The Global Language of Business

GSMP:

General Specifications Change Notification (GSCN)

GSCN #	GSCN Name	Effective Date
16-476	Removing redundancy: GTIN Management	20-Dec-2016

Associated Work Request (WR) Number:

WR 16-476

Background:

The conclusion of the UniqueID work effort resulted in the creation of a new GTIN Management Standard. The current GS1 General Specifications contains text that is a duplicate of the previous GTIN Allocation Rules that have been changed. This Work Request is to remove the outdated text as well as the redundancy that currently exists.

GS1 General Specification Change:

4.1 Introduction

The main purpose of Automatic Data Capture (ADC) is to replace manual entry of visually captured information. This implies that an ADC message has to provide all information required for a transaction without human intervention. GS1 system data may be used, for example, to record entities in computer files, to sort goods on conveyor belts, to check completeness of a consignment, to verify dates, and to record physical stock taking.

Element strings may be applied directly on physical goods or printed in catalogues or documents. The scanning source and the type of transaction determine the required information in a given business application. Since all ADC data is being used in Electronic Data Processing (EDP) applications, strict validation of data to be processed is an absolute prerequisite.

For correct processing of scanned data, certain business applications may require the association of element strings representing a particular combination of identification data. The GS1 system enables users to achieve the needed level of data accuracy through the use of adequate element strings.

The logical set up of the data standard of the GS1 system enables system users to validate scanned data messages (see section 7, AIDC validation rules).

Validation is affected on two levels. The first is validation of the data for conformity with system rules (e.g., to provide a message that contains all information to be processed logically without human intervention). The second level is validation of the data for conformity with the requirements of a particular business application.

Sections ~~4.13.1~~4.13.1 and ~~4.13.2~~4.13.2 show the rules for the first verification level (e.g., validate data to conform with the system logic). Section ~~4.13.1~~4.13.1 defines the pairs of element strings that cannot appear on the same physical entity. Section ~~4.13.2~~4.13.2 defines the element strings that mandate the appearance of another element string on the same physical entity. All other combinations of element strings are possible at the first level of verification, although they may not make sense at the second, the application level.

4.2 Rules for keys

The tables in the sub-section below refer to a sequential rule number for the keys rule and are linked to the appropriate wording. The columns are used, where appropriate, to indicate which rules apply to an industry. Section 2 will point to these tables for directions on which rules to apply to an application.

4.2.1 GTIN rules

Rules	Section / Link
GTIN Management Standard	http://www.gs1.org/1/qtinrules/en/overview~~4.3.1.1~~
~~Allocation and responsibility for branded items~~Allocation and responsibility for branded items	~~4.3.1.2.1~~
~~Allocation and responsibility exceptions and non-branded items~~Allocation and responsibility exceptions and non-branded items	~~4.3.1.2.2~~
Management of uniqueness	4.3.1
Allocating the numbers	4.3.42
	~~4.3.1.3.4~~
	~~4.3.1.3.5~~
	~~4.3.1.3.6~~
Responsibility for allocating the Global Trade Item	4.3.3
Additional GTIN Allocation Rules	4.3.4
Lead Time in re-using a GTIN~~Lead Time in re-using a GTIN~~Lead Time in re-using a GTIN	4.3.5

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Rules	Section / Link
Data alignment alignment	4.3.6
GTIN Allocation Rules	www.gs1.org/gtinrules

4.2.2 SSCC rules

Rules	Section	SSCC rule #
Allocating Serial Shipping Container CodesAllocating Serial Shipping Container CodesAllocating Serial Shipping Container Codes	4.4.1	1

4.2.3 Assets rules

Rules	Section	Asset rule #
Allocating GS1 system asset identifiersAllocating GS1 system asset identifiersAllocating GS1 system asset identifiers	4.5	1
Uniqueness of asset identifiersUniqueness of asset identifiers	4.5.1.2	2
Best practiceBest practiceBest practice	4.5.1.3	3
Change of asset ownershipChange of asset ownershipChange of asset ownership	4.5.2	4
Allocating Global Returnable Asset Identifiers (GRAIs): AI (8003)Allocating Global Returnable Asset Identifiers (GRAIs): AI (8003)Allocating Global Returnable Asset Identifiers (GRAIs): AI (8003)	4.5.1.4	5
Serial component (optional)Serial component (optional)Serial component (optional)	4.5.1.6	6
Allocating Global Individual Asset Identifiers (GIAIs): AI (8004)Allocating Global Individual Asset Identifiers (GIAIs): AI (8004)Allocating Global Individual Asset Identifiers (GIAIs): AI (8004)	4.5.1.7	7

4.2.4 GLN rules

Rules	Section/Link	GLN rule #
Allocation general ruleAllocation general ruleAllocation general rule	4.6.1.1	1
Assigning GLN valuesAssigning GLN valuesAssigning GLN values	4.6.1.2	2
RelocationsRelocationsRelocations	4.6.1.3	3
Grouping of Global Location NumbersGrouping of Global Location NumbersGrouping of Global Location Numbers	4.6.1.4	4
Locations without Global Location NumbersLocations without Global Location NumbersLocations without Global Location Numbers	4.6.1.5	5
Lead-time in reusing a Global Location NumberLead-time in reusing a Global Location NumberLead-time in reusing a Global Location Number	4.6.1.6	6
Information associated with a Global Location NumberInformation associated with a Global Location NumberInformation associated with a Global Location Number	4.6.2	7

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Rules	Section/Link	GLN rule #
~~GLN Allocation rulesGLN Allocation rulesGLN Allocation rules~~	4.6.3	8

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4.2.5 GSRN rules

Rules	Section/Link	GSRN rule #
General rule	4.7.1.1	1
Changes in a service relationship	4.7.1.2	2
Recommendation for allocating Global Service Relation Numbers	4.7.1.3	3
Information associated with a Global Service Relation Number	4.7.1.4	4

4.3 GTIN rules

4.3.1 Management of uniqueness

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Global Trade Item Numbers (GTIN) must be allocated uniquely. GTINs SHOULD not contain any intelligence or parsable strings. The embedding of internal codes is discouraged because it is often found that the rules for changing them differ from the rules for changing a GTIN.

