# TSD Product Data Modules Standard

the normative specification for standard data exchanged with the product data modules in the GS1 Source framework.

*Release 1.2, Ratified, May 2015*

## Document Summary

| Document Item | Current Value |
|---|---|
| Document Name | TSD Product Data Modules Standard |
| Document Date | May 2015 |
| Document Version | 1.2 |
| Document Issue | |
| Document Status | Ratified |
| Document Description | the normative specification for standard data exchanged with the product data modules in the GS1 Source framework. |

## Contributors

| Name | Organisation |
|---|---|
| Marc Benhaim, working group co-chair | GS1 France |
| Edward Collins, working group co-chair | Brandbank |
| Steven Robba, working group co-chair | 1WorldSync Holdings, Inc. |
| Alvarez, Pete | GS1 GO |
| Angelo, Kerry | GS1 Community Room Staff |
| Ausili, Andrea | GS1 Italy |
| Beideman, Robert | GS1 GO |
| Beno, Martin | GS1 Slovakia |
| Bersani, Bob | GS1 Global Office |
| Besford, Robert | GS1 UK |
| Bigler, Lori | The J.M. Smucker Company |
| Bixler, Jeffrey | Georgia Pacific |
| Bradley, Ardetha | Georgia Pacific |
| Brown, Scott | GS1 US |
| Burd, Randy | MultiAd Kwikee |
| Dean, Kevin | GS1 Canada |
| Dicks, Arne | GS1 Germany |
| Edison, Carol | GS1 US |
| el kalla, ahmed | GS1 Egypt |
| Espinosa, Juliet | GS1 Columbia |
| Fahoum, Terri | The J.M. Smucker Company |
| Felipe, Juan | GS1 Columbia |
| Gathmann, Stefan | GS1 Ireland |
| Gerasimenko, Alexander | Mars, Inc. |
| Gray, Neil | GS1 UK |
| Green, Cameron | GS1 Global Office |
| Gupta, Sudu | ITradeNetwork.com, Inc. |

| Name | Organisation |
|---|---|
| Hakala, Pertti | GS1 Finland |
| Herregodts, Kurt | GS1 Belgium & Luxembourg |
| Hyler, Alan | GS1 Global Office |
| Ichihara, Hideki | GS1 Japan |
| Iwasaki, Yoshihiko | GS1 Japan |
| Kauz, Eric | GS1 Global Office |
| Kidd, Robin | Nestle |
| Kolwane, Neville | GS1 South Africa |
| Kovacic, Bojan | GS1 Slovenia |
| Kurmanova, Kamilla | GS1 Russia |
| Lekwana, Pedro | GS1 South Africa |
| Lockhead, Sean | GS1 Global Office |
| Meldgaard, Charlotte | GS1 Denmark |
| Moreno, Sandra | GS1 Colombia |
| Moreno, Sandra | GS1 Columbia |
| Moritz, Marcus | GS1 Germany |
| Nachman-Ghnassia, Sophie | France Telecom Orange |
| Nuce, Melanie | GS1 US |
| Nunez, Katrin | Summa Technology Group |
| Ochoa, Juan | GS1 Colombia |
| Ogandzhanov, Georgy | GS1 Russia |
| Ottiker, Michel | GS1 Switzerland |
| Paixac, Silverio | GS1 Portugal |
| Pereira, Steven | GS1 Australia |
| Picoito, Joao | GS1 Portugal |
| Pujol, Xavier | GS1 Spain |
| Ramos, Carlos | GS1 Mexico |
| Rasmussen, Thomas | GS1 Denmark |
| Reithmeier, Michaela | GS1 Austria |
| Repec, Craig Alan | GS1 Global Office |
| Richardson, Rich | GS1 US |
| Roberts, Toni | Costco |
| Rubio Alegren, Sylvia | ICA AB |
| Sarachman, Michael | GS1 Global Office |
| Schins, Armand | Ahold (Europe) |
| Scott, Luke | Unknown-On Webex |
| Sieira, Marcel | GS1 Australia |
| Simonalle, Kim | epcSolutions inc. |
| Sinitsyn, Andrey | ItRuStore Ltd. |
| Slone, Joe | 1WorldSync Holdings, Inc. |

| Name | Organisation |
|---|---|
| Soboleva, Olga | GS1 Russia |
| Spindler, Mike | ShelfSnap LLC |
| Stein, Sylvia | GS1 Netherlands |
| Tomassi, Gina | PepsiCo, Inc. |
| Traub, Ken | Ken Traub Consulting LLC |
| Vacval, Milan | Gladson Interactive |
| Whittington, Wade | Georgia Pacific LLC |
| Zegre, Michael | Saphety Level SA |
| Dipan Anarkat, B2C working group facilitator | GS1 Global Office |
| Mark Frey, GSMP working group facilitator | GS1 Global Office |
| Coen Janssen, Editor and modeller | GS1 Global Office |
| Ewa Iwicka, XML development | GS1 Global Office |

## Log of Changes

| Release | Date of Change | Changed By | Summary of Change |
|---|---|---|---|
| i1.1-d1 | 25-feb-2013 | Coen Janssen | WR-12-000355 Basic ProductInformation Module<br>▪ Added: regulatedProductName, packagingSignatureLine<br>Nutritional Information Module:<br>▪ changed data type of dailyValueIntakePercent from float into decimal<br>▪ added TSD qualifiers to all code data types.<br>New modules:<br>▪ Product Allergen Information Module<br>▪ Product Claims and Endorsements Module<br>▪ Product Quantity Information Module<br>▪ Product Origin Information Module<br>▪ Product Instructions Module<br>▪ Food and Beverage Ingredient Information Module<br>Food and Beverage Preparation Information Module |
| i1.1 | Jul-2013 | Coen Janssen | eBallot successful, changed document status into Unratified and removed revision markings. |
| d1.2 | Mar-2015 | Mark Van Eeghem | Added this summary of change:<br>▪ Updated UML diagram and data definition in 4.1 to show addition of association to class TSD_PackagingMarking + addition of new attribute functionalName.<br>▪ Added section 4.1.5 for the new PackagingMarking class<br>▪ Updated section 5.1 XML Schemas to reflect update to 1.2<br>▪ Created Section 5.10 for XML schema Nonfood Ingredient Information Module<br>Updated appendix with mapping to GDSN for Phase 3 attributes. |

| Release | Date of Change | Changed By | Summary of Change |
|---|---|---|---|
| 1.2 | May 2015 | D. Buckley | Applied new GS1 Branding and release number following board ratification. No text changes whatsoever. |

## Disclaimer

GS1®, under its IP Policy, seeks to avoid uncertainty regarding intellectual property claims by requiring the participants in the Work Group that developed this **TSD Product Data Modules Standard** to agree to grant to GS1 members a royalty-free licence or a RAND licence to Necessary Claims, as that term is defined in the GS1 IP Policy. Furthermore, attention is drawn to the possibility that an implementation of one or more features of this Specification may be the subject of a patent or other intellectual property right that does not involve a Necessary Claim. Any such patent or other intellectual property right is not subject to the licencing obligations of GS1. Moreover, the agreement to grant licences provided under the GS1 IP Policy does not include IP rights and any claims of third parties who were not participants in the Work Group.

Accordingly, GS1 recommends that any organization developing an implementation designed to be in conformance with this Specification should determine whether there are any patents that may encompass a specific implementation that the organisation is developing in compliance with the Specification and whether a licence under a patent or other intellectual property right is needed. Such a determination of a need for licencing should be made in view of the details of the specific system designed by the organisation in consultation with their own patent counsel.

THIS DOCUMENT IS PROVIDED “AS IS” WITH NO WARRANTIES WHATSOEVER, INCLUDING ANY WARRANTY OF MERCHANTABILITY, NONINFRINGMENT, FITNESS FOR PARTICULAR PURPOSE, OR ANY WARRANTY OTHER WISE ARISING OUT OF THIS SPECIFICATION. GS1 disclaims all liability for any damages arising from use or misuse of this Standard, whether special, indirect, consequential, or compensatory damages, and including liability for infringement of any intellectual property rights, relating to use of information in or reliance upon this document.

GS1 retains the right to make changes to this document at any time, without notice. GS1 makes no warranty for the use of this document and assumes no responsibility for any errors which may appear in the document, nor does it make a commitment to update the information contained herein.

GS1 and the GS1 logo are registered trademarks of GS1 AISBL.

# Table of Contents

# 1 Scope

Product data is defined in several modules. This standard defines the following product data modules:

- *Basic Product Information* - This module contains common identifying information for a product. This data is intended to be suitable to assist an end user in understanding to which product a given data set pertains.
- *Product Allergen Information* - This module contains data pertaining to any allergens contained in a product, including those data elements that are of interest to consumers, are commonly available on the product label, and are defined in the Global Data Synchronization Network (GDSN).
- *Product Claims and Endorsements* - This module contains data pertaining to symbols and statements that have been authorized by regulators or other agencies, including those data elements that are of interest to consumers, are commonly available on the product label, and are defined in the Global Data Synchronization Network (GDSN).
- *Product Instructions* - This module contains data pertaining to the instructions on storage and usage of the product, including those data elements that are of interest to consumers, are commonly available on the product label, and are defined in the Global Data Synchronization Network (GDSN).
- *Product Origin Information* - This module contains data pertaining to the origin of the product, including those data elements that are of interest to consumers, are commonly available on the product label, and are defined in the Global Data Synchronization Network (GDSN).
- *Product Quantity Information* - This module contains data pertaining to the physical quantity contained in a product, including those data elements that are of interest to consumers, are commonly available on the product label, and are defined in the Global Data Synchronization Network (GDSN).
- *Food and Beverage Ingredient Information* - This module contains data pertaining to the ingredient content of a food product, including those data elements that are of interest to consumers, are commonly available on the product label, and are defined in the Global Data Synchronization Network (GDSN).
- *Food and Beverage Preparation Information* - This module contains data pertaining to the preparation of a food product, including those data elements that are of interest to consumers, are commonly available on the product label, and are defined in the Global Data Synchronization Network (GDSN).
- *Nutritional Product Information* - This module contains data pertaining to the nutritional content of a food product, including those data elements that are of interest to consumers, are commonly available on the product label, and are defined in the Global Data Synchronization Network (GDSN).
- *Nonfood Ingredient Information* - This module contains data pertaining to the ingredient content of a nonfood product, including those data elements that are of interest to consumers, are commonly available on the product label, and are defined in the Global Data Synchronization Network (GDSN).
- *Product Usage And Safety* - This module contains data pertaining to the product usage and safety instructions of the product, including those data elements that are of interest to consumers, are commonly available on the product label, and are defined in the Global Data Synchronization Network (GDSN).

For each module the standard defines the following:

- Abstract data definitions for product data delivered by Data Aggregators to Internet Applications.
- XML schemas that implement the abstract data definitions and the messages implied by the abstract interface definitions

Future versions of this standard may add additional modules.

# 2 References

Normative references:

- [GS1GS] GS1, "GS1 General Specifications Version 12," January 2012.
- [GS1TSD] GS1, "Trusted Source of Data (TSD) Version 1.1, 2013
- [INFOODS] Klensin et al, "Identification of Food Components for INFOODS Data Interchange," Tokyo: United Nations University, 1989, with updates through June 2007. *http://www.fao.org/infoods/infoods/standards-guidelines/food-component-identifiers-tagnames/en/*
- [ISO3166] "Codes for the representation of names of countries and their subdivisions -- Part 1: Country codes," ISO 3166-1:2006.
- [ISO639] "Codes for the representation of names of languages -- Part 1: Alpha-2 code," ISO 639-1:2002.
- [ISODir2] ISO/IEC Directives part 2; Rules for the structure and drafting of International Standards – 6th edition, 2011
- [UNECE20] United Nations Economic Commission for Europe, "Recommendation No. 20: Codes for Units of Measure Used in International Trade, Revision 7," September 2010, *http://www.unece.org/fileadmin/DAM/cefact/recommendations/rec20/rec20_Rev7e_2010.zip*.
- [GDSN 2.8 Code Lists] Global Data Dictionary, Code Lists v2.8, *http://apps.gs1.org/GDD/bms/Version2_8/SitePages/Home.aspx*

# 3 Terms and definitions

Within this specification, the terms SHALL, SHALL NOT, SHOULD, SHOULD NOT, MAY, NEED NOT, CAN, and CANNOT are to be interpreted as specified in Annex G of the ISO/IEC Directives, Part 2, 2001, 4th edition [ISODir2]. When used in this way, these terms will always be shown in ALL CAPS; when these words appear in ordinary typeface they are intended to have their ordinary English meaning.

All sections of this document, with the exception of the introduction, are normative, except where explicitly noted as non-normative.

The following typographical conventions are used throughout the document:

- ALL CAPS type is used for the special terms from [ISODir2] enumerated above.
- Monospace type is used to denote programming language, UML, and XML identifiers, as well as for the text of XML documents.

➢ Placeholders for changes that need to be made to this document prior to its reaching the final stage of approved GS1 specification are prefixed by a rightward-facing arrowhead, as this paragraph is.

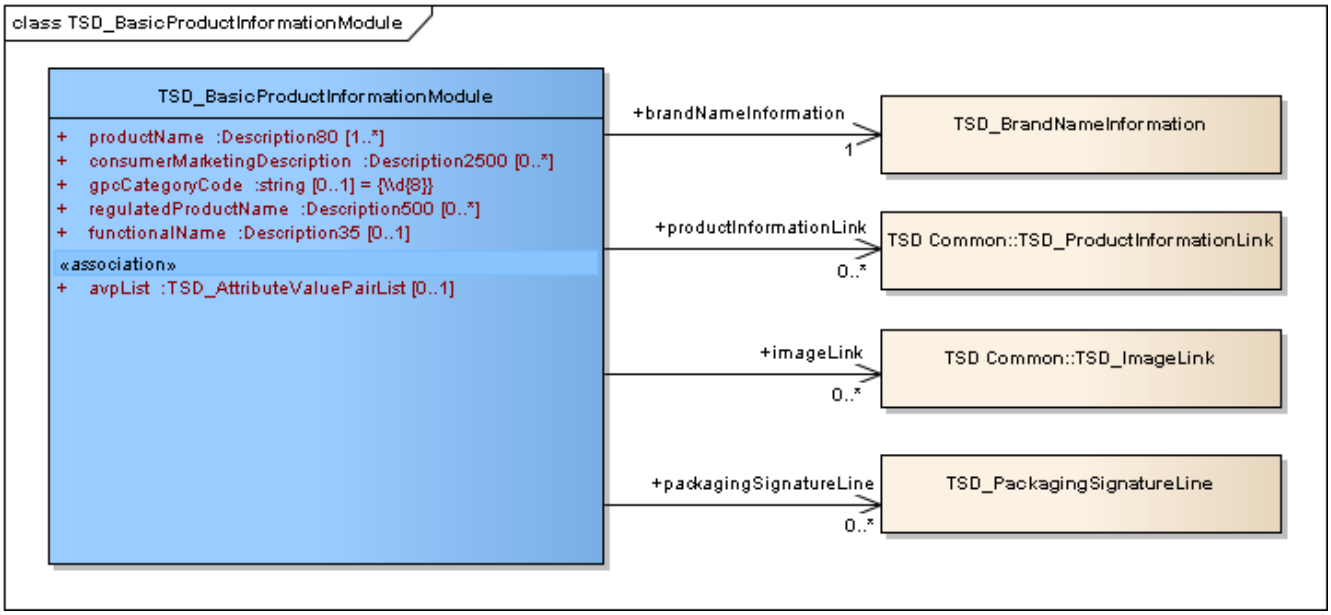
# 4 Data Model – Abstract Definition

## 4.1 Basic Product Information Module

The Basic Product Information Module carries the *basic information needed* to recognize a product. The module is intended for all *product categories*.

### Class Diagram

The following UML diagram expresses the data content of the Basic Product Information module.




### Data Definitions

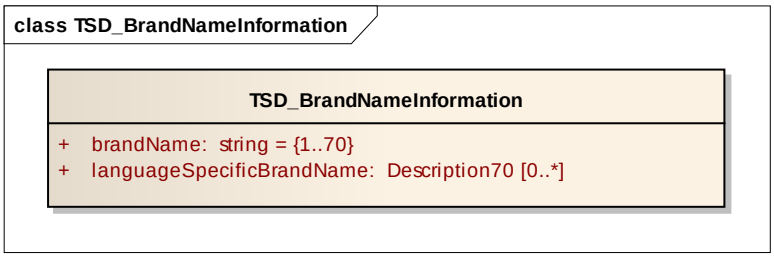
The data content of `TSD_BasicProductInformationModule` SHALL be as specified in the following table.

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| `productName` | `Description80` ([GS1TSD] section 6.2.6) | 1..* | Consumer friendly short description of the product suitable for compact presentation. Each `Description80` structure SHALL have a different language code, and SHALL represent presentations of the same value in different languages. |
| `consumerMarketing Description` | `Description2500` ([GS1TSD] section 6.2.6) | 0..* | Consumer-friendly marketing detailed description of the product. Each `Description2500` structure SHALL have a different language code, and SHALL represent presentations of the same value in different languages. |
| `gpcCategoryCode` | `String` | 0..1 | 8-digit code specifying a product category according to the GS1 Global Product Classification (GPC) standard |

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| regulatedProductName | Description500 ([GS1TSD] section 6.2.6) | 0..* | The prescribed, regulated or generic product name or denomination that describes the true nature of the product. For example for a food product in order to distinguish it from other foods according to country specific regulations. |
| functionalName | Description35 | 0..1 | The function of the product. |
| brandNameInformation | TSD_BrandName Information (below) | 1 | The brand name of the product. |
| productInformation Link | TSD_ ProductInformation Link (below) | 0..* | URLs linking to product information provided by the brand owner. |
| imageLink | TSD_ImageLink (below) | 0..* | Images provided by the brand owner |
| packagingSignature Line | TSD_Packaging SignatureLine (below) | 0..* | Name, address and contact information as present on the packaging (for example for the brand owner or importer, distributor, ..). This information MAY be repeated for different parties presented on the packaging. |
| avpList | TSD_AttributeValue PairList ([GS1TSD] section 6.2.8) | 0..1 | Temporary attributes introduced between minor versions; see [GS1TSD] section 6.2.8. |

### 4.1.1 Brand Name Information

#### Class Diagram



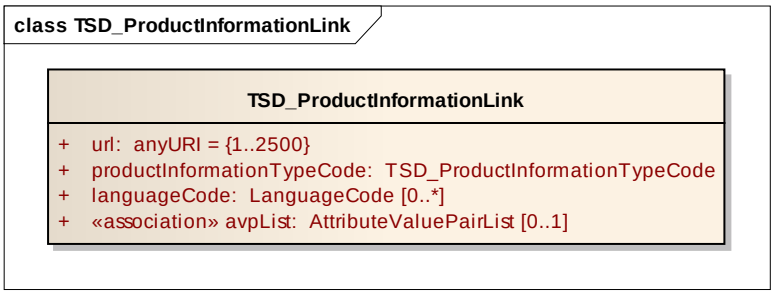

#### Data Definitions

The data content of a TSD_BrandNameInformation structure SHALL be as follows:

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| brandName | String | 1 | The brand name of the product that appears on the consumer package. |
| languageSpecific BrandName | Description70 ([GS1TSD] section 6.2.6) | 0..* | An alternate form of the brand name for a specified language. |

### 4.1.2 Product Information Link

#### Class Diagram




#### Data Definitions

The data content of a `TSD_ProductInformationLink` structure SHALL be as follows:

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| `url` | `AnyURI` (up to 2500 characters) | 1 | Uniform Resource Locator (URL) that references a World-Wide Web resource providing information about the product. The value of `url` SHALL be an absolute URL with or without a fragment identifier, as specified in [RFC3986]; relative URL references SHALL NOT be used. |
| `productInformationTypeCode` | `TSD_ProductInformationTypeCode` | 1 | Code specifying the type of product information available at the specified `url`. |
| `languageCode` | `LanguageCode` ([GS1TSD] section 6.2.3) | 0..* | Language codes specifying the language(s) for which this URL applies, or omitted if this URL applies to all languages |
| `avpList` | `TSD_AttributeValuePairList` ([GS1TSD] section 6.2.8) | 0..1 | Temporary attributes introduced between minor versions; see [GS1TSD] section 6.2.8. |

