The Global Language of Business

GS1 Product Image Standard

establishes rules for the storage of digital images associated to products and provides details on all aspects of digital imaging storage

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Log of Changes

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2006 06 29	2006 29 June	D. Buckley	Converted 'VICS Product Image Specification' into GS1-GSMP template format
2006 07 11	2006 11 July	R. Laur	Updated information for CR submission to GSMP
1	2006 08 December	GDSN/GSMP Imaging Specification Work Group	See analysis documentation.
2	2007 11 January	GDSN/GSMP Imaging Specification Work Group	See comment resolution document from GSMP Public Review
2.1	2007 07 February	GDSN/GSMP Imaging Specification Work Group	Errata to fix examples.
2.2	2007 13 February	GDSN BRG	Clarification of examples 4-2, 4-3, 4-4
2.3	2008 26 February	D.Clark	Clarification to planogram naming structure 2.1.5
2.4	2013 08 30	GDSN/GSMP Imaging Specification Work Group	WR # 12-046; 12-244; 12-253; 12-254; 12-255; 12-256; 12-257; 12-258; 12-259; 12-310; 12-312; 12-313; 12-322; 13-018; 13-040; 13-105

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2.5	2014 03 11	Errata	Corrections to wording and examples added
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3.2	Jul 2018	D.Clark	WR 18-054 updates to Section 3.2 and 18-088: updates to Section 2.2 & 2.8 for images saved with transparent backgrounds.
3.3	Feb 2019	D.Buckley & D.Clark	WR 18-228 Updates based upon Consumer Product Variant (CPV) WR 18-321 Updates based upon GS1 Mobile Ready Hero Images Guideline
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3.7	Dec 2020	D.Buckley & D.Clark	WR 20-310: Secondary images WR-20-314: Special cases WR-20-315: Montage (Composite) WR-20-316: Detail (Technology)
4.0	Mar 2021	D.Clark	WR 20-410: Product Image name to include fileType WR 21-079 update layout for HTML and refresh WR 21-166 clipping path and background optional
4.0.1	Aug 2021	D.Buckley	WR21-266 Errata fix in Annex A (Social Media listed as “R”. It is “K’
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4.2	Jan 2023	E.Braz & D.Buckley	Errata fix section 5.12 (example name) WR 22-142 Clarity on clipping paths WR 22-231 clarity in section 4 on optimised and mobile ready image definition WR 22-291 Pharmaceutical Images WR 22-292 Improvements and fixes WR 22-298 Harmonise file sizes for Secondary Product Images WR 22-275 New values for Supplemental, Drug and Lighting facts label WR 22-304 new value (Q) Formed
4.3	Sep 2023	J. Gladu, A. Bhathal, E.Braz & D.Buckley	Errata fixes WR 22-378 section 6.5 updates for file naming for images of components and its dosage/unit of use WR 22-385 section 5.17, updated definition of sidekick image WR 23-023 section 6.3.2 corrected file size for full flat images WR 23-030 Remove "within one pixel device" WR 23-031 Definition for related image WR 23-038 Definition for Secondary Images WR 23-039 Social Media WR 23-043 Clarify Application & Ambiance/mood WR 23-045 Clarify wording around nutritional image WR 23-046 Clarify wording around certification seals/claims WR 23-047 Clarify wording around preparation instructions WR 23-053 Clarify Montage images definition WR 23-137 Clarify 2D and Linear barcode images WR 23-303 2D barcodes linking to online content

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4.5	Apr 2026	E.Braz & D.Buckley	WR 24-225, section 4.2 introduced the term Optimised Pack Image WR 24-279, multiple sections shorten state description in position 19 (C) to "Raw/uncooked" WR 24-320, section 4 harmonisation of permitted image size and format WR 24-399, multiple sections add more image examples to the Product Image Specification WR 25-196, section 2.3 more precise wording for clipping path WR 25-238, section 2.3 more precise wording for margins WR 26-063, section 4.4 “3D Rendered” to “3D Model”
5.0	Jul 2026	E.Braz & D.Buckley	WR 26-130, Merge the unique content of the "GS1 Product Image Sharing/Delivery Guideline" into an updated and expanded "GS1 Product Image Specification Standard" WR 26-139, Correctly name the "GS1 Product Image Standard", remove duplications and apply GS1 Style Guide improvements WR 26-140, Improve wording in section 7 of the "GS1 Product Image Standard" WR 26-190, remove duplicate notes in section 3

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1 Introduction

This GS1 standard establishes rules for the storage and sharing of digital images associated to products. The product identification number used is the Global Trade Item Number (GTIN) and this document provides details on all aspects of digital imaging, including how images should be stored to ensure high quality and how they may be exchanged between trading partners.

The standard focuses on maintaining a high quality, content rich master image that supports multiple internal or external applications. By storing a detailed base file, other formats and sizes can be derived as needed. This document is global and technology-agnostic, supporting consistent sharing and delivery of product images across all stakeholders.

It is important to note that digital assets (e.g., images) are only one part of what is needed. Data, both meta and associated, are essential for the timely and accurate usage of the assets. Additional information on minimum data requirements are outlined in the TIIG (Trade Item Implementation Guideline).

Note:

- For more information on pharmaceuticals/over-the-counter pharmaceuticals, nutritional supplements and medical products refer to the GS1 Pharmaceutical Image Implementation Guideline:
  - Legal aspects must be considered. It is the responsibility of the brand owner that any image meets local legal requirements. Refer to local government bodies and MOs for additional details.

1.1 Storage product images

Product images should be stored as high-quality, content-rich master images. These master images serve as the source from which all other required formats and sizes can be derived, enabling consistent use across different platforms and applications.

1.2 Sharing product images

Product images may be shared or delivered in a multi-stakeholder environment. At a high level it is assumed that:

- An image provider will want to share the same product images with multiple image recipients.
- An image recipient will want to receive multiple images from multiple image providers.
- Both image providers and image recipients may work with images inhouse or with the support of a dedicated image service provider.

In such an environment, global standards for the product image helps reduce costs and complexity by defining a common framework for all stakeholders. The two basic models to achieve this are summarised below.

Note: Image recipients do not assume ownership of a product image which has been shared with them. While the image can be used, product image shall not be manipulated unless explicitly permitted.

Term	Definition
Image provider	Any organisation that makes available Product Images for reuse by multiple Image Recipients. Typically, brand owners, manufactures or other organisations selling products via 3rd parties to end consumers.
Image recipient	Any organisation that accepts Product Images for reuse from multiple Image Providers. Typically, retailers, eTailers or other organisations selling directly to consumers.

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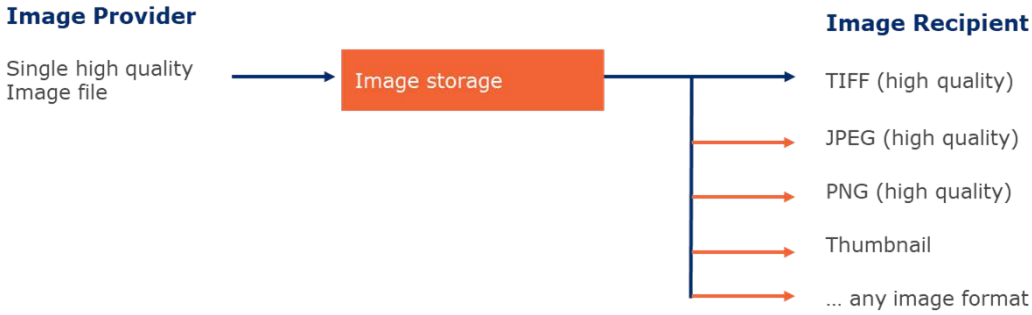
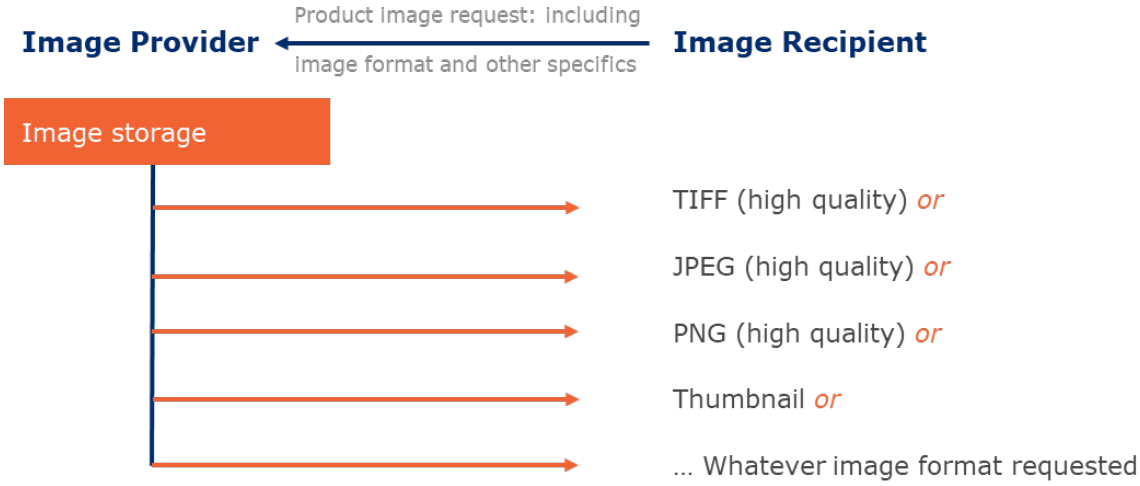
1.2.1 Store one high-quality product image, and generate format required

Widely used for product recognition (e.g., reuse on websites where the product is listed for sale). This is primarily used for images that can be used without further permissions.



1.2.2 Bespoke create of product image by provider based on recipients needs

Commercial images (e.g., product images used for advertisement, promotion, or other promotional needs) where the individual image has specific usage requirements (by country, by retailer, by region, etc.).



1.3 Images in this document

Many of the images in this document have been provided courtesy of NIQ Brandbank, GS1 Canada, SGK & Syndigo They show fictitious products and have been created specifically to illustrate this standard.

1.4 Determining the front face

All product images are important, so too the exchange of information between trading partners. To ensure what is identified meets what is expected, an agreed upon identification structure is required. The first step is the determination of the front face of an item.

1.4.1 Default front face

The front facing of the products is determined by the GS1 Package and Product Measurement Standard on determining the default front. All other facings are taken in relation to the front face and are identified with a numerical extension identifying that face. Merchandisable facings are automatically captured as the numerical extension allows multiple images (and facings) for the same GTIN.

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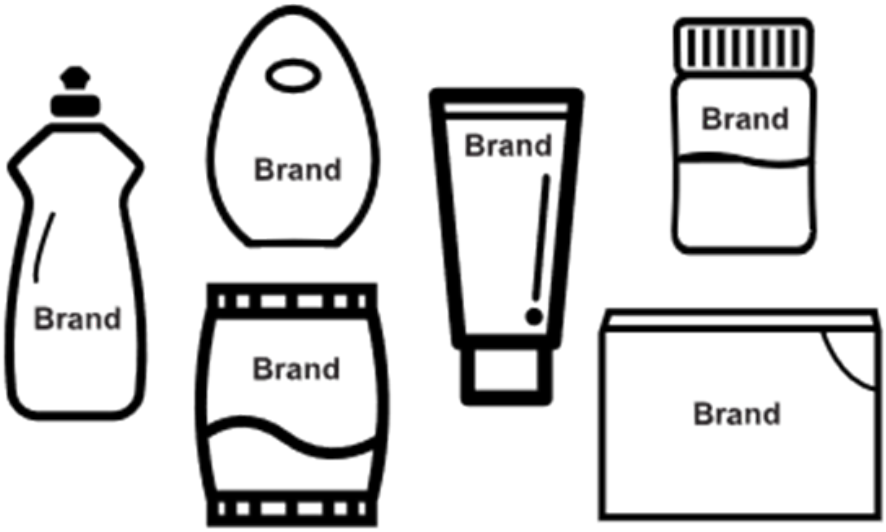

1.5 Clipping paths

A clipping path is a closed vector path or shape used to cut out a subject or element of a 2D image in an image editing software. Anything inside the clipping path can be kept and the elements outside of the clipping path can be removed if desired. This means that the original background of the product image can be removed and then the object can be positioned in front of any desired background.

Note: CGI (Computer Generated Imagery) programs allow for files to be rendered/saved with transparent backgrounds, making applying a clipping path redundant.

Note: TIFF files can be saved with transparent background. Thus removal of the background is possible with the opened layer on subject and therefore avoiding the need for a clipping path. However, its strongly recommended adding the clipping path and flatten images with a white background to help manage image size for storage and sharing.

1.5.1 Image format specifications

At a high level it is assumed the following notes for each image format regarding the path/background specifications:

Image Format	Image Path/Background
TIFF (from photography or rendering)	Standards TIFF should have a white background with a clipping path. No extra layers - layer to be locked as background to reduce file size. Use LZW compression **NOTE**: When a transparent background and/or multiple layers are used, file size is increased, in such situation clipping path can be optional to extract subject.
JPEG	Always have background (Standard white) and should have clipping path to extract subject if required. Compression quality should always be high (96 or 10).
PNG (from photography or rendering)	Can have a transparent background (layer 0), subject can be extracted without manipulation clipping path is not supported. **NOTE**: If the background (no layer) is white subject (product image) can't be extracted without manipulation.
GIF	Can have a transparent background and does not support clipping paths.

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Note: A clipping path and white or a transparent background is preferred for sharing product images since they are more flexible and easier to be managed/used by the recipients.