For some product types (e.g., Healthcare items) it is common for national regulators to require the submission of a product filing from a party based within the jurisdiction of the regulator. Such arrangements have no direct impact on GTIN ~~Allocation~~Management but need to be covered by the normal contractual arrangements (e.g., licensed distributor, subsidiary, reseller).

~~4.3.1~~4.3.2 Allocating the numbers

~~4.3.1.1 Allocation general rule~~

A Global Trade Item Number (GTIN) is used to identify any item (trade item or service) upon which there is a need to retrieve pre-defined information and that may be priced or ordered or invoiced at any point in any supply chain. A separate, unique GTIN is required whenever any of the pre-defined characteristics of an item are different in any way that is relevant to the trading process.

The details on when to change a GTIN are included in the Global Item Number (GTIN) Management Standard that is designed to help industry make consistent decisions about the unique identification of trade items in open supply chains. The GTIN Management standard define when GTIN changes are needed at the retail consumer trade item level (base unit) as well as on higher level trade items (e.g., case, pallet) that currently exist and are used in distribution processes.

The GTIN Management Standard as well as specific standard rules that apply to Upstream, Fresh Foods, and Healthcare can be found at *http://www.gs1.org/1/gtinrules/en/overview.*~~As a guiding principle, if the customer is expected to distinguish a new trade item from an old trade item and purchase accordingly, a new GTIN SHOULD be assigned to the new trade item. This will ensure the product package and shelf edge label declarations should appear the same to the consumer. These rules are intended for global use. Exceptions may occur only when local regulatory or legal requirements mandate otherwise.~~

~~Specific rules that apply to prevalent industry practices have been endorsed by the Global Commerce Initiative Board, for the Fast Moving Consumer Goods (FMCG) industry. These rules covering many common business cases can be found at *www.gs1.org/gtinrules*. While all GS1 standards are voluntary, the rules are intended to drive normative practice within the FMCG sector.~~

~~Specific rules that apply to packaging and raw material trade items supplied to manufacturing companies can be found at *http://www.gs1.org/gtinrules/index.php/tid=29*.~~

Local, national or regional regulations may require more frequent GTIN changes. Such regulations have precedence over the rules provided within the GTIN Management Standard.

~~However, any law or regulation that contradicts these rules shall supersede these rules.~~

4.3.2.1 GTIN allocation definitions

The following terms may be useful when reviewing the GTIN Allocation Rules that are published on *http://www.gs1.org/gtinrules*:

- **Trade item** – Any item (product or service) upon which there is a need to retrieve predefined information and that may be priced, ordered, or invoiced at any point in any supply chain.
- **Retail consumer trade item** – The trade item intended to be sold to the end consumer at retail point-of-sale. They are identified with a unique GTIN-13, GTIN-12, or GTIN-8. (See the section 2.).
- **Trade item grouping** – A grouping of retail consumer trade items that is not intended for point-of-sale scanning. It is identified with a unique GTIN -14, GTIN -13, or GTIN -12.
- **Non-GTIN pack** – A packaging level for trade items where there is no trading partner requirement for Global Trade Item Number (GTIN) identification. If a GTIN is required, then this item becomes a retail consumer trade item or trade item grouping.
- **Logistic unit** – An item of any composition established for transport and/or storage that needs to be managed through the supply chain. It is identified with an SSCC (Serial Shipping Container Code).

Note: Rules are intended for global use. Exceptions may occur only when local regulatory or legal requirements mandate otherwise.

4.3.2.2 Predefined characteristics

Although this list is not exhaustive, the basic predefined characteristics of a trade item are:

- The primary brand or, as may be defined by regulation: product name, product description.
- The trade item type and variety.
- The net content of trade item (weight, volume, or other dimension impacting trade).
- If the trade item is a grouping, the number of elementary items contained, and their subdivision in sub-packaging units.

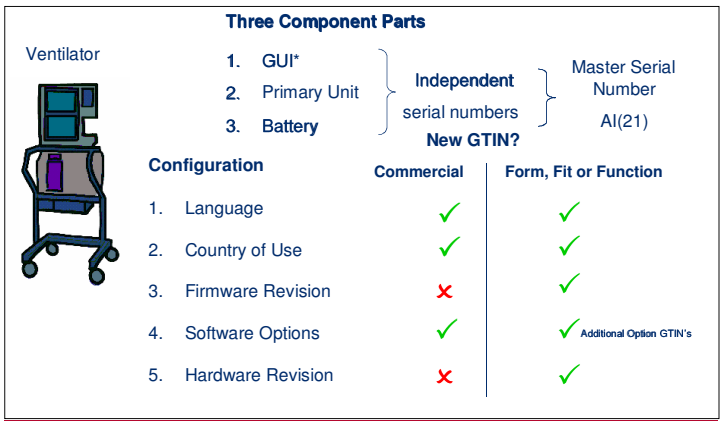
A modification to any of the basic elements that characterise a trade item will usually lead to a change in the Global Trade Item Number (GTIN).

Note: These rules are intended for global use. Exceptions may occur only when local regulatory or legal requirements mandate otherwise. For example, in some industries, such as healthcare, regulations or other requirements may dictate that any trade item changes require a new GTIN.