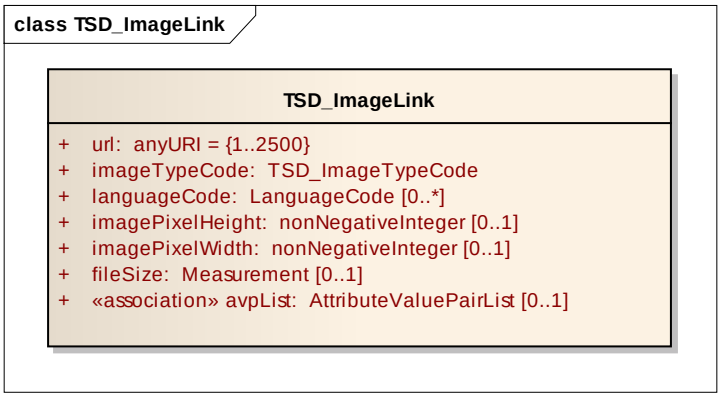
The value of `productInformationTypeCode` SHALL be one of the following:

| Value | Description |
|---|---|
| `AUDIO` | Link to a file containing an audio clip which is relevant to the product. Examples are commercials, or instructional/how to use audio files. |
| `CONSUMER_HANDLING_AND_STORAGE` | Link to website, file, or image containing the Manufacturer's recommendations for how the consumer or end user should store and handle the product. |
| `DOCUMENT` | Link to a document or text file containing product information. Examples of this type could be an instruction manual, assembly guide, or warranty document. |
| `IFU` | Link to a file containing the Instructions For Use (IFU). This type of file is primarily used in conjunction with ingestible products, regardless of species. |
| `MARKETING_INFORMATION` | Link to a file with product information associated with selling a product or service. |

| Value | Description |
|---|---|
| OTHER_EXTERNAL_INFORMATION | Link to a file containing product information of an unspecified type. |
| VIDEO | Link to a file containing a video clip which is relevant to the product. Examples are commercials, trailers, or instructional/how to use video files. |
| WARRANTY_INFORMATION | Link to a file with information associated with any guarantee given by a company stating that a product is reliable and free from known defects and that the seller will, without charge, repair or replace defective parts within a given time limit ad under certain conditions. |
| WEBSITE | Link to a website containing product or manufacturer information. |

### 4.1.3 Image Link

#### Class Diagram




#### Data Definitions

The data content of a TSD_ImageLink structure SHALL be as follows:

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| url | AnyURI (up to 2500 characters) | 1 | Uniform Resource Locator (URL) that references a World-Wide Web resource providing a product image. The value of url SHALL be an absolute URL without a fragment identifier, as specified in [RFC3986]; relative URL references SHALL NOT be used. |
| imageTypeCode | TSD_ImageTypeCode | 1 | Code specifying the type of images available at the specified url. |
| languageCode | LanguageCode ([GS1TSD] section 6.2.3) | 0..* | Language codes specifying the language(s) for which this image applies, or omitted if this image applies to all languages. |
| imagePixelHeight | nonNegativeInteger | 0..1 | The number of pixels along the vertical axis of the image. |
| imagePixelWidth | nonNegativeInteger | 0..1 | The number of pixels along the horizontal axis of the image. |

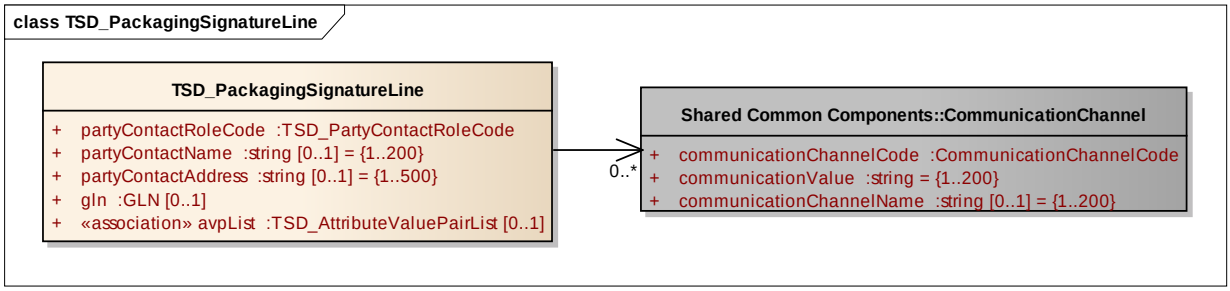
| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| fileSize | Measurement ([GS1TSD] section 6.2.7) | 0..1 | Measure of the size of the file, expressed as value and unit of measure code. Example: 2 megabytes. |
| avpList | TSD_AttributeValuePairList ([GS1TSD] section 6.2.8) | 0..1 | Temporary attributes introduced between minor versions; see ([GS1TSD] section 5.4.1. |

The value of imageTypeCode SHALL be one of the following:

| Value | Description |
|---|---|
| LOGO | Link to a file containing the Manufacturer or Brand Logo(s) associated with the product. |
| OUT_OF_PACKAGE_IMAGE | Link to an image of an item out of its packaging and, if necessary, assembled ready for use by the end user. This type of file is subject to the GDSN Product Image Specification Standard. |
| PRODUCT_IMAGE | Link to a file containing a visual representation of the product. |
| PRODUCT_LABEL_IMAGE | Link to a file containing a visual representation of the product label. |

### 4.1.4 Packaging Signature Line

#### Class Diagram




#### Data Definitions

The data content of a TSD_PackagingSignatureLine structure SHALL be as follows:

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| partyContactRoleCode | TSD_PartyContactRoleCode (see below) | 1..1 | Code specifying the role of the party or contact. |
| partyContactName | string {1..200} | 0..1 | The name of the party or contact expressed as text. |
| partyContactAddress | string {1..500} | 0..1 | The address associated with the party / contact type. For example, in case of a contact type of CONSUMER_SUPPORT, this could be the full company address as expressed on the trade item packaging or label. |

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| gln | GLN ([GS1TSD] section 6.2.5) | 0..1 | The Global Location Number (GLN) is a structured Identification of a physical location, legal or functional entity within an enterprise. The GLN is the primary party identifier. Each party identified in the trading relationship must have a primary party Identification. |
| communicationChannel | CommunicationChannel (see below) | 0..* | Communication details for the party or contact. MAY be repeated for different communication channel types. |
| avpList | TSD_AttributeValuePairList ([GS1TSD] section 6.2.8) | 0..1 | Temporary attributes introduced between minor versions. |

The value of partyContactRoleCode SHALL be one of the following:

| Value | Description |
|---|---|
| BRAND_OWNER | The organization that owns the specifications of the product regardless of where and by whom it is manufactured is normally responsible for the allocation of the Global Trade Item Number (GTIN). |
| DISTRIBUTOR | Party distributing goods, financial payments or documents. |
| EXPORTER | Party who makes - or on whose behalf a Customs clearing agent or other authorized person makes - an export declaration. This may include a manufacturer, seller or other person. Within a Customs union, consignor may have the same meaning as exporter |
| IMPORTER | Party who makes - or on whose behalf a Customs clearing agent or other authorized person makes - an import declaration. This may include a person who has possession of the goods or to whom the goods are consigned. |
| MANUFACTURER_OF_GOODS | Party who manufactures the goods. |
| MANUFACTURING_PLANT | A physical location consisting of one or more buildings with facilities for manufacturing. |
| REGISTERED_AGENT | The party having legal responsibility for the product in the target market for example a company to which market authorization has been issued. |
| WHOLESALER | Seller of articles, often in large quantities, to be retailed by others. |
| CXC | Consumer Support. The party which provides product support to the end user of a trade item or a service (GS1 Code) |

The data content of a CommunicationChannel structure SHALL be as follows:

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| communicationChannelCode | CommunicationChannelCode (see below) | 1..1 | Code specifying the type of communication channel, for example TELEPHONE. |
| communicationChannelName | string | 0..1 | The name of a specific communication channel for example Facebook, Twitter, etc. |

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| communicationChannelValue | string | 1..1 | Text identifying the endpoint for the communication channel, for example a telephone number or an e-mail address. |

The value of communicationChannelCode SHALL be one of the following:

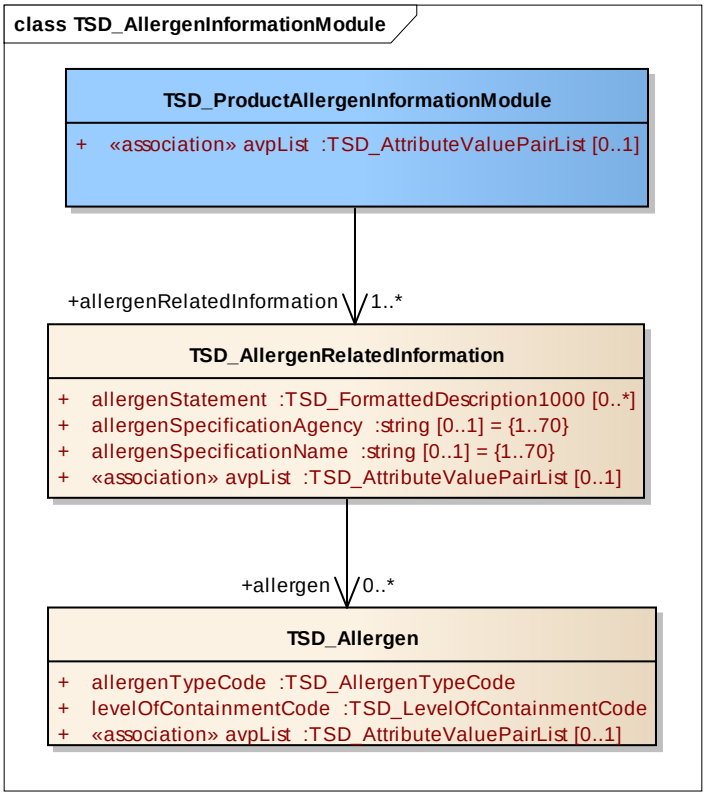
| Value | Description |
|---|---|
| EMAIL | Creating/sending/receiving of unstructured free text messages or documents using computer network, a mini-computer or an attached modem and regular telephone line or other electronic transmission media. |
| SOCIAL_MEDIA | A social media address. |
| TELEFAX | Device used for transmitting and reproducing fixed graphic material (as printing) by means of signals over telephone lines or other electronic transmission media. |
| TELEPHONE | Voice/data transmission by telephone. |
| WEBSITE | The identification of a world wide web address. |

## 4.2 Product Allergen Information Module

The Allergen Information Module carries the allergen warnings on the product. The module is intended for all product categories.

### Class Diagram

The following UML diagram expresses the data content of the Product Allergen Information module.




### Data Definitions

The data content of a `TSD_ProductAllergenInformationModule` structure SHALL be as follows:

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| `allergenRelatedInformation` | `TSD_AllergenRelatedInformation` (below) | 1..* | Information about substances that might cause allergic reactions and substances subject to intolerance when consumed. The allergy information refers to specified regulations that apply to the target market to which the item information is published. |
| `avpList` | `TSD_AttributeValuePairList` ([GS1TSD] section 6.2.8) | 0..1 | Temporary attributes introduced between minor versions; see [GS1TSD] section 5.4.1. |

The data content of a TSD_AllergenInformation structure SHALL be as follows:

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| allergenStatement | TSD_FormattedDescription1000 ([GS1TSD] section 6.2.9) | 0..* | Textual description of the presence or absence of allergens as governed by local rules and regulations, specified as one string.<br>Each TSD_FormattedDescription1000 structure SHALL have a different language code, and SHALL represent presentations of the same value in different languages. |
| allergenSpecificationAgency | string {1..70} | 0..1 | Agency that controls the allergen definition. |
| allergenSpecificationName | string {1..70} | 0..1 | Free text field containing the name and version of the regulation or standard that contains the definition of the allergen. |
| allergen | TSD_Allergen (below) | 0..* | Detailed information per individual allergen. |
| avpList | TSD_AttributeValuePairList ([GS1TSD] section 6.2.8) | 0..1 | Temporary attributes introduced between minor versions; see [GS1TSD] section 5.4.1. |

The data content of a TSD_Allergen structure SHALL be as follows:

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| allergenTypeCode | TSD_AllergenTypeCode | 1..1 | Code specifying the type of allergen. |
| levelOfContainmentCode | TSD_LevelOfContainmentCode | 1..1 | Code specifying the level of presence of the allergen. |
| avpList | TSD_AttributeValuePairList ([GS1TSD] section 6.2.8) | 0..1 | Temporary attributes introduced between minor versions; see [GS1TSD] section 5.4.1. |

The value of allergenTypeCode SHALL be a value defined in the GS1 Allergen Type Code List (urn:gs1:gdd:cl:AllergenTypeCodeList), GDSN version 2.8.

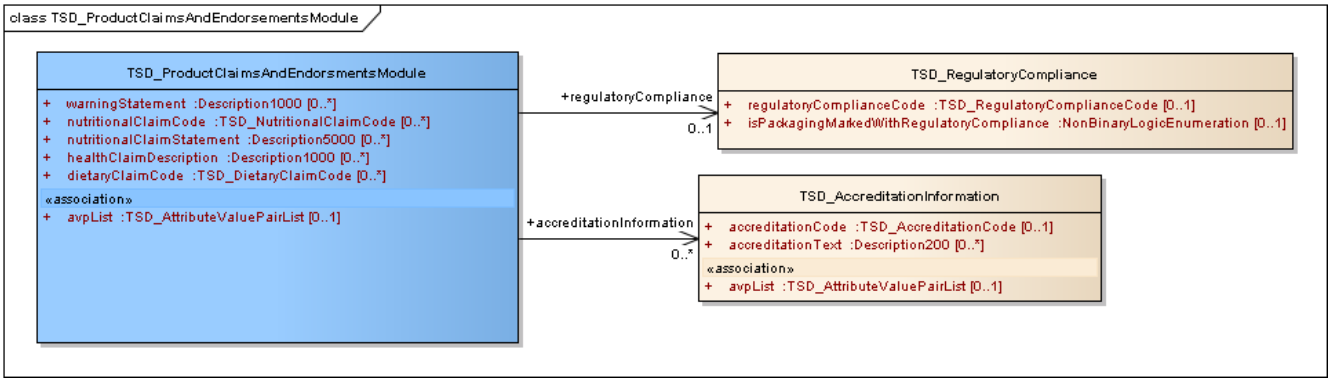
The value of levelOfContainmentCode SHALL be one of the following:

| Value | Description |
|---|---|
| CONTAINS | Intentionally included in the product. |
| FREE_FROM | The product is free from the indicated substance. |
| MAY_CONTAIN | The substance is not intentionally included, but due to shared production facilities or other reasons, the product may contain the substance. |

## 4.3 Product Claims and Endorsements Module

The Product Claims and Endorsements Module carries information on claims that may be regulated or endorsed by external agencies. The module is intended for all product categories.

### Class Diagram




### Data Definitions

The data content of a `TSD_ProductClaimsAndEndorsementsModule` structure SHALL be as follows:

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| `warningStatement` | `Description1000` ([GS1TSD] section 6.2.6) | 0..* | Text that outlines special requirements, warning and caution information printed on the package. Includes information on precautions to be taken before preparation or consumption of a food product. Repetitions for the same language are allowed. |
| `nutritionalClaimCode` | `TSD_NutritionalClaimCode` (see below) | 0..* | Code specifying a nutritional claim applicable to the product. |
| `nutritionalClaimStatement` | `Description5000` ([GS1TSD] section 6.2.6) | 0..* | Free text field for any additional nutritional claims.<br>Repetitions for the same language are allowed. |
| `healthClaimDescription` | `Description1000` ([GS1TSD] section 6.2.6) | 0..* | Free text description of a health claim according to regulations of the target market.<br>Repetitions for the same language are allowed. |
| `dietaryClaimCode` | `TSD_DietaryClaimCode` | 0..* | Code specifying a dietary claim applicable to the product. |
| `RegulatoryCompliance` | `TSD_RegulatoryCompliance` (below) | 0..1 | Details on a specific regulatory compliance symbol or code present on the packaging. |
| `AccreditationInformation` | `TSD_AccreditationInformation` (below) | 0..* | Details on a specific symbol or statement that is present on the packaging, showing that the trade item received recognition, endorsement, certification by the accrediting agency. This does not represent claims for regulatory purposes on products such as free from markings. |

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| avpList | TSD_AttributeValuePairList ([GS1TSD] section 6.2.8) | 0..1 | Temporary attributes introduced between minor versions. See [GS1TSD] section 5.4.1. |

The value of dietaryClaimCode SHALL be one of the following:

| Value | Description |
|---|---|
| APPROVED_BY_ASTHMA_AND_ALLERGY_ASSOC | Definitions made by the asthma and allergist association. |
| APPROVED_FOR_TUBE_FEEDING | The item is physically marked that it is approved for tube feeding by the appropriate authority of the target market. |
| BEWUSTE_KEUZE | Identifies non-staple or non-essential products (e.g. soup, candy, desserts, etc.) that offer more nutritional value or less contain less of potentially harmful ingredients (such as sugar, salt, fat) in comparison to similar items according to the guidelines of the Dutch Wetenschappelijke Commissie. See: http://www.ikkiesbewust.nl/ |
| BIOLOGICAL | Indicates the product has been marked as a biological item which indicates a food product that was produced with the use of feed or fertilizer of plant or animal origin, without employment of chemically formulated fertilizers, growth stimulants, antibiotics or pesticides. |
| CALORIES_PER_PORTION | Indicates the product has a marking with the calories per portion contained in the product. |
| DIET_PRODUCT_450_800_KCAL_PER_DAY | The item is physically marked that it is approved for a 450-800 kilocalorie/day diet by the appropriate authority of the target market. |
| DIET_PRODUCT_800_1200_KCAL_PER_DAY | The item is physically marked that it is approved for a 800-1200 kilocalorie/day diet by the appropriate authority of the target market. |
| GEZONDE_KEUZE_KLAVERTJE | Health symbol used in the Netherlands Target Market which indicates that the item is a cholesterol-reducing product. |
| GEZONDERE_KEUZE | Identifies basic staple products (such as fruit, milk, bread, etc.) that constitute a healthier choice for consumers because of their higher nutritional value in comparison to similar products according to the guidelines of the Dutch Wetenschappelijke Commissie. See: http://www.ikkiesbewust.nl/ |
| HALAL | Indicates the product has been marked as Halal which denotes selling or serving food ritually fit according to Islamic dietary laws. |
| IK_KIES_BEWUST | Conscious choice symbol used in the Netherlands Target Market which may be used for products low in saturated fat, trans fatty acids, sugar and salt. |
| KOSHER | Indicates the product has been marked as Kosher which denotes selling or serving food ritually fit according to Jewish dietary laws. |
| LACTASE_ENZYME | The item is physically marked that it is approved as lactase enzyme by the appropriate authority of the target market. |
| LOW_ON_PHENYLALANINE | The item is physically marked as containing a low level of phenylalanine as approved by the appropriate authority of the target market. |

| Value | Description |
|---|---|
| LOW_ON_SUGAR | The item is physically marked as containing a low level of sugar as approved by the appropriate authority of the target market. |
| MOTHERS_MILK_SUBSTITUTE | The item is physically marked that it is approved as substitute mother's milk the appropriate authority of the target market. |
| NUTRITION_SUPPLEMENT | The item is physically marked that it is approved as nutrition supplement by the appropriate authority of the target market. |
| NYCKELHAL_MARK | Lean product. |
| VEGETARIAN | Indicates the product has been marked as vegetarian which denotes a product that contains no meat, fish or other animal products. |

The value of nutritionalClaimCode SHALL be a value defined in the GS1 Nutritional Claim Code List (urn:gs1:gdd:cl:NutritionalClaimCodeList), GDSN version 2.8.