1.6 Differentiating Photographic Images from Rendered Images

The differentiation of images as to their being photographic or rendered in nature is somewhat subjective and while it can be reasonably argued that a photographic image once digitally stored and retouched ceases to be photographic; striking a balance between the two becomes necessary when identical product images exist in a single system as both photographic and rendered particularly when the associative nomenclature within the existing guidance calls for both files to be identically named. When this occurs there must be a definitive process in order to determine the difference between the two when both are expected to exist simultaneously in the same environment.

1.6.1 Photographic images

Photographic image: the result of the electronic or chemical capture of a likeness of a physical object with the use of a camera.
Photographic images may become digitised, stored in a digital format or can be immediately stored in a digital format directly from within the camera itself. Where photographic images were retouched physically even colourised, this process can take place with a photographic image within specialised software. While these images may reside and may have been altered in a digital environment, they were at one time a physical capture of object and light as captured by a camera with a photographer and should be considered 'photographic images'.

1.6.2 Rendered images

Rendered image: the result of the creation of a digital likeness of a physical object with the use of a computer and software.

Rendered images often do not begin with a photographic device. While rendered images do have the traits necessary to be physically transferred to paper or film, they often reside forever within a digital environment, viewed only by way of a projection device such as a monitor, phone or projector. Where photographic images were once retouched physically, similar processes for rendered images take place almost entirely within specialised software. While a rendered image may contain (data) once contained by a 'photograph' once the image is digitised, edited, scaled, coloured, lit and posed within a digital composition, it becomes a rendered image, which is not to say that a photograph retouched with specialised software does not remain photographic, that distinction is left to the brand owner.

1.6.3 Differentiation of images

While arguments can certainly be made as to the nature of images, be they photographic or rendered; given the preceding paragraphs and considering that even rendered images may contain information (data) once contained by a 'photograph'; discernment or differentiation between photographic and rendered images is at the discretion of the brand owner, in other words, identifying an image as being photographic or rendered when one or the other exists is optional. Differentiation between photographic and rendered images becomes recommended, though not required, when they both exist in the same file system when the file system is the brand owners or shared between Trading Partners.

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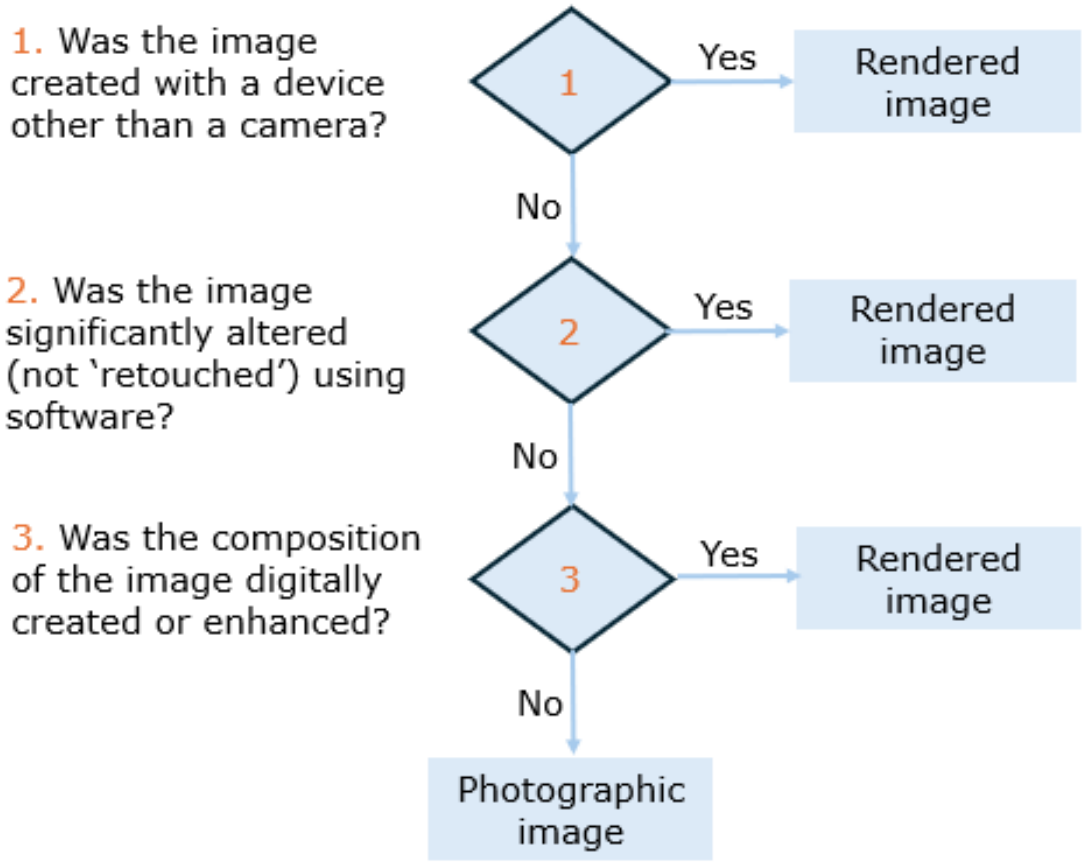
1.6.4 Image Differentiation Decision Tree



1.7 Regulatory/legal and usage rights

Product Image Providers usually own the image rights of the GS1 compliant Product Images that they share or shared by their Solution Provider. While the intent is often for Product Image Recipients to reuse the images (on websites, in print, for product confirmation systems, etc.) there are limits to how images can be shared. While individual images will have their own specific requirements the table below provides a summary:

Table 1-1 Synopsis of usual product image usage rights

Image Recipients CAN	Image Recipients CAN NOT
Resize the image, respecting the aspect ratio	Extract any component of an image (for example removing the background of a mood or style shot)
Add a white or transparent background	Change any text on the image or change language except as explicitly stated by the Image Provider
Convert the format (e.g., TIFF to JPEG to EPS ..)	Use in a country/territory for which the product is not intended
Add additional information, such as promotional statement, in close proximity (e.g., 20% off)	Use the image before its release date/after its use by date in a consumer facing environment
	Modify a full page layout for a global campaign

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2 Technical recommendations

2.1 Photography recommendations

Professional equipment optimises results:

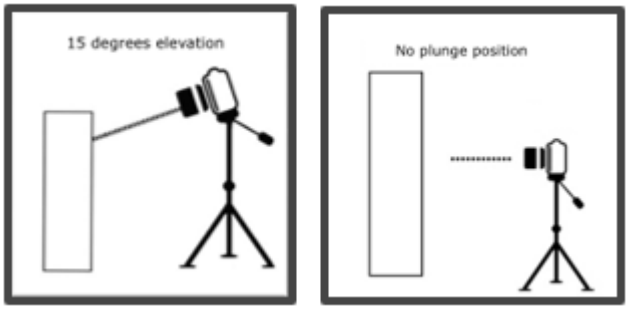
- The preferred equipment is a DSLR camera equipped with full frame CCD sensor (avoid Point and shoot and smart phone cameras).
- Product packaging should be framed using 80% of the sensor.
- The image should be captured with appropriate lens to avoid wide angle distortion.
- The lens aperture should be set to deliver a large depth of field so that the whole product is sharp.
- Controlled white balance, no colour casts.
- The lighting of product should be uniform when the image is taken.
- Contrast and exposure should be balanced over-all; avoid high contrast effects.
- Reflections should be realistic without looking "blown-out" in highlights hiding product information.
- Image should not be over sharpened in the (digital) image processing.
- All instance or batch specific data SHOULD be removed, or replaced with a placeholder null value, from the image (e.g., best before date, serial number, etc.).

2.2 Product views

Decisions as to whether products should be photographed in the package, out of package, or both, should be made based on the presentation of the product in a live sale scenario (i.e., box of cereal on a shelf vs. a lawnmower on display). If there are doubts as to which state is most appropriate to best represent the product, both should be taken and appropriately identified. This decision should be taken with the data provider.

15°Elevation (3D images)

- All products should have three separate views when warranted per marketable face – language
- Centre front view taken at **15° top elevation** is preferred
- Left and right **15° rotation** views when warranted **0°Elevation (2D images) and other exception**
- Some products my require a **steeper or shallower** angle to display effectively. For images of products with negligible depth properties, a 0-degree plunge angle is best. (i.e., blister packs)



2.3 Editing recommendations

- No colour casts. Colour should be as rich, vibrant and eye-catching as possible.
- Contrast should be balanced over-all and not "blown-out" in highlights.

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- Reflections and shadows areas on the product should put emphases to details/shape without hiding text or logos.
- Retouching should be as seamless and undetectable as possible and be convincing at a minimum of 100% magnification (i.e., removal of expiration/best before dates.
- The clipping path must be closed and should be created close to the edge, slightly within the depicted product, so that all anchor points lie inside. The clipping can then be done without issue.
- Subject should be centred in margins to cover 95% on the canvas. Margins are the empty spaces around the subject of the product in the image. Margins are not used where the image type has a background that is neither white nor transparent.
- Graphic rendering of a packaging should be realistic.
- No layers, guides or rulers should be left on the images.
- Background should be white (RGB 255,255,255) or transparent.
- No signatures, “finger printing” or visible watermarks. No compression artifacts. No interpolation (“resizing up”).
- No transfer functions or postscript colour management.

2.4 Multi-lingual images

If your image set is multi-lingual then the language indicator should be used in the image file name. Where the instructions are available in multiple languages or multi-lingual images, this is not necessary.

2.5 Image sharing and delivery recommendations

This section defines the technical recommendations for sharing and delivering product images across multi-stakeholder and system-to-system environments. It describes how images are made accessible, exchanged, and identified across digital supply chains.

2.5.1 Image exchange across systems

Within the GDSN network, product images are not shared directly. Instead, links are provided to the URL where the product images can be accessed. It is important to consider the needs of recipients. Many recipients will be receiving images from several providers, so it is important to provide an image that recipients can use without overloading their servers or requiring interventions for converting or editing the file.

The recommended file type of full quality TIFF files is excellent inventory for the image provider. This rich format enables the creation of any other format or size for downstream purposes. However, as this TIFF format was created for print purpose originally, full quality TIFF files can be very large which can be challenging for the recipient to manage and pass between servers depending on the use.

If one, front facing, image is provided, by providing the files in TIFF format, the recipient has all flexibility to create internally all required, different file types, resolutions, backgrounds (white or transparent) etc. The lighter JPEG and PNG images, which comply more with web requirements, can easily be created from the master TIFF and still contain the pixel ranges required.

2.5.2 Image access via Shared URL

Image providers can make their product images available via a URL that can be shared with multiple image recipients.

A very simple example is a single product shot, such as the primary front on image, square aspect ratio, white background, using GTIN-naming, etc as outlined in section 4.4. For example:

- https://www.gs1.org/docs/images/09504002100016_A.jpg

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However, the exact same process can be used for sharing any type of product image. For example an image that is compatible with the GS1 Mobile Ready Hero Image Guideline:

https://www.gs1.org/docs/images/09521234567806_B1C1_0622_s01.jpg

While the shared URL is, in principle, very simple and scalable to multiple images of single product the following best practices should help image providers:

URL Management: Automated image sharing requires valid URL for each image being shared. The following are known issues that must be avoided:

- Broken links
- Image files that are corrupted or of low quality
- Image formats that are not supported (e.g., doc, ppt, html, etc.)
- A URL that is password protected
- A URL that requires manual navigation or shows multiple images that requires manual navigation
- Etc.

GS1 Product Images shared via URL ideally do not require specific permissions to be reused, but if the brand owner has any restrictions on the use of the image (see section 1.7), these should be listed on a higher-level page.

Once an image is loaded on its own unique URL by the brand owner, required metadata can be associated with each image.

2.5.3 Product image delivery attributes

There are a variety of attributes that need to be populated in order to effectively send an image to a recipient.

Multiple images may be shared for the same product, and the purpose of this section is to help users identify the main image for each product. The provider may indicate the preferred main image, while the recipient remains responsible for determining the most appropriate image according to its own usage requirements.

All attributes related to the referenced file must remain consistent with each other throughout the transaction.

For the complete list and detailed description of the attributes associated with the referenced file, refer to: https://navigator.gs1.org/gdsn/class-details?name=ReferencedFileInformation&version=23

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3 Primary images

Primary Images are images which can, on their own, represent the product in an e-commerce application, these include Product Image (web & high resolution) with or without supporting elements.

Note: Marketing images are digital images captured through the use of a digital camera or other digital imaging devices as well as rendered images.

Note: Rendered images are computer generated images which can be comprised of graphic renderings and/or digital images to create a lifelike product semblance.

3.1 Primary images file sizes, formats and views

Image type		File size	File format	Views
A	Product image (web)	900 x 900 pixels - 2400 x 2400 pixels	Storage: LZW Compressed TIFF Sharing: JPEG/PNG	0 - Not applicable 1 - Front 2 - Left 3 - Top 7 - Back 8 - Right 9 - Bottom
B	Product image with supporting elements (web)	900 x 900 pixels - 2400 x 2400 pixels	Storage: LZW Compressed TIFF Sharing: JPEG/PNG	0 - Not applicable 1 - Front 2 - Left 3 - Top 7 - Back 8 - Right 9 - Bottom
C	Product image (high resolution)	2401 x 2401 pixels - 4800 x 4800 pixels	LZW Compressed TIFF	0 - Not applicable 1 - Front 2 - Left 3 - Top 7 - Back 8 - Right 9 - Bottom
D	Product image with supporting elements (high resolution)	2401 x 2401 pixels - 4800 x 4800 pixels	LZW Compressed TIFF	0 - Not applicable 1 - Front 2 - Left 3 - Top 7 - Back 8 - Right 9 - Bottom

3.2 Backgrounds and clipping path

Clipping path is recommended; background should be removed to white (RGB 255/255/255).

For images saved with a transparent background (e.g., TIFF), clipping path is optional (see section 1.5).

