export Barcode Definition button.

Partial List of Application Identifiers

Refer to Section 3.2 of the GS1 General Specifications for a complete listing and an explanation of the AI formats. In the AI column, the "n" or fourth digit of the GS1 Application Identifier indicates the implied decimal point position. For example:

- 3100 Net weight in kg would be used if there is no decimal point; for example, 25 kg would be entered as 000025
- 3102 Net weight in kg would be used if there are two decimal points; for example, 22.75 kg would be entered as 002275

AI	Data Content	Format*	FNC1 Required	Data Title
30	Count of Items (Variable Measure Trade Item)	N2+N..8	(FNC1)	VAR. COUNT
310n	Net weight, kilograms (Variable Measure Trade Item	N4+N6		NET WEIGHT (kg)
311n	Length or first dimension, metres (Variable Measure Trade Item)	N4+N6		LENGTH (m)
312n	Width, diameter, or second dimension, metres (Variable Measure Trade Item)	N4+N6		WIDTH (m)
313n	Depth, thickness, height, or third dimension, metres (Variable Measure Trade Item)	N4+N6		HEIGHT (m)
314n	Area, square metres (Variable Measure Trade Item)	N4+N6		AREA (m2)
315n	Net volume, litres (Variable Measure Trade Item)	N4+N6		NET VOLUME (l)
316n	Net volume, cubic metres (Variable Measure Trade Item)	N4+N6		NET VOLUME (m3)
320n	Net weight, pounds (Variable Measure Trade Item)	N4+N6		NET WEIGHT (lb)
321n	Length or first dimension, inches (Variable Measure Trade Item)	N4+N6		LENGTH (i)
322n	Length or first dimension, feet (Variable Measure Trade Item)	N4+N6		LENGTH (f)
323n	Length or first dimension, yards (Variable Measure Trade Item)	N4+N6		LENGTH (y)
324n	Width, diameter, or second dimension, inches (Variable Measure Trade Item)	N4+N6		WIDTH (i)
325n	Width, diameter, or second dimension, feet (Variable Measure Trade Item)	N4+N6		WIDTH (f)
326n	Width, diameter, or second dimension, yards (Variable Measure Trade Item)	N4+N6		WIDTH (y)
327n	Depth, thickness, height, or third dimension, inches (Variable Measure Trade Item)	N4+N6		HEIGHT (i)
328n	Depth, thickness, height, or third dimension, feet (Variable Measure Trade Item)	N4+N6		HEIGHT (f)
329n	Depth, thickness, height, or third dimension, yards (Variable Measure Trade Item)	N4+N6		HEIGHT (y)
364n	Net volume, cubic inches (Variable Measure Trade Item)	N4+N6		VOLUME (i3)
365n	Net volume, cubic feet (Variable Measure Trade Item)	N4+N6		VOLUME (f3)
366n	Net volume, cubic yards (Variable Measure Trade Item)	N4+N6		VOLUME (y_3)

*The first position indicates the length (number of digits) of the GS1 Application Identifier, and the second position refers to the length of the data content; N4 = four numeric digits, and N..8 = up to eight digits.