The data content of a TSD_RegulatoryCompliance structure SHALL be as follows:

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| regulatory ComplianceCode | TSD_Regulatory ComplianceCode | 0..* | Code specifying a specific government regulation that the trade item is in compliance with. |
| isPackagingMarkedWithRegulatoryComplianceCode | nonBinaryLogicEnumeration | 0..1 | Indicator of whether the packaging is marked with a regulatory compliance code. |

The value of regulatoryComplianceCode SHALL be a value defined in the GS1 Class Compliance Regulation Code List (urn:gs1:gdd:cl:ClassComplianceRegulationCodeList), GDSN version 2.8. Besides this the following additional values are allowed:

| Value | Description | Symbol |
|---|---|---|
| E_MARK | The e-mark indicates that the packaging is filled according to the European Directive 76/211/EEC (amended by 2007/45/EC). |  |
| NANO_MATERIALS_PRESENCE_SYMBOL | Indicates the presence of nano materials by use of the nano symbol on the packaging label | **(nano)** |
| MINIMUM_DURABILITY_SYMBOL | Indicates the presence of the symbol marking minimum durability on the item |  |
| PERIOD_SAFE_TO_USE_AFTER_OPENING_SYMBOL | Indicates the presence of the "open cream jar" symbol on the packaging label, signifying the period after opening the product is still safe to be used. |  |
| INFORMATION_ON_EXTERNAL_CARRIER_SYMBOL | Indicates the presence of the symbol for marking external information on an external carrier. |  |

| | | |
|---|---|---|
| AEROSOL_REVERSE_EPSILON | Products complying with all the requirements of the Aerosol Directive are marked with the "reverse epsilon" symbol | |
| ANIMAL_ID_HEALTH_MARK | Food business operators, in accordance with Regulation (EC) No 853/2004, should ensure that all products of animal origin that they place on the market, bear either a health mark or an identification mark. | |
| BATTERY_DIRECTIVE | Directive describing the legal requirements on batteries intended to made available on the market provided that such products are labelled, marked or accompanied with commercial documents. Essentially safety and environmental aspects are defined (e.g. obligation of the seller to take batteries back, proscription to throw batteries into the household garbage) for different type of batteries (e.g. batteries used by the end consumer, batteries used in cars). In Germany the law on batteries (BattG) details these rules. | |
| BIOCIDE_REGULATION | The purpose of this Regulation (EU Reg 528/2012) is to harmonise the rules on making available on the market and using biocidal products, whilst ensuring a high level of protection of both human and animal health and the environment. These rules compasses the establishment a list of active substances which may be used in biocidal products and the authorisation of biocidal products | |
| CE | The CE marking as it has been legally called since 1993 (per directive 93/68/EEC)(DECISION No 768/2008/EC) (abbreviation of French: Conformité Européenne, meaning "European Conformity"[1], formerly EC mark[2]) is a mandatory conformity mark for products placed on the market in the European Economic Area (EEA). | |
| COSMETIC_INFORMATION_REGULATION | Regulation (EU Reg 1223/2009) establishing rules to be complied with any cosmetic product made available on the market, a high level of protection of human health and a high degree of protection of the environment. These rules include the necessity to indicate allergens and the displaying of the ingredients used in the product. | |
| DETERGENTS_SAFETY_REGULATION | Regulation (EU Reg 648/2002) establishing rules designed to achieve the free movement of detergents and surfactants for detergents in the market while, at the same time, ensuring a high degree of protection of the environment and human health. | |
| EMC_DIRECTIVE | The main objective of the Directive 2004/108/EC of the European Council, of 15 December 2004, is to regulate the compatibility of equipment regarding EMC (Electromagnetic Compatibility). | |
| FEED_SAFETY_REGULATION | Regulation (EU Reg 767/2009) to harmonise the conditions for the placing on the market and the use of feed, in order to ensure a high level of feed safety and thus a high level of protection of public health, as well as to provide adequate information for users and consumers. | |

| | | |
|---|---|---|
| FOOD_INFORMATION_REGULATION | Regulation providing the basis for the assurance of a high level of consumer protection in relation to food information, taking into account the differences in the perception of consumers and their information needs whilst ensuring the smooth functioning of the market. General principles, requirements and responsibilities governing food information, and in particular food labelling rules are established (e.g. EU regulation 1169 / 2011). These rules include the necessity to indicate allergens, the responsible food business operator, the name of the food, the displaying of the ingredients used additives. | |
| FOOD_SUPPLEMENT_DIRECTIVE | Food supplements (EU directive 2002/46/EC) marketed as foodstuffs and presented as such. These products shall be delivered to the ultimate consumer only in a pre-packaged form. Consumer health and safety aspects are in focus as well as to provide adequate information on how to use the product properly. | |
| FREE_PHARMACEUTICAL_PRODUCTS_DIRECTIVE | Directive describing the legal requirements on pharmaceutical products which are commercially available and intended to made available on the market provided that such products are labelled, marked or accompanied with commercial documents. General Consumer safety aspects are in focus like the dosage form linked with an application instruction (e.g. Do not use with alcohol). In Germany the law on medical products (AMG) details these rules. | |
| INTENDED_TO_COME_INTO_CONTACT_WITH_FOOD | requires that food contact materials:<br>* Are safe; Must not transfer their components into food in quantities that could endanger human health, change food composition in an unacceptable way or deteriorate its taste and odour. Are manufactured according to good manufacturing practice. | |
| LVD_DIRECTIVE | The Low Voltage Directive (LVD) 2006/95/EC provides common broad objectives for safety regulations, so that electrical equipment approved by any EU member country will be acceptable for use in all other EU countries. The Low Voltage Directive does not supply any specific technical standards that must be met, instead relying on IEC technical standards to guide designers to produce safe products. Products that conform to the general principles of the Low Voltage Directive and the relevant particular safety standards are marked with the CE marking to indicate compliance and acceptance throughout the EU. Conformance is asserted by the manufacturer based on its conformity assessment. | |
| PHARMACEUTICAL_PRODUCT_DIRECTIVE | In contrast to the free pharmaceutical directive this directive describing the legal requirements on pharmaceutical products available only in pharmacies. These products have stronger regulations and restrictions to consumer safety aspects. For example the dosage recommendation needs to be explained in detail by the sales staff as well as possible interaction with other pharmaceutical products. | |
| PRODUCT_OF_DAILY_USE_DIRECTIVE | Directive describing the legal requirements on the products of daily use focusing on consumer safety (e.g. do not use with …, not used by children). An example is the German directive BedGgstV. | |
| RETURNING_OF_ELECTRONICAL_PRODUCT_DIRECTIVE | Directive of the returning of electronic products ensuring a high degree of protection of the environment. This directive defines returning quotes of returning electronical products needs to be fulfilled by the industry and by retailers (e.g. ElektroG in Germany). | |

| | | |
|---|---|---|
| ROHS_DIRECTIVE | Is not a quality mark but a European directive 2002/95/EC (stands for Restriction of Hazardous Substances). This directive restricts (with exceptions) the use of six hazardous materials like lead, cadmium and mercury in the manufacture of various types of electronic and electrical equipment. | |
| SECURITY_OF_ELECTRONIC_PRODUCTS_DIRECTIVE | Directive on the safety of electronic products covering consumer health as well as environmental aspects (e.g. German law on product safety ProdSG). | |
| TEXTILE_LABELLING_REGULATION | Regulation (EU Reg 1007/2011). This Regulation lays down rules concerning the use of textile fibre names and related labelling and marking of fibre composition of textile products, rules concerning the labelling or marking of textile products containing non-textile parts of animal origin and rules concerning the determination of the fibre composition of textile products by quantitative analysis of binary and ternary textile fibre mixtures, in order to provide accurate information to consumers. | |
| TOY_SAFETY_DIRECTIVE | Directive, which applies to products designed or intended, whether or not exclusively, for use in play by children under 14 years of age. Health and safety aspects of the child are in focus Amongst others security aspects of toys are defined (e.g. Warning: small components may be swallowed) as well as substances, which are not allowed to use in toys (e.g. softening agents). | |
| UNDERWATER_LIGHTING | The European standard EN 60598-2-18 is recognized by most countries as the safety standard for underwater lighting. | |
| UVA | EU 647 Cosmetic industry worked closely with the European Commission, and COLIPA, currently called COSMETICS EUROPE proposed a UVA labelling symbol. This indicates that the level of UVA protection provided by a product is at least 1/3 ratio of its SPF.<br><br>Manufacturers will show that their products meet the SPF/UVAPF ratio by displaying the letters “UVA” inside a circle whose diameter should not exceed the height of the SPF number. | |

The data content of a TSD_AccreditationInformation structure SHALL be as follows:

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| accreditationCode | TSD_AccreditationCode | 0..1 | Code specifying a type of recognition, endorsement or certification received for the product by following the guidelines of the accrediting agency, often expressed as a symbol or statement on the packaging. |

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| accreditationText | Description200 ([GS1TSD] section 6.2.6) | 0..* | Text specifying a type of recognition, endorsement or certification received for the product by following the guidelines of the accrediting agency, often expressed as a symbol or statement on the packaging. MAY be used as alternative to the code if no code is available. MAY be used in combination with the code when dynamic information needs to be added, such as a certificate identifier.<br>Each Description200 structure SHALL have a different language code, and SHALL represent presentations of the same value in different languages. |
| avpList | TSD_AttributeValuePairList ([GS1TSD] section 6.2.8) | 0..1 | Temporary attributes introduced between minor versions. See [GS1TSD] section 5.4.1. |

The value of accreditationCode SHALL be one of the following:

**Note:** This list is managed as attribute value pair in GDSN version 2.8, and new values are added on a regular basis. For the most up-to-date list please consult the GS1 website (*http://www.gs1.org/gsmp/kc/gdsn*), AVP “packagingMarkedLabelAccreditationCode”.

| Value | Description |
|---|---|
| AMA_ORGANIC_SEAL | Austria Ministry of Agriculture Organic Label, AMA Marketing licenses the AMA organic logo. Red, white and black indicates the majority of ingredients are of Austrian origin. |
| AUS_KAUP_ESTONIA | Used to specify Estonia Meat in their product. Eesti Lihatöötlejate Assotsiatsioon www.ela.ee |
| BDIH_LOGO | BDIH Germany guidelines for Certified Natural Cosmetics |
| BETER_LEVEN_1_STER | The one-star Beter Leven (better life) mark indicates that the product comes from a company that cares that animals are kept according to the minimal requirements for sanitation and wel-being for the cattle industry. See: http://beterleven.dierenbescherming.nl/1-ster |
| BETER_LEVEN_2_STER | The two-star Beter Leven (better life) mark indicates that the product comes from a company that provides for a higher wel-being of animals than that established by the minimal requirements for sanitation and wel-being for the cattle industry, yet the conditions are inferior to those of Biological-class products. See: http://beterleven.dierenbescherming.nl/2-sterren- |

| Value | Description |
|---|---|
| BETER_LEVEN_3_STER | The three-star Beter Leven (better life) mark is awarded to products that come from companies that excel in keeping animals according to top guidelines for Biological-class products. In some cases this mark is accompanied by an EKO indication. See: http://beterleven.dierenbescherming.nl/3-sterren- |
| BIO_AUSTRIA_LABEL | Bio Austria is the Austrian Bio-network of Eastern organic farmers. Created from the former Association Harvest for Life |
| BIO_LABEL_GERMAN | German national organic certification label (Bio-Siegel), see www.bio-siegel.de |
| BIO_SUISSE_BUD_SEAL | Represents interests of Swiss organic farmers www.bio-suisse.ch |
| BLUE_ANGEL | The Blue Angel is awarded to companies as kind of a reward for their commitment to environmental protection. They use it to professionally promote their eco-friendly products in the market. The Blue Angel is an ecological beacon showing the consumer the way to the ecologically superior product and promotes environmentally conscious consumption. See: http://www.blauer-engel.de/en/index.php |
| BORD_BIA_APPROVED | The Bord Bia Approved logo is awarded to a company which has been audited by Bord Bia to verify that processes, from farm to fork, comply with the highest Quality Assurance Standards. These standards include: animal welfare, traceability, environment, safety, feed, water, testing, inspection, hygiene and good manufacturing practice. "Bord Bia Approved" is awarded to a company where all the ingredients including meat content satisfy the Bord Bia requirements. www.bordbia.ie |
| BORD_BIA_APPROVED_MEAT | Bord Bia Approved - Meat Content Only applies to companies where only the meat content satisfies certain conditions detailed in the Bord Bia requirements document. see http://www.bordbia.ie/industryservices/quality/Documents/Quality-Assurance-Scheme-Logo-GuidelinesV7.pdf for more details. |
| BRA_MILJOVAL_LABEL_SWEDISH | Bra Miljöval Bra Miljöval is the ecolabel of SSNC. It is referred to as "Good Environmental Choice" in English. SSNC started ecolabelling |
| CROSSED_GRAIN_SYMBOL | Crossed grain logo is a trademark owned and administered by Coeliac. It is a worldwide symbol for safe gluten-free foods. Each country has their own Coeliac website for example UK www.coeliac.org.uk |
| DEMETER_LABEL | Demeter International trademark for products of certified biodynamic production. Www.demeter.net |
| EC_NATIONAL_HEALTH_MARK | The package is physically marked with EC National Health Mark. The EC National Health Mark is the health mark for specific hygiene regulations for food of animal origin. The regulation (EC) Nr. 853/2004 of 29. April 2004 of the European Parliament on hygiene rules for food of animal origin demands that companies handling products of animal origin are authorised according to this regulation. The official body responsible for this authorisation assigns a health mark to the food producing company |

| Value | Description |
|---|---|
| ECO_LABEL_LADYBUG | This is a Finnish label used by the Organic union, which represents the entire Finnish organic industry, consumers and producers in a common interest group. They work as a neutral voice in various working groups and consultations, and prepare position papers and presentations. The Federation also organizes training events and professional seminars. The Organic Federation also publishes the magazine Organic. |
| ECOCERT_CERTIFICATE | ECOCERT is a certification body for sustainable development. www.ecocert.com |
| EESTI_OKOMARK | Estonian Eco Label: Ministry of Agriculture Ökomärk (Label of Organic Food)<br>www.agri.ee |
| EESTI_PARIM_TOIDUAINE | Best Food Association of Estonia Food Industry http://www.toiduliit.ee/. An organisation that supports and promote Estonian food industry and economy, and contribute to a balanced and appropriate ethics to members of a favourable business environment for development. |
| EKO | This symbol stands for organic production certified by Skal that meets the requirements of the EU-regulation for organic production. Skal is the inspection body for the organic production in the Netherlands. |
| EU_ECO_LABEL | The item is physically marked with the European Union Eco label a European environmental initiative supported by the European Commission. |
| EU_ORGANIC_FARMING | New EU organic logo the EU introduced a new organic logo to ensure consumer protection and common standards. See www.organic-farming.europa.eu |
| EXTREMELY_CLEAN | The package is physically marked as extremely clean which slightly lower level of cleanness than sterile is. This means that it is free from bacteria and other microorganisms to a level defined as extremely clean by the appropriate authorities of the target market. |
| FAIR_TRADE_MARK | The FAIR TRADE Mark certifies that products meet the social, economic and environmental International Fair trade Standards. The FAIR TRADE Mark is usually supported by a local Fair Trade Labelling Organisation and certifies products not companies. It does not cover the companies or organizations selling the product |
| FALKEN | Not Available |
| FINNISH_HEART_SYMBOL | The heart symbol to inform the consumer at one glance that the product marked with this symbol is a preferred choice in its product group with regard to fat and sodium. Finnish Heart Association www.sydanmerkki.fi |
| FOREST_STEWARDSHIP_COUNCIL_LABEL | The item is physically marked with the Forest Stewardship Council label. |
| GMO_MARKED | The item is physically marked as of genetically modified origin. |
| GOODS_FROM_FINLAND_BLUE_SWAN | http://www.finfood.fi/ Finfood Suomen Ruokatieto Ry |
| GREEN_DOT | Not Available |
| GREEN_RESTAURANT_ASSOCIATION_ENDORSED | The item is physically marked with the Green Restaurant Association Endorsed symbol. |

| Value | Description |
|---|---|
| GREEN_SEAL_CERTIFIED | The item is physically marked with the Green Seal Certified symbol. |
| GUARANTEED_IRISH | Ireland: The Guaranteed Irish symbol makes shopping for Irish products and services a lot easier. Shoppers know that when they buy a product or service featuring the guaranteed Irish logo they are supporting Irish companies and safeguarding Irish jobs. http://www.guaranteedirish.ie/ |
| KRAV_MARK | Not Available |
| LABEL_OF_THE_ALLERGY_AND_ASTHMA_FEDERATION | Allergy and Asthma Federation is a non-profit public health organisation. Our aim is to improve quality of life of the allergy and asthma patients. http://www.allergia.fi/in-english/ |
| LEAPING_BUNNY | The Coalition for Consumer Information on Cosmetics' (CCIC) Leaping Bunny Program administers a cruelty-free standard and the internationally recognized Leaping Bunny Logo for companies producing cosmetic, personal care, and household products. The Leaping Bunny Program provides the best assurance that no new animal testing is used in any phase of product development by the company, its laboratories, or suppliers. See also www.leapingbunny.org |
| LOODUSSOBRALIK_TOODE_ESTONIA | Eco-friendly product The sign "eco-friendly product" is designed to make environmentally friendly products on store shelves more as significant. When it comes to food shall be used for agriculture, natural farming methods. No use of mineral fertilizers, insect control and plant poisons. http://www.stockmann.ee/portal/7765/ |
| LOVE_IRISH_FOOD | Love Irish Food - a promotional label printed on the product packaging to indicate to the consumer that the food is manufactured in Ireland using Irish ingredients. http://www.loveirishfood.ie/ |
| MADE_IN_FINLAND_FLAG_WITH_KEY | Made in Finland Products that are made in Finland Avainlippu (Key Flag) Suomalaisen Työn *www.avainlippu.fi* |
| MARINE_STEWARDSHIP_COUNCIL_LABEL | The item is physically marked with the Marine Stewardship Council label. |
| MAX_HAVELAAR | Fair trade symbol used in the Netherlands Target Market awarded to manufacturers which contribute to improving the living and working conditions of small farmers and agricultural workers in disadvantaged regions. |
| NATRUE_LABEL | The NATRUE Label guarantees that the products that carry it are made only with natural and organic ingredients, through soft manufacturing processes and environmentally friendly practices. The NATRUE Label is awarded by NATRUE, a non-profit organisation committed to promote and protect high standards of quality and environmental integrity. See: http://www.natrue.org/home/ |
| NYCKELHALET | The green key hole is to be put on the healthy foods in Sweden, Denmark, and Norway within certain product groups in order to make it easier for the customers to make a healthy choice. http://www.norden.org/ |
| OEKO_TEX_LABEL | Confidence in textiles – this has been the motto of the independent test institutes of the International Oeko-Tex® Association since 1992, with their tests for harmful substances according to Oeko-Tex® Standard 100 for textile products of all types which pose no risk whatsoever to health. See www.oeko-tex.com |