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3.3 Product image (web)

There will be instances where photography, other than "product" photography will be needed. Situations may arise where product shots are needed at a size or resolution that exceeds the identified standards. In these cases, it will be up to the customer to either originate the photography themselves or work out arrangements with the vendor to supply said photography on an "as needed" basis. ALL supplied photography should conform to the guidelines listed below.

Product image (single GTIN): which is an image of a product on a white or transparent background, with no other elements in the frame.

3.3.1 File format, size & views

See section 3.1, Primary images file sizes and formats

3.3.2 File naming

Positions 1-19 are mandatory for the product image type

Mandatory

Position	1-14	15	16	17	18	19
Data	GTIN	Underscore	Image type	Facing	Orientation	State
value	(n14)	_	A - Primary image web	0 - Not applicable	C - Centre	(1) In packaging
				1 – Front	L - Left	(0) Out of packaging
				2 – Left	R - Right	(A) Case
				3 – Top	N - No plunge angle	(B) Inner pack
				7 – Back		(C) Raw/uncooked
				8 – Right		(D) Prepared
				9 - Bottom		(M) Open Case
						(P) Pallet/Display

Optional

Position	20	21+				
Data	Underscore	Language	Image end date	Serialisation	Rendered image	CPV
Value	_	(a2) or (a2-A2)	(MMYY)	s(n2)	R	CPV(an…20)

Positions 20 and beyond are optional components, and each must be preceded by an underscore '_'

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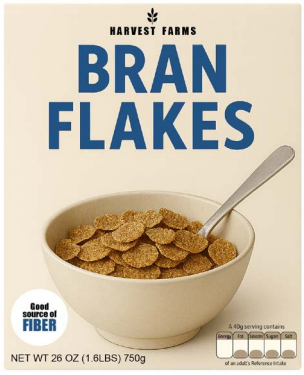
Examples of product naming:

<GTIN>_A1N1_en_s01.tif



<GTIN>_A1N1_en_s01.tif

<GTIN>_A1N1_en_s01.tif

3.4 Product image with supporting elements (web)

There will be instances where photography, other than "product" photography will be needed. Situations may arise where product shots are needed at a size or resolution that exceeds the identified standards. In these cases, it will be up to the customer to either originate the photography themselves or work out arrangements with the vendor to supply said photography on an "as needed" basis. ALL supplied photography should conform to the guidelines listed below.

Product image with supporting elements in image: which is an image of a product on a white or transparent background, with additional elements that are not including when selling the product. The additional elements are to strengthen the product, not to create a 'beauty shot' also referred to as a staged shot. It should incorporate additional items which enhance the product, (e.g., a glass of wine and stem of grapes with a bottle of wine (GTIN); fresh vegetables surrounding a bottled sauce (GTIN); a cooked and plated version of the product being sold in the same frame as the item, etc.)

3.4.1 File format & size

See section 3.1, Primary images file sizes and formats

3.4.2 File naming

Positions 1-19 are mandatory for the product image type

Mandatory

Position	1-14	15	16	17	18	19
Data	GTIN	Underscore	Image type	Facing	Orientation	State
Value	(n14)	_	B - Primary image web w/ supporting elements.	0 - Not applicable	C - Centre	(1) In packaging
				1 - Front	L - Left	(0) Out of packaging
				2 - Left	R - Right	(A) Case
				3 - Top	N - No plunge angle	(B) Inner pack
				7 - Back		(C) Raw/uncooked
				8 - Right		(D) Prepared
				9 - Bottom		(E) Plated
						(F) Styled
						(G) Staged

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Position	1-14	15	16	17	18	19
						(H) Held
						(J) Worn
						(K) Used
						(L) Family
						(M) Open Case
						(P) Pallet/Display
						(Q) Formed

Optional

Position	20	21+				
Data	Underscore	Language	Image end date	Serialisation	Rendered image	CPV
Value	_	(a2) or (a2-A2)	(MMYY)	s(n2)	R	CPV(an…20)

Positions 20 and beyond are optional components, and each must be preceded by an underscore '_'

Examples of product naming:

<GTIN>_B1N1_en_s01.tif

<GTIN>_B1N1_en_s01.tif

<GTIN>_B1N1_en_s01.tif

3.5 Product image (high resolution)

There will be instances where photography, other than "product" photography will be needed. Situations may arise where product shots are needed at a size or resolution that exceeds the identified standards. In these cases, it will be up to the customer to either originate the photography themselves or work out arrangements with the vendor to supply said photography on an "as needed" basis. ALL supplied photography should conform to the guidelines listed below.

Product image (single GTIN): which is an image of a product on a white or transparent background, with no other elements in the frame.

3.5.1 File format & size

See section 3.1, Primary images file sizes and formats

3.5.2 File naming

Positions 1-19 are mandatory for the product image type

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Mandatory

Position	1-14	15	16	17	18	19
Data	GTIN	Underscore	Image type	Facing	Orientation	State
value	(n14)	_	C - Primary image high resolution	0 - Not applicable	C - Centre	(1) In packaging
				1 - Front	L - Left	(0) Out of packaging
				2 - Left	R - Right	(A) Case
				3 - Top	N - No plunge angle	(B) Inner pack
				7 - Back		(C) Raw/uncooked
				8 - Right		(D) Prepared
				9 - Bottom		(M) Open Case
						(P) Pallet/Display

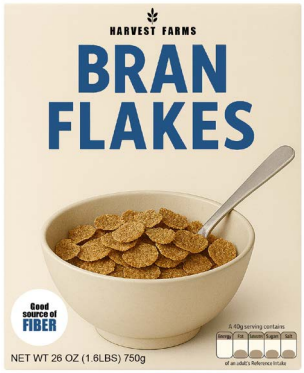
Optional

Position	20	21+				
Data	Underscore	Language	Image end date	Serialisation	Rendered image	CPV
Value	_		(MMYY)	s(n2)	R	CPV(an…20)

Positions 20 and beyond are optional components, and each must be preceded by an underscore '_'

Examples of product naming:

<GTIN>_C1N1_en_s01.tif



<GTIN>_C1N1_en_s01.tif

<GTIN>_C1N1_en_s01.tif

3.6 Product image with supporting elements (high resolution)

There will be instances where photography, other than "product" photography will be needed. Situations may arise where product shots are needed at a size or resolution that exceeds the identified standards. In these cases, it will be up to the customer to either originate the photography themselves or work out arrangements with the vendor to supply said photography on an "as needed" basis. ALL supplied photography should conform to the guidelines listed below.

Product image with supporting elements in image: which is an image of a product on a white or transparent background, with additional elements that are not including when selling the product. The additional elements are to strengthen the product, not to create a 'beauty shot' also referred to as a staged shot. It should incorporate additional items which enhance the product, (e.g., a glass of wine

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and stem of grapes with a bottle of wine (GTIN); fresh vegetables surrounding a bottled sauce (GTIN); a cooked and plated version of the product being sold in the same frame as the item, etc.)

3.6.1 File format & size

See section 3.1, Primary images file sizes and formats

3.6.2 Views

0 - Not applicable

1 - Front

2 - Left

3 - Top

7 - Back

8 - Right

9 - Bottom

3.6.3 Backgrounds and clipping path

Clipping path is recommended; background should be removed to white (RGB 255/255/255).

For images saved with a transparent background (e.g., TIFF), clipping path is optional (see section 1.5).

3.6.4 File naming

Positions 1-19 are mandatory for the product image type

Mandatory

Position	1-14	15	16	17	18	19
Data	GTIN	Underscore	Image type	Facing	Orientation	State
value	(n14)	_	D - Primary image high resolution w/ supporting elements.	0 - Not applicable	C – Centre	(1) In packaging
				1 - Front	L – Left	(0) Out of packaging
				2 - Left	R - Right	(A) Case
				3 - Top	N - No plunge angle	(B) Inner pack
				7 - Back		(C) Raw/uncooked
				8 - Right		(D) Prepared
				9 - Bottom		(E) Plated
						(F) Styled
						(G) Staged
						(H) Held
						(J) Worn
						(K) Used
						(L) Family
						(M) Open Case
						(P) Pallet/Display

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Position	1-14	15	16	17	18	19
						(Q) Formed

Optional

Position	20	21+				
Data	Underscore	Language	Image end date	Serialisation	Rendered image	CPV
Value	_	(a2) or (a2-A2)	(MMYY)	s(n2)	R	CPV(an…20)

Positions 20 and beyond are optional, and each component must be preceded by an underscore '_'

Examples of product naming:

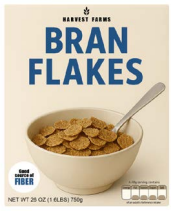
<GTIN>_D1N1_en_s01.tif

<GTIN>_D1N1_en_s01.tif

<GTIN>_D1N1_en_s01.tif

3.7 Primary images states

Image states define the condition, presentation, or usage context of the product as shown in a primary image, using standardized values and corresponding file naming conventions.

Value	Description	Example
1	In packaging - A shot of the product fully enclosed in its primary packaging as it would appear at the point of sale, with no packaging opened, altered, or removed.	<GTIN>_A1C1.tif  <GTIN>_A1N1.tif <GTIN>_A1R1.tif <GTIN>_A1R1.tif
0	Out of packaging (i.e., the product as it first arrives "out of packaging" not how it appears after it has been processed or prepared).	<GTIN>_A1C0.tif <GTIN>_A1C0.tif <GTIN>_A1R0.tif <GTIN>_A1R0.tif

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Value	Description	Example
A	Case – A shot of the product in its case as it would appear to the operator upon delivery.	<GTIN>_A1RA.tif <GTIN>_A1RA.tif <GTIN>_A1RA.tif <GTIN>_A1RA.tif
B	Inner pack – A shot of the product as it would appear inside its packaging inside the case.	<GTIN>_A1RB.tif <GTIN>_A1RB.tif <GTIN>_A1RB.tif
C	Raw/uncooked – A shot of a product that has not been cooked or processed or that needs to be cooked or further prepared.	<GTIN>_B3CC.tif
D	Prepared - A shot of a product that has been taken from a raw or uncooked state to a cooked state according to the appropriate method of preparation (e.g., baked, fried, grilled or boiled).	<GTIN>_B3CD.tif
E	Plated - Prepared food arranged simply on a serving plate, dish or bowl for better visibility. May include an additional step, such as garnishing, icing, seasoning or other enhancement.	<GTIN>_B3CE.tif

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Value	Description	Example
F	Styled - Carefully and artfully arranged for an attractive visual presentation, and designed to suggest the taste, aroma and appeal of the actual dish. May include complementary items (e.g., an entrée and sides) to present the impression of a complete meal. May also include an additional step, such as garnishing, icing, seasoning or other enhancement. May be presented with different backgrounds and at different angles. Typically applied to food or grocery items.	 <GTIN>_B3CF.tif
G	Staged - A shot of a product that has been arranged for display in such a way as to provide clear visibility. The product may be propped up if necessary for optimum viewing, but it should not be held or used in any way by a person. Typically applied to non-food items.	 <GTIN>_B1CG.tif
H	Held - A shot of a product that has been held out for display by one hand or a pair of hands. When relevant, proper grip should be demonstrated. Apart from the hands and forearms, no part of the person holding the item should be visible.	 <GTIN>_B1CH.tif

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Value	Description	Example
J	Worn - A shot of a product, such as a protective item or article of clothing, which is worn by a person. The complete product should be visible inside the frame, but the individual wearing it should be cropped out as much as possible.	 <GTIN>_B1CJ.tif
K	Used - A shot of a product as it is meant to be used in its appropriate environment. Small utensils may be held in a hand or hands and used for their intended purpose.	 <GTIN>_B1CK.tif
L	Family - A shot of a number of related products (e.g., matched sets, place settings) arranged together in a single picture.	 <GTIN>_B1CL.tif
M	Open Case - A shot of a case, flaps open, that shows how the product(s) would look when an operator receives the product and opens the case.	 <GTIN>_A1RM.tif <GTIN>_A1RM.tif <GTIN>_A1RM.tif <GTIN>_A1RM.tif
P	Pallet/Display – An image comprised of the product in a display or pallet configuration.	 <GTIN>_A1RP.tif <GTIN>_A1RP.tif <GTIN>_A1RP.tif <GTIN>_A1RP.tif

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Value	Description	Example
Q	Formed - An image of a product that has the supporting shape/form (for example a model, mannequin, hanger) removed to give the product a 3-D look.	 <GTIN>_B1CQ.tif

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4 Optimised images

4.1 Mobile Ready Hero Image (MRHI)

This image type addresses issues concerning the presentation of products in online retail environments on small screens, typically alongside 'add to basket' functions. The factors of screen size and limited attention span augment many of the problems already faced in desktop-centric online retail environments and can easily lead to a poor consumer experience. See GS1 Mobile Ready Hero Images Guideline.

Mobile Ready Hero Images are a rendering of the real product image that differs from a standard pack shot (front face image of the product) to maintain the physical pack's key elements: who is the Brand; what is the product; which variety is represented and; how much.

4.1.1 File format

Storage and sharing: JPEG/PNG

4.1.2 File size

600 x 600 pixels - 4800 x 4800 pixels

4.1.3 Views

1 - Front

4.1.4 Backgrounds and cropping

Background should be removed to white (RGB 255/255/255) if applicable.