Note: For complex products, such as some medical devices, key consideration for GTIN Allocation is the commercialisation of the product (e.g., different for pricing or ordering or invoicing). If the product is 'different' a 'different GTIN' is required. The figure below is a scenario to represent the difficulties in determining when a GTIN change is necessary for complex medical devices, depending upon how the device is viewed (i.e., from a commercial and/or form, fit, function perspective). Nominally the commercial aspects of an item determine a GTIN change, the objective is to recognise that other important factors reside which may not necessarily signify a commercialisation shift, but would impact the GTIN assignment – particularly in the healthcare industry. It is the brand owner's responsibility to manage appropriately the configuration of any complex device and its appropriate GTIN(s) assignment. The example shows major hardware components managed by GTIN and serial number combinations, recognising that within this complex medical device there are other potential parameters where configuration change must be managed; GTIN change may be

dictated based on the manufacturers change management process. It is the brand owner that decides upon the identification requirement.

Figure 2.6.8.1.2-1. Example of the complexity of a medical device product with regard to GTIN allocation



*** GUI: Graphical User Interface**

4.3.2.3 Minor trade item Vvariants for trade item groupings

~~Trade items that are a trade item grouping of smaller units identified by a Global Trade Item Number (GTIN) must be allocated a separate GTIN whenever there is a change to the GTIN of any of the units contained.~~

~~For trade item groupings containing units that are themselves promotional variants or minor trade item variants of trade items whose GTINs remain unchanged, the rule is the following:~~

~~If the trade item grouping has to be distinguished for effective ordering, handling, and tracking, a separate GTIN must be allocated to it. Examples include promotions that are limited to certain geographical areas or date specific promotions.~~

For trade item groupings containing units that are themselves minor trade item variants of trade items whose GTINs remain unchanged, the rule is the following:

~~4.3.1.2~~ If the identification of minor trade item variants is only relevant to the manufacturer, they SHOULD distinguish these variants by using the element string product variant (AI 20). Examples include minor package design changes and side loading as opposed to top loading cases.

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~~4.3.2~~ Responsibility

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4.3.3 Responsibility for allocating the Global Trade Item

~~4.3.2.1~~4.3.3.1 ~~Allocation and~~ Rresponsibility for branded items

The brand owner, the organisation that owns the specifications of the trade item regardless of where and by whom it is manufactured, is normally responsible for the allocation of the Global Trade Item Number (GTIN). On joining a GS1 Member Organisation, the brand owner receives a GS1 Company Prefix, which is for the sole use of the company to which it is assigned.

The brand owner is the organisation that owns the trade item specifications and may be:

- The manufacturer or supplier: The company that manufactures the trade item or has it manufactured, in any country, and sells it under its own brand name.
- The importer or wholesaler: The importer or wholesaler that has the trade item manufactured, in any country and sells it under its own brand name or the importer or wholesaler that changes the trade item (for example by modifying the packaging of the trade item).
- The retailer: The retailer that has the trade item manufactured, in any country, and sells it under its own brand.

~~4.3.2.2~~4.3.3.2 ~~Allocation and r~~Responsibility exceptions and non-branded items

There are some exceptions to the rules regarding responsibility described in:

- **Non-branded items**: Items without a brand name and generic items (not private labels) are still assigned Global Trade Item Numbers (GTIN) by their manufacturer. As different manufacturers and/or suppliers may supply items that appear identical to the buyer (this could be a consumer as well as a retailer or manufacturer), it is possible that items that are apparently the same have different GTINs. Companies that trade in these items need to organise their computer applications (e.g., replenishment programs) to cope with this eventuality. Examples of items that sometimes have no brand are apples, plasterboard, candles, and drinking glasses. Examples for trade items that sometimes have no brand and are not intended for retail include salt, fragrances, and food cans.
- **Customer specific items**: If a trade item is made specifically for one trade customer (buyer) and is orderable only by this customer, then the buyer assigns the GTIN. In this case the GTIN SHOULD be formed from the customer's GS1 Company Prefix (see section *1.4.4*). If the supplier (seller) sells a trade item to more than one buyer or intends to sell to more than one buyer, then the seller assigns the GTIN.
- **Other exceptions**: If the brand owner does not assign a GTIN, the importer or another intermediary can assign an item a temporary GTIN. This would imply that the importer takes on the role of the brand owner and could, for example, register the product in a data catalogue. This temporary GTIN may be used until a GTIN is assigned in the normal way. Alternatively, a retail organisation can assign an internal number to an item that does not yet have a GTIN assigned to it only if the item is used within its own stores.

4.3.4 Additional GTIN Allocation Rules

4.3.4.1 GTIN allocation rules for healthcare

Specific rules that apply to healthcare trade items can be found in the *Healthcare GTIN Allocation Rules* publication found at *http://www.gs1.org/1/gtinrules/index.php/p=static/t=healthcare*.

4.3.4.2 GTIN allocation rules for upstream suppliers

Specific rules that apply to packaging and raw material trade items supplied to manufacturing companies can be found on *http://www.gs1.org/gtinrules/index.php/tid=29*.

Upstream suppliers are those companies that typically supply or manufacture trade items that are supplied to other companies for further processing. Examples of these trade items include raw ingredient and packaging materials.

A Global Trade Item Number (GTIN) must be assigned to each pre-defined trade item and any unit of measure used in the price, order, or invoice process.

Note: These rules are intended for global use. Exceptions may occur only when local regulatory or legal requirements mandate otherwise.

4.3.4.3 GTIN allocation considerations for Apparel and Home Fashion

The GSMP General Merchandise Work Team validated the existing Global Trade Item (GTIN) allocation rules and concluded that they are applicable to the apparel and home fashions product category. The content of this section extends the content in section 4.3.2.6.1 to cover scenarios specific to apparel and home fashions and may be different in other sectors. This section is the result of the review of the Trade Item Identification and Communication Guidelines (VICS EDI) TIIC, May 2001, by the GSMP Work Team.