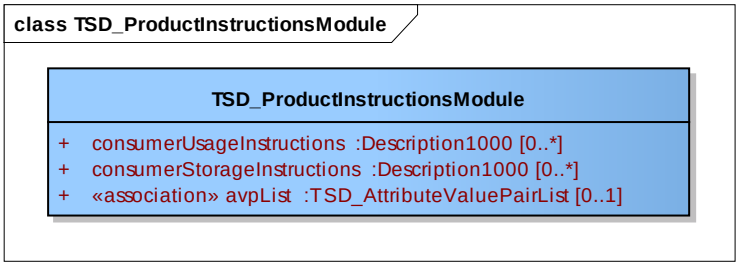
| Value | Description |
|---|---|
| OFFICIAL_ECO_LABEL_SUN | Luomo Sun Sign Denotes controlled organic production. The official label of the Finnish inspection authorities; owned by the Ministry of Agriculture and Forestry. http://opetus.ruokatieto.fi/ |
| PEFC | Programme for Endorsement of Forest Certification (PEFCC_ is an international non-profit, non-governmental organisation dedicated to promoting Sustainable Forest Management (SFM) through independent third-party certification |
| PROTECTED_DESIGNATION_OF_ORIGIN | The Protected designation of origin is the name of an area, a specific place or, in exceptional cases, the name of a country, used as a designation for an agricultural product or a foodstuff, the entire product must be traditionally and ENTIRELY manufactured (prepared, processed AND produced) within the specific region and thus acquire unique properties. Protected Geographical Status (PGS) is a legal framework defined in European Union law to protect the names of regional foods. |
| PROTECTED_GEOGRAPHICAL_INDICATION | The Protected geographical indication is the name of an area, a specific place or, in exceptional cases, the name of a country, used as a description of an agricultural product or a foodstuff, the entire product must be traditionally and at least PARTIALLY manufactured (prepared, processed OR produced) within the specific region and thus acquire unique properties. Protected Geographical Status (PGS) is a legal framework[1] defined in European Union law to protect the names of regional foods. |
| PROTECTED_HARVEST_CERTIFIED | The item is physically marked with the Protected Harvest Certified symbol. |
| QUALITY_MARK_IRELAND | Control IMO Organic farming is an alternative, environmentally friendly method of food production. It forbids the use of chemicals and requires production methods that respect animal welfare and do not damage the environment. The term ‘organic’ can only be used on food labels in Ireland if the food product meets strict Irish and EU organic standards and is licensed by an approved certification body. |
| RAINFOREST_ALLIANCE | The item is physically marked with the Rainforest Alliance Certified symbol. |
| SCHARRELVLEES | A symbol used in the Netherlands Target Market intended for meat based products which guarantees that the animals has been growth without the use of antibiotics. |
| SOIL_ASSOCIATION_ORGANIC_SYMBOL | The Soil Association Organic Symbol is a symbol used in the UK to show that products meet a strict set of organic standards that protect health, sustainability and the environment. |
| STERILE | The package is physically marked as sterile, which is the highest level of cleanness. This means that it is free from bacteria and other microorganisms to a level defined as sterile by the appropriate authorities of the target market. |
| SUSTAINABLE_PALM_OIL_RSPO | In response to the urgent and pressing global call for sustainably produced palm oil, the Roundtable on Sustainable Palm Oil (RSPO) was formed in 2004 with the objective of promoting the growth and use of sustainable oil palm products through credible global standards and engagement of stakeholders. http://www.rspo.org/" |

| Value | Description |
|---|---|
| SVANEN | The Swan is the Nordic environmental label. It was established by the Nordic Council of Ministers in 1989 and Denmark joined in 1997. The Swan is used in all Nordic countries, i.e. Denmark, Norway, Sweden, Finland and Iceland. |
| SWEDISH_SEAL_OF_QUALITY | The item is physically marked with the Swedish Seal of Quality label which intends to guarantee the responsibility for the environment of the product. |
| TRADITIONAL_SPECIALTY_GUARANTEED | The Traditional specialty guaranteed is a trademark for an agricultural product or a foodstuff, which has a certain feature or a set of features, setting it clearly apart from other similar products or foodstuffs belonging to the same category. The product or foodstuff must be manufactured using traditional ingredients or must be characteristic for its traditional composition, production process, or processing reflecting a traditional type of manufacturing or processing. |
| TUNNUSTATUD_EESTI_MAITSE | Approved Estonian Taste - Quality/Tradition/Origin/Traceability for Estonian products. All raw materials must be 100% Estonian. Estonian Chamber of Agriculture and Commerce |
| TUNNUSTATUD_MAITSE | Approved Taste label (designed as a barn swallow) denoting Estonian origin and high quality was introduced. This label has been given to products for Food quality and safety. Estonian Chamber of Agriculture and Commerce (ECAC) *www.epkk.ee* |
| UNIQUELY_FINNISH | Uniquely Finnish http://www.maakuntienparhaat.fi/en/ The Uniquely Finnish label is a national quality label for small entrepreneurs. ProAgria Association of Rural Advisory Centres grants the label to qualified foodstuff, handicraft and rural tourism companies based on applications. |
| USDA | US Department of Agriculture |
| UTZ_CERTIFIED | A certification which is intended to assure the social and environmental quality in coffee production. Coffee based products may be marked with this certification. |
| VAELG_FULDKORN_FORST | Grain based foods (bread, breakfast products, baking articles etc.) which have got a high content of whole grain will be puffed with a nutritional puff from the beginning of 2009: Please choose whole grain first! Denmark *http://www.fuldkorn.dk/* |
| WWF_PANDA_LABEL | Products that support the WWF *http://www.worldwildlife.org/* |

## 4.4 Product Instructions Module

The Product Instructions Module carries general instructions on the storage and use of the product. The module is intended for all product categories.

### Class Diagram




### Data Definitions

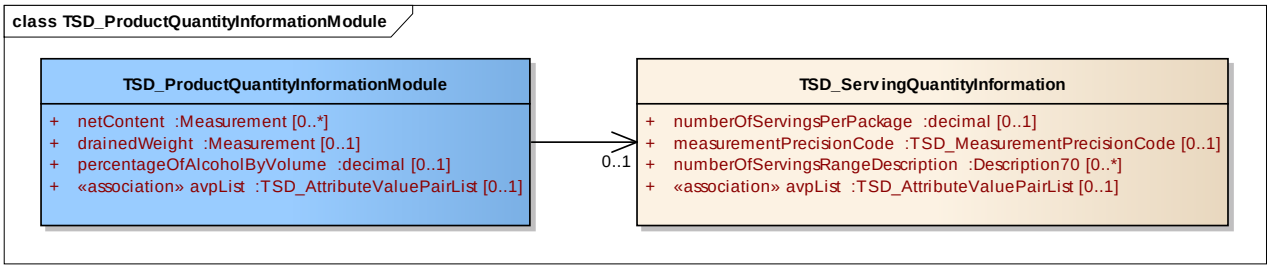
The data content of a `TSD_ProductInstructionsModule` structure SHALL be as follows:

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| `consumerUsage Instructions` | `Description1000` ([GS1TSD] section 6.2.6) | 0..* | Free text containing the usage instructions of a product, which are normally held on the label or accompanying the product. This information may or may not be labeled on the pack.<br>Repetitions for the same language are allowed. |
| `consumerStorage Instructions` | `Description1000` ([GS1TSD] section 6.2.6) | 0..* | Expresses in text the consumer storage instructions of a product which are normally held on the label or accompanying the product. This information may or may not be labelled on the pack.<br>Repetitions for the same language are allowed. |
| `avpList` | `TSD_AttributeValue PairList` ([GS1TSD] section 6.2.8) | 0..1 | Temporary attributes introduced between minor versions. See [GS1TSD] section 5.4.1. |

## 4.5 Product Quantity Information Module

The Product Quantity Information Module carries the information on the physical product quantity as often displayed on the package. The module is intended for all product categories.

### Class Diagram



### Data Definitions

The data content of a TSD_ProductQuantityInformationModule structure SHALL be as follows:

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| netContent | Measurement ([GS1TSD] section 6.2.7) | 0..* | The quantity of the trade item contained by a package, usually as claimed on the label. For example, Water 750ml - net content = "750 MLT" ; 20 count pack of diapers, net content = "20 ea.". In case of multi-pack, indicates the net content of the total trade item. For fixed value trade items use the value claimed on the package, to avoid variable fill rate issue that arises with some trade item which are sold by volume or weight, and whose actual content may vary slightly from batch to batch. In case of variable quantity trade items, indicates the average quantity. |
| drainedWeight | Measurement ([GS1TSD] section 6.2.7) | 0..1 | The weight of the trade item when drained of its liquid. For example 225 "grm", Jar of pickles in vinegar. Applies to defined bricks of GCI Global trade item Classification - Mainly food trade item. Has to be associated with a valid UoM. |
| percentageOf AlcoholByVolume | decimal | 0..1 | Percentage of alcohol contained in the base unit trade item. |
| servingQuantity Information | TSD_ServingQuantity Information (below) | 0..1 | Information on the number of servings contained in the package. |
| avpList | TSD_AttributeValue PairList ([GS1TSD] section 6.2.8) | 0..1 | Temporary attributes introduced between minor versions. See [GS1TSD] section 5.4.1. |

The data content of a TSD_ServingQuantityInformation structure SHALL be as follows:

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| numberOfServings PerPackage | decimal | 0..1 | The total number of servings contained in the package. |
| measurement PrecisionCode | TSD_Measurement PrecisionCode | 0..1 | Code indicating whether the number of servings per package is exact or approximate. |
| numberOfServings RangeDescription | Description70 | 0..* | A free text field specifying a range for the number of servings contained in the package. If more than one Description70 structure is present each SHALL have a different language code, and SHALL represent representations of the same value in different languages. |

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| avpList | TSD_AttributeValuePairList ([GS1TSD] section 6.2.8) | 0..1 | Temporary attributes introduced between minor versions. See [GS1TSD] section 5.4.1. |

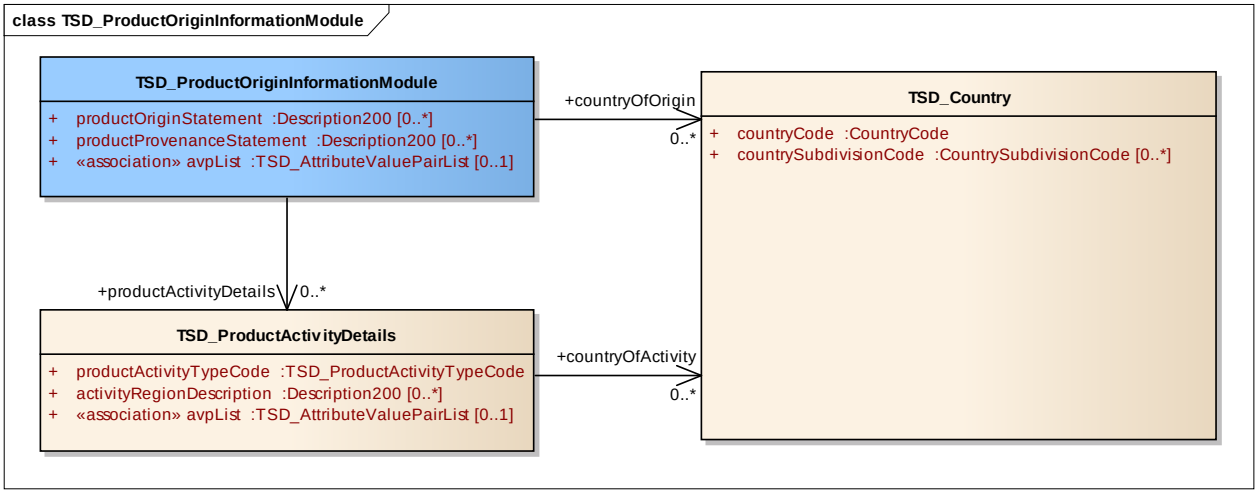
The value of measurementPrecisionCode SHALL be one of the following:

| Value | Description |
|---|---|
| APPROXIMATELY | The method used to analyse the products resulted in approximate value. |
| EXACT | The method used to analyse the products resulted in exact value. |
| LESS_THAN | To indicate presence when the measurement value is too small to be measured precisely (rule states less than 0.5).<br>This value does not apply to number of servings. |

## 4.6 Product Origin Information Module

The Product Origin Information Module carries information on the origin of the product. The module is intended for all product categories.

### Class Diagram




### Data Definitions

The data content of a TSD_ProductOriginInformationModule structure SHALL be as follows:

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| productOriginStatement | Description200 ([GS1TSD] section 6.2.6) | 0..* | Free text description of the geographic area the product originates from. Each Description200 structure SHALL have a different language code, and SHALL represent presentations of the same value in different languages. |

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| productProvenanceStatement | Description200 ([GS1TSD] section 6.2.6) | 0..* | Free text description of the region or place the product originates from. This is to be specifically used to specify areas such as cities, mountain ranges, regions. Examples: Made in Thüringen Mountains, Made in Paris, From the Napa Valley.<br>Each Description200 structure SHALL have a different language code, and SHALL represent presentations of the same value in different languages. |
| countryOfOrigin | TSD_Country (below) | 0..* | The country code (codes) in which the goods have been produced or manufactured, according to criteria established for the purposes of application of the value may or may not be presented on the trade item label. |
| productActivityDetails | TSD_ProductActivityDetails (below) | 0..* | Information on a location where manufacturing and / or distribution activities are carried out for the product.<br>Each productActivityDetails structure SHALL have a different productActivityTypeCode. |
| avpList | TSD_AttributeValuePairList ([GS1TSD] section 6.2.8) | 0..1 | Temporary attributes introduced between minor versions. |

The data content of a TSD_ProductActivityDetails structure SHALL be as follows:

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| productActivityTypeCode | TSD_ProductActivityTypeCode | 1..1 | Code specifying the type of activity being performed on a trade item for example processing, bottling, manufacturing. |
| activityRegionDescription | Description200 | 0..* | Name of the region in which a processing or other activity has been performed for example processing, bottling, manufacturing.<br>Each Description200 structure SHALL have a different language code, and SHALL represent presentations of the same value in different languages. |
| countryOfActivity | TSD_Country (below) | 0..* | Provides the country and subdivision where an activity (e.g. bottling) has taken place. |
| avpList | TSD_AttributeValuePairList ([GS1TSD] section 6.2.8) | 0..1 | Temporary attributes introduced between minor versions. |

The value of TSD_ProductActivityTypeCode SHALL be one of the following:

| Value | Description |
|---|---|
| COUNTRY_OF_ASSEMBLY | Country where product is assembled. Uses ISO country codes. |
| COUNTRY_OF_LAST_PROCESSING | The ISO 3166-1 code that identifies the country in which the trade item was last processed and tested before importation. |
| CATCH_ZONE | Free text field describing the sea zone in which the seafood in the trade item was caught. |
| PLACE_OF_BIRTH | The place the mammal, species was born. The place may be a country, region (land or sea), city, etc. Since a company may have multiple facilities in multiple countries, the attribute needs to be repeating to reflect the potential places. The actual birth place of a particular animal would be transactional. |
| PLACE_OF_REARING | Is the place the mammal, species was raised after birth to the end of the animals' life. The place maybe a country, region (land or sea), city, etc. Since a company may have multiple facilities in multiple countries, the attribute needs to be repeating to reflect the potential places. The actual rearing place(s) of a particular animal would be transactional. |
| PLACE_OF_SLAUGHTER | Is the place the mammal, species was killed to be processed for food, or other purposes. The place maybe a country, region (land or sea), city, etc. Since a company may have multiple facilities in multiple countries, the attribute needs to be repeating to reflect the potential places. The actual slaughter place of a particular animal would be transactional. |

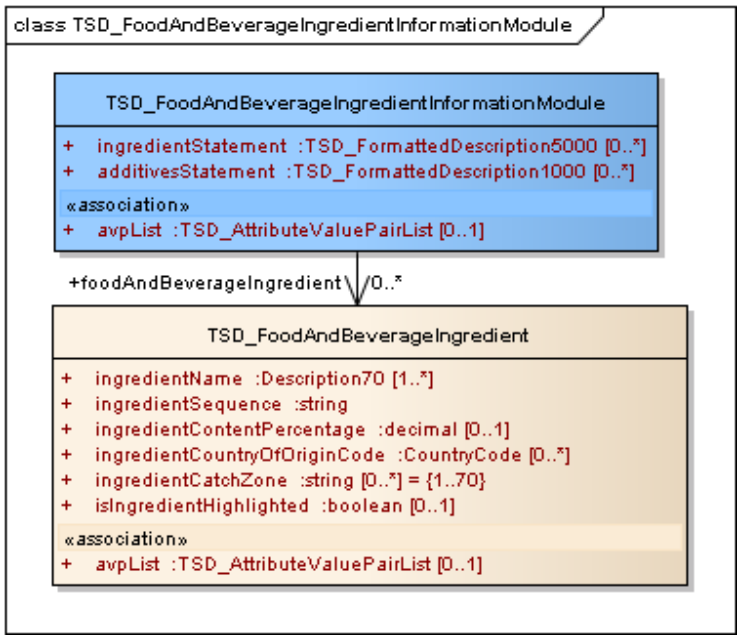
The data content of a TSD_Country structure SHALL be as follows:

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| countryCode | CountryCode | 1..1 | Code specifying the country in which a processing or other activity is performed, for example processing, bottling, manufacturing. |
| countrySubdivisionCode | CountrySubdivisionCode | 0..* | Code specifying the country subdivision in which a processing or other activity has been performed for example processing, bottling, manufacturing. |

## 4.7 Food and Beverage Ingredient Information Module

The Food and Beverage Ingredient Module carries information on ingredients and additives of the product. The module is intended for the "food and beverage" product category.

### Class Diagram




### Data Definitions

The data content of a `TSD_FoodAndBeverageIngredientInformationModule` structure SHALL be as follows:

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| `ingredientStatement` | `TSD_FormattedDescription5000` ([GS1TSD] section 6.2.9) | 0..* | A free text field describing the constituent ingredient make up of the product. Each `TSD_FormattedDescription5000` structure SHALL have a different language code, and SHALL represent presentations of the same value in different languages. |
| `additivesStatement` | `TSD_FormattedDescription1000` ([GS1TSD] section 6.2.9) | 0..* | A free text field describing any additives that have to be specifically included on the label to conform to legal requirements. Each `TSD_FormattedDescription1000` structure SHALL have a different language code, and SHALL represent presentations of the same value in different languages. |
| `foodAndBeverageIngredient` | `TSD_FoodAndBeverageIngredient` (below) | 1..* | Detailed information about specific ingredients. Each member of this list SHALL have a distinct value of `ingredientName`. |
| `avpList` | `TSD_AttributeValuePairList` ([GS1TSD] section 6.2.8) | 0..1 | Temporary attributes introduced between minor versions; see [GS1TSD] section 5.4.1. |

The data content of a TSD_FoodAndBeverageIngredient structure SHALL be as follows:

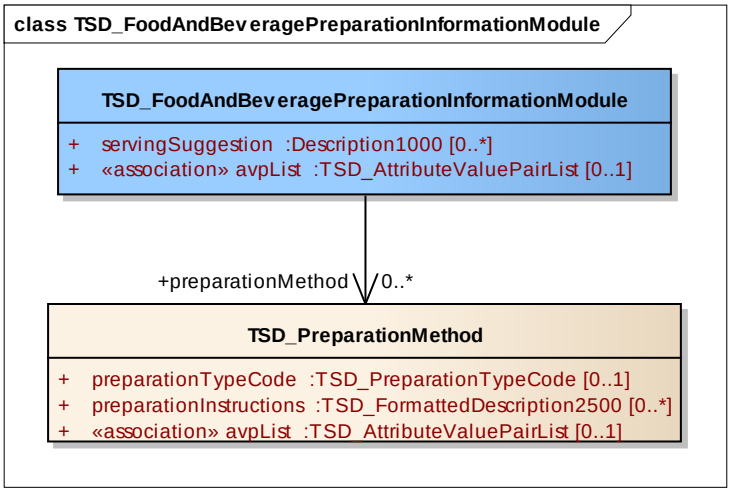
| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| ingredientName | Description70 ([GS1TSD] section 6.2.6) | 1..* | Free text field describing an ingredient or ingredient group. Ingredients include any additives (colorings, preservatives, e-numbers, etc) that are encompassed. Each ingredientName SHALL have a different language code, and SHALL represent presentations of the same value in different languages. |
| ingredientSequence | string | 1..1 | Integer (1, 2, 3…) indicating the ingredient order by content percentage of the product. (major ingredient = 1, second ingredient = 2) etc. |
| ingredientContent Percentage | decimal | 0..1 | Percentage of the ingredient contained in the product. |
| ingredientCountryOf OriginCode | CountryCode ([GS1TSD] section 6.2.2) | 0..* | Code indicating the country of origin of the ingredient (ISO-3166). |
| ingredientCatchZone | string {1..70} | 0..* | Free text field describing the sea zone from which the seafood in the trade item was caught in. |
| isIngredient Highlighted | boolean | 0..1 | Indication of the need to highlight the Ingredient Name when presenting the ingredient list to consumers, as required by local regulations. |
| avpList | TSD_AttributeValue PairList ([GS1TSD] section 6.2.8) | 0..1 | Temporary attributes introduced between minor versions; see [GS1TSD] section 5.4.1. |

## 4.8 Food and Beverage Preparation Information Module

The Food and Beverage Preparation Information Module carries instructions on the preparation and consumption of the product. The module is intended for the “food and beverage” product category.