4.1.5 File naming

Positions 1-19 are mandatory for the Mobile Ready Hero Image type

Mandatory

Position	1-14	15	16	17	18	19
Data	GTIN	Underscore	Image type	Facing	Orientation	State
value	(n14)	_	H - MRHI	1 - Front	C - Centre	(1) In packaging
					L - Left	(0) Out of packaging
					R - Right	
					N - No plunge angle	

Optional

Position	20	21+				
Data	underscore	Language	Image end date	Serialisation	Rendered image	CPV
Value	_	(a2) or (a2-A2)	(MMYY)	s(n2)	R	CPV(an…20)

Positions 20 and beyond are optional, and each component must be preceded by an underscore '_'

Examples of product naming:

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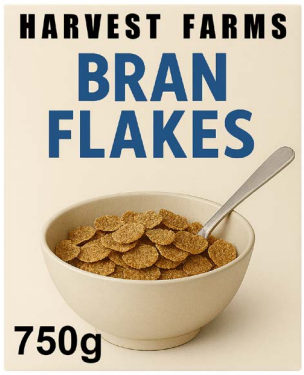
<GTIN>_H1N1_en_s01.jpg



<GTIN>_H1N1_en_s01.jpg

<GTIN>_H1N1_en_s01.jpg

4.2 Optimised pack images

This image type is to support retail, consumers, distributors and foodservice operators in completing their online sites. These images will assist consumers to identify specific information about the products they are purchasing.

The image is a representation of a real-world product, built specifically for use on larger screens that may differ from a standard pack shot, but that maintains the majority of the physical pack's key elements of design, shape and colour, and is therefore recognisable on a digital shelf.

4.2.1 File format

Storage and sharing: Any (JPEG/PNG recommended)

4.2.2 File size

600 x 600 pixels - 4800 x 4800 pixels

4.2.3 Views

0 - Not applicable

1 - Front

2 - Left

3 - Top

7 - Back

8 - Right

9 - Bottom

4.2.4 Backgrounds and cropping

Background should be removed to white (RGB 255/255/255) if applicable.

4.2.5 File naming

Positions 1-19 are mandatory for the Optimised pack image type

Mandatory

Position	1-14	15	16	17	18	19
Data	GTIN	Underscore	Image type	Facing	Orientation	State

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Position	1-14	15	16	17	18	19
Value	(n14)	_	U - Optimised pack	0 - Not applicable	C - Centre	(1) In packaging
				1 - Front	L - Left	(0) Out of packaging
				2 - Left	R - Right	(A) Case
				3 - Top	N - No plunge angle	(B) Inner pack
				7 - Back		(C) Raw/uncooked
				8 - Right		(D) Prepared
				9 - Bottom		(E) Plated
						(F) Styled
						(G) Staged
						(H) Held
						(J) Worn
						(K) Used
						(L) Family
						(M) Open Case
						(P) Pallet/Display
						(Q) Formed

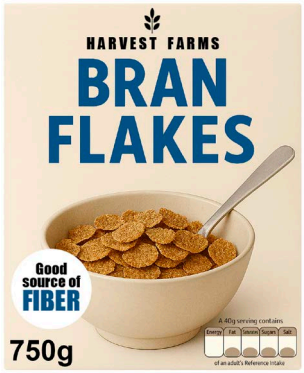
Optional

Position	20	21+				
Data	Underscore	Language	Image edd Date	Serialisation	Rendered image	CPV
Value	_	(a2) or (a2-A2)	(MMYY)	s(n2)	R	CPV(an…20)

Positions 20 and beyond are optional, and each component must be preceded by an underscore '_'

Examples of product naming:

<GTIN>_U1N1_en_s01.jpg



<GTIN>_U1N1_en_s01.jpg

<GTIN>_U1N1_en_s01.jpg

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4.3 Product image 360°/3D

360° degree imaging is product photography on a single axis – the product rotates on a single axis while the camera takes pictures at specified degree intervals. All images should be captured with the same plunge angle to ensure a smooth 360 result.

3D imaging is multiple 360° image series, with different plunge angles or rotational axes. These images series, or orbits, are then compiled in software to allow a left-right and up-down motion for product display and interaction.

4.3.1 File format

Storage and sharing: JPEG/PNG

4.3.2 File size

400 x 400 (minimum) pixels

4.3.3 Backgrounds and cropping

Clipping path is optional

White background recommended

4.3.4 Number of images

Minimum of 24 images (Maximum 360)

Note: Larger items would benefit from an increased number of images to ensure a fluidity of motion. Industry applications should be considered for total image count.

4.3.5 Direction of rotation

The direction of rotation for image capture should be Clockwise.

Direction is determined from observing the sequence of images of the item from a centre top vantage point, looking down upon the object.

4.3.6 Plunge angle indicator

The 19th to21st characters in the naming are 'R' and a two-digit numeric plunge angle respectively. The plunge angle is measured from horizontal, with 0* placing the camera horizontally aligned with the product and 90* placing the camera perpendicular to the front face of the item.

4.3.7 Image sequence (Arc position)

The image sequence should be identified in the image name, or associated data, and should follow the stitching sequence used to complete the 360° pattern or mapping.

4.3.8 File naming

The naming convention for these images should be the following, where "R" is the Row and "C" is the column. The Row relates to the Plunge angle and the Column relates to the position in the arc around the item.

Example: **09520123456764_E1_R01_C01**

- 18th - _ (underscore)
- 19th – R (Plunge Angle Indicator)
- 20th-21st - 2-digit Row number

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- 22nd - _ (underscore)
- 23rd – C (Arc Position Indicator)
- 24th-25th - 2-digit Column Number

Mandatory

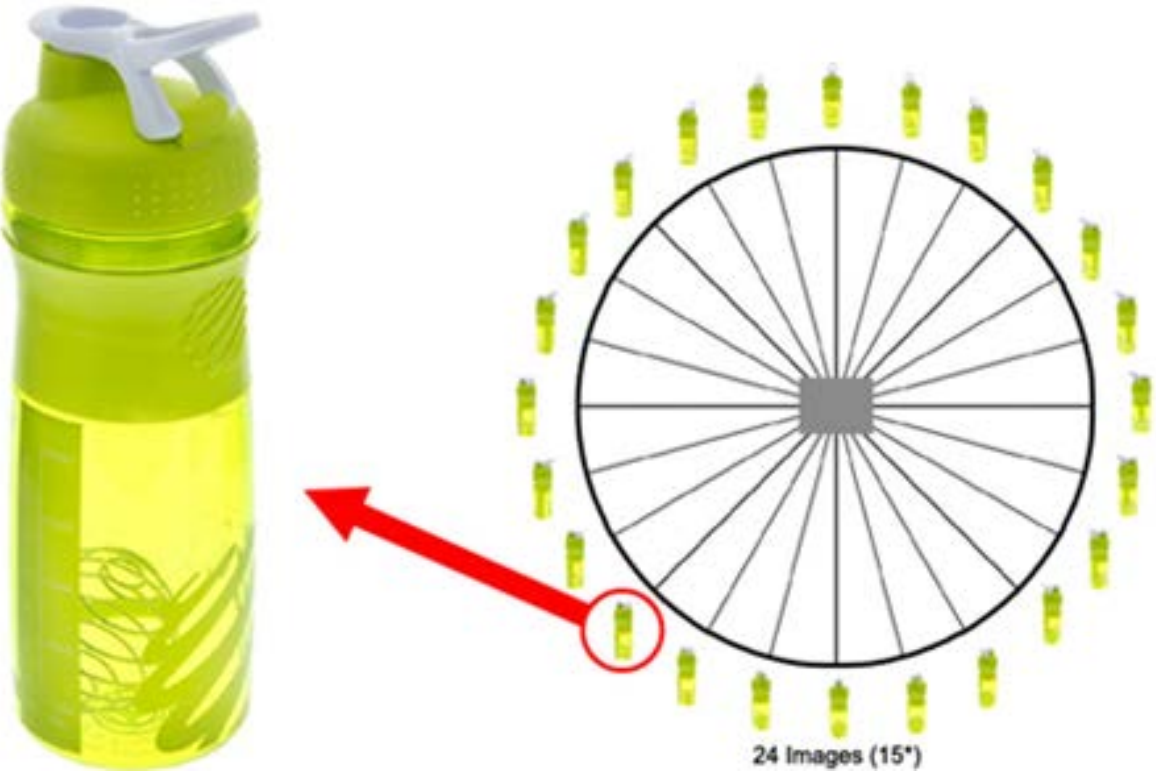
Position	1-14	15	16	17	18	19	20-21	22	23	24-25
Data	GTIN	Under score	Image type	Facing	Under score	Row (plunge)	Row number	Under score	Arc Pos.	Arc Value
Value	(n14)	_	E - 360°/3D	0 - Not applicable	_	R	00-90	_	C	01-24
				1 - Front						
				2 - Left						
				3 - Top						
				7 - Back						
				8 - Right						
				9 - Bottom						

Optional

Position	26	27+	
Data	Underscore	Serialisation	CPV
Value	_	s(n2)	CPV(an…20)

Positions 26 and beyond are optional, and each component must be preceded by an underscore '_'

Examples of product naming:



<GTIN>_E1_R04_C01.jpg

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4.4 3D Model

3D models, or Digital Twins, are digital constructs which can be inserted into video files, or from which product still shots can be extracted. These are standalone files, rather than digital images.

4.4.1 File naming

Positions 1-16 are mandatory for the 3D Model file type.

GDTI Is recommended for the elements within the file.

Mandatory

Position	1-14	15	16-18
Data	GTIN	Under score	Image type
Value	(n14)	_	3DR

Optional

Position	19	20+			
Data	Underscore	Language	Image end date	Serialisation	CPV
Value	_	(a2) or (a2-A2)	(MMYY)	s(n2)	CPV(an…20)

Positions 19 and beyond are optional, and each component must be preceded by an underscore '_'

Examples of product naming:

<GTIN>_3DR.jpg

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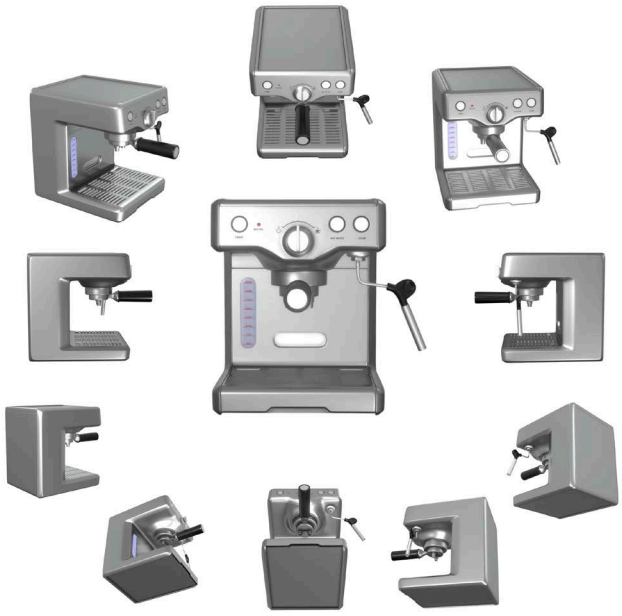

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5 Secondary images

Secondary images, unlike the primary images, do not necessary include the product, or product packaging in the image. These images provide additional information to help make a purchase decision.

5.1 Secondary images file sizes and formats

Image type		File size (Legacy version)	File size (Current version)	File format (Legacy version)	File format (Current version)
T	Content/texture	300 x 300 - 4800 x 4800 pixels	600 x 600 pixels - 4800 x 4800 pixels	Any (Storage: LZW Compressed TIFF; JPEG; PNG; GIF)	Any
F	Detail/technology	300 x 300 - 4800 x 4800 pixels	600 x 600 pixels - 4800 x 4800 pixels	Any (Storage: LZW Compressed TIFF; JPEG; PNG; GIF)	Any
M	Montage/composition	900 x 900 - 2400 x 2400 pixels	600 x 600 pixels - 4800 x 4800 pixels	LZW Compressed TIFF	Any
N	Application	300 x 300 - 4800 x 4800 pixels	600 x 600 pixels - 4800 x 4800 pixels	Any (Storage: LZW Compressed TIFF; JPEG; PNG; GIF)	Any
R	Ambience/mood	300 x 300 - 4800 x 4800 pixels	600 x 600 pixels - 4800 x 4800 pixels	Any (Storage: LZW Compressed TIFF; JPEG; PNG; GIF)	Any
Q	Size comparison	300 x 300 - 4800 x 4800 pixels	600 x 600 pixels - 4800 x 4800 pixels	Any (Storage: LZW Compressed TIFF; JPEG; PNG; GIF)	Any
L2	Nutritional label	600 x 600 (minimum) pixels	600 x 600 pixels - 4800 x 4800 pixels	Storage: LZW Compressed TIFF/JPEG	Any
L4	Ingredients	600 x 600 (minimum) pixels	600 x 600 pixels - 4800 x 4800 pixels	Storage: LZW Compressed TIFF/JPEG	Any
L5	Nutritional/ingredients combined	600 x 600 (minimum) pixels	600 x 600 pixels - 4800 x 4800 pixels	Storage: LZW Compressed TIFF/JPEG	Any
L7	Certification seals/claims	600 x 600 (minimum) pixels	600 x 600 pixels - 4800 x 4800 pixels	Storage: LZW Compressed TIFF/JPEG	Any
L8	Preparation instructions	600 x 600 (minimum) pixels	600 x 600 pixels - 4800 x 4800 pixels	Storage: LZW Compressed TIFF/JPEG	Any
L9	Petfood feeding instructions/ingredients	600 x 600 (minimum) pixels	600 x 600 pixels - 4800 x 4800 pixels	Storage: LZW Compressed TIFF/JPEG	Any

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Image type		File size (Legacy version)	File size (Current version)	File format (Legacy version)	File format (Current version)
L10	Safe handling instructions	600 x 600 (minimum) pixels	600 x 600 pixels - 4800 x 4800 pixels	Storage: LZW Compressed TIFF/JPEG	Any
L11	Drug fact label	n/a	600 x 600 pixels - 4800 x 4800 pixels	n/a	Any
L12	Supplement fact label	n/a	600 x 600 pixels - 4800 x 4800 pixels	n/a	Any
L13	Lighting fact label	n/a	600 x 600 pixels - 4800 x 4800 pixels	n/a	Any
S	Sidekick images	300 x 300 - 4200 x 4200 pixels	600 x 600 pixels - 4800 x 4800 pixels	Any (JPEG/PNG/GIF recommended)	Any
J	Sustainability	300 x 300 - 4200 x 4200 pixels	600 x 600 pixels - 4800 x 4800 pixels	Any (JPEG/PNG/GIF recommended)	Any

Note: The current version of images file size and format should be used for all new images, but legacy images file size and format stored before the end of March 2023 can retain their original resolution.

