Nourish to Flourish Open Data Standards

Version 2 - 6/1/2022

Version History

Version	Date	Description
2.01	Oct 3, 2022	Added some FAQs
2.00	Jun 1, 2022	Updated standards based on feedback from School Nutrition Association to remove operating data
1.00	Jul 1, 2020	Finalized version of attributes for publication by TSAG
0.01	Feb 10, 2020	Updated draft of attributes for review by TSAG
0.00	Nov 14, 2019	Initial draft of Data Exchange attributes for products and operating data

Background

Items used within K-12 must contain certain information, or "attributes", that describe that product. Recipients of this product data are school nutrition staff who use this information to plan menus, track production, manage inventory, and forecast/purchase items. These Nourish to Flourish (N2F) Data Standards were developed by an industry-wide group of stakeholders and intended to be open for anyone to use throughout K-12, and they are based upon the attributes used within the Global Data Synchronization Network (GDSN). GDSN is a platform managed by GS1 and is a worldwide standard for manufacturers to communicate product data to their end users; it contains data inherent about the product (e.g., Net Weight) but not data specific to an individual customer (e.g., Price).

The Nourish to Flourish Database is a single, industry-wide product database that adheres to these N2F Data Standards and contains branded food and non-food items from GDSN as well as "Generic" information from USDA and other sources products that are not in GDSN, just as fresh produce and local products (which all adhere to the N2F Data Standards).
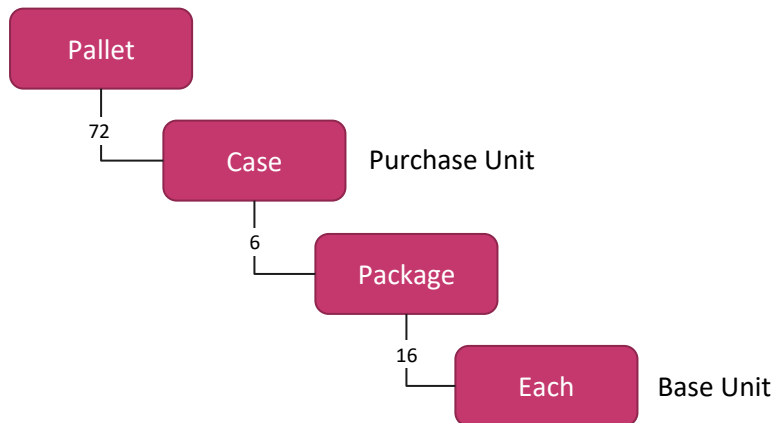
Product Hierarchy

Within GDSN, products are structured in a "hierarchy" in which manufacturers may assign different GTINs to the different products configurations within that hierarchy (Case vs. Package vs. Each). Suppliers publish the highest level GTIN of the hierarchy to the N2F Database and all lower level ("child") items are also published.

The lowest level of the hierarchy is called the "Base Unit". Supplier also assign one or more of the GTINs within the hierarchy as a "Purchase Unit" (referred to as "Orderable Unit" within GDSN). In most configurations used in K-12, the Base Unit and the Purchase Unit are the same—typically a Case.
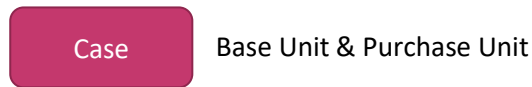
Example Hierarchy 1
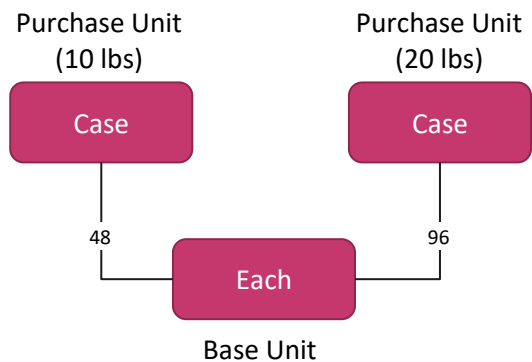A simple hierarchy with unique GTINs for four levels from Pallet down to Each, with the Case as the Purchase Unit.