### Class Diagram

The following UML diagram expresses the data content of the Food and Beverage Preparation Information module.




### Data Definitions

The data content of a TSD_FoodAndBeveragePreparationInformationModule structure SHALL be as follows:

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| servingSuggestion | Description1000 ([GS1TSD] section 6.2.6) | 0..* | Free text describing serving suggestions. Each TSD_Formatted Description1000 structure SHALL have a different language code, and SHALL represent presentations of the same value in different languages. |
| preparationMethod | TSD_Preparation Method (see below) | 0..* | Detailed preparation information. Each member of this list SHALL have a distinct value of preparationTypeCode. |
| avpList | TSD_AttributeValue PairList ([GS1TSD] section 6.2.8) | 0..1 | Temporary attributes introduced between minor versions; see [GS1TSD] section 5.4.1. |

The data content of a TSD_PreparationMethod structure SHALL be as follows:

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| preparationTypeCode | TSD_Preparation TypeCode | 0..1 | A code specifying the technique used to make the product ready for consumption. For example: baking, boiling. |

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| preparationInstructions | TSD_Formatted Description2500 ([GS1TSD] section 6.2.9) | 0..* | Free text providing instructions on how to prepare the product before serving. Each TSD_Formatted Description2500 structure SHALL have a different language code, and SHALL represent presentations of the same value in different languages. |
| avpList | TSD_AttributeValue PairList ([GS1TSD] section 6.2.8) | 0..1 | Temporary attributes introduced between minor versions; see [GS1TSD] section 5.4.1. |

The value of preparationTypeCode SHALL be a value defined in one of the following code lists:

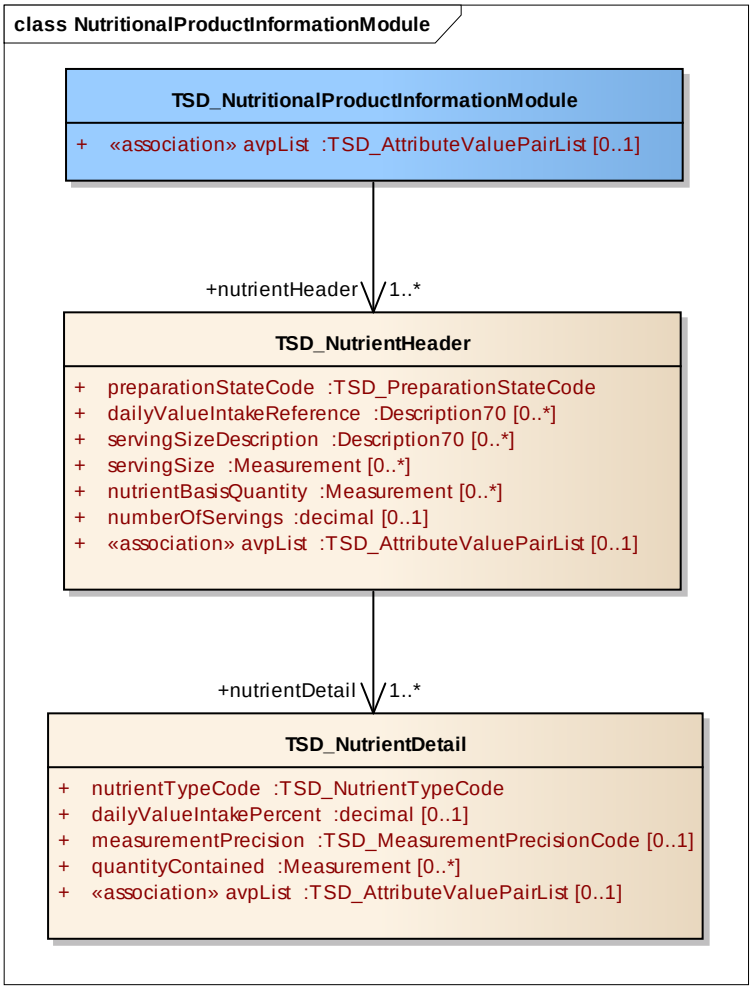
- GS1 Preparation Type Code List (urn:gs1:gdd:cl:PreparationTypeCodeList), GDSN version 2.8
- GS1 State of Preparation Code List (urn:gs1:gdd:cl:StateOfPreparationCodeList), GDSN version 2.8.

## 4.9 Nutritional Product Information Module

The Nutritional Product Information Module carries the nutritional facts on the product. The module is intended for the “food and beverage” product category.

### Class Diagram

The following UML diagram expresses the data content of the Nutritional Product Information module.




### Data Definitions

The data content of a `TSD_NutritionalProductInformationModule` structure SHALL be as follows:

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| `nutrientHeader` | `TSD_NutrientHeader` (below) | 1..* | The nutritional information for a specified serving size and state of preparation. |
| `avpList` | `TSD_AttributeValuePairList` (see [GS1TSD] section 6.2.8) | 0..1 | Temporary attributes introduced between minor versions; see [GS1TSD] section 5.4.1. |

The data content of a TSD_NutrientHeader structure SHALL be as follows:

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| preparationStateCode | TSD_PreparationStateCode (below) | 1 | Code specifying the preparation state of the product for which the nutrient information is valid. |
| dailyValueIntakeReference | Description70 ([GS1TSD] section 6.2.6) | 0..* | Free text field specifying the daily value intake base on which the daily value intake per nutrient has been based. Examples: “Based on a 2000 calorie diet.”, “based on one cup skimmed milk”, “diet for 4 year old”. If more than one Description70 structure is present each SHALL have a different language code, and SHALL represent representations of the same value in different languages. |
| servingSizeDescription | Description70 ([GS1TSD] section 6.2.6) | 0..* | A free text field specifying the serving size for which the nutrient information has been stated; for example: per 1/3 cup (42 g). If more than one Description70 structure is present each SHALL have a different language code, and SHALL represent representations of the same value in different languages. |
| servingSize | Measurement ([GS1TSD] section 6.2.7) | 0..* | Measurement value specifying the actual serving size. Example: 40 grams. When specified, servingSize establishes the basis for all contained NutrientDetail records. A NutrientHeader SHALL contain servingSize or nutrientBasisQuantity (but not both). If more than one Measurement structure is present each SHALL have a different unitOfMeasure and SHALL represent the same value expressed in different units. |

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| nutrientBasisQuantity | Measurement ([GS1TSD] section 6.2.7) | 0..* | Quantity on which the nutrient information has been based; for example, per 100 grams. When specified, basisQuantity establishes the basis for all contained NutrientDetail records. A NutrientHeader SHALL contain servingSize or nutrientBasisQuantity (but not both). If more than one Measurement structure is present each SHALL have a different unitOfMeasure and SHALL represent the same value expressed in different units. |
| numberOfServings | decimal | 0..1 | Number of servings. If both this and servingSize are specified, the value SHALL be the number of servings based on servingSize. Otherwise, the value is informational and not related to any particular serving size expressed within this product data. |
| nutrientDetail | TSD_NutrientDetail (below) | 1..* | Detailed information about specific nutrients for this serving size and preparation state. Each member of this list SHALL have a distinct value of nutrientTypeCode. |
| avpList | TSD_AttributeValuePairList ([GS1TSD] section 6.2.8) | 0..1 | Temporary attributes introduced between minor versions; see [GS1TSD] section 6.2.8. |

The value of preparationStateCode SHALL be one of the following:

| Value | Description |
|---|---|
| PREPARED | The state of the product after preparation (e.g. after adding milk or water) |
| UNPREPARED | The initial state of the product |

The data content of a TSD_NutrientDetail structure SHALL be as follows:

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| nutrientTypeCode | TSD_NutrientTypeCode (below) | 1 | Code that specifies which nutrient this NutrientDetail structure describes. |

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| dailyValue IntakePercent | decimal | 0..1 | The percentage of the recommended daily intake of a nutrient provided by the quantity of product defined in the nutrient header (by servingSize or nutrientBasisQuantity), as recommended by authorities of the target market. For example, a value of 50 denotes 50% of daily value.<br>If the NutrientHeader structure includes a dailyValue IntakeReference, this value SHALL be computed with reference to the diet specified by dailyValue IntakeReference. Otherwise, this value SHALL be computed with reference to a diet not expressed in this product data, but used consistently for all nutrient detail records associated with the same nutrient header. |
| measurement Precision | TSD_Measurement PrecisionCode (below) | 0..1 | Code indicating the exactness of the method used to analyse the nutritional value. |
| quantityContained | Measurement ([GS1TSD] section 6.2.7) | 0..* | Measurement value indicating the amount of nutrient contained in the quantity of product defined in the nutrient header (by servingSize or nutrientBasisQuantity). If more than one Measurement structure is present each SHALL have a different unitOfMeasure and SHALL represent the same value expressed in different units. |
| avpList | TSD_AttributeValue PairList ([GS1TSD] section 6.2.8) | 0..1 | Temporary attributes introduced between minor versions; see [GS1TSD] section 6.2.8. |

The value of nutrientTypeCode SHALL be a “tagname” defined in the INFOODS Food Component Tagname list [INFOODS]; or one of the additional code values as defined in GS1 Code List UN_INFOODS (urn:gs1:gdd:cl:UN_INFOODS), GDSN version 2.8.

The value of measurementPrecision SHALL be one of the following values:

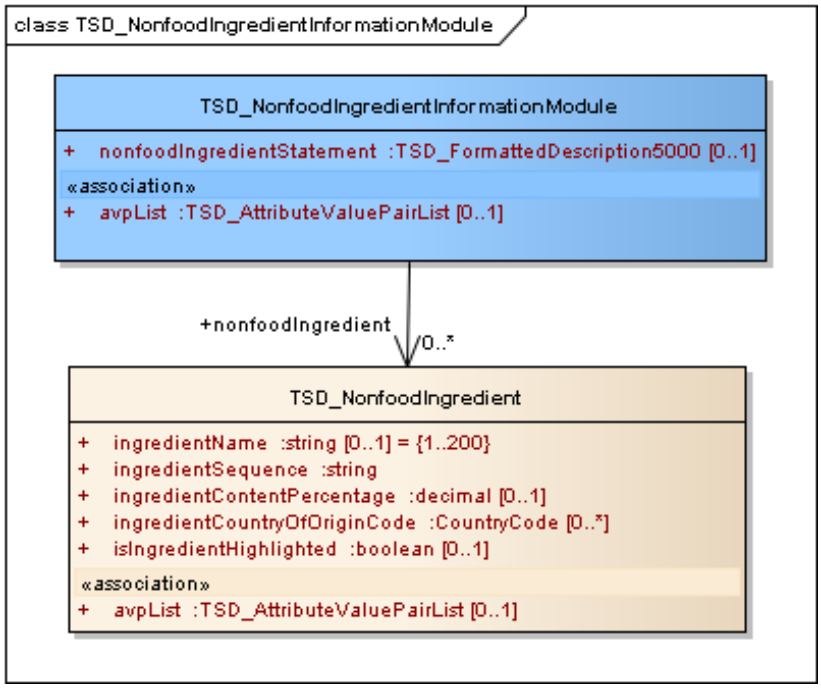
| Value | Meaning |
|---|---|
| APPROXIMATELY | The method used to analyse the products resulted in approximate value of the nutritional content. |
| EXACT | The method used to analyse the products resulted in exact value of the nutritional content. |
| LESS_THAN | To indicate presence when the measurement value is too small to be measured precisely (rule states less than 0.5). |

## 4.10 Nonfood Ingredient Information Module

The Nonfood Ingredient Information Module carries the ingredients of the product. The module is intended for the non food product categories. (E.g. Health & Beauty)

### Class Diagram

The following UML diagram expresses the data content of the Nonfood Ingredient Information module.




### Data Definitions

The data content of a `TSD_NonfoodIngredientInformationModule` structure SHALL be as follows:

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| `nonfoodIngredientStatement` | `TSD_FormattedDescription5000` | 0..1 | Formatted ingredient statement for non food items |
| `avpList` | `TSD_AttributeValuePairList` (see [GS1TSD] section 6.2.8) | 0..1 | Temporary attributes introduced between minor versions; see [GS1TSD] section 5.4.1. |
| `nonfoodIngredient` | `TSD_NonfoodIngredient` (below) | 0..* | Detailed information about specific ingredients. Each member of this list SHALL have a distinct value of `ingredientName`. |

The data content of a TSD_NonfoodIngredient structure SHALL be as follows:

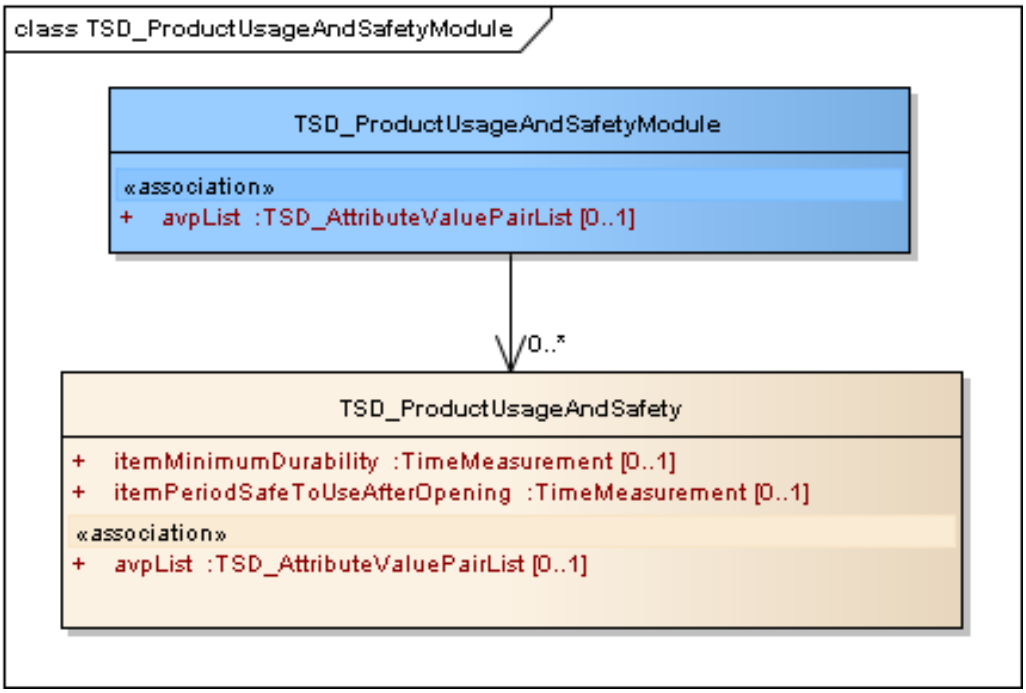
| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| ingredientName | string {1..200} | 0..1 | Free text field describing an ingredient or ingredient group. Ingredients include any additives (colorings, preservatives, e-numbers, etc) that are encompassed. Each ingredientName SHALL have a different language code, and SHALL represent presentations of the same value in different languages. |
| ingredientSequence | string | 1..1 | Indicates the ingredient order by content percentage of the product. (major ingredient = 1, second ingredient = 2) etc. Sub ingredients can be denoted by using e.g. 1.1 or 1.1.1 |
| ingredientContentPercentage | decimal | 0..1 | Percentage of the ingredient contained in the product. |
| ingredientCountryOfOriginCode | CountryCode ([GS1TSD] section 6.2.2) | 0..* | Code indicating the country of origin of the ingredient (ISO-3166). |
| isIngredientHighlighted | boolean | 0..1 | Indication of the need to highlight the Ingredient Name when presenting the ingredient list to consumers, as required by local regulations. |
| avpList | TSD_AttributeValuePairList ([GS1TSD] section 6.2.8) | 0..1 | Temporary attributes introduced between minor versions; see [GS1TSD] section 5.4.1. |

## 4.11 Product Usage and Safety Module

The Product Usage and Safety Module carries the information on product usage and safety of the product. The module is intended for all product categories.

### Class Diagram

The following UML diagram expresses the data content of the Product Usage And Safety module.




### Data Definitions

The data content of a `TSD_ProductUsageAndSafetyModule` structure SHALL be as follows:

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| `avpList` | `TSD_AttributeValuePairList` (see [GS1TSD] section 6.2.8) | 0..1 | Temporary attributes introduced between minor versions; see [GS1TSD] section 5.4.1. |
| | `TSD_ProductUsageAndSafety` (below) | 0..* | Details on the product usage and the safety of the product. |

The data content of a `TSD_ProductUsageAndSafety` structure SHALL be as follows:

| Data Element | Type | Cardinality | Description |
|---|---|---|---|
| `itemMinimumDurability` | `TimeMeasurement` | 0..1 | Minimum durability of the item expressed in months |
| `itemPeriodSafeToUseAfterOpening` | `TimeMeasurement` | 0..1 | Period After Opening where the product is still safe to be used.<br>This mention MUST take the form of number of months or number of years: e.g. "50 months" or "4 years |
| `avpList` | `TSD_AttributeValuePairList` ([GS1TSD] section 6.2.8) | 0..1 | Temporary attributes introduced between minor versions; see [GS1TSD] section 5.4.1. |