4.3.4.3.1 Pre-pack/multi-pack/set-pack for Apparel and Home Fashion

For a pre-pack or assortment of trade items, each different item within the pre-pack will be assigned a GTIN maintaining the one-to-one relationship between trade item/colour ID/size ID and GTIN. Each GTIN must be marked so as to enable scanning at the point-of-sale. A separate, unique GTIN is assigned to each orderable pre-pack. This GTIN is not intended to be scanned at the retail point-of-sale. Different pre-packs of trade items are assigned different GTINs when either the component item or quantity contents of the pre-packs are different.

A multi-pack is a group of trade items (the same or different) that are intended to be sold as a single consumer unit at the point-of-sale (e.g., a three-pack of men's white T-shirts or a 12-piece set of glassware). A multi-pack is not intended to be broken apart and sold as individual trade items. A multi-pack is assigned a GTIN that is different from the GTIN that may be assigned to the individual trade items. Generally components of a multi-pack are not marked with individual GTINs. Each different multi-pack of the same trade items (e.g., three-pack socks versus six-pack socks) must have a different GTIN assigned. Each different multi-pack GTIN must also have its own trade item/colour ID/size ID.

For a set-pack, each different trade item within the set-pack will be assigned a GTIN, maintaining the one-to-one relationship between trade item/colour ID/size ID and the GTIN. The individual trade item GTIN must be marked to enable retail point-of-sale scanning and may or may not be orderable separately outside the set-pack(s). A separate, unique GTIN is assigned to each set-pack. Different set-packs are assigned different GTINs when either the trade item or quantity contents are different. The figure below provides a summary of the requirements.

Figure 4.3.4.3.1-1. Requirements by pack type

Pack				Individual items of the pack		
	Orderable by retailer	Sellable to consumer	GTIN marked	Orderable by retailer	Sellable to consumer	GTIN marked
Pre-pack	Yes	No	Yes	Maybe	Yes	Yes
Multi-pack	Yes	Yes	Yes	No	No	No
Set-pack	Yes	Yes	Yes	Maybe	Yes	Yes

Note: GTINs on individual trade items in a multi-pack are optional.

Note: GTINs in a set-pack are required because the individual pieces are available for sale to the consumer.

Note: Individual components of pre-packs and set-packs may be ordered separately based on individual partnership agreement.

4.3.4.3.2 Gift with purchase/purchase with purchase/collateral item for Apparel and Home Fashion

A gift with purchase is a trade item given to a consumer as part of a promotional event, contingent on the consumer making a purchase of another item or items. A gift with purchase is considered inventory and has no retail value.

A purchase with purchase is a trade item sold to a consumer at a special price as part of a promotional event, contingent on the consumer purchasing another item or items. A purchase with purchase is considered inventory and has a retail value. When assigning and tracking Global Trade Item Numbers (GTINs) for gift with purchase and purchase with purchase trade items, GTINs SHOULD be assigned to all gift with purchase and purchase with purchase items and be marked with a GTIN to enable point-of-sale scanning.

A collateral item is a trade item delivered from a manufacturer to the retail selling floor that is not considered inventory and has no retail value (e.g., a display case that needs to be identified but has no retail value). GTINs SHOULD be assigned to all collateral items.

~~4.3.2.3 Guidelines for allocating the Global Trade Item Number (GTIN)~~

~~4.3.2.3.1~~ ~~1.1.1.1.1~~ ~~Management of uniqueness~~

~~Global Trade Item Numbers (GTIN) must be allocated uniquely. GTINs SHOULD not contain any intelligence or parsable strings. The embedding of internal codes is discouraged because it is often found that the rules for changing them differ from the rules for changing a GTIN.~~

~~For some product types (e.g., Healthcare items) it is common for national regulators to require the submission of a product filing from a party based within the jurisdiction of the regulator. Such arrangements have no direct impact on GTIN Allocation but need to be covered by the normal contractual arrangements (e.g., licensed distributor, subsidiary, reseller).~~

~~4.3.2.3.2 Pre-defined characteristics~~

~~Although this list is not exhaustive, the basic pre-defined characteristics of a trade item are:~~

- ~~The product name, product brand, and product description.~~
- ~~The trade item type and variety.~~
- ~~The net quantity of trade item (weight, volume, or other dimension impacting trade).~~
- ~~If the trade item is a grouping, the number of elementary items contained, and their subdivision in sub-packaging units, the nature of the grouping (e.g., carton, pallet, box-pallet, flat-pallet).~~

~~A modification to any of the basic elements that characterise a trade item will usually lead to a change in the Global Trade Item Number (GTIN).~~

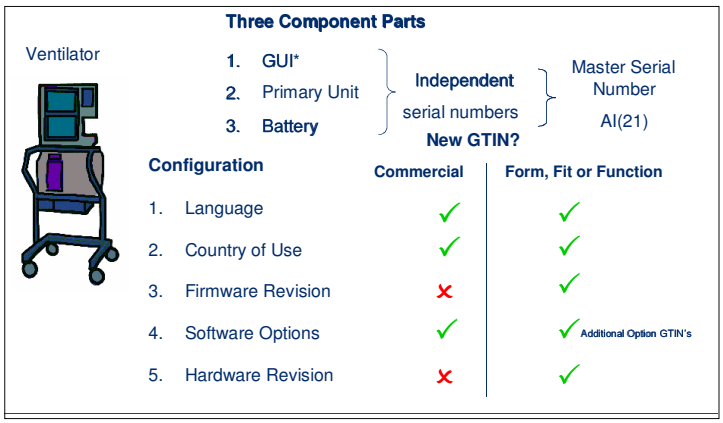
~~**Note**: Price is not a relevant criterion for changing a GTIN except when the price is printed directly on the trade item.~~

