
Preparing to Generate Your GS1 DataMatrix

This document provides information about creating a GS1 DataMatrix—from obtaining the correct data elements to generating the barcode using GS1 Canada’s barcode generator tool—ensuring your products meet industry requirements and can be tracked across the supply chain.

The GS1 DataMatrix barcode makes this information machine readable. By capturing and storing this data, companies can reduce manual entry errors, enhancing product safety, reducing waste and increasing patient or customer confidence.

This guide has been developed specifically for the Healthcare Pharmacy and Cannabis sectors.

To get started, here are some key concepts to understand.

GS1 DataMatrix: The GS1 DataMatrix is a 2D barcode, enabling businesses to include GTIN (Global Trade Item Number) plus additional product information such as, best before date, lot or batch number, serial number, expiration date, and more in a compact format.

Industries using GS1 DataMatrix: For the time being, Pharmacy and Cannabis communities have identified GS1 DataMatrix as the 2D barcode to meet their business needs.

GTIN Requirement: A GTIN (Global Trade Item Number) is required before you begin, as it is the foundation for implementing any GS1 barcode, including the GS1 DataMatrix, as it identifies the product uniquely globally.

Choosing the Right Barcode:

Healthcare Pharmacy: As per the Pharmacy GS1 DataMatrix Implementation Roadmap, for the primary and secondary packaging levels of products, one must affix a GS1 DataMatrix barcode on the packaging.

For shipping cases and pallets, you will continue to use GS1-128 barcode. For homogenous cases you have the option to affix a GS1 DataMatrix in addition to the GS1-128. If you choose to affix these two barcodes, they both must contain the same GTIN.

Cannabis: As per Cannabis roadmap, one may affix a GS1 DataMatrix barcode to the consumer unit level of products (or the products that go through Point-of-Sale (POS)).

For shipping units such as cases and pallets, you will continue to use a GS1-128 barcode or an ITF-14 if you have a corrugated box.

Visit the [Help Library](#) (login required) to learn more about product packaging and the [GS1 Barcode Chart](#) to see an overview of various barcodes.

GS1 Application Identifiers: Application Identifiers (AIs) are two-to-four-digit prefixes within GS1 system of standards that are used to encode the information in GS1 barcodes. These AIs define the meaning and format of data fields. Each AI indicates specific information, such as batch number, expiry date or packaging date, ensuring accurate data interpretation. AIs enable standardized data capture across industries, enhancing supply chain efficiency and product traceability.

After you log in to [myGS1](#), you can access the barcode generator tool-two ways:

- In My Tools, select Manage My GTINs, **OR**
- At the top of the page, select Solutions > Barcode Generator

After you have accessed the tool, follow onscreen instructions to generate and save the barcode.

For support you can email info@gs1ca.org.