For storage, images should be saved with high quality and best practice is not to enlarge the image size.

5.2 Content/texture

The 'content/texture' image type shows images that depict the content or texture of a product. The image should be designed in such a way that the texture can be experienced by the end user similarly to in stationary retail, e.g., creme, lipstick.

5.2.1 File format & size

See section 5.1, Secondary images file sizes and formats

5.2.2 Backgrounds and cropping

Clipping path is optional; background may be removed to white (RGB 255/255/255)

5.2.3 File naming

Positions 1-16 are mandatory for the Content/texture image type.

Mandatory

Position	1-14	15	16
Data	GTIN	Under score	Image type
Value	(n14)	_	T - Content/texture

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Optional

Position	17	18+				
Data	Underscore	Language	Image end date	Serialisation	Rendered image	CPV
Value	_	(a2) or (a2-A2)	(MMYY)	s(n2)	R	CPV(an…20)

Positions 17 and beyond are optional, and each component must be preceded by an underscore '_'.

Examples of product naming:

<GTIN>_T_s01.jpg

<GTIN>_T_s01.jpg

<GTIN>_T_s01.jpg

5.3 Detail/technology

A detail (technology) image is a photo, line art or other graphic representation of a specific product feature or characteristic. It is used to highlight that specific detail of an item. This type of image includes variations such as an image to reveal the internal components, layers, or structures of an object (cut-away), details of the inside of a trade item, or a representation of a portion of a trade item.

5.3.1 File format & size

See section 5.1, Secondary images file sizes and formats

5.3.2 Backgrounds and cropping

Clipping path is optional; background may be removed to white (RGB 255/255/255)

5.3.3 File naming

Positions 1-16 are mandatory for the Detail/Technology image type.

Mandatory

Position	1-14	15	16
Data	GTIN	Underscore	Image type
Value	(n14)	_	F - Detail/technology

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Optional

Position	17	18+				
Data	Underscore	Language	Image end date	Serialisation	Rendered image	CPV
Value	_	(a2) or (a2-A2)	(MMYY)	s(n2)	R	CPV(an…20)

Positions 17 and beyond are optional, and each component must be preceded by an underscore '_'

Examples of product naming:

<GTIN>_F_s01.jpg

<GTIN>_F_s01.jpg

<GTIN>_F_s01.jpg

5.4 Montage/composition

A montage (composite) image is a composition of distinct elements included in the packaging. These are images of all the components of the product, and should only contain contents of the packaging that are included when selling the product. This image gives additional information regarding the components of the product to help consumers in their purchasing decisions.

Examples of montages image type include:

Image with all the components of a garden tool set with all the elements included in the kit.

Image showing outer packaging (primary image) with the elements included in the packaging in front of it.

5.4.1 File format & size

See section 5.1, Secondary images file sizes and formats

5.4.2 Backgrounds and cropping

Clipping path is recommended; background should be removed to white (RGB 255/255/255)

5.4.3 File naming

Positions 1-17 are mandatory for the Montage/composition image type.

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Mandatory

Position	1-14	15	16	17
Data	GTIN	Underscore	Image type	Facing
Value	(n14)	_	M - Montage/composition	1 - Front
				2 - Left
				3 - Top
				7 - Back
				8 - Right
				9 - Bottom

Note: The orientation should be based on the primary image.

Optional

Position	18	19+		
Data	Underscore	Language	Serialisation	CPV
Value	_	(a2) or (a2-A2)	s(n2)	CPV(an…20)

Positions 18 and beyond are optional, and each component must be preceded by an underscore '_'

Examples of product naming:

<GTIN>_M1_s01.jpg

<GTIN>_M1_s02.jpg

<GTIN>_M1_s03.jpg

<GTIN>_M1_s04.jpg

<GTIN>_M1_s05.jpg

<GTIN>_M1_s06.jpg

<GTIN>_M1_en.jpg

<GTIN>_M1_en_s01.jpg

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5.5 Social media

Prior to 2023, this standard included the image type "Social Media" defined as: The 'social media' image type shows assets with media content. The Value "K" can continue to be used for legacy images in position 16.

5.6 Application

The 'Application' image type is used to depict how the product is used. The image will include the product in use. The image is intended to transmit practical information on the application of the product to potential consumers.

5.6.1 File format & size

See section 5.1, Secondary images file sizes and formats

5.6.2 Backgrounds and cropping

Clipping path is optional; background may be removed to white (RGB 255/255/255)

5.6.3 File naming

Positions 1-16 are mandatory for the Application image type.

Mandatory

Position	1-14	15	16
Data	GTIN	Underscore	Image type
Value	(n14)	_	N - Application

Optional

Position	17	18+				
Data	Underscore	Language	Image end date	Serialisation	Rendered image	CPV
Value	_	(a2) or (a2-A2)	(MMYY)	s(n2)	R	CPV(an…20)

Positions 17 and beyond are optional, and each component must be preceded by an underscore '_'

Examples of product naming:

<GTIN>_N_en.jpg

<GTIN>_N_en_s01.jpg

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5.7 Ambience/mood

The 'ambience/mood' image type shows images used as 'mood images'. They are primarily used to communicate a lifestyle, or other emotional reactions, to potential consumers. It is optional to include the product itself.

5.7.1 File format & size

See section 5.1, Secondary images file sizes and formats

5.7.2 Backgrounds and cropping

Clipping path is optional; background may be removed to white (RGB 255/255/255)

5.7.3 File naming

Positions 1-16 are mandatory for the Ambience/mood image type.

Mandatory

Position	1-14	15	16
Data	GTIN	Underscore	Image type
Value	(n14)	_	R – Ambiance/Mood

Optional

Position	17	18+				
Data	Underscore	Language	Image end date	Serialisation	Rendered image	CPV
Value	_	(a2) or (a2-A2)	(MMYY)	s(n2)	R	CPV(an…20)

Positions 17 and beyond are optional, and each component must be preceded by an underscore '_'

Examples of product naming:

<GTIN>_R_s01.jpg

<GTIN>_R_s01.jpg

<GTIN>_R_s01.jpg

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5.8 Size comparison

The 'size comparison' image type makes clear the actual size of the product, e.g., via a schematic depiction of a person or well-known object (e.g., one-euro coin) in the background.

5.8.1 File format & size

See section 5.1, Secondary images file sizes and formats

5.8.2 Backgrounds and cropping

Clipping path is optional; background may be removed to white (RGB 255/255/255)

5.8.3 File naming

Positions 1-16 are mandatory for the Size comparison image type.

Mandatory

Position	1-14	15	16
Data	GTIN	Underscore	Image type
Value	(n14)	_	Q - Size comparison

Optional

Position	17	18+				
Data	Underscore	Language	Image end date	Serialisation	Rendered image	CPV
Value	_	(a2) or (a2-A2)	(MMYY)	s(n2)	R	CPV(an…20)

Positions 17 and beyond are optional, and each component must be preceded by an underscore '_'

Examples of product naming:

<GTIN>_Q_0622_s01.png

5.9 Nutritional label

The nutritional label is a portion of the full flat layout, specifically identifying the regulated information related to a product's nutritional composition. Given the nature of the content, this image type only applies to consumable food products. Regulated nutritional label must follow the local regulations. Background colours may be used.

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5.9.1 File format & size

See section 5.1, Secondary images file sizes and formats

5.9.2 Backgrounds and cropping

Clipping path is optional

5.9.3 File naming

Positions 1-17 are mandatory for the nutritional label image type.

Mandatory

Position	1-14	15	16-17
Data	GTIN	Underscore	Image type PACKAGING
Value	(n14)	_	L2 – Nutritional label

Optional

Position	18	19+		
Data	Underscore	Language	Serialisation	CPV
Value	_	(a2) or (a2-A2)	s(n2)	CPV(an…20)

Positions 18 and beyond are optional, and each component must be preceded by an underscore '_'

Examples of product naming:

<GTIN>_L2_s01_CPV123ABC.tif

5.10 Ingredients

The ingredients image is a list of ingredients printed on the packaging. It may be separated by language in multiple areas on the product and should be identified with the language expressed in the metadata associated and the appropriate position for GTIN based naming.

5.10.1 File format & size

See section 5.1, Secondary images file sizes and formats

5.10.2 Backgrounds and cropping

Clipping path is optional

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5.10.3 File naming

Positions 1-17 are mandatory for the ingredients image type.

Mandatory

Position	1-14	15	16-17
Data	GTIN	Underscore	Image type - PACKAGING
Value	(n14)	_	L4 -Ingredients

Optional

Position	18	19+		
Data	Underscore	Language	Serialisation	CPV
Value	_	(a2) or (a2-A2)	s(n2)	CPV(an…20)

Positions 18 and beyond are optional, and each component must be preceded by an underscore '_'

Examples of product naming:

<GTIN>_L4_fr_s01_CPV123ABC.jpg

5.11 Nutritional/ingredients combined

Where regulations permit the combination of nutritional and ingredients, the Nutritional/ingredients combined image type will be used.

The language expressed should be identified in the metadata associated and the appropriate position for GTIN based naming.

5.11.1 File format & size

See section 5.1, Secondary images file sizes and formats

5.11.2 Backgrounds and cropping

Clipping path is optional

5.11.3 File naming

Positions 1-17 are mandatory for the Nutritional/ingredients image type.

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Mandatory

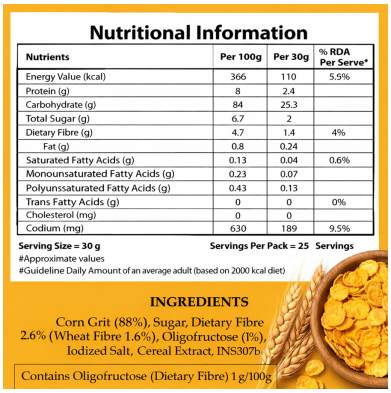
Position	1-14	15	16-17
Data	GTIN	Underscore	Image type - PACKAGING
Value	(n14)	_	L5 -Nutritional/ingredients combined

Optional

Position	18	19+		
Data	Underscore	Language	Serialisation	CPV
Value	_	(a2) or (a2-A2)	s(n2)	CPV(an…20)

Positions 18 and beyond are optional, and each component must be preceded by an underscore '_'

Examples of product naming:



<GTIN>_L5_s17_CPV123ABC.jpg

5.12 Marketing content code (QR Code)

See section 6.5, 2D barcode

5.13 Certification seals/claims

The certification seal or claim image (one or many) would be used to specifically identify the information related to a product's certifications, claims or seals (regulatory, marketing, etc.) showing the logo of the certification body, that appears on any level of a products hierarchy (case, inner, each). Any claim that appears on the product, even if related to Sustainability, SHALL be part of this certification seals/claims image type. General information about Sustainability included in an image that does not imply a certification or claim should use the Sustainability Image type. The image may contain text to further describe or explain the claim or seal presented in the image.

5.13.1 File format & size

See section 5.1, Secondary images file sizes and formats

5.13.2 Backgrounds and cropping

Clipping path is optional

5.13.3 File naming

Positions 1-17 are mandatory for the Certification seals/claims image type.

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Mandatory

Position	1-14	15	16-17
Data	GTIN	Underscore	Image Type PACKAGING
Value	(n14)	_	L7 -Certification seals/claims

Optional

Position	18	19+		
Data	Underscore	Language	Serialisation	CPV
Value	_	(a2) or (a2-A2)	s(n2)	CPV(an…20)

Positions 18 and beyond are optional, and each component must be preceded by an underscore '_'

Examples of product naming:

<GTIN>_L7_fr.jpg

5.14 Preparation instructions

The preparation instructions would be used to provide information to a consumer related to a product's recommended preparation steps (for example food preparation). This image can contain visuals or text or both and is meant to support consumer purchasing decisions or understanding how the product is intended to be prepared.

5.14.1 File format & size

See section 5.1, Secondary images file sizes and formats

5.14.2 File size

600 x 600 – 4800 x 4800 pixels

5.14.3 Backgrounds and cropping

Clipping path is optional

5.14.4 File naming

Positions 1-17 are mandatory for the preparation instructions image type.

Mandatory

Position	1-14	15	16-17
Data	GTIN	Underscore	Image Type PACKAGING

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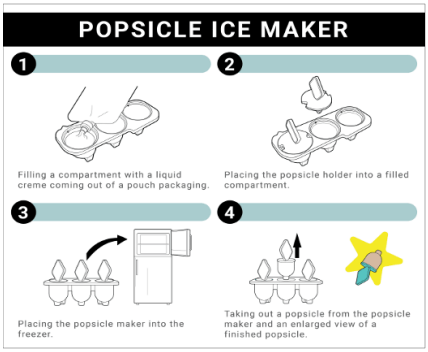
Position	1-14	15	16-17
Value	(n14)	_	L8 - Preparation instructions

Optional

Position	18	19+		
Data	Underscore	Language	Serialisation	CPV
Value	_	(a2) or (a2-A2)	s(n2)	CPV(an…20)

Positions 18 and beyond are optional, and each component must be preceded by an underscore '_'

Examples of product naming:



<GTIN>_L8_en_CPV123ABC.jpg

5.15 Petfood feeding instructions/ingredients

The feeding recommendations would identify suggested quantities and frequency of feeding based on age and weight. The ingredients or guaranteed analysis image is a list of ingredients or breakdown of composition printed on the packaging.