~~**Note**: These rules are intended for global use. Exceptions may occur only when local regulatory or legal requirements mandate otherwise. For example, in some industries, such as healthcare, regulations or other requirements may dictate that any trade item changes require a new GTIN.~~

~~**Note**: For complex products, such as some medical devices, key consideration for GTIN Allocation is the commercialisation of the product (e.g., different for pricing or ordering or invoicing). If the product is 'different' a 'different GTIN' is required. The figure below is a scenario to represent the difficulties in determining when a GTIN change is necessary for complex medical devices, depending upon how the device is viewed (i.e., from a commercial and/or form, fit, function perspective). Nominally the commercial aspects of an item determine a GTIN change, the objective is to recognise that other important factors reside which may not necessarily signify a commercialisation shift, but would impact the GTIN assignment – particularly in the healthcare industry. It is the brand owner's responsibility to manage appropriately the configuration of any complex device and its appropriate GTIN(s) assignment. The example shows major hardware components managed by GTIN and serial number combinations, recognising that within this complex medical device there are other potential parameters where configuration change must be managed; GTIN change may be~~

dictated based on the manufacturers change management process. It is the brand owner that decides upon the identification requirement.

Figure 4.3.1.3.2-1. Example of the complexity of a medical device product with regard to GTIN allocation



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Typically the gross dimensions of a trade item communicated via the item file that do not affect net trade item quantity or measure do not impact the GTIN assignment. However, as a general rule if any gross dimension (e.g., length, depth, weight) changes by more than 20 percent, a new GTIN is required. Changes below 20 percent may require a new GTIN at the discretion of the brand owner.

In all cases, a change to a GTIN for the trade item at a lower level of packaging will always lead to a change of any GTIN used for associated packaging at higher grouping levels.

Pre-priced merchandise

Pre-pricing is discouraged as a trade practice as it introduces complexity for trade item file maintenance throughout the supply chain. If, however, the price that the consumer will pay is marked on the item, the Global Trade Item Number (GTIN) SHOULD be changed when the priced marked on the item changes.

Note: These rules are intended for global use. Exceptions may occur only when local regulatory or legal requirements mandate otherwise.

Promotional variants

A promotion is a temporary change to a trade item, which modifies the presentation of the trade item. It usually coexists with the base trade item.

Promotional variants of trade items that affect the net weight or volume of the trade item must be allocated a separate, unique Global Trade Item Number (GTIN). Examples include an attached free additional item or 10 percent extra free.

Promotional variants of trade items may impact the logistic weight or dimension of the trade item by more than 20 percent. In this case, the promotional variants must be allocated a separate, unique GTIN.

Promotional variants of trade items where a price reduction is explicitly specified on the pack (flash packs) must be allocated a separate, unique GTIN unless local trade practices or price marking legislation dictate otherwise. An example would be a 10 cents off offer.

Each seasonal promotion of a trade item SHOULD be allocated a separate, unique GTIN. An example would be chocolate that is over-wrapped for Easter.

~~Other promotional variants SHOULD NOT be allocated a separate, unique GTIN. Examples include money off coupon, free gift inside (unless this causes an increase in gross weight by more than 20 percent), "send for" offer, competition offer, or samples sent directly to consumer bypassing the retail point-of-sale.~~

~~Trade item changes~~

~~Trade item changes are any change or improvement during the life of a trade item. The "new" trade item replaces the old one. Should the brand owner decide to create a variant (e.g., with different ingredients) in parallel with the base trade item, then a separate, unique Global Trade Item Number (GTIN) has to be allocated.~~

~~Minor trade item changes or improvements do not require the allocation of a different GTIN. Examples include label artwork redesign, minor trade item description changes that do not impact the supply chain, gross dimension change in any axis of less than 20 percent with content quantity or measure unchanged. This rule applies to retail consumer trade items (retail POS unit) and trade item groupings (orderable cases or pallets).~~

~~If a trade item's quantity or measure changes or if the consumer will be expected to distinguish between an old and new brand name or product description, then a new GTIN must be allocated.~~

~~Variants for trade item groupings~~

- ~~Trade items that are a trade item grouping of smaller units identified by a Global Trade Item Number (GTIN) must be allocated a separate GTIN whenever there is a change to the GTIN of any of the units contained.~~
- ~~For trade item groupings containing units that are themselves promotional variants or minor trade item variants of trade items whose GTINs remain unchanged, the rule is the following:~~
  - ~~If the trade item grouping has to be distinguished for effective ordering, handling, and tracking, a separate GTIN must be allocated to it. Examples include promotions that are limited to certain geographical areas or date specific promotions.~~
  - ~~If the identification of minor trade item variants is only relevant to the manufacturer, they SHOULD distinguish these variants by using the element string product variant (AI 20). Examples include minor package design changes and side loading as opposed to top loading cases.~~

~~4.3.3~~4.3.5 Lead Time in re-using a GTIN

A GTIN allocated to a trade item that has become obsolete must not be re-used for another trade item until at least 48 months have elapsed after:

- the expiration date of the last original trade items produced with that number

  -or-

- the last original trade items produced with that number have been supplied to the customer.

In the case of clothing the minimum retention period is reduced to 30 months.

Companies must ensure that GTINs allocated to regulated healthcare trade items SHALL never be reused.

Exception: regulated healthcare trade items that have been withdrawn from the market and are reintroduced may use the original GTIN if they are reintroduced without any modifications or changes which require a new GTIN as specified by the GTIN Allocation Rules.

For other trade items, brand owners should consider a longer period depending upon the type of goods and/or any regulatory framework. For example, steel beams may be stored for many years before entering the supply chain, and processes should be put in place to ensure that the GTIN is not reallocated for a significant period of time.