# 5 XML Schemas

## 5.1 Basic Product Information Module

This section specifies an XML schema for the Basic Product Information module as specified in Section 4.1.

```
<?xml version="1.0" encoding="UTF-8"?>
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:basic_product_information_module="urn:gs1:tsd:basic_product_information_module:xsd:1"
xmlns:shared_common="urn:gs1:shared:shared_common:xsd:3"
xmlns:tsd_common="urn:gs1:tsd:tsd_common:xsd:1"
targetNamespace="urn:gs1:tsd:basic_product_information_module:xsd:1"
elementFormDefault="unqualified" attributeFormDefault="unqualified" version="1.2">
  <xsd:annotation>
    <xsd:documentation><![CDATA[---------------------------
© Copyright GS1, 2015

GS1 is providing this XML Schema Definition file and resultant XML file as a service to
interested industries.
This XML Schema Definition file and resultant XML file were developed through a consensus
process of interested parties.

Although efforts have been made to ensure that the XML Schema Definition file and resultant XML
file are correct, reliable, and technically
accurate,  GS1 makes NO WARRANTY, EXPRESS OR IMPLIED, THAT THIS XML Schema Definition file and
resultant XML file ARE
CORRECT, WILL NOT REQUIRE MODIFICATION AS EXPERIENCE AND TECHNOLOGICAL ADVANCES DICTATE, OR
WILL BE SUITABLE FOR
ANY PURPOSE OR WORKABLE IN ANY APPLICATION, OR OTHERWISE.  Use of the XML Schema Definition
file and resultant XML
file are with the understanding that GS1 has no liability for any claim to the contrary, or for
any damage or loss of any kind or nature.

Version Information:
Version Number: 1.2
Date of creation: March 2015

The schema and subsequent updates will be provided on the GS1 websites.
---------------------------
]]></xsd:documentation>
  </xsd:annotation>
  <xsd:import namespace="urn:gs1:shared:shared_common:xsd:3"
schemaLocation="../shared/SharedCommon.xsd"/>
  <xsd:import namespace="urn:gs1:tsd:tsd_common:xsd:1" schemaLocation="TSDCommon.xsd"/>
  <xsd:element name="basicProductInformationModule"
type="basic_product_information_module:TSD_BasicProductInformationModuleType"/>
  <xsd:complexType name="TSD_BasicProductInformationModuleType">
    <xsd:sequence>
      <xsd:element name="productName" type="shared_common:Description80Type"
maxOccurs="unbounded"/>
      <xsd:element name="consumerMarketingDescription" type="shared_common:Description2500Type"
minOccurs="0" maxOccurs="unbounded"/>
      <xsd:element name="gpcCategoryCode" minOccurs="0">
        <xsd:simpleType>
          <xsd:restriction base="xsd:string">
            <xsd:pattern value="\d{8}"/>
          </xsd:restriction>
        </xsd:simpleType>
      </xsd:element>
      <xsd:element name="regulatedProductName" type="shared_common:Description500Type"
minOccurs="0" maxOccurs="unbounded"/>
      <xsd:element name="functionalName" type="shared_common:Description35Type" minOccurs="0"
maxOccurs="1"/>
      <xsd:element name="brandNameInformation"
type="basic_product_information_module:TSD_BrandNameInformationType"/>
      <xsd:element name="productInformationLink"
type="tsd_common:TSD_ProductInformationLinkType" minOccurs="0" maxOccurs="unbounded"/>
      <xsd:element name="imageLink" type="tsd_common:TSD_ImageLinkType" minOccurs="0"
maxOccurs="unbounded"/>
      <xsd:element name="packagingSignatureLine"
type="basic_product_information_module:TSD_PackagingSignatureLineType" minOccurs="0"
maxOccurs="unbounded"/>
```

```
<xsd:element name="avpList" type="tsd_common:TSD_AttributeValuePairListType" minOccurs="0"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="TSD_BrandNameInformationType">
    <xsd:sequence>
      <xsd:element name="brandName">
        <xsd:simpleType>
          <xsd:restriction base="xsd:string">
            <xsd:maxLength value="70"/>
            <xsd:minLength value="1"/>
          </xsd:restriction>
        </xsd:simpleType>
      </xsd:element>
      <xsd:element name="languageSpecificBrandName" type="shared_common:Description70Type"
minOccurs="0" maxOccurs="unbounded"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="TSD_PackagingSignatureLineType">
    <xsd:sequence>
      <xsd:element name="partyContactRoleCode"
type="basic_product_information_module:TSD_PartyContactRoleCodeType"/>
      <xsd:element name="partyContactName" minOccurs="0">
        <xsd:simpleType>
          <xsd:restriction base="xsd:string">
            <xsd:maxLength value="200"/>
            <xsd:minLength value="1"/>
          </xsd:restriction>
        </xsd:simpleType>
      </xsd:element>
      <xsd:element name="partyContactAddress" minOccurs="0">
        <xsd:simpleType>
          <xsd:restriction base="xsd:string">
            <xsd:maxLength value="500"/>
            <xsd:minLength value="1"/>
          </xsd:restriction>
        </xsd:simpleType>
      </xsd:element>
      <xsd:element name="gln" type="shared_common:GLNType" minOccurs="0"/>
      <xsd:element name="communicationChannel" type="shared_common:CommunicationChannelType"
minOccurs="0" maxOccurs="unbounded"/>
      <xsd:element name="avpList" type="tsd_common:TSD_AttributeValuePairListType"
minOccurs="0"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="TSD_PartyContactRoleCodeType">
    <xsd:simpleContent>
      <xsd:extension base="shared_common:GS1CodeType"/>
    </xsd:simpleContent>
  </xsd:complexType>
</xsd:schema>
```

## 5.2 Product Allergen Information Module

This section specifies an XML schema for the Product Allergen Information module as specified in Section 4.2.

```
<?xml version="1.0" encoding="UTF-8"?>
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:product_allergen_information_module="urn:gs1:tsd:product_allergen_information_module:xsd:
1" xmlns:shared_common="urn:gs1:shared:shared_common:xsd:3"
xmlns:tsd_common="urn:gs1:tsd:tsd_common:xsd:1"
targetNamespace="urn:gs1:tsd:product_allergen_information_module:xsd:1"
elementFormDefault="unqualified" attributeFormDefault="unqualified" version="1.21">
  <xsd:annotation>
    <xsd:documentation><![CDATA[----------------------------
© Copyright GS1, 2015

GS1 is providing this XML Schema Definition file and resultant XML file as a service to
interested industries.
This XML Schema Definition file and resultant XML file were developed through a consensus
process of interested parties.

Although efforts have been made to ensure that the XML Schema Definition file and resultant XML
file are correct, reliable, and technically
```

```
accurate,  GS1 makes NO WARRANTY, EXPRESS OR IMPLIED, THAT THIS XML Schema Definition file and
resultant XML file ARE
CORRECT, WILL NOT REQUIRE MODIFICATION AS EXPERIENCE AND TECHNOLOGICAL ADVANCES DICTATE, OR
WILL BE SUITABLE FOR
ANY PURPOSE OR WORKABLE IN ANY APPLICATION, OR OTHERWISE.  Use of the XML Schema Definition
file and resultant XML
file are with the understanding that GS1 has no liability for any claim to the contrary, or for
any damage or loss of any kind or nature.

Version Information:
Version Number: 1.2
Date of creation: March 2015

The schema and subsequent updates will be provided on the GS1 websites.
---------------------------
]]></xsd:documentation>
  </xsd:annotation>
  <xsd:import namespace="urn:gs1:shared:shared_common:xsd:3"
schemaLocation="../shared/SharedCommon.xsd"/>
  <xsd:import namespace="urn:gs1:tsd:tsd_common:xsd:1" schemaLocation="TSDCommon.xsd"/>
  <xsd:element name="productAllergenInformationModule"
type="product_allergen_information_module:TSD_ProductAllergenInformationModuleType"/>
  <xsd:complexType name="TSD_AllergenRelatedInformationType">
    <xsd:sequence>
      <xsd:element name="allergenStatement" type="tsd_common:TSD_FormattedDescription1000Type"
minOccurs="0" maxOccurs="unbounded"/>
      <xsd:element name="allergenSpecificationAgency" minOccurs="0">
        <xsd:simpleType>
          <xsd:restriction base="xsd:string">
            <xsd:maxLength value="70"/>
            <xsd:minLength value="1"/>
          </xsd:restriction>
        </xsd:simpleType>
      </xsd:element>
      <xsd:element name="allergenSpecificationName" minOccurs="0">
        <xsd:simpleType>
          <xsd:restriction base="xsd:string">
            <xsd:maxLength value="70"/>
            <xsd:minLength value="1"/>
          </xsd:restriction>
        </xsd:simpleType>
      </xsd:element>
      <xsd:element name="allergen" type="product_allergen_information_module:TSD_AllergenType"
minOccurs="0" maxOccurs="unbounded"/>
      <xsd:element name="avpList" type="tsd_common:TSD_AttributeValuePairListType"
minOccurs="0"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="TSD_AllergenType">
    <xsd:sequence>
      <xsd:element name="allergenTypeCode"
type="product_allergen_information_module:TSD_AllergenTypeCodeType"/>
      <xsd:element name="levelOfContainmentCode"
type="product_allergen_information_module:TSD_LevelOfContainmentCodeType"/>
      <xsd:element name="avpList" type="tsd_common:TSD_AttributeValuePairListType"
minOccurs="0"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="TSD_AllergenTypeCodeType">
    <xsd:simpleContent>
      <xsd:extension base="shared_common:GS1CodeType"/>
    </xsd:simpleContent>
  </xsd:complexType>
  <xsd:complexType name="TSD_LevelOfContainmentCodeType">
    <xsd:simpleContent>
      <xsd:extension base="shared_common:GS1CodeType"/>
    </xsd:simpleContent>
  </xsd:complexType>
  <xsd:complexType name="TSD_ProductAllergenInformationModuleType">
    <xsd:sequence>
      <xsd:element name="allergenRelatedInformation"
type="product_allergen_information_module:TSD_AllergenRelatedInformationType"
maxOccurs="unbounded"/>
      <xsd:element name="avpList" type="tsd_common:TSD_AttributeValuePairListType"
minOccurs="0"/>
```

```
    </xsd:sequence>
  </xsd:complexType>
</xsd:schema>
```

## 5.3 Product Claims and Endorsements Module

This section specifies an XML schema for the Product Claims and Endorsements module as specified in Section 4.3.

```
<?xml version="1.0" encoding="UTF-8"?>
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:product_claims_and_endorsements_module="urn:gs1:tsd:product_claims_and_endorsements_modul
e:xsd:1" xmlns:shared_common="urn:gs1:shared:shared_common:xsd:3"
xmlns:tsd_common="urn:gs1:tsd:tsd_common:xsd:1"
targetNamespace="urn:gs1:tsd:product_claims_and_endorsements_module:xsd:1"
elementFormDefault="unqualified" attributeFormDefault="unqualified" version="1.1">
  <xsd:annotation>
    <xsd:documentation><![CDATA[---------------------------
© Copyright GS1, 2015

GS1 is providing this XML Schema Definition file and resultant XML file as a service to
interested industries.
This XML Schema Definition file and resultant XML file were developed through a consensus
process of interested parties.

Although efforts have been made to ensure that the XML Schema Definition file and resultant XML
file are correct, reliable, and technically
accurate,  GS1 makes NO WARRANTY, EXPRESS OR IMPLIED, THAT THIS XML Schema Definition file and
resultant XML file ARE
CORRECT, WILL NOT REQUIRE MODIFICATION AS EXPERIENCE AND TECHNOLOGICAL ADVANCES DICTATE, OR
WILL BE SUITABLE FOR
ANY PURPOSE OR WORKABLE IN ANY APPLICATION, OR OTHERWISE.  Use of the XML Schema Definition
file and resultant XML
file are with the understanding that GS1 has no liability for any claim to the contrary, or for
any damage or loss of any kind or nature.

Version Information:
Version Number: 1.2
Date of creation: March 2015

The schema and subsequent updates will be provided on the GS1 websites.
---------------------------
]]></xsd:documentation>
  </xsd:annotation>
  <xsd:import namespace="urn:gs1:shared:shared_common:xsd:3"
schemaLocation="../shared/SharedCommon.xsd"/>
  <xsd:import namespace="urn:gs1:tsd:tsd_common:xsd:1" schemaLocation="TSDCommon.xsd"/>
  <xsd:element name="productClaimsAndEndorsementsModule"
type="product_claims_and_endorsements_module:TSD_ProductClaimsAndEndorsementsModuleType"/>
  <xsd:complexType name="TSD_AccreditationCodeType">
    <xsd:simpleContent>
      <xsd:extension base="shared_common:GS1CodeType"/>
    </xsd:simpleContent>
  </xsd:complexType>
  <xsd:complexType name="TSD_AccreditationInformationType">
    <xsd:sequence>
      <xsd:element name="accreditationCode"
type="product_claims_and_endorsements_module:TSD_AccreditationCodeType" minOccurs="0"/>
      <xsd:element name="accreditationText" type="shared_common:Description200Type"
minOccurs="0" maxOccurs="unbounded"/>
      <xsd:element name="avpList" type="tsd_common:TSD_AttributeValuePairListType"
minOccurs="0"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="TSD_DietaryClaimCodeType">
    <xsd:simpleContent>
      <xsd:extension base="shared_common:GS1CodeType"/>
    </xsd:simpleContent>
  </xsd:complexType>
  <xsd:complexType name="TSD_NutritionalClaimCodeType">
    <xsd:simpleContent>
      <xsd:extension base="shared_common:GS1CodeType"/>
    </xsd:simpleContent>
  </xsd:complexType>
```

```
  <xsd:complexType name="TSD_ProductClaimsAndEndorsementsModuleType">
      <xsd:element name="warningStatement" type="shared_common:Description1000Type"
minOccurs="0" maxOccurs="unbounded"/>
      <xsd:element name="nutritionalClaimCode"
type="product_claims_and_endorsements_module:TSD_NutritionalClaimCodeType" minOccurs="0"
maxOccurs="unbounded"/>
      <xsd:element name="nutritionalClaimStatement" type="shared_common:Description5000Type"
minOccurs="0" maxOccurs="unbounded"/>
      <xsd:element name="healthClaimDescription" type="shared_common:Description1000Type"
minOccurs="0" maxOccurs="unbounded"/>
      <xsd:element name="dietaryClaimCode"
type="product_claims_and_endorsements_module:TSD_DietaryClaimCodeType" minOccurs="0"
maxOccurs="unbounded"/>
      <xsd:element name="accreditationInformation"
type="product_claims_and_endorsements_module:TSD_AccreditationInformationType" minOccurs="0"
maxOccurs="unbounded"/>
      <xsd:element name="regulatoryCompliance"
type="product_claims_and_endorsements_module:TSD_RegulatoryComplianceType" minOccurs="0"/>
      <xsd:element name="avpList" type="tsd_common:TSD_AttributeValuePairListType"
minOccurs="0"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="TSD_RegulatoryComplianceCodeType">
    <xsd:simpleContent>
      <xsd:extension base="shared_common:GS1CodeType"/>
    </xsd:simpleContent>
  </xsd:complexType>
  <xsd:complexType name="TSD_RegulatoryComplianceType">
        <xsd:sequence>
            <xsd:element name="regulatoryComplianceCode"
type="product_claims_and_endorsements_module:TSD_RegulatoryComplianceCodeType" minOccurs="0"/>
            <xsd:element name="isPackagingMarkedWithRegulatoryCompliance"
type="shared_common:nonBinaryLogicEnumerationType" minOccurs="0"/>
        </xsd:sequence>
  </xsd:complexType>
</xsd:schema>
```

## 5.4 Product Instructions Module

This section specifies an XML schema for the Product Instructions module as specified in Section 4.4.

```
<?xml version="1.0" encoding="UTF-8"?>
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:product_instructions_module="urn:gs1:tsd:product_instructions_module:xsd:1"
xmlns:tsd_common="urn:gs1:tsd:tsd_common:xsd:1"
xmlns:shared_common="urn:gs1:shared:shared_common:xsd:3"
targetNamespace="urn:gs1:tsd:product_instructions_module:xsd:1"
elementFormDefault="unqualified" attributeFormDefault="unqualified" version="1.1">
  <xsd:annotation>
    <xsd:documentation><![CDATA[----------------------------
© Copyright GS1, 2015

GS1 is providing this XML Schema Definition file and resultant XML file as a service to
interested industries.
This XML Schema Definition file and resultant XML file were developed through a consensus
process of interested parties.

Although efforts have been made to ensure that the XML Schema Definition file and resultant XML
file are correct, reliable, and technically
accurate,  GS1 makes NO WARRANTY, EXPRESS OR IMPLIED, THAT THIS XML Schema Definition file and
resultant XML file ARE
CORRECT, WILL NOT REQUIRE MODIFICATION AS EXPERIENCE AND TECHNOLOGICAL ADVANCES DICTATE, OR
WILL BE SUITABLE FOR
ANY PURPOSE OR WORKABLE IN ANY APPLICATION, OR OTHERWISE.  Use of the XML Schema Definition
file and resultant XML
file are with the understanding that GS1 has no liability for any claim to the contrary, or for
any damage or loss of any kind or nature.

Version Information:
Version Number: 1.2
Date of creation: June 2015

The schema and subsequent updates will be provided on the GS1 websites.
----------------------------
```

```
]]></xsd:documentation>
  </xsd:annotation>
  <xsd:import namespace="urn:gs1:shared:shared_common:xsd:3"
schemaLocation="../shared/SharedCommon.xsd"/>
  <xsd:import namespace="urn:gs1:tsd:tsd_common:xsd:1" schemaLocation="TSDCommon.xsd"/>
  <xsd:element name="productInstructionsModule"
type="product_instructions_module:TSD_ProductInstructionsModuleType"/>
  <xsd:complexType name="TSD_ProductInstructionsModuleType">
    <xsd:sequence>
      <xsd:element name="consumerUsageInstructions" type="shared_common:Description1000Type"
minOccurs="0" maxOccurs="unbounded"/>
      <xsd:element name="consumerStorageInstructions" type="shared_common:Description1000Type"
minOccurs="0" maxOccurs="unbounded"/>
      <xsd:element name="avpList" type="tsd_common:TSD_AttributeValuePairListType"
minOccurs="0"/>
    </xsd:sequence>
  </xsd:complexType>
</xsd:schema>
```

## 5.5 Product Quantity Information Module

This section specifies an XML schema for the Product Quantity Information module as specified in Section 4.5.

```
<?xml version="1.0" encoding="UTF-8"?>
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:product_quantity_information_module="urn:gs1:tsd:product_quantity_information_module:xsd:
1" xmlns:shared_common="urn:gs1:shared:shared_common:xsd:3"
xmlns:tsd_common="urn:gs1:tsd:tsd_common:xsd:1"
targetNamespace="urn:gs1:tsd:product_quantity_information_module:xsd:1"
elementFormDefault="unqualified" attributeFormDefault="unqualified" version="1.1">
  <xsd:annotation>
    <xsd:documentation><![CDATA[---------------------------
© Copyright GS1, 2015

GS1 is providing this XML Schema Definition file and resultant XML file as a service to
interested industries.
This XML Schema Definition file and resultant XML file were developed through a consensus
process of interested parties.

Although efforts have been made to ensure that the XML Schema Definition file and resultant XML
file are correct, reliable, and technically
accurate,  GS1 makes NO WARRANTY, EXPRESS OR IMPLIED, THAT THIS XML Schema Definition file and
resultant XML file ARE
CORRECT, WILL NOT REQUIRE MODIFICATION AS EXPERIENCE AND TECHNOLOGICAL ADVANCES DICTATE, OR
WILL BE SUITABLE FOR
ANY PURPOSE OR WORKABLE IN ANY APPLICATION, OR OTHERWISE.  Use of the XML Schema Definition
file and resultant XML
file are with the understanding that GS1 has no liability for any claim to the contrary, or for
any damage or loss of any kind or nature.

Version Information:
Version Number: 1.2
Date of creation: March 2015

The schema and subsequent updates will be provided on the GS1 websites.
---------------------------
]]></xsd:documentation>
  </xsd:annotation>
  <xsd:import namespace="urn:gs1:shared:shared_common:xsd:3"
schemaLocation="../shared/SharedCommon.xsd"/>
  <xsd:import namespace="urn:gs1:tsd:tsd_common:xsd:1" schemaLocation="TSDCommon.xsd"/>
  <xsd:element name="productQuantityInformationModule"
type="product_quantity_information_module:TSD_ProductQuantityInformationModuleType"/>
  <xsd:complexType name="TSD_ProductQuantityInformationModuleType">
    <xsd:sequence>
      <xsd:element name="netContent" type="shared_common:MeasurementType" minOccurs="0"
maxOccurs="unbounded"/>
      <xsd:element name="drainedWeight" type="shared_common:MeasurementType" minOccurs="0"/>
      <xsd:element name="percentageOfAlcoholByVolume" type="xsd:decimal" minOccurs="0"/>
      <xsd:element name="servingQuantityInformation"
type="product_quantity_information_module:TSD_ServingQuantityInformationType" minOccurs="0"/>
      <xsd:element name="avpList" type="tsd_common:TSD_AttributeValuePairListType"
minOccurs="0"/>
```

```
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="TSD_ServingQuantityInformationType">
    <xsd:sequence>
      <xsd:element name="numberOfServingsPerPackage" type="xsd:decimal" minOccurs="0"/>
      <xsd:element name="measurementPrecisionCode"
type="tsd_common:TSD_MeasurementPrecisionCodeType" minOccurs="0"/>
      <xsd:element name="numberOfServingsRangeDescription"
type="shared_common:Description70Type" minOccurs="0"/>
      <xsd:element name="avpList" type="tsd_common:TSD_AttributeValuePairListType"
minOccurs="0"/>
    </xsd:sequence>
  </xsd:complexType>
</xsd:schema>
```