The language indicator should be used where the instructions are available in multiple languages.

5.15.1 File format & size

See section 5.1, Secondary images file sizes and formats

5.15.2 Backgrounds and cropping

Clipping path is optional

5.15.3 File naming

Positions 1-17 are mandatory for the Pet feeding instructions/ingredients image type.

Mandatory

Position	1-14	15	16-17
Data	GTIN	Underscore	Image Type PACKAGING
Value	(n14)	_	L9 - Petfood feeding instructions/ingredients

Optional

Position	18	19+		
Data	Underscore	Language	Serialisation	CPV

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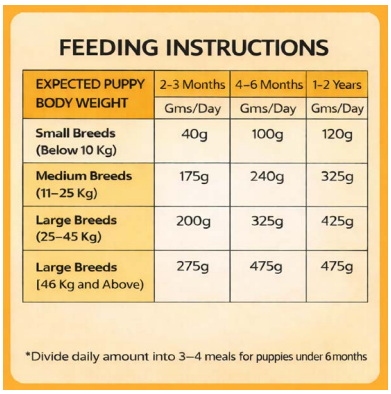
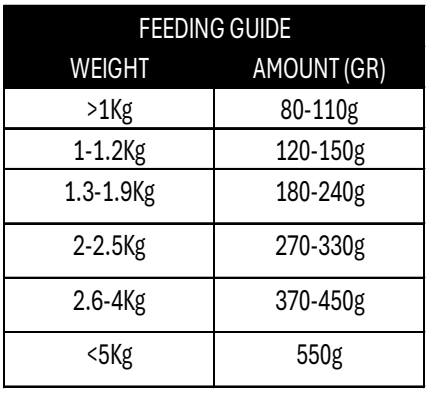
Position	18	19+		
Value	_	(a2) or (a2-A2)	s(n2)	CPV(an…20)

Positions 18 and beyond are optional, and each component must be preceded by an underscore '_'

Examples of product naming:



<GTIN>_L9_en.jpg



<GTIN>_L9_en_s01.jpg

5.16 Safe handling instructions

These images should be of safe handling instructions as they would appear somewhere on any hierarchy level of the product packaging or a sheet that may accompany the product (physically or digitally).

5.16.1 File format & size

See section 5.1, Secondary images file sizes and formats

5.16.2 Backgrounds and cropping

Clipping path is optional

5.16.3 File naming

Positions 1-18 are mandatory for the safe handling instructions image type.

Mandatory

Position	1-14	15	16-18
Data	GTIN	Underscore	Image Type PACKAGING
Value	(n14)	_	L10 - Safe handling instructions

Optional

Position	19	20+		
Data	Underscore	Language	Serialisation	CPV
Value	_	(a2) or (a2-A2)	s(n2)	CPV(an…20)

Positions 19 and beyond are optional, and each component must be preceded by an underscore '_'

Examples of product naming:

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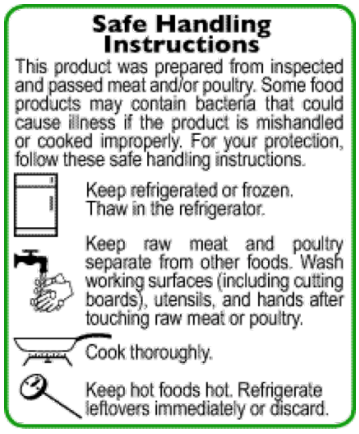

<GTIN>_L10_en_s01_CPV123ABC.jpg

5.17 Sidekick images

This image type is used to inform customer of benefits of a product/a short storyteller. A supplementary image or graphic, generally used to support the Primary image or the Mobile Ready Hero Image. It can be created as single image or be a sequence of multiple images to best help customers making decision for their online transaction.

For images with the prime purpose of general sustainability information see section 5.21

For images addressing certifications or claims see section 5.5

5.17.1 File format & size

See section 5.1, Secondary images file sizes and formats

5.17.2 Backgrounds and cropping

Clipping path is optional; background may be removed to white (RGB 255/255/255)

5.17.3 File naming

Positions 1-16 are mandatory for the Sidekick image type.

Mandatory

Position	1-14	15	16
Data	GTIN	Underscore	Image type
Value	(n14)	_	S - Sidekick

Optional

Position	17	20+		
Data	Underscore	Language	Serialisation	CPV
Value	_	(a2) or (a2-A2)	s(n2)	CPV(an…20)

Positions 17 and beyond are optional, and each component must be preceded by an underscore '_'

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Examples of product naming:

<GTIN>_S_en_s01_CPV123ABC.jpg

<GTIN>_S_en_s01.jpg

<GTIN>_S_en.jpg

5.18 Drug fact label

Visual representation of the drug fact panel of the trade item. A drug fact label usually contains such items as active ingredients, uses, warnings, purpose, directions, etc.

5.18.1 File format & size

See section 5.1, Secondary images file sizes and formats

5.18.2 Backgrounds and cropping

Clipping path is optional

5.18.3 File naming

Positions 1-18 are mandatory for the Drug fact label image type.

Mandatory

Position	1-14	15	16-18
Data	GTIN	Underscore	Image type
Value	(n14)	_	L11 – Drug fact label

Optional

Position	19	20+		
Data	Underscore	Language	Serialisation	CPV
Value	_	(a2) or (a2-A2)	s(n2)	CPV(an…20)

Positions 19 and beyond are optional, and each component must be preceded by an underscore '_'

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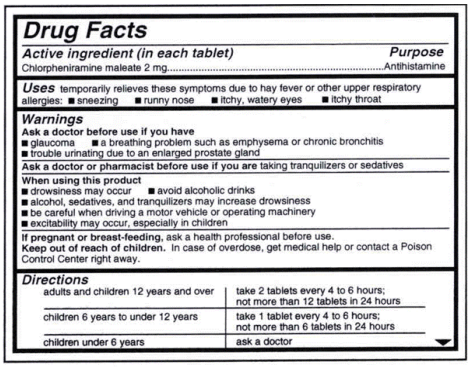
Examples of product naming:



Drug Facts

Active ingredient (in each tablet) — **Purpose**
Chlorpheniramine maleate 2 mg ..... Antihistamine

Uses temporarily relieves these symptoms due to hay fever or other upper respiratory allergies: ■ sneezing ■ runny nose ■ itchy, watery eyes ■ itchy throat

Warnings
Ask a doctor before use if you have
■ glaucoma ■ a breathing problem such as emphysema or chronic bronchitis
■ trouble urinating due to an enlarged prostate gland

Ask a doctor or pharmacist before use if you are taking tranquilizers or sedatives

When using this product
■ drowsiness may occur ■ avoid alcoholic drinks
■ alcohol, sedatives, and tranquilizers may increase drowsiness
■ be careful when driving a motor vehicle or operating machinery
■ excitability may occur, especially in children

If pregnant or breast-feeding, ask a health professional before use.
Keep out of reach of children. In case of overdose, get medical help or contact a Poison Control Center right away.

Directions

adults and children 12 years and over	take 2 tablets every 4 to 6 hours; not more than 12 tablets in 24 hours
children 6 years to under 12 years	take 1 tablet every 4 to 6 hours; not more than 6 tablets in 24 hours
children under 6 years	ask a doctor

<GTIN>_L11_en_s01_CPV123ABC.jpg

Note: The drug fact label image(s) must meet all the local legal requirements. This may require multiple images to deal with factors like multiple language or a large amount of information which would not be clearly legible on a single image.

5.19 Supplement fact label

Visual representation of the product label containing information related to the supplement or nutrient product. The supplement fact label provides about what active/nutritional ingredients are used in the formula along with dosage recommendations for dietary supplements.

5.19.1 File format & size

See section 5.1, Secondary images file sizes and formats

5.19.2 Backgrounds and cropping

Clipping path is optional

5.19.3 File naming

Positions 1-18 are mandatory for the Supplement fact label image type.

Mandatory

Position	1-14	15	16-18
Data	GTIN	Underscore	Image type
Value	(n14)	_	L12 – Supplemental fact label

Optional

Position	19	20+		
Data	Underscore	Language	Serialisation	CPV
Value	_	(a2) or (a2-A2)	s(n2)	CPV(an…20)

Positions 19 and beyond are optional, and each component must be preceded by an underscore '_'

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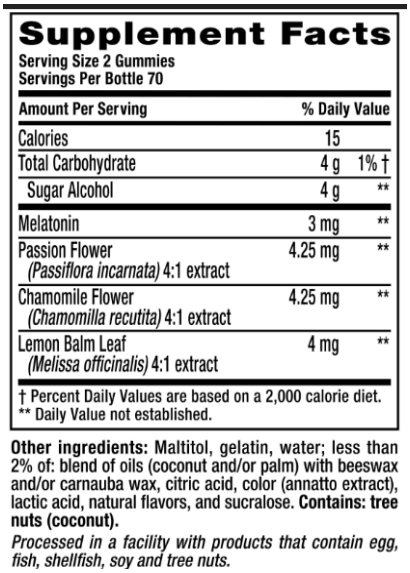
Examples of product naming:



Supplement Facts

Serving Size 2 Gummies
Servings Per Bottle 70

Amount Per Serving		% Daily Value
Calories	15	
Total Carbohydrate	4 g	1% †
Sugar Alcohol	4 g	**
Melatonin	3 mg	**
Passion Flower *(Passiflora incarnata)* 4:1 extract	4.25 mg	**
Chamomile Flower *(Chamomilla recutita)* 4:1 extract	4.25 mg	**
Lemon Balm Leaf *(Melissa officinalis)* 4:1 extract	4 mg	**

† Percent Daily Values are based on a 2,000 calorie diet.
** Daily Value not established.

Other ingredients: Maltitol, gelatin, water; less than 2% of: blend of oils (coconut and/or palm) with beeswax and/or carnauba wax, citric acid, color (annatto extract), lactic acid, natural flavors, and sucralose. **Contains: tree nuts (coconut).**

Processed in a facility with products that contain egg, fish, shellfish, soy and tree nuts.

<GTIN>_L12_en_s01_CPV123ABC.jpg

5.20 Lighting fact label

Visual representation of the product label containing information related to the light characteristics of the product. The lighting facts label makes it easy to compare bulb characteristics such as brightness, colour, life, and estimated operating cost for the year.

5.20.1 File format & size

See section 5.1, Secondary images file sizes and formats

5.20.2 Backgrounds and cropping

Clipping path is optional

5.20.3 File naming

Positions 1-18 are mandatory for the Lighting fact label image type.

Mandatory

Position	1-14	15	16-18
Data	GTIN	Underscore	Image type
Value	(n14)	_	L13 – Lighting fact label

Optional

Position	19	20+		
Data	Underscore	Language	Serialisation	CPV
Value	_	(a2) or (a2-A2)	s(n2)	CPV(an…20)

Positions 19 and beyond are optional, and each component must be preceded by an underscore '_'

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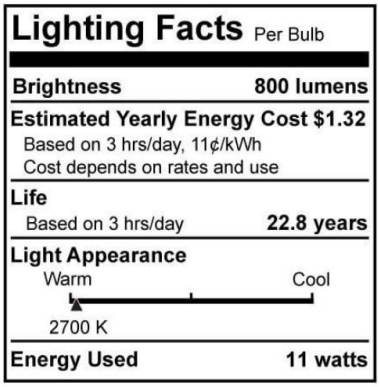
Examples of product naming:



<GTIN>_L13_en_s01_CPV123ABC.jpg

5.21 Sustainability

The sustainability image emphasizes the features or characteristics of the product related to recyclability, reusability, product and packaging components, environmental impact etc.

It differs from Sidekick images due to its prime focus on the sustainability benefits of the product.

The use of an image classed as a sustainability image in no way implies any related certification or claim. This only indicates the image contains sustainability related information.

If the sustainability claim appears on the product itself, then the image type for Certification seals/claims SHALL be used.

5.21.1 File format & size

See section 5.1, Secondary images file sizes and formats

5.21.2 Backgrounds and cropping

Clipping path is optional

5.21.3 File naming

Positions 1-16 are mandatory for the Sustainability image type.

Mandatory

Position	1-14	15	16
Data	GTIN	Underscore	Image type
Value	(n14)	_	J - Sustainability

Optional

Position	17	18+		
Data	Underscore	Language	Serialisation	CPV
Value	_	(a2) or (a2-A2)	s(n2)	CPV(an…20)

Positions 17 and beyond are optional, and each component must be preceded by an underscore '_'

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Examples of product naming:

<GTIN>_J.jpg

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6 Technical images

Technical Images, unlike the Primary or Secondary Images, are not consumer facing and often have specific specification due to the nature and application of these images.

6.1 Planogram Image and Data Field Specifications

A planogram is a visual merchandising tool. Planograms are detailed drawings of a store layout with special attention on product placement. Planogram images and associated data are loaded into software to generate a replica of a store shelf or layout, adjusting the images based on the associated data (such as height, width, depth, nesting, peg hole, etc…) to estimate the number of products which can fill the marketable space available.

6.1.1 File format

File formats must be as follows:

- Targa 16-32 bit (If 32 then alpha must be I/O), no compression
- PNG (must be alpha channel compatible and have a transparent background)
- JPEG, level of compression to be at 10 or above

Note: JPEG images are not alpha channel compatible with all imaging software.