Pallet

72

Case   Purchase Unit

6

Package

16

Each   Base Unit

Example Hierarchy 2
The simplest and most common hierarchy where the Case is the only GTIN.

Case   Base Unit & Purchase Unit

Example Hierarchy 3
A product hierarchy which has a single Base Unit GTIN that can be purchased in two different pack sizes. The supplier would publish both Case GTINs to the N2F Database.

Purchase Unit   Purchase Unit
(10 lbs)   (20 lbs)

Case   Case

48   96

Each

Base Unit

NOTE: The N2F Database does not currently support "mixed pack" configurations where there are different Base Unit GTINs within a single Purchase Unit GTIN. This is not a common occurrence within K-12.

To facilitate integrated menu planning and forecasting/procurement functionality in K-12 software, the N2F Database maintains both the Base Unit GTIN (typically containing the nutrient information) as well as any associated Purchase Units (containing the procurement information and relationship to the nutrient information from the Base Unit). This allows the K-12 user to plan menus with the Base Unit info and accurately calculate the number of Purchase Units needed to simplify forecasting.

Product Attributes

The following attributes are required as part of a minimally complete item record to facilitate K-12 menu planning, inventory management, and forecasting/purchasing. The specific details on the structure and format of the attributes are defined in other documents aimed at a specific purpose (e.g., Nourish to Flourish GDSN Implementation Guides for suppliers), but all implementations will adhere to these open data standards to ensure compatibility and ease of communication throughout the K-12 community.

Attribute Requirement Definitions

The Attribute Requirements column in the data spec table below has the following meanings:

- M – Mandatory: Required to ensure standardization and data quality.
- C – Mandatory because of dependency: Required in certain situations (e.g., a unit of measure that qualifies a size or weight.)
- R – Recommended: Provides highly useful information (when available).

NOTE: For non-food items, inappropriate fields (e.g., nutrients) are not included.

Field Name	Attribute Requirement	Notes
GTIN (Base)	M	GTIN of the Base Unit
GTIN (Purchase Unit)	M	GTIN of the Purchase Unit
Item Name	M	The product description of the Base Unit.
Purchase Unit Description	M	The product description of the Purchase Unit.
Brand Name	R	Brand name
Manufacturer	R	Manufacturer name
Mfr Item ID	R	The product number or code that the manufacture uses to identify the product.
Product Image	R	Product image
GPC Code	M	Global Product Classification code used in GDSN. These classifications can be found at: https://gpc-browser.gs1.org/
Ingredient Statement	R	List of ingredients included in the item
Country Of Origin	R	County of origin.
CN Label Number	R	CN Label # for the product.
CN Label Statement	R	CN Label crediting statement.
CN Label Expiration Date	R	CN Label expiration date.
CN Label Image	R	CN Label image
Product Formulation Statement	R	Production formulation crediting statement
PFS Document	R	PFS document or image
Serving Size Description	R	A description of the serving size.
Serving Size Weight	C	Quantifies the weight of a serving (such as "ounces" or "grams"). This should correspond to the values specified for the nutrients. Either a value for Serving Size Weight or Serving Size Measure is mandatory; both are optional but not required.
Serving Size Measure	C	Quantifies the measure or volume of a serving (such as "cup", "fluid ounces", or "each"). This should correspond to the values specified for the nutrients. Either a value for Serving Size Weight or Serving Size Measure is mandatory; both are optional but not required.