## 5.6 Product Origin Information Module

This section specifies an XML schema for the Product Origin Information module as specified in Section 4.6.

```
<?xml version="1.0" encoding="UTF-8"?>
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:product_origin_information_module="urn:gs1:tsd:product_origin_information_module:xsd:1"
xmlns:shared_common="urn:gs1:shared:shared_common:xsd:3"
xmlns:tsd_common="urn:gs1:tsd:tsd_common:xsd:1"
targetNamespace="urn:gs1:tsd:product_origin_information_module:xsd:1"
elementFormDefault="unqualified" attributeFormDefault="unqualified" version="1.1">
  <xsd:annotation>
    <xsd:documentation><![CDATA[---------------------------
© Copyright GS1, 2015

GS1 is providing this XML Schema Definition file and resultant XML file as a service to
interested industries.
This XML Schema Definition file and resultant XML file were developed through a consensus
process of interested parties.

Although efforts have been made to ensure that the XML Schema Definition file and resultant XML
file are correct, reliable, and technically
accurate,  GS1 makes NO WARRANTY, EXPRESS OR IMPLIED, THAT THIS XML Schema Definition file and
resultant XML file ARE
CORRECT, WILL NOT REQUIRE MODIFICATION AS EXPERIENCE AND TECHNOLOGICAL ADVANCES DICTATE, OR
WILL BE SUITABLE FOR
ANY PURPOSE OR WORKABLE IN ANY APPLICATION, OR OTHERWISE.  Use of the XML Schema Definition
file and resultant XML
file are with the understanding that GS1 has no liability for any claim to the contrary, or for
any damage or loss of any kind or nature.

Version Information:
Version Number: 1.2
Date of creation: March 2015

The schema and subsequent updates will be provided on the GS1 websites.
---------------------------
]]></xsd:documentation>
  </xsd:annotation>
  <xsd:import namespace="urn:gs1:shared:shared_common:xsd:3"
schemaLocation="../shared/SharedCommon.xsd"/>
  <xsd:import namespace="urn:gs1:tsd:tsd_common:xsd:1" schemaLocation="TSDCommon.xsd"/>
  <xsd:element name="productOriginInformationModule"
type="product_origin_information_module:TSD_ProductOriginInformationModuleType"/>
  <xsd:complexType name="TSD_CountryType">
    <xsd:sequence>
      <xsd:element name="countryCode" type="shared_common:CountryCodeType"/>
      <xsd:element name="countrySubdivisionCode"
type="shared_common:CountrySubdivisionCodeType" minOccurs="0" maxOccurs="unbounded"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="TSD_ProductActivityDetailsType">
    <xsd:sequence>
      <xsd:element name="productActivityTypeCode"
type="product_origin_information_module:TSD_ProductActivityTypeCodeType"/>
      <xsd:element name="activityRegionDescription" type="shared_common:Description200Type"
minOccurs="0" maxOccurs="unbounded"/>
```

```
      <xsd:element name="countryOfActivity"
type="product_origin_information_module:TSD_CountryType" minOccurs="0" maxOccurs="unbounded"/>
      <xsd:element name="avpList" type="tsd_common:TSD_AttributeValuePairListType"
minOccurs="0"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="TSD_ProductActivityTypeCodeType">
    <xsd:simpleContent>
      <xsd:extension base="shared_common:GS1CodeType"/>
    </xsd:simpleContent>
  </xsd:complexType>
  <xsd:complexType name="TSD_ProductOriginInformationModuleType">
    <xsd:sequence>
      <xsd:element name="productOriginStatement" type="shared_common:Description200Type"
minOccurs="0" maxOccurs="unbounded"/>
      <xsd:element name="productProvenanceStatement" type="shared_common:Description200Type"
minOccurs="0" maxOccurs="unbounded"/>
      <xsd:element name="countryOfOrigin"
type="product_origin_information_module:TSD_CountryType" minOccurs="0" maxOccurs="unbounded"/>
      <xsd:element name="productActivityDetails"
type="product_origin_information_module:TSD_ProductActivityDetailsType" minOccurs="0"
maxOccurs="unbounded"/>
      <xsd:element name="avpList" type="tsd_common:TSD_AttributeValuePairListType"
minOccurs="0"/>
    </xsd:sequence>
  </xsd:complexType>
</xsd:schema>
```

## 5.7 Food and Beverage Ingredient Information Module

This section specifies an XML schema for the Food and Beverage Ingredient Information module as specified in Section 4.7.

```
<?xml version="1.0" encoding="UTF-8"?>
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:food_and_beverage_ingredient_information_module="urn:gs1:tsd:food_and_beverage_informatio
n_module:xsd:1" xmlns:shared_common="urn:gs1:shared:shared_common:xsd:3"
xmlns:tsd_common="urn:gs1:tsd:tsd_common:xsd:1"
targetNamespace="urn:gs1:tsd:food_and_beverage_information_module:xsd:1"
elementFormDefault="unqualified" attributeFormDefault="unqualified" version="1.1">
  <xsd:annotation>
    <xsd:documentation><![CDATA[---------------------------
© Copyright GS1, 2015

GS1 is providing this XML Schema Definition file and resultant XML file as a service to
interested industries.
This XML Schema Definition file and resultant XML file were developed through a consensus
process of interested parties.

Although efforts have been made to ensure that the XML Schema Definition file and resultant XML
file are correct, reliable, and technically
accurate,  GS1 makes NO WARRANTY, EXPRESS OR IMPLIED, THAT THIS XML Schema Definition file and
resultant XML file ARE
CORRECT, WILL NOT REQUIRE MODIFICATION AS EXPERIENCE AND TECHNOLOGICAL ADVANCES DICTATE, OR
WILL BE SUITABLE FOR
ANY PURPOSE OR WORKABLE IN ANY APPLICATION, OR OTHERWISE.  Use of the XML Schema Definition
file and resultant XML
file are with the understanding that GS1 has no liability for any claim to the contrary, or for
any damage or loss of any kind or nature.

Version Information:
Version Number: 1.2
Date of creation: March 2015

The schema and subsequent updates will be provided on the GS1 websites.
---------------------------
]]></xsd:documentation>
  </xsd:annotation>
  <xsd:import namespace="urn:gs1:shared:shared_common:xsd:3"
schemaLocation="../shared/SharedCommon.xsd"/>
  <xsd:import namespace="urn:gs1:tsd:tsd_common:xsd:1" schemaLocation="TSDCommon.xsd"/>
  <xsd:element name="foodAndBeverageIngredientInformationModule"
type="food_and_beverage_ingredient_information_module:TSD_FoodAndBeverageIngredientInformationM
oduleType"/>
```

```
  <xsd:complexType name="TSD_FoodAndBeverageIngredientInformationModuleType">
    <xsd:sequence>
      <xsd:element name="ingredientStatement"
type="tsd_common:TSD_FormattedDescription5000Type" minOccurs="0" maxOccurs="unbounded"/>
      <xsd:element name="additivesStatement" type="tsd_common:TSD_FormattedDescription1000Type"
minOccurs="0" maxOccurs="unbounded"/>
      <xsd:element name="foodAndBeverageIngredient"
type="food_and_beverage_ingredient_information_module:TSD_FoodAndBeverageIngredientType"
minOccurs="0" maxOccurs="unbounded"/>
      <xsd:element name="avpList" type="tsd_common:TSD_AttributeValuePairListType"
minOccurs="0"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="TSD_FoodAndBeverageIngredientType">
    <xsd:sequence>
      <xsd:element name="ingredientName" type="shared_common:Description70Type"
maxOccurs="unbounded"/>
     <xsd:element name="ingredientSequence"/>
                <xsd:simpleType>
                    <xsd:restriction base="xsd:string">
                        <xsd:maxLength value="70"/>
                        <xsd:minLength value="1"/>
                    </xsd:restriction>
            </xsd:simpleType>
     </xsd:element>
      <xsd:element name="ingredientContentPercentage" type="xsd:decimal" minOccurs="0"/>
      <xsd:element name="ingredientCountryOfOriginCode" type="shared_common:CountryCodeType"
minOccurs="0" maxOccurs="unbounded"/>
      <xsd:element name="ingredientCatchZone" minOccurs="0" maxOccurs="unbounded">
        <xsd:simpleType>
          <xsd:restriction base="xsd:string">
            <xsd:maxLength value="70"/>
            <xsd:minLength value="1"/>
          </xsd:restriction>
        </xsd:simpleType>
      </xsd:element>
      <xsd:element name="isIngredientHighlighted" type="xsd:boolean" minOccurs="0"/>

      <xsd:element name="avpList" type="tsd_common:TSD_AttributeValuePairListType"
minOccurs="0"/>
    </xsd:sequence>
  </xsd:complexType>
</xsd:schema>
```

## 5.8 Food and Beverage Preparation Information Module

This section specifies an XML schema for the Food and Beverage Preparation Information module as specified in Section 4.8.

```
<?xml version="1.0" encoding="UTF-8"?>
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:food_and_beverage_preparation_information_module="urn:gs1:tsd:food_and_beverage_preparati
on_information_module:xsd:1" xmlns:shared_common="urn:gs1:shared:shared_common:xsd:3"
xmlns:tsd_common="urn:gs1:tsd:tsd_common:xsd:1"
targetNamespace="urn:gs1:tsd:food_and_beverage_preparation_information_module:xsd:1"
elementFormDefault="unqualified" attributeFormDefault="unqualified" version="1.1">
  <xsd:annotation>
    <xsd:documentation><![CDATA[----------------------------
© Copyright GS1, 2015

GS1 is providing this XML Schema Definition file and resultant XML file as a service to
interested industries.
This XML Schema Definition file and resultant XML file were developed through a consensus
process of interested parties.

Although efforts have been made to ensure that the XML Schema Definition file and resultant XML
file are correct, reliable, and technically
accurate,  GS1 makes NO WARRANTY, EXPRESS OR IMPLIED, THAT THIS XML Schema Definition file and
resultant XML file ARE
CORRECT, WILL NOT REQUIRE MODIFICATION AS EXPERIENCE AND TECHNOLOGICAL ADVANCES DICTATE, OR
WILL BE SUITABLE FOR
ANY PURPOSE OR WORKABLE IN ANY APPLICATION, OR OTHERWISE.  Use of the XML Schema Definition
file and resultant XML
```

```
file are with the understanding that GS1 has no liability for any claim to the contrary, or for
any damage or loss of any kind or nature.

Version Information:
Version Number: 1.2
Date of creation: June 2015

The schema and subsequent updates will be provided on the GS1 websites.
---------------------------
]]></xsd:documentation>
  </xsd:annotation>
  <xsd:import namespace="urn:gs1:shared:shared_common:xsd:3"
schemaLocation="../shared/SharedCommon.xsd"/>
  <xsd:import namespace="urn:gs1:tsd:tsd_common:xsd:1" schemaLocation="TSDCommon.xsd"/>
  <xsd:element name="foodAndBeveragePreparationInformationModule"
type="food_and_beverage_preparation_information_module:TSD_FoodAndBeveragePreparationInformatio
nModuleType"/>
  <xsd:complexType name="TSD_FoodAndBeveragePreparationInformationModuleType">
    <xsd:sequence>
      <xsd:element name="servingSuggestion" type="shared_common:Description1000Type"
minOccurs="0" maxOccurs="unbounded"/>
      <xsd:element name="preparationMethod"
type="food_and_beverage_preparation_information_module:TSD_PreparationMethodType" minOccurs="0"
maxOccurs="unbounded"/>
      <xsd:element name="avpList" type="tsd_common:TSD_AttributeValuePairListType"
minOccurs="0"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="TSD_PreparationMethodType">
    <xsd:sequence>
      <xsd:element name="preparationTypeCode"
type="food_and_beverage_preparation_information_module:TSD_PreparationTypeCodeType"
minOccurs="0"/>
      <xsd:element name="preparationInstructions"
type="tsd_common:TSD_FormattedDescription2500Type" minOccurs="0" maxOccurs="unbounded"/>
      <xsd:element name="avpList" type="tsd_common:TSD_AttributeValuePairListType"
minOccurs="0"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="TSD_PreparationTypeCodeType">
    <xsd:simpleContent>
      <xsd:extension base="shared_common:GS1CodeType"/>
    </xsd:simpleContent>
  </xsd:complexType>
</xsd:schema>
```

## 5.9 Nutritional Product Information Module

This section specifies an XML schema for the Nutritional Product Information module as specified in Section 4.9.

```
<?xml version="1.0" encoding="UTF-8"?>
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:nutritional_product_information_module="urn:gs1:tsd:nutritional_product_information_modul
e:xsd:1" xmlns:shared_common="urn:gs1:shared:shared_common:xsd:3"
xmlns:tsd_common="urn:gs1:tsd:tsd_common:xsd:1"
targetNamespace="urn:gs1:tsd:nutritional_product_information_module:xsd:1"
elementFormDefault="unqualified" attributeFormDefault="unqualified" version="1.1">
  <xsd:annotation>
    <xsd:documentation><![CDATA[---------------------------
© Copyright GS1, 2015

GS1 is providing this XML Schema Definition file and resultant XML file as a service to
interested industries.
This XML Schema Definition file and resultant XML file were developed through a consensus
process of interested parties.

Although efforts have been made to ensure that the XML Schema Definition file and resultant XML
file are correct, reliable, and technically
accurate,  GS1 makes NO WARRANTY, EXPRESS OR IMPLIED, THAT THIS XML Schema Definition file and
resultant XML file ARE
CORRECT, WILL NOT REQUIRE MODIFICATION AS EXPERIENCE AND TECHNOLOGICAL ADVANCES DICTATE, OR
WILL BE SUITABLE FOR
```

```
ANY PURPOSE OR WORKABLE IN ANY APPLICATION, OR OTHERWISE.  Use of the XML Schema Definition
file and resultant XML
file are with the understanding that GS1 has no liability for any claim to the contrary, or for
any damage or loss of any kind or nature.

Version Information:
Version Number: 1.2
Date of creation: June 2015

The schema and subsequent updates will be provided on the GS1 websites.
---------------------------
]]></xsd:documentation>
  </xsd:annotation>
  <xsd:import namespace="urn:gs1:shared:shared_common:xsd:3"
schemaLocation="../shared/SharedCommon.xsd"/>
  <xsd:import namespace="urn:gs1:tsd:tsd_common:xsd:1" schemaLocation="TSDCommon.xsd"/>
  <xsd:element name="nutritionalProductInformationModule"
type="nutritional_product_information_module:TSD_NutritionalProductInformationModuleType"/>
  <xsd:complexType name="TSD_NutrientDetailType">
    <xsd:sequence>
      <xsd:element name="nutrientTypeCode"
type="nutritional_product_information_module:TSD_NutrientTypeCodeType"/>
      <xsd:element name="dailyValueIntakePercent" type="xsd:decimal" minOccurs="0"/>
      <xsd:element name="measurementPrecision"
type="tsd_common:TSD_MeasurementPrecisionCodeType" minOccurs="0"/>
      <xsd:element name="quantityContained" type="shared_common:MeasurementType" minOccurs="0"
maxOccurs="unbounded"/>
      <xsd:element name="avpList" type="tsd_common:TSD_AttributeValuePairListType"
minOccurs="0"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="TSD_NutrientHeaderType">
    <xsd:sequence>
      <xsd:element name="preparationStateCode"
type="nutritional_product_information_module:TSD_PreparationStateCodeType"/>
      <xsd:element name="dailyValueIntakeReference" type="shared_common:Description70Type"
minOccurs="0" maxOccurs="unbounded"/>
      <xsd:element name="servingSizeDescription" type="shared_common:Description70Type"
minOccurs="0" maxOccurs="unbounded"/>
      <xsd:element name="servingSize" type="shared_common:MeasurementType" minOccurs="0"
maxOccurs="unbounded"/>
      <xsd:element name="nutrientBasisQuantity" type="shared_common:MeasurementType"
minOccurs="0" maxOccurs="unbounded"/>
      <xsd:element name="numberOfServings" type="xsd:decimal" minOccurs="0"/>
      <xsd:element name="nutrientDetail"
type="nutritional_product_information_module:TSD_NutrientDetailType" maxOccurs="unbounded"/>
      <xsd:element name="avpList" type="tsd_common:TSD_AttributeValuePairListType"
minOccurs="0"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="TSD_NutrientTypeCodeType">
    <xsd:simpleContent>
      <xsd:extension base="shared_common:GS1CodeType"/>
    </xsd:simpleContent>
  </xsd:complexType>
  <xsd:complexType name="TSD_NutritionalProductInformationModuleType">
    <xsd:sequence>
      <xsd:element name="nutrientHeader"
type="nutritional_product_information_module:TSD_NutrientHeaderType" maxOccurs="unbounded"/>
      <xsd:element name="avpList" type="tsd_common:TSD_AttributeValuePairListType"
minOccurs="0"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="TSD_PreparationStateCodeType">
    <xsd:simpleContent>
      <xsd:extension base="shared_common:GS1CodeType"/>
    </xsd:simpleContent>
  </xsd:complexType>
</xsd:schema>
```

## 5.10 Nonfood Ingredient Information Module

This section specifies an XML schema for the Nonfood Ingredient Information module as specified in Section 4.10.

```
<?xml version="1.0" encoding="UTF-8"?>
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:nonfood_ingredient_information_module="urn:gs1:tsd:nonfood_ingredient_information_module:
xsd:1" xmlns:shared_common="urn:gs1:shared:shared_common:xsd:3"
xmlns:tsd_common="urn:gs1:tsd:tsd_common:xsd:1"
targetNamespace="urn:gs1:tsd:nonfood_ingredient_information_module:xsd:1"
elementFormDefault="unqualified" attributeFormDefault="unqualified" version="1.12>
  <xsd:annotation>
    <xsd:documentation><![CDATA[---------------------------
© Copyright GS1, 2015

GS1 is providing this XML Schema Definition file and resultant XML file as a service to
interested industries.
This XML Schema Definition file and resultant XML file were developed through a consensus
process of interested parties.

Although efforts have been made to ensure that the XML Schema Definition file and resultant XML
file are correct, reliable, and technically
accurate,  GS1 makes NO WARRANTY, EXPRESS OR IMPLIED, THAT THIS XML Schema Definition file and
resultant XML file ARE
CORRECT, WILL NOT REQUIRE MODIFICATION AS EXPERIENCE AND TECHNOLOGICAL ADVANCES DICTATE, OR
WILL BE SUITABLE FOR
ANY PURPOSE OR WORKABLE IN ANY APPLICATION, OR OTHERWISE.  Use of the XML Schema Definition
file and resultant XML
file are with the understanding that GS1 has no liability for any claim to the contrary, or for
any damage or loss of any kind or nature.

Version Information:
Version Number: 1.2
Date of creation: March 2015

The schema and subsequent updates will be provided on the GS1 websites.
---------------------------
]]></xsd:documentation>
  </xsd:annotation>
  <xsd:import namespace="urn:gs1:shared:shared_common:xsd:3"
schemaLocation="../shared/SharedCommon.xsd"/>
  <xsd:import namespace="urn:gs1:tsd:tsd_common:xsd:1" schemaLocation="TSDCommon.xsd"/>
<xsd:element name="nonfoodIngredientInformationModule"
type="nonfood_ingredient_information_module:TSD_NonfoodIngredientInformationModuleType"/>
<xsd:complexType name="TSD_NonfoodIngredientInformationModuleType">
    <xsd:sequence>
        <xsd:element name="nonfoodIngredientStatement"
type="tsd_common:TSD_FormattedDescription5000Type" minOccurs="0"/>
        <xsd:element name="avpList" type="tsd_common:TSD_AttributeValuePairListType"
minOccurs="0"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="TSD_NonfoodIngredientType">
    <xsd:sequence>
        <xsd:element name="ingredientName" type="shared_common:Description70Type"
minOccurs="0"/>
        <xsd:element name="ingredientSequence"/>
                <xsd:simpleType>
                    <xsd:restriction base="xsd:string">
                        <xsd:maxLength value="70"/>
                        <xsd:minLength value="1"/>
                    </xsd:restriction>
            </xsd:simpleType>
        </xsd:element>
        <xsd:element name="ingredientContentPercentage" type="xsd:decimal" minOccurs="0"/>
        <xsd:element name="ingredientCountryOfOriginCode" type="shared_common:CountryCodeType"
minOccurs="0" maxOccurs="unbounded"/>
        <xsd:element name="isIngredientHighlighted" type="xsd:boolean" minOccurs="0"/>
        <xsd:element name="avpList" type="tsd_common:TSD_AttributeValuePairListType"
minOccurs="0"/>
    </xsd:sequence>
</xsd:complexType>
```

```
</xsd:schema>
```

## 5.11 Product Usage And Safety Module

This section specifies an XML schema for the Product Usage And Safety module as specified in Section 4.11.

```
<?xml version="1.0" encoding="UTF-8"?>
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:product_usage_and_safety_module="urn:gs1:tsd:product_usage_and_safety_module:xsd:1"
xmlns:shared_common="urn:gs1:shared:shared_common:xsd:3"
xmlns:tsd_common="urn:gs1:tsd:tsd_common:xsd:1"
targetNamespace="urn:gs1:tsd:product_usage_and_safety_module:xsd:1"
elementFormDefault="unqualified" attributeFormDefault="unqualified" version="1.12>
    <xsd:annotation>
        <xsd:documentation><![CDATA[---------------------------
© Copyright GS1, 2015

GS1 is providing this XML Schema Definition file and resultant XML file as a service to
interested industries.
This XML Schema Definition file and resultant XML file were developed through a consensus
process of interested parties.

Although efforts have been made to ensure that the XML Schema Definition file and resultant XML
file are correct, reliable, and technically
accurate,  GS1 makes NO WARRANTY, EXPRESS OR IMPLIED, THAT THIS XML Schema Definition file and
resultant XML file ARE
CORRECT, WILL NOT REQUIRE MODIFICATION AS EXPERIENCE AND TECHNOLOGICAL ADVANCES DICTATE, OR
WILL BE SUITABLE FOR
ANY PURPOSE OR WORKABLE IN ANY APPLICATION, OR OTHERWISE.  Use of the XML Schema Definition
file and resultant XML
file are with the understanding that GS1 has no liability for any claim to the contrary, or for
any damage or loss of any kind or nature.

Version Information:
Version Number: 1.2
Date of creation: March 2015

The schema and subsequent updates will be provided on the GS1 websites.
---------------------------
]]></xsd:documentation>
    </xsd:annotation>
    <xsd:import namespace="urn:gs1:shared:shared_common:xsd:3"
schemaLocation="../shared/SharedCommon.xsd"/>
    <xsd:import namespace="urn:gs1:tsd:tsd_common:xsd:1" schemaLocation="TSDCommon.xsd"/>
    <xsd:element name="productUsageAndSafetyModule"
type="product_usage_and_safety_module:TSD_ProductUsageAndSafetyModuleType"/>
    <xsd:complexType name="TSD_ProductUsageAndSafetyModuleType">
        <xsd:sequence>
            <xsd:element name="avpList" type="tsd_common:TSD_AttributeValuePairListType"
minOccurs="0"/>
        </xsd:sequence>
    </xsd:complexType>
    <xsd:complexType name="TSD_ProductUsageAndSafetyType">
        <xsd:sequence>
            <xsd:element name="itemMinimumDurability" type="shared_common:TimeMeasurementType"
minOccurs="0"/>
            <xsd:element name="itemPeriodSafeToUseAfterOpening"
type="shared_common:TimeMeasurementType" minOccurs="0"/>
            <xsd:element name="avpList" type="tsd_common:TSD_AttributeValuePairListType"
minOccurs="0"/>
        </xsd:sequence>
    </xsd:complexType>
</xsd:schema>
```

# A Appendix - GDSN Attribute Mapping

The mapping to GDSN 2.8 is normative.