6.1.2 File size

Minimum image size for all marketable face planogram images shall be 20kB minimum (50kB for Targa images)

6.1.3 Views

All products that are produced in a package should be represented with up to six views of the In-Package consumer pack, with three views as a minimum straight-on front, straight-on top, and straight-on left side views. Items that are not produced in a package, such as hammers, must be represented with the same three views. An additional straight-on front view of an inner pack should be available when appropriate. The GS1 Package and Product Measurement Standard defines what the 'Default Front' of a product is.

Valid image views are:

09520123456788.1
straight on, front shot

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09520123456788.2
straight on, left view

09520123456788.3

straight on, top view

Optional image views:

09520123456788.7
straight on, back shot

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09520123456788.8
straight on, right view

09520123456788.9

straight on, bottom view

6.1.4 Backgrounds and cropping

Images for contour products must appear with a transparent background. Images for contour and non- contour products must also be cropped to products' edge. No props or additional products are allowed within the primary image areas.

- Boxes are cropped to the edge and represented on a white background
- Hard corner boxes, where the cropped image leaves no background for close cropping alpha channel identification, shall be saved without a transparent layer level.
- Rounded or odd shaped products should be contoured and represented with a transparent background
- Rounded or odd shaped products can also be cropped to the products edge and represented on a white background.

6.1.5 File naming

First 14 characters are the GTIN of the product (required). After the first period, the planogram view indicator will be present (required).

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The image naming indicators are:

(GTIN) .1 front face

(GTIN) .2 left of front

(GTIN) .3 top

(GTIN) .7 back

(GTIN) .8 right of front

(GTIN) .9 bottom

Note: For peg hole flat products: If the product side 2, 3, 8 and 9 are less than 1/2cm and have no viewable marketing information images may be omitted.

6.1.5.1 Additional naming for alternate/display/tray

In the subsections you will find examples for additional sub-naming rules for use with items that may require additional image/data for accurate planogramming.

6.1.5.1.1 Alternate naming

In some instances, more than one 'front' exists due to alternate graphics.

GTINs with multiple graphic layouts that do not conflict with the GTIN management standard should be identified with 'A' for Alternative.

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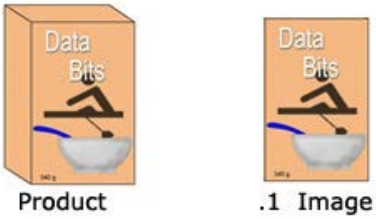
Examples:

09520123456795.1



09520123456795A.1

6.1.5.1.2 Display naming (retail ready packaging)

If the GTIN is unique to a display the image will be named using the display GTIN as well as the inner product GTIN followed by its appropriate identifier ('T' for tray, 'D' for display, and 'A" for alternate).

Retail ready packaging, also known as shelf ready packaging, is ready-to-sell secondary packaging. Primary packaging contains the product and secondary packaging protects the primary packaging. RRP is placed directly onto the shelf without the need for unpacking the inner contents.

09520123456702T.1

Note: A display may also be considered a tray (e.g., a box of chocolate bars) Where this is the case, if there is a marketing 'flap' or display component which alters the dimensions compared to the dimensions of the unopened tray, the identifier 'Display' should be used.

6.1.5.1.3 Tray naming (retail ready packaging)

If the GTIN is unique to a tray the image will be named using the tray GTIN as well as the inner product GTIN followed by its appropriate identifier ('T' for tray , 'D' for display, and 'A" for alternate)

Retail ready packaging, also known as shelf ready packaging, is ready-to-sell secondary packaging. Primary packaging contains the product and secondary packaging protects the primary packaging. RRP is placed directly onto the shelf without the need for unpacking the inner contents.

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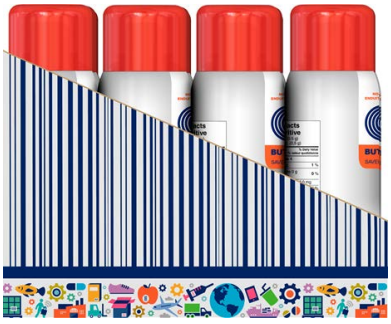
09520123456719T.1



09520123456719T.2

Note: A tray may also be considered a display (e.g., a box of chocolate bars) Where this is the case, if there is a marketing 'flap' or display component which alters the dimensions compared to the dimensions of the unopened tray, the identifier 'Display' should be used.

6.2 Sample/mock-up

The sample (prototype)/mock-up image is generally created whether the product is ready for ordering or is still in production (pre-production) stage.

It can be a sketch (line art drawing) an image or a computer-generated rendering. The drawing should only depict the style and be free of dimensions and other technical details.

The image is intended exclusively for internal use and communication between business partners (B2B) and is used to conceptualize the product for the ordering process.

Note: Due to the nature of the image, only GDTI naming may be employed for this image type.

6.2.1 File format

JPEG, PDF

6.2.2 File size

n/a (generally 500kb or less)

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6.2.3 Backgrounds and cropping

Clipping path is optional

6.2.4 File naming

GDTI

6.3 Full flat

A Full flat is the term used for the final print layout of a product's packaging. It is generally the print layout for any and all information that will appear on the final product. These images may include images of cans, jars, trays, etc. and should be STITCHED or UNSTITCHED images. If these images are sent unstitched, sequencing would be recommended to be utilised.

6.3.1 File format

Storage and sharing: LZW Compressed TIFF; JPEG, PDF

6.3.2 File size

Square aspect ratio not required for this technical image type, therefore, there is no minimum pixel size. However, the image must be clearly legible.

6.3.3 Backgrounds and cropping

Clipping path is optional

6.3.4 File naming

Positions 1-17 are mandatory for the Full flat image type.

Mandatory

Position	1-14	15	16-17
Data	GTIN	Underscore	Image type PACKAGING
Value	(n14)	_	L1 - Full flat

Optional

Position	18	19+		
Data	Underscore	Language	Serialisation	CPV
Value	_	(a2) or (a2-A2)	s(n2)	CPV(an…20)

Positions 18 and beyond are optional, and each component must be preceded by an underscore '_'

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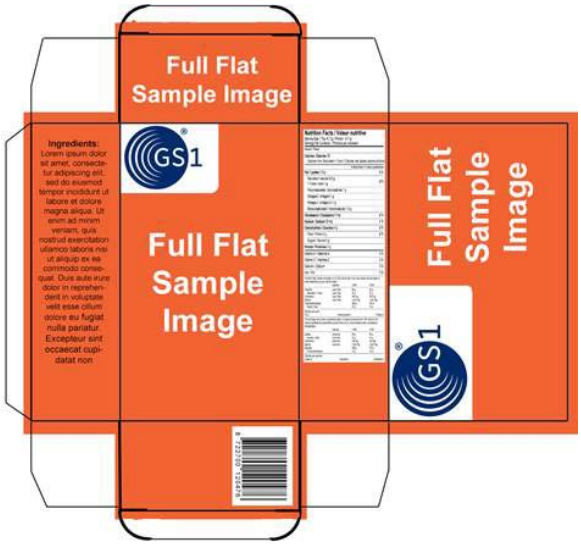
Examples of product naming:



09520123456733_L1_en_s01.tif

6.4 Linear barcode

The linear barcode image is used for any symbol applied to the product. Multiple linear barcodes may exist on the product, in such cases more than one image may be required and SHOULD be differentiated with the serialisation tag in GTIN based naming.

6.4.1 File format

Storage and sharing: Any format.

6.4.2 File size

600 x 600 (minimum) pixels; Square aspect ratio not required.

6.4.3 Backgrounds and cropping

Clipping path optional.

6.4.4 File naming

Positions 1-17 are mandatory for the Barcode image type.

Mandatory

Position	1-14	15	16-17
Data	GTIN	Underscore	Image type PACKAGING
Value	(n14)	_	L3 - Linear barcode

Optional

Position	18	19+		
Data	Underscore	Language	Serialisation	CPV
Value	_	(a2) or (a2-A2)	s(n2)	CPV(an…20)

Positions 18 and beyond are optional, and each component must be preceded by an underscore '_'

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Examples of product naming:

09520123456740_L3_s01_CPV123ABC.jpg

6.5 2D barcode

Formerly known as the "Marketing Content Code image", the 2D barcode image is used for 2D barcodes applied to the product (e.g., A QR Code with GS1 Digital Link URL syntax or GS1 DataMatrix).

Note: Images of 2D barcodes linking to online content are likely to be scanned at any point in time by any partner or consumer of the image. It is important to keep the image current when the barcode's content is updated.

If multiple 2D barcodes are on the product, more than one image may be required, and SHOULD be differentiated with the serialisation tag in GTIN based naming.

6.5.1 File format

Storage and sharing: Any format.

6.5.2 File size

600 x 600 (minimum) pixels.

6.5.3 Backgrounds and cropping

Clipping path is optional.

6.5.4 File naming

Positions 1-17 are mandatory for the 2D barcode image type.

Mandatory

Position	1-14	15	16-17
Data	GTIN	Underscore	Image type PACKAGING
value	(n14)	_	L6 - 2D barcode

Optional

Position	18	19+		
Data	Underscore	Language	Serialisation	CPV
Value	_	(a2) or (a2-A2)	s(n2)	CPV(an…20)

Positions 18 and beyond are optional, and each component must be preceded by an underscore '_'

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Examples of product naming:

(01)09506000134352

09506000134352_L6.png

6.6 Pharmaceutical drugs/medical devices

The pharmaceutical drugs/medical devices images refers to products (medical devices or pharmaceutical drugs and components) used in the diagnosis, treatment or prevention of disease that achieves their primary intended purpose through pharmacological, immunological or metabolic means within or on the body. Includes medical equipment and supplies, all drugs, biologicals or therapeutic nutritional for human applications.

These are high-resolution images of packaging levels and components - down to the product or unit of use - to support internal applications and different business processes. The multiple product views provide a good visual representation for identification and validation capabilities.

6.6.1 File format

JPEG

6.6.2 File size

1500 x 1500 pixels

6.6.3 Backgrounds and cropping

Clipping path is recommended; background should be removed to white (RGB 255/255/255)

6.6.4 File naming

Positions 1-21 are mandatory for the Barcode image type.

Mandatory

Position	1-14	15	16	17	18	19	20	21
Data	GTIN	Underscore	Component level	Sequence component level	Component type	Underscore	Image type	Facing
value	(n14)	_	(n)	(n)	0 – Product-	_	G - Pharmaceutical Drugs/Medical Devices	0 - Not applicable
					1 – Peel			1 - Front
					2 – Accessories			2 - Left
					3 – Unit of use			3 - Top
					4 – Oral solid Dosage			7 – Back

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Position	1-14	15	16	17	18	19	20	21
					5 – 9 (place holder)			8 – Right
								9 - Bottom

Positions 16 and 17

Component images need to be structured in the right sequence, specifying the packaging level, sequence of components within each level and their respective component types.

Component Level – Refers to products with several components inside of a single packaging.

Component level (1)

Component level (2)

Component level (3)

Sequence Component Level – Identifies the different component levels inside the packaging. In cases where the packaging contains multiple products belonging to the same component type, such as two different accessories, this differentiation is made at the sequence component level.

Sequence Component level (1)

Sequence Component level (2)

Optional

Position	22	23+
Data	Underscore	Language
Value	_	(a2) or (a2-A2)

Positions 22 and beyond are optional, and each component must be preceded by an underscore '_'

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Examples of product naming:

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7 Naming, identification and metadata

7.1 File naming

The naming convention for these image files provides a structured code that includes the GTIN of the product they relate to, and information about the type and purpose of the image file.

Section 8 summarises how these file names can be decoded and understood. They are an example of significant codes.

A filename (or file name) is a name used to uniquely identify a computer file stored in a file system. Different file systems impose different restrictions on filename lengths and the allowed characters.

For the purposes of this document, the filename is the base name of the file excluding the file extension. File extensions should only be added by the software generating or modifying the file to minimise the chances of rendering the file unreadable.

7.2 Identification

Although the file names do include the GTIN of the product to which they relate, these file names are not regarded as GS1 identifiers for these image files. The GS1 system determines which GS1 identifier is to be used in any supply chain by the type of item being identified.

GS1 identifiers are not significant, in that they do not include any data that can be decoded to reveal what the item being identified is: GS1 identifiers are non-significant.

If these image files were intended to be traded, they would be identified with unique GTINs that would have no link with the GTIN of the product to which the image files relate.

If these image files are not traded, but identified as digital documents, they should be identified with unique GS1 GDTI (Global Document Type Identifier).

7.3 Metadata list

The image file will include metadata such as camera data, image size, exposure data. In addition users will need to record master data about each image that will enable their use. The list below sets out the recommended data that should be considered. The trade item data referred to below, such as the GTIN, are for the trade item that is the subject of the image.

Metadata Attribute	Definition	R/O/D	GS1 Web Vocabulary Name	GS1 Web Vocabulary Definition
GDTI	A GS1 GDTI, a unique document identifier for the digital asset. This may or may not be the same value as the filename.	Recommended	gs1:gdti	
Brand Name	The Brand Name of the product in the image.	Recommended	gs1:brandName	The brand name of the product that appears on the consumer package.
Product Name	The name of the product.	Recommended	gs1:productName	Consumer friendly short description of the product suitable for compact presentation.
Valid From Date	Earliest date from when the image can be used or may be shown.	Recommended	gs1:referencedFileEffectiveStartDateTime	The date upon which the target of this external link begins to be effective for use.