In addition, when contemplating the re-use of a GTIN, consideration should be given to the use of data associated with the original GTIN by trading partners for statistical analysis or service records, which may continue long after the original trade item was last supplied.

If a GTIN has been assigned to an item, which was then never actually produced, the GTIN may be deleted from any catalogue immediately without first being marked as discontinued. In this exceptional case the GTIN may be re-used 12 months after deletion from the seller's catalogue.

~~4.3.4~~4.3.6 Data alignment

When a new Global Trade Item Number (GTIN) is assigned to a trade item, it is essential that the brand owner provide the detailed information to trading partners about the item's characteristics. This information should be provided at as soon as possible before the trade item is actually traded. Expediting GTIN information to buyers reduces order exception handling and reduces the lead-time in getting goods to the selling floor.

~~4.3.4.1~~4.3.6.1 Data alignment best practice

A number of actions are vital to ensure that Global Trade Item Numbers (GTINs) are accurately communicated within the supply chain. These ensure that the data associated with any scanned barcode can be associated with accurate, up-to-date data. This is particularly essential for items scanned at the point-of-sale where the absence of accurate data may have legal implications.

The GTIN provides a supply chain solution for the identification of any item that is traded (priced, invoiced, or ordered). Overall supply chain costs are minimised by all partners in the supply chain adhering to identical allocation rules (see section ~~1.1.1.1~~4.3.1.6~~4.3.1.6~~).

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The following best practices are proposed for all items. It has been developed by manufacturers, distributors, and retailers to help eliminate any confusion between product identification and product listing in the retailer's database in the supply chain.

1. GTIN allocation and the barcoding of the GTIN are technical processes with rules detailed in these *GS1 General Specifications*. Product listing is the act of adopting a new product in an assortment by a commercial organisation. Product listing is the result of commercial negotiations between purchaser and seller. For example, GTIN allocation should be independent from product listing.
2. For management reasons, or to ensure that correct information is communicated to the final consumer, changes to an item may require a new GTIN. A new GTIN does not automatically imply a new listing. For example, if a change requiring a new GTIN is made to a listed product, this should not automatically imply a new product listing is needed.

GTIN allocation and database listing are to be considered as two entirely autonomous decisions: GTIN allocation is not an object of negotiation.

The brand owner makes available to its client all information regarding the listed items, ideally with an EDI message or in an e-product catalogue, no later than at the time of item listing. In case of time limited promotions or a product evolution, this information will be communicated largely beforehand, thus allowing the retailer to validate this information and to circulate it internally.

~~Primary refrigeration state~~

~~It is recommended that GTIN allocation consider the primary refrigeration state of the product. When a product is regularly marketed in both chilled and frozen states, then two GTINs SHOULD be allocated for the product, one for each refrigeration state. However, if a product is only primarily marketed in one refrigeration state or the other, then only one GTIN for the product is necessary. For seasonal products which could be sold as chilled or frozen, such as spiral-cut hams and whole turkeys, the possibility of product being in delivered in either refrigeration state even though there is only one GTIN for the product needs to be noted when the retailer authorises the product.~~

~~The key to efficient movement through the supply chain is good communications between retailer and packer. If packers only have frozen product available for a retailer that normally buys only chilled, the packer needs to communicate with the retailer to ensure that this is acceptable. This communication is critical in cases where over-production has required product with a "chilled" GTIN to be frozen before releasing it into the supply chain. To summarise:~~

~~Assign the GTIN based on the primary state in which the product is marketed (e.g., chilled or frozen).~~

If product is normally marketed in both a Chilled and Frozen state, assign two GTINs to the product, one for each state.

Suppliers should communicate carefully with retailers regarding the refrigeration state of seasonal or feature products than can be marketed in a Chilled, Tempered, or Frozen state.

4.3.4.2 GTIN allocation definitions

The following terms may be useful when reviewing the GTIN Allocation Rules that are published on *http://www.gs1.org/gtinrules*:

- **Trade item** – Any item (product or service) upon which there is a need to retrieve pre-defined information and that may be priced, ordered, or invoiced at any point in any supply chain.
- **Retail consumer trade item** – The trade item intended to be sold to the end consumer at retail point-of-sale. They are identified with a unique GTIN-13, GTIN-12, or GTIN-8. (See the section 2.).
- **Trade item grouping** – A grouping of retail consumer trade items that is not intended for point-of-sale scanning. It is identified with a unique GTIN-14, GTIN-13, or GTIN-12.
- **Non-GTIN pack** – A packaging level for trade items where there is no trading partner requirement for Global Trade Item Number (GTIN) identification. If a GTIN is required, then this item becomes a retail consumer trade item or trade item grouping.
- **Logistic unit** – An item of any composition established for transport and/or storage that needs to be managed through the supply chain. It is identified with an SSCC (Serial Shipping Container Code).

Note: rules are intended for global use. Exceptions may occur only when local regulatory or legal requirements mandate otherwise.

4.3.4.3 GTIN allocation rules for upstream suppliers

Specific rules that apply to packaging and raw material trade items supplied to manufacturing companies can be found on *http://www.gs1.org/gtinrules/index.php/tid=29*.

Upstream suppliers are those companies that typically supply or manufacture trade items that are supplied to other companies for further processing. Examples of these trade items include raw ingredient and packaging materials.

A Global Trade Item Number (GTIN) must be assigned to each pre-defined trade item and any unit of measure used in the price, order, or invoice process.

Note: These rules are intended for global use. Exceptions may occur only when local regulatory or legal requirements mandate otherwise.