Field Name	Attribute Requirement	Notes
Meal Credit Serving Size	R	The Meal Credit Serving Size used as "basis" for the creditable component claims. This value may be different than the Serving Size specified for the item's nutrients, and applies to all meal component types. This may be either a Serving Size Weight or Measure, but only one.
Meal Credits	C	Child Nutrition creditable component types and values that correspond to the Meal Credit Serving Size. Mandatory if Meal Credit Components are provided.
Calories	M	Calories associated with the Serving Size Weight/Measure.
Total Fat	R	Total Fat associated with the Serving Size Weight/Measure.
Trans Fat	R	Trans Fat associated with the Serving Size Weight/Measure.
Sat Fat	M	Saturated Fat associated with the Serving Size Weight/Measure.
Cholesterol	R	Cholesterol associated with the Serving Size Weight/Measure.
Sodium	M	Sodium associated with the Serving Size Weight/Measure.
Potassium	R	Potassium associated with the Serving Size Weight/Measure.
Iron	R	Iron associated with the Serving Size Weight/Measure.
Total Carbs	R	Total Carbs associated with the Serving Size Weight/Measure.
Dietary Fiber	R	Dietary Fiber associated with the Serving Size Weight/Measure.
Total Sugar	R	Total Sugar associated with the Serving Size Weight/Measure.
Added Sugar	R	Added Sugar associated with the Serving Size Weight/Measure. This amount is included in the Total Sugar quantity.
Protein	R	Protein associated with the Serving Size Weight/Measure.
Calcium	R	Calcium associated with the Serving Size Weight/Measure.
Vitamin A	R	Vitamin A associated with the Serving Size Weight/Measure. Guidance on the units of measure can be found at: https://www.fda.gov/food/cfsan-constituent-updates/fda-provides-guidance-industry-convert-units-measure-certain-nutrients-nutrition-and-supplement
Vitamin C	R	Vitamin C associated with the Serving Size Weight/Measure.
Vitamin D	R	Vitamin D associated with the Serving Size Weight/Measure.
Allergens	R	The full set of allergen types and claims. The big 9 allergen types are supported (Milk, Peanut, Fish, Soy, Egg, Tree Nut, Shellfish, Wheat, and Sesame) along with the relevant claims from GDSN.
Preparation Instructions	O	Preparation instructions, directions, and/or notes for the item.
Storage Instructions	O	Storage instructions.
Max Storage Temperature	O	Maximum storage temperature, preferably in degrees F.
Min Storage Temperature	O	Minimum storage temperature, preferably in degrees F.
Net Weight	M	Net weight of the Purchase Unit.
Servings Per Purchase Unit	M	Number of servings (as served) in one Purchase Unit.
Servings Per LB	M	Number of servings (as served) in one Pound (as purchased).

Frequently Asked Questions

How is "Buy American" included within the Open Data Standards?

GDSN currently doesn't support this flag, but the "Country of Origin" attribute can be used to determine if the product was made in the United States.

How do USDA Foods products fit into the N2F Open Data Standards?

Operator and other stakeholder experience has demonstrated the need for the Open Data Standards to provide consistent specifications for all products, including those that contain USDA Foods. Therefore, the various forms of products within the N2F Database that fall under the umbrella of "USDA Foods" follow the same GDSN standards including the added K-12 fields necessary for full accountability.

Direct Delivered "Brown Box": Starting in 2022, USDA has mandated that certain Direct Delivered manufacturers register with GS1 and publish their product information through GDSN to USDA for inclusion within the USDA Foods Database and allows the specific product that a district receives to be tracked back to a specific manufacturer. However, the WBSCM remains the primary identifier for a product that the state agencies and district use. The USDA Foods Database is available on the USDA website and this information is also include in the N2F Database.

- GS1 Global Data Synchronization Network (GDSN): New Requirement for USDA Foods Vendors: https://www.ams.usda.gov/selling-food/gs1-gdsn-requirement
- GS1 GDSN and the USDA Foods Database FAQs: https://www.fns.usda.gov/usda-foods/database-faqs

Processed End Products: Processors typically publish their products in GDSN which makes these products available within the N2F Database. Some processors setup distinct GTINs for the version products that contain processed ingredients and a different GTIN for the commercial version of their products. Other processors use the same GTIN for both versions of the product and treat it as "substitutable". However, in either situation the product information adheres to the Open Data Standards for communication throughout K-12. The USDA publishes the NPA Summary End Product Data Schedules for every processor that specifies which USDA Foods ingredients are included in each End Product and the value and drawdown per case for each WBSCM.

DOD Fresh Fruit & Vegetable Program: These items are setup as "Generic" items with information from USDA that has been standardized to adhere to the Open Data Standards.