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Metadata Attribute	Definition	R/O/D	GS1 Web Vocabulary Name	GS1 Web Vocabulary Definition
GTIN	Global Trade Item Number	Recommended	gs1:gtin	The GS1 identification key used to identify trade items. The key comprises a GS1 Company Prefix followed by an Item Reference Number and a check digit.
Alternative Text (Alt Text)	Provide text alternatives for any non-text content so that it can be changed into other forms people need, such as large print, braille, speech, symbols or simpler language	Optional	gs1:alternativeText	Guidance on the use of Alternative Text (Alt Text) can be found on https://www.w3.org/standards/webdesign/accessibility
Angle Indicator	Angle at which the image was taken when compared to the front face of the product.	Optional	gs1:referencedFileImageAngle	PROPOSED Web Vocabulary attribute.
Article Variant		Optional	gs1:productionVariantDescription	Free text assigned by the manufacturer to describe the production variant. Examples are: package series X, package series Y.
Camera Data		Optional		
Clipping Path Name		Optional		PROPOSED: gs1:referencedFileImageClippingPathName
Colour Mode		Recommended		
Copyright		Optional		
Create Date		Recommended		

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Metadata Attribute	Definition	R/O/D	GS1 Web Vocabulary Name	GS1 Web Vocabulary Definition
Description		Optional	gs1:productDescription	An understandable and useable description of a trade item using brand and other descriptors. This attribute is filled with as little abbreviation as possible while keeping to a reasonable length. Free form text field, this data element is repeatable for each language used and must be associated with a valid ISO language code. Field length is 178 characters. This should be a meaningful description of the trade item with full spelling to facilitate message processing. Retailers can use this description as the base to fully understand the brand, flavour, scent etc. of the specific GTIN in order to accurately create a product description as needed for their internal systems. Examples: GS1 Brand Base Invisible Solid Deodorant AP Stick Spring Breeze GS1 Brand Laundry Detergent Liquid Compact Regular Instant Stain 1 GS1 Brand Hair Colour Liquid Light to Medium Blonde.
Expiration Date	After this time, the image is not be shown	Optional	gs1:referencedFileEffectiveEndDateTime	The date upon which the target of this external link ceases to be effective for use.
Facing Indicator	Value to denote which way the product is facing within the image.	Optional	gs1:referencedFileFacingIndicatorType	PROPOSED Web Vocabulary attribute.
File/Nature Type	Explanation of the type of image shot taken.	Optional	gs1:referencedFileImageNatureType	PROPOSED Web Vocabulary attribute
Filename	The filename of the digital asset. GDTI is preferred.	Dependent	gs1:referencedFileName	The name of the file that contains the external information
Functional Name		Optional	gs1:functionalName	Describes use of the product or service by the consumer. Should help clarify the product classification associated with the GTIN.
GEO Coordinates	(Longitude, Latitude, Height)	Optional	gs1:latitude / gs1:longitude	PROPOSED: gs1altitude
Image Quality Assurance Date	The date when the image was verified to meet GS1 global standard.	Optional		PROPOSED: gs1:referencedFileImageQualityAssuranceDate
Indication Clipping Path Present		Optional		PROPOSED: gs1:referencedFileHasImageClippingPath

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Metadata Attribute	Definition	R/O/D	GS1 Web Vocabulary Name	GS1 Web Vocabulary Definition
Legal Owner	Owner of the digital file	Optional	gs1:legalOwner	PROPOSED: expects a value of gs1:Organisation (which can relate to a gs1:PostalAddress and a gs1:ContactPoint)
Legal Owner Contact Information	Contact information for the legal owner	Optional	gs1:contactPoint	Relates a gs1:Organisation to a gs1:ContactPoint class That specifies contact information (e.g., email, fax, telephone) and a gs1:contactType or gs1:responsibility (free-form text string, which could be 'legal owner of image' Recommendation: Create additional web vocabulary to align to this requirement - gs1:legalOwner expects a value of gs1:Organisation (which can relate to a gs1:PostalAddress and a gs1:ContactPoint)
Max Avail Height		Optional		
Max Avail Width		Optional		
Net Content	what quantity of product is provided	Optional	gs1:netContent	The amount 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.
Number of the image	e.g., "001V" for the front view of the promotional-optimised product image.	Optional		PROPOSED: gs1:referencedFileImageNumber
Packaging Type	The dominant means used to transport, store, handle or display the product as defined by the data source	Optional	gs1:hasPackaging	Datatype = Packaging
Product Net Content	Net Content of the product in text	Optional	gs1:netContent	Datatype = gs1:QuantitativeValue
Product Supplier	The Name of the product's supplier/manufacturer.	Optional	gs1:manufacturer	Datatype: Organisation

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Metadata Attribute	Definition	R/O/D	GS1 Web Vocabulary Name	GS1 Web Vocabulary Definition
Product URL	URL link to additional information (i.e., Detail page of the digital file).	Optional		
Rights of Use	No Entry of the right to use means an unrestricted right to use the product image.	Optional		
Special Rights	Special rights should be defined as free text	Optional		
Variant Description		Optional	gs1:variantDescription	Free text field used to identify the variant of the product. Variants are the distinguishing characteristics that differentiate products with the same brand and size including such things as the particular flavour, fragrance, taste.
Version Number	A version number is assigned for each product image, starting with value 1	Optional	gs1:consumerProductVariantIdentification	The identification for a particular Consumer Product Variant . This identification is based upon guidelines and assignment to the GS1 General Specifications.
Referenced File Type Code	Code to describe the placement of the product and its associated packaging.	Optional	gs1:referencedFileTypeCode	Suggest to define additional instances of gs1:ReferencedFileTypeCode in addition to existing values such as: gs1:ReferencedFileTypeCode-PRODUCT_LABEL_IMAGE gs1:ReferencedFileTypeCode-LOGO Gs1:ReferencedFileTypeCode-PRODUCT_IMAGE
URI	Uniform Resource Identifier	Optional	gs1:referencedUniformResourceIdentifier	Simple text string that refers to a resource on the internet, URLs may refer to documents, resources, people, etc.
Related Image	A link to any image that depicts or relates to the identified entity (e.g., trade item, assets, business process, patient record, location, organisation, etc.)	Optional	gs1:relatedImage	

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8 Image types

	Section	16th	Image type
Primary	3.3	A	Product image (web)
Primary	3.4	B	Product image with supporting elements (web)
Primary	3.5	C	Product image (high resolution)
Primary	3.6	D	Product image with supporting elements (high resolution)
Optimised	4.1	H	Mobile Ready Hero Image (MRHI)
Optimised	4.2	U	Optimised pack images
Optimised	4.3	E	Product image 360°/3D
Optimised	4.4	3DR	3D
Secondary	5.2	T	Content/texture
Secondary	5.3	F	Detail/technology
Secondary	5.4	M	Montage/composition
Secondary	5.6	N	Application
Secondary	5.7	R	Ambience/mood
Secondary	5.8	Q	Size comparison
Secondary	5.9	L2	Nutritional label
Secondary	5.10	L4	Ingredients
Secondary	5.11	L5	Nutritional/ingredients combined
Secondary	5.13	L7	Certification seals/claims
Secondary	5.14	L8	Preparation instructions
Secondary	5.15	L9	Petfood feeding instructions/ingredients
Secondary	5.16	L10	Safe handling instructions
Secondary	5.17	S	Sidekick images
Secondary	5.18	L11	Drug fact label
Secondary	5.19	L12	Supplement fact label
Secondary	5.20	L13	Lighting fact label
Secondary	5.21	J	Sustainability
Technical	6.1	N/A	Planogram Image and Data Field Specifications
Technical	6.2	N/A	Sample/mock-up
Technical	6.3	L1	Full flat
Technical	6.4	L3	Linear barcode
Technical	6.5	L6	2D barcode
Technical	6.6	G	Pharmaceutical drugs/medical devices

Character position	Value	Description
18 Only one may be used	C	C - Centre
	L	L - Left
	R	R - Right
	N	N - No plunge angle
	_	(underscore)

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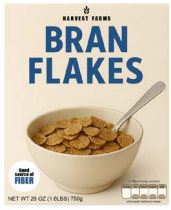
Character position	Value	Description
	(N3)	Serialisation/Sequence Number (3 character numeric)
19 Only one may be used	1	In packaging - A shot of the product fully enclosed in its primary packaging as it would appear at the point of sale, with no packaging opened, altered, or removed.  <GTIN>_A1C1.tif <GTIN>_A1N1.tif <GTIN>_A1R1.tif <GTIN>_A1R1.tif
	0	Out of packaging (i.e., the product as it first arrives "out of packaging" not how it appears after it has been processed or prepared). <GTIN>_A1C0.tif <GTIN>_A1C0.tif <GTIN>_A1R0.tif <GTIN>_A1R0.tif
	A	Case – A shot of the product in its case as it would appear to the operator upon delivery. <GTIN>_A1RA.tif <GTIN>_A1RA.tif <GTIN>_A1RA.tif <GTIN>_A1RA.tif
	B	Inner pack – A shot of the product as it would appear inside its packaging inside the case. <GTIN>_A1RB.tif <GTIN>_A1RB.tif <GTIN>_A1RB.tif

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Character position	Value	Description
	C	Raw/uncooked – A shot of a product that has not been cooked or processed or that needs to be cooked or further prepared. <GTIN>_B3CC.tif
	D	Prepared - A shot of a product that has been taken from a raw or uncooked state to a cooked state according to the appropriate method of preparation (e.g., baked, fried, grilled or boiled). <GTIN>_B3CD.tif
	E	Plated - Prepared food arranged simply on a serving plate, dish or bowl for better visibility. May include an additional step, such as garnishing, icing, seasoning or other enhancement. <GTIN>_B3CE.tif
	F	Styled - Carefully and artfully arranged for an attractive visual presentation, and designed to suggest the taste, aroma and appeal of the actual dish. May include complementary items (e.g., an entrée and sides) to present the impression of a complete meal. May also include an additional step, such as garnishing, icing, seasoning or other enhancement. May be presented with different backgrounds and at different angles. Typically applied to food or grocery items. Prepared - A shot of a product that has been taken from a raw or uncooked state to a cooked state according to the appropriate method of preparation (e.g., baked, fried, grilled or boiled). <GTIN>_B3CF.tif

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Character position	Value	Description
	G	Staged - A shot of a product that has been arranged for display in such a way as to provide clear visibility. The product may be propped up if necessary for optimum viewing, but it should not be held or used in any way by a person. Typically applied to non-food items. <GTIN>_B1CG.tif
	H	Held - A shot of a product that has been held out for display by one hand or a pair of hands. When relevant, proper grip should be demonstrated. Apart from the hands and forearms, no part of the person holding the item should be visible. <GTIN>_B1CH.tif
	J	Worn - A shot of a product, such as a protective item or article of clothing, which is worn by a person. The complete product should be visible inside the frame, but the individual wearing it should be cropped out as much as possible. <GTIN>_B1CJ.tif
	K	Used - A shot of a product as it is meant to be used in its appropriate environment. Small utensils may be held in a hand or hands and used for their intended purpose. <GTIN>_B1CK.tif

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Character position	Value	Description
	L	Family - A shot of a number of related products (e.g., matched sets, place settings) arranged together in a single picture. <GTIN>_B1CL.tif
	M	Open Case - A shot of a case, flaps open, that shows how the product(s) would look when an operator receives the product and opens the case. <GTIN>_A1RM.tif <GTIN>_A1RM.tif <GTIN>_A1RM.tif <GTIN>_A1RM.tif
	P	Pallet/Display – An image comprised of the product in a display or pallet configuration. <GTIN>_A1RP.tif <GTIN>_A1RP.tif <GTIN>_A1RP.tif <GTIN>_A1RP.tif
	Q	Formed - An image of a product that has the supporting shape/form (for example a model, mannequin, hanger) removed to give the product a 3-D look. <GTIN>_B1CQ.tif
*After mandatory elements	(a2) or (a2-A2)	Language Indicator (2 character alpha):ISO639 format - Example syntax for populating a country variation of a Language Code attribute: aa or optionally aa-AA where aa = ISO 639-1 code list, must be lower case where AA =ISO 3166-1 Country Code, 2 Alpha character representation, must be upper case to be used only if multiple faces of dissimilar languages occur.
	s(N2)	Serialisation/Sequence Number (3 character alphanumeric): lowercase 's' followed by 2 numeric digits for Sequence number will be added at the end of file name with the following format: xxxx_sNN (underscore, lowercase "s" and then 2 numeric mandatory).

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9 Abbreviations

Term	Abbreviation	Definition
Alphanumeric	an	A character set that contains alphabetic characters (letters), numeric digits (numbers) and other characters, such as punctuation marks.
Consumer Product Variant	CPV	An alphanumeric attribute of a GTIN assigned to a retail consumer trade item variant for its lifetime.
Global Document Type Identifier	GDTI	The GS1 identification key used to identify a document type. The key comprises a GS1 Company Prefix, document type, check digit and optional serial number.
Global Trade Item Number	GTIN	The GS1 identification key used to identify trade items. The key comprises a GS1 Company Prefix, an item reference and check digit.
Lempel-Ziv-Welch compressed Tagged Image File Format	LZW Compressed TIFF	A method used to reduce the size of Tag Image File Format (TIFF) files without significant loss of image quality.
Numeric	n	A character set exclusively composed of numerical digits (0-9). Numeric values are utilized for representing quantities or measurements in a numerical format, without alphabetic characters or other symbols.
Tag Image File Format	TIFF	A computer file used to store raster graphics and image information.
Trade Item Implementation Guide	TIIG	Supplements the formal GS1 Global Data Synchronisation Network (GDSN) standards with advice on their implementation and operation.

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10 References

Document	Autor / Date
GS1 Mobile Ready Hero Images Guideline	GS1, latest
GS1 Package and Product Measurement Standard	GS1, latest

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