4.3.4.4 GTIN allocation considerations for home apparel and home fashion

The GSMP General Merchandise Work Team validated the existing Global Trade Item (GTIN) allocation rules and concluded that they are applicable to the apparel and home fashions product category. The content of this section extends the content in section *4.3.1.8.14.3.1.8.1* to cover scenarios specific to apparel and home fashions and may be different in other sectors. This section is the result of the review of the Trade Item Identification and Communication Guidelines (VICS EDI) TIIC, May 2001, by the GSMP Work Team.

4.3.4.4.1 Pre-pack/multi-pack/set-pack

For a pre-pack or assortment of trade items, each different item within the pre-pack will be assigned a GTIN maintaining the one-to-one relationship between trade item/colour ID/size ID and GTIN. Each GTIN must be marked so as to enable scanning at the point-of-sale. A separate, unique GTIN is assigned to each orderable pre-pack. This GTIN is not intended to be scanned at the retail point-

of sale. Different pre-packs of trade items are assigned different GTINs when either the component item or quantity contents of the pre-packs are different.

A multi-pack is a group of trade items (the same or different) that are intended to be sold as a single consumer unit at the point-of-sale (e.g., a three-pack of men's white T-shirts or a 12-piece set of glassware). A multi-pack is not intended to be broken apart and sold as individual trade items. A multi-pack is assigned a GTIN that is different from the GTIN that may be assigned to the individual trade items. Generally components of a multi-pack are not marked with individual GTINs. Each different multi-pack of the same trade items (e.g., three-pack socks versus six-pack socks) must have a different GTIN assigned. Each different multi-pack GTIN must also have its own trade item/colour ID/size ID.

For a set-pack, each different trade item within the set-pack will be assigned a GTIN, maintaining the one-to-one relationship between trade item/colour ID/size ID and the GTIN. The individual trade item GTIN must be marked to enable retail point-of-sale scanning and may or may not be orderable separately outside the set-pack(s). A separate, unique GTIN is assigned to each set-pack. Different set-packs are assigned different GTINs when either the trade item or quantity contents are different. The figure below provides a summary of the requirements.

Figure 4.3.1.8.1-1. Requirements by pack type

Pack				Individual items of the pack		
	Orderable by retailer	Sellable to consumer	GTIN marked	Orderable by retailer	Sellable to consumer	GTIN marked
Pre-pack	Yes	No	Yes	Maybe	Yes	Yes
Multi-pack	Yes	Yes	Yes	No	No	No
Set-pack	Yes	Yes	Yes	Maybe	Yes	Yes

Note: GTINs on individual trade items in a multi-pack are optional

Note: GTINs in a set-pack are required because the individual pieces are available for sale to the consumer

Note: Individual components of pre-packs and set-packs may be ordered separately based on individual partnership agreement

4.3.4.4.2 Gift with purchase/purchase with purchase/collateral item

A gift with purchase is a trade item given to a consumer as part of a promotional event, contingent on the consumer making a purchase of another item or items. A gift with purchase is considered inventory and has no retail value.

A purchase with purchase is a trade item sold to a consumer at a special price as part of a promotional event, contingent on the consumer purchasing another item or items. A purchase with purchase is considered inventory and has a retail value. When assigning and tracking Global Trade Item Numbers (GTINs) for gift with purchase and purchase with purchase trade items, GTINs SHOULD be assigned to all gift with purchase and purchase with purchase items and be marked with a GTIN to enable point-of-sale scanning.

A collateral item is a trade item delivered from a manufacturer to the retail selling floor that is not considered inventory and has no retail value (e.g., a display case that needs to be identified but has no retail value). GTINs SHOULD be assigned to all collateral items.

4.3.4.5 GTIN allocation rules for healthcare

Specific rules that apply to healthcare trade items can be found in the *Healthcare GTIN Allocation Rules* publication found at *http://www.gs1.org/1/gtinrules/index.php/p=static/t=healthcare*.