The mapping to GDSN 3.x is advisory pending the finalization of the GDSN 3.x standard.

## A.1 Basic Product Information Module

| TSD | Req# | GDSN 2.8 (normative) | GDSN 3.x (non-normative) |
|---|---|---|---|
| TSD_BasicProduct InformationModule | | | |
| productName | TSD phase 1 | (1) AVP: labelDescription<br>(2) TradeItemDescriptionInformation.. tradeItemDescription | (1) TradeItemDescriptionInformation. labelDescription<br>(2) TradeItemDescriptionInformation. tradeItemDescription |
| consumerMarketing Description | TSD phase 1 + BPI-004 | (1) MarketingInformation. tradeItemMarketingMessage<br>(2) MarketingInformation. tradeItemFeatureBenefit<br>(3) TradeItemDescriptionInformation.. additionalTradeItemDescription | (1) MarketingInformation. tradeItemMarketingMessage<br>(2) MarketingInformation. tradeItemFeatureBenefit<br>(3) TradeItemDescriptionInformation.. additionalTradeItemDescription |
| gpcCategoryCode | TSD phase 1 | CatalogueItemClassification. classificationCategoryCode | CatalogueItemClassification. gpcCategoryCode |
| regulatedProductName | BPI-001 | AVP: regulatedProductName | TradeItemDescriptionInformation. regulatedProductName |
| functionalName | TSD Phase 3 | TradeItemDescriptionInformation.functionalName.Multi ShortDescription | TradeItemDescriptionInformation.functionalName |
| TSD_BrandNameInformation | | | |
| brandName | TSD phase 1 | TradeItemDescriptionInformation. brandName | BrandNameInformation. brandName |
| languageSpecificBrandName | TSD phase 1 | TradeItemDescriptionInformation. languageSpecificBrandName | BrandNameInformation. languageSpecificBrandName |
| TSD_ProductInformationLin k | | | |

| TSD | Req# | GDSN 2.8 (normative) | GDSN 3.x (non-normative) |
|---|---|---|---|
| url | TSD phase 1 | (1) ExternalFileLink. uniformResourceIdentifier<br>(2) ReferencedFileInformation. uniformResourceIdentifier | ReferencedFileInformation. uniformResourceIdentifier |
| productInformationTypeCode | TSD phase 1 | (1) TradeItemExternalInformation. typeOfInformation<br>(2) ReferencedFileInformation. referencedFileTypeCode | ReferencedFileInformation. referencedFileTypeCode |
| languageCode | TSD phase 1 | (1) urn:gs1:gdd:bie:FileContentInformation. fileLanguage<br>(2) not available for ReferencedFileInformation | ? |
| TSD_ImageLink | | | |
| url | TSD phase 1 | urn:gs1:gdd:bie:ExternalFileLink. uniformResourceIdentifier | ReferencedFileInformation. uniformResourceIdentifier |
| imageTypeCode | TSD phase 1 | TradeItemExternalInformation. typeOfInformation | ReferencedFileInformation. referencedFileTypeCode |
| languageCode | TSD phase 1 | FileContentInformation. fileLanguage | ? |
| imagePixelHeight | TSD phase 1 | ExternalFileLink.filePixelHeight | ? |
| imagePixelWidth | TSD phase 1 | ExternalFileLink.filePixelWidth | ? |
| fileSize | TSD phase 1 | ExternalFileLink.fileSize | ? |
| TSD_PackagingSignatureLine | BPI-002 | | |
| partyContactRoleCode | | (1) base on name of element (ManufacturerOfTradeItem / BrandOwnerOfTradeItem)<br>(2) TradeItemContactInformation.contactType | PartyInRole.partyRoleCode<br>TradeItemContactInformation.contactTypeCode |
| partyContactName | | (1) ManufacturerOfTradeItem. nameOfManufacturer<br>(2) BrandOwnerOfTradeItem. nameOfBrandOwner<br>(3) TradeItemContactInformation. contactName | PartyInRole.partyName<br>TradeItemContactInformation.contactName |
| partyContactAddress | | TradeItemContactInformation.contactAddress | TradeItemContactInformation.contactAddress |

| TSD | Req# | GDSN 2.8 (normative) | GDSN 3.x (non-normative) |
|---|---|---|---|
| gln | | (1) ManufacturerOfTradeItem.manufacturer. PartyIdentification<br>(2) BrandOwnerOfTradeItem.brandOwner. PartyIdentification<br>(3) TradeItemContactInformation / PartyIdentification. gln | PartyInRole.gln |
| TSD_CommunicationChannel | | TradeItemContactInformation.. TargetMarketCommunicationChannel | TradeItemContactInformation..CommunicationChannel |
| communicationChannelCode | | urn:gs1:gdd:bie:CommunicationChannel.communicationChannelCode | |
| communicationChannelName | | not available | |
| communicationChannelValue | | urn:gs1:gdd:bie:CommunicationChannel. communicationNumber | |

## A.2 Product Allergen Information Module

| TSD | Req# | GDSN 2.8 (normative) | GDSN 3.x (non-normative) |
|---|---|---|---|
| TSD_ProductAllergen InformationModule | | | |
| TSD_AllergenRelated Information | | | |
| allergenStatement | ALR-001.3 | FoodAndBeverageAllergyRelatedInformation. allergenStatement | AllergenRelatedInformation. allergenStatement |
| allergenSpecificationAgency | ALR-001.1 | FoodAndBeverageAllergen. allergenSpecificationAgency | AllergenRelatedInformation. allergenSpecificationAgency |
| allergenSpecificationName | ALR-001.2 | FoodAndBeverageAllergen. allergenSpecificationName | AllergenRelatedInformation. allergenSpecificationName |
| TSD_Allergen | | | |
| allergenTypeCode | ALR-002.1 | FoodAndBeverageAllergen. allergenTypeCode | Allergen.allergenTypeCode |
| levelOfContainmentCode | ALR-002.2 | FoodAndBeverageAllergen. levelOfContainment | Allergen.levelOfContainmentCode |

## A.3 Product Claims and Endorsements Module

| TSD | Req# | GDSN 2.8 (normative) | GDSN 3.x (non-normative) |
|---|---|---|---|
| TSD_ProductClaimsAndEndorsementsModule | | | |
| warningStatement | PMI-003 | (1) PackagingMarking.warningCopyDescription. MultiLongDescription<br>(2) FoodAndBeveragePreparationInformation. precautions.MultiLongDescription | (1) PackagingMarking.warningCopyDescription<br>(2) PreparationServing. preparationConsumptionPrecautions |
| nutritionalClaimCode | NUI-002 | FoodAndBeverageMarketingInformationExtension. nutritionalClaimCode | NutrientInformationModule.nutritionalClaimCode |
| nutritionalClaimStatement | NUI-001 | FoodAndBeverageMarketingInformationExtension. nutritionalClaim | NutrientInformationModule.nutritionalClaim |
| healthClaimDescription | HBI-002 | FoodAndBeverageMarketingInformationExtension. healthClaim | HealthBenefitInformation.healthClaimDescription |
| dietaryClaimCode | HWP-002 | PackagingMarking.packageMarksDietAllergen | HealthWellnessPackagingMarking. packagingMarkedDietAllergenCode |
| TSD_RegulatoryCompliance | | | |
| regulatoryComplianceCode | RTI-001 | TradingPartnerNeutralTradeItemInformation. classComplianceRegulationCode | RegulatedTradeItemModule. tradeItemRegulationTypeCode |
| isPackagingMarkedWithRegulatoryCompliance | | AVP isPackagingMarkedWithRegulatoryCompliance | |
| TSD_Accreditation Information | | | |
| accreditationCode | PMI-001 | (1) AVP packagingMarkedLabelAccreditationCode<br>(2) PackagingMarking. packageMarksEnvironment,<br>(3) PackagingMarking. packageMarksEthical | PackagingMarking. packagingMarkedLabelAccreditationCode |
| accreditationText | PMI-002 | not available | not available |

## A.4 Product Instructions Module

| TSD | Req# | GDSN 2.8 (normative) | GDSN 3.x (non-normative) |
|---|---|---|---|
| TSD_ProductInstructions | | | |
| consumerUsageInstructions | HAN-002 | TradeItemHandlingInformation. consumerUsageStorageInstructions | TradeItemHandlingInformation. consumerUsageInstructions (tbc) |
| consumerStorage Instructions | HAN-001 | TradeItemHandlingInformation. consumerUsageStorageInstructions | TradeItemHandlingInformation. consumerStorageInstructions (tbc) |

## A.5 Product Quantity Information Module

| TSD | Req# | GDSN 2.8 (normative) | GDSN 3.x (non-normative) |
|---|---|---|---|
| TSD_ProductQuantity InformationModule | | | |
| netContent | MEA-001 | TradeItemMeasurements. netContent | TradeItemMeasurements.netContent |
| drainedWeight | MEA-002 | TradeItemMeasurements. drainedWeight | TradeItemWeight.drainedWeight |
| percentageOf AlcoholByVolume | ABI-001 | TradeItemMeasurements. percentageOfAlcoholByVolume | AlcoholicBeverageInformation. percentageOfAlcoholByVolume |
| TSD_ServingQuantity Information | | | |
| numberOfServingsPer Package | PSI-003 | FoodAndBeverageServingInformation. numberOfServingsPerPackage | ServingQuantityInformation. numberOfServingsPerPackage |
| measurementPrecisionCode | PSI-003.1 | not available | ServingQuantityInformation.numberOfServings PerPackageMeasurementPrecisionCode |
| numberOfServingsRange Description | PSI-003 | not available | not available |

## A.6 Product Origin Information Module

| TSD | Req# | GDSN 2.8 (normative) | GDSN 3.x (non-normative) |
|---|---|---|---|
| TSD_ProductOrigin InformationModule | | | |
| productOriginStatement | IAI-002 | not available | PlaceOfProductActivity. tradeItemCountryOfOriginStatement |
| placeOfProvenance Statement | IAI-003 | AVP placeOfProvenance | PlaceOfProductActivity.placeOfProvenance |
| TSD_Country (+countryOfOrigin) | | | |
| countryCode | | TradingPartnerNeutralTradeItemInformation. tradeItemCountryOfOrigin | Country (+countryOfOrigin). countryCode |
| countrySubdivisionCode | | not available | Country (+countryOfOrigin). countrySubdivisionCode |
| TSD_ProductActivityDetails | IAI-001, IAI-004, IAI-005 | | |
| productActivityTypeCode | | deduct from:<br>TradingPartnerNeutralTradeItemInformation. tradeItemCountryOfOrigin<br>TradingPartnerNeutralTradeItemInformation. tradeItemCountryOfAssembly<br>TradingPartnerNeutralTradeItemInformation. tradeItemCountryOfLastProcessing<br>AVP: placeOfBirth, placeOfRearing, placeOfSlaughter | ProductActivityDetails.tradeItemActivityTypeCode<br><br>And deduct from AVPs placeOfBirth, placeOfRearing, placeOfSlaughter |
| activityRegionDescription | | not available, except for AVP: placeOfBirth, placeOfRearing, placeOfSlaughter | ProductActivityDetails.activityRegionDescription<br>AVP: placeOfBirth, placeOfRearing, placeOfSlaughter |
| TSD_Country (+countryOfActivity) | | | |
| countryCode | | TradingPartnerNeutralTradeItemInformation. tradeItemCountryOfAssembly<br>TradingPartnerNeutralTradeItemInformation. tradeItemCountryOfLastProcessing | Country(+countryOfActivity).countryCode<br>AVP: placeOfBirth, placeOfRearing, placeOfSlaughter |

| TSD | Req# | GDSN 2.8 (normative) | GDSN 3.x (non-normative) |
|---|---|---|---|
| countrySubdivisionCode | | not available | Country (+countryOfActivity). countrySubdivisionCode |

## A.7 Food and Beverage Ingredient Information Module

| TSD | Req# | GDSN 2.8 (normative) | GDSN 3.x (non-normative) |
|---|---|---|---|
| TSD_FoodAndBeverageIngredientInformationModule | | | |
| ingredientStatement | ING-001 | FoodAndBeverageIngredientInformation. ingredientStatement | FoodAndBeverageIngredientModule. ingredientStatement |
| additivesStatement | HBI-001 | (1) FoodAndBeverageMarketingInformationExtension. compulsoryAdditivesLabelInformation<br>(2) FoodAndBeverageAdditiveInformation. additiveName + FoodAndBeverageAdditiveInformation. levelOfContainment | (1) HealthBenefitInformation. compulsoryAdditiveLabelInformation<br>(2) AdditiveInformation. additiveName + AdditiveInformation. levelOfContainment |
| TSD_FoodAndBeverageIngredient | | | |
| ingredientName | ING-002.1 | FoodAndBeverageIngredient. ingredientName | FoodAndBeverageIngredient. ingredientName |
| ingredientSequence | ING-002.2 | FoodAndBeverageIngredient. ingredientSequence | FoodAndBeverageIngredient. ingredientSequence |
| ingredientContentPercentage | ING-002.3 | FoodAndBeverageIngredient. contentPercentage | FoodAndBeverageIngredient. ingredientContentPercentage |
| ingredientCountryOfOriginCode | ING-002.4 | FoodAndBeverageIngredient. countryOfOrigin | FoodAndBeverageIngredient. countryOfOriginCode |
| ingredientCatchZone | ING-002.5 | FoodAndBeverageIngredient. fishCatchZone | FoodAndBeverageIngredient. catchZone |
| isIngredientHighlighted | ING-002.7 | not available | not available |

## A.8 Food and Beverage Preparation Information Module

| TSD | Req# | GDSN 2.8 (normative) | GDSN 3.x (non-normative) |
|---|---|---|---|
| TSD_FoodAndBeverage PreparationInformationMo dule | | | |
| servingSuggestion | PSI-004 | FoodAndBeverageMarketingInformationExtension.servi ngSuggestion | PreparationServing.servingSuggestion |
| TSD_PreparationMethod | | | |
| preparationTypeCode | | FoodAndBeveragePreparationInformation. preparationType | PreparationMethod.preparationTypeCode |
| preparationInstructions | PSI-001 | FoodAndBeveragePreparationInformation. preparationInstructions | PreparationServing.preparationInstructions |

## A.9 Nutritional Product Information Module

| TSD | Req# | GDSN 2.8 (normative) | GDSN 3.x (non-normative) |
|---|---|---|---|
| TSD_NutritionalProduct InformationModule | | | |
| TSD_NutrientHeader | | | |
| preparationStateCode | TSD phase 1 | FoodAndBeverageNutrientInformation. preparationState | NutrientHeader.preparationStateCode |
| dailyValue IntakeReference | TSD phase 1 | FoodAndBeverageNutrientInformation. dailyValueIntakeReference | NutrientHeader.dailyValueIntakeReference |
| servingSizeDescription | TSD phase 1 | FoodAndBeverageNutrientInformation. householdServingSize | NutrientHeader.servingSizeDescription |
| servingSize | TSD phase 1 | FoodAndBeverageNutrientInformation. servingSize | NutrientHeader. servingSize |
| nutrientBasisQuantity | TSD phase 1 | no direct mapping, work-around possible using servingSizeDescription = BASIS_QUANTITY and servingSize = actual value (e.g. per 100 gr) | NutrientHeader. nutrientBasisQuantity |
| numberOfServings | TSD phase 1 | FoodAndBeverageServingInformation. numberOfServingsPerPackage | Not available in NutrientHeader in GDSN. See also TSD Product Quantity Information Module |

| TSD | Req# | GDSN 2.8 (normative) | GDSN 3.x (non-normative) |
|---|---|---|---|
| TSD_NutrientDetail | | | |
| nutrientTypeCode | TSD phase 1 | FoodAndBeverageNutrient. nutrientTypeCode | NutrientDetail.nutrientTypeCode |
| dailyValueIntakePercent | TSD phase 1 | FoodAndBeverageNutrient. percentageOfDailyValueIntake | nutrientTypeCode.dailyValueIntakePercent |
| measurementPrecision | TSD phase 1 | FoodAndBeverageNutrient. measurementPrecision | nutrientTypeCode.measurementPrecisionCode |
| quantityContained | TSD phase 1 | FoodAndBeverageNutrient. quantityContained. | nutrientTypeCode.quantityContained |

## A.10 Nonfood Ingredient Information Module

| TSD | Req# | GDSN 2.8 (normative) | GDSN 3.x (non-normative) |
|---|---|---|---|
| TSD_NonfoodIngredientInformationModule | TSD Phase 3 | | |
| nonfoodIngredientStatement | | | |
| TSD_NonfoodIngredient | TSD Phase 3 | | |
| ingredientName | TSD Phase 3 | AVP nonfoodIngredientName | nonfoodIngredient. nonfoodIngredientName |
| ingredientSequence | TSD Phase 3 | | |
| ingredientContentPercentage | TSD Phase 3 | | |
| ingredientCountryOfOriginCode | TSD Phase 3 | | |
| isIngredientHighlighted | TSD Phase 3 | not available | not available |

## A.11 Product Usage And Safety Module

| TSD | Req# | GDSN 2.8 (normative) | GDSN 3.x (non-normative) |
|---|---|---|---|
| TSD_ProductUsageAndSafetyModule | TSD Phase 3 | | |
| itemMinimumDurability | TSD Phase 3 | | |
| itemPeriodSafeToUseAfterOpening | TSD Phase 3 | | |