Term	Definition
GS1 B2C Trusted Source of Data (TSD)	A GS1 managed network concept that leverages GTIN (product identification) and GDSN (product information) and would support the communication of authentic product data provided by brand owners to retailers, internet application providers, government, and consumers and shoppers using internet and mobile devices (phones, laptops, etc.).
GS1 check digit calculation	An algorithm used by the GS1 system for the calculation of a check digit to verify accuracy of data. (e.g., modulo 10 check digit, price check digit).
GS1 Common Currency Coupon Code	An identification number for coupons issued in a common currency area (e.g., the euro currency) that uses the Coupon Code-13 data structure.
GS1 Company Prefix	A unique string of four to twelve digits used to issue GS1 identification keys. The first digits are a valid GS1 Prefix and the length must be at least one longer than the length of the GS1 Prefix. The GS1 Company Prefix is issued by a GS1 Member Organisation. As the GS1 Company Prefix varies in length, the issuance of a GS1 Company Prefix excludes all longer strings that start with the same digits from being issued as GS1 Company Prefixes. See also U.P.C Company Prefix.
GS1 Company Prefix licensee	The entity to which a GS1 Company Prefix is licensed.
GS1 DataBar Composite symbology family	A family of symbols comprising all the GS1 DataBar barcodes when an accompanying Composite Component is printed directly above the linear component.
GS1 DataBar Expanded barcode	A barcode that encodes any GS1 identification key plus attribute data, such as weight and "best before" date, in a linear symbol that can be scanned omnidirectionally by suitably programmed point-of-sale scanners.
GS1 DataBar Expanded Stacked barcode	A barcode that is a variation of the GS1 DataBar Expanded barcode that is stacked in multiple rows and is used when the normal symbol would be too wide for the application.
GS1 DataBar Limited barcode	A barcode that encodes a GTIN with a leading digit of zero or indicator digit of one in a linear symbol; for use on small items that will not be scanned at the point-of-sale.
GS1 DataBar Omnidirectional barcode	A barcode that encodes a GTIN. It is designed to be read by omnidirectional scanners.
GS1 DataBar Retail POS family	The members of the GS1 DataBar symbology family designed to be read in segments by omnidirectional scanners at retail POS: GS1 DataBar Omnidirectional; GS1 DataBar Stacked Omnidirectional; GS1 DataBar Expanded; GS1 DataBar Expanded Stacked.
GS1 DataBar Stacked barcode	A barcode that is a variation of the GS1 DataBar Truncated barcode that is stacked in two rows and is used when the GS1 DataBar Truncated barcode would be too wide for the application.
GS1 DataBar Stacked Omnidirectional barcode	A barcode that is a variation of the GS1 DataBar symbology that is stacked in two rows and is used when the GS1 DataBar Omnidirectional symbol would be too wide for the application. It is designed to be read by omnidirectional checkout scanners.
GS1 DataBar Truncated barcode	A barcode that is a truncated version of the GS1 DataBar Omnidirectional barcode. It is used when the GS1 DataBar Omnidirectional barcode would be too tall for small item marking applications. It is not intended for omnidirectional checkout scanning.
GS1 DataBar®	A family of barcodes, including GS1 DataBar Omnidirectional; GS1 DataBar Stacked Omnidirectional; GS1 DataBar Expanded; GS1 DataBar Expanded Stacked GS1 DataBar Truncated, GS1 DataBar Limited, and GS1 DataBar Stacked symbols.
GS1 DataMatrix	GS1 implementation specification for use of Data Matrix
GS1 EANCOM®	The GS1 standard for Electronic Data Interchange (EDI) that is a detailed implementation guideline of the UN/EDIFACT standard messages using the GS1 identification keys.
GS1 Global Data Dictionary	A repository tool used to record GS1 member standards agreements on business terms and definitions used by all business units.
GS1 Global Standards Management Process	GS1 created the Global Standards Management Process (GSMP) to support standards development activity for the GS1 system. The GSMP uses a global consensus process to develop supply chain standards that are based on business needs and user-input
GS1 identification key	A unique identifier for a class of objects (e.g. a trade item) or an instance of an object (e.g. a logistic unit).
GS1 identification key licensee	The entity to which a GS1 Identification Key is licensed.

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Term	Definition
measure verifier-digit	A digit calculated from the measure field of a variable measure number encoded using the EAN/UPC symbology. Used to check that the data has been correctly composed.
medical device	Any instrument, apparatus, implement, machine, appliance, implant, in vitro reagent or calibrator, software, material or other similar or related article, intended by the manufacturer to be used, alone or in combination, for human beings for any medical purpose.
minimum level of AIDC marking (for regulated healthcare trade items)	A level within a graduated system of AIDC trade item marking that provides GTIN with no attribute information.
module	The narrowest nominal width unit of measure in a barcode. In certain symbologies, element widths may be specified as multiples of one module. Equivalent to X-dimension.
modulo 10	The name of the algorithm – a simple checksum formula in the public domain – used to create a check digit for those GS1 identification keys that require one.
modulo 103 GS1-128 symbol check character	A number, which results from a modulo calculation, that is encoded in the GS1-128 barcode as a self-checking symbol character. It is created automatically by software as a symbol overhead character and is not expressed in the human readable interpretation.
multiple unit blister / package	Immediate package for a medicine with more than one single unit. Package which fully encloses the pill / caplet / capsule. Each dosage form may be individually packaged. The individually blistered dosage forms are attached to each other in one strip.
National Healthcare Reimbursement Number (NHRN)	National and/or regional identification numbers used on pharmaceutical and/or medical devices where required by national or regional regulatory organisations for product registration purposes and/or for the management of healthcare provider reimbursement.
National Trade Item Number (NTIN)	A coding scheme, administered in the healthcare sector by a national organisation for which a GS1 Prefix has been issued to permit its uniqueness within the GTIN pool but without assurance of full compatibility with GTIN functionality. The result is a product identification number assigned by a third party (not the brand owner or manufacturer). Example: the CIP (Club Inter Pharmaceutique) in France administered by the French Health Products Safety Agency (AFSSAPS).
natural base	The side of a non-retail consumer trade item package that is used as a reference point for capturing dimensional attributes for the purpose of data alignment.
~~non-GTIN packs~~	~~A packaging level for trade items where there is no trading partner requirement for GTIN identification. If a GTIN is required, then this item becomes a retail consumer trade item or trade item grouping.~~
non-HRI text	Characters such as letters and numbers that can be read by persons and may or may not be encoded in GS1 AIDC data carriers and are not confined to a structure and format based on GS1 standards (e.g., a date code expressed in a national format that could be used to encode a date field in a GS1 AIDC data carrier, brand owner name, consumer declarations).
~~object class~~	~~Similar to a stock keeping unit SKU or trade item level.~~
odd parity	A characteristic of the encodation of a symbol character whereby the symbol character contains an odd number of dark modules.
omnidirectional linear barcode	A linear barcode symbol designed to be omnidirectionally read in segments by suitably programmed high-volume omnidirectional point-of-sale (POS) scanners.
packaging component	Entities such as bottles, caps, and labels to package a consumer trade item.
packaging component number	GTIN attribute used to establish a relationship between a finished consumer trade item and packaging components.
payment slip	The end customer's notification of a demand for payment for a billable service (e.g., utility bill) comprising an amount payable and payment conditions.
~~platform~~	~~Pallet or slip sheet or other device used to store or move a unit load, whether a logistics unit or a GTIN.~~
point-of-care (POC)	Dispensing or use of a non-retail, regulated healthcare pharmaceutical or medical device to a patient based on right product, dose, and route of administration
point-of-sale (POS)	Refers to the retail checkout where omnidirectional barcodes must be used to enable very rapid scanning or low volume checkout where linear or 2D matrix barcodes are used with image-based scanners.

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