

## WHY THE UNIVERSAL PRODUCT NUMBER (UPN) IS THE PREFERRED STANDARD FOR PRODUCT NUMBERING



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### What is the Universal Product Number (UPN)?

The UPN is a product identifier used to uniquely identify products used in the health industry. The UPN format can be either the HIBC (Health Industry Bar Code) format, used predominantly by suppliers of Medical and Surgical products, or the EAN (European Article Number) format, used predominantly by the Fast Moving Consumer Goods (FMCG) industry, and most commonly used at the supermarket checkout. The HIBC format is a variable length alphanumeric number, whereas the EAN is a fixed length all numeric number. Because of this, they are mutually exclusive, ie ***there is no way that two different products can be assigned the same number.***

Because both numbering formats are in common use, the UPN is a practical and efficient means of managing product data, and the UPN does not present any difficulties in database systems.

The numbering system must not be confused with the barcode. The barcode is simply the technology used to represent (or encode) the allocated number in a barcode symbol. There are many different barcode symbology standards in common use today. HIBC uses Code 39 and Code 128. EAN uses EAN 8, EAN 13, EAN 14, EAN128 (a derivative of Code 128) and many others.

***It is important to understand that modern barcode scanners and readers are capable of reading all types of barcode standards, and can automatically discriminate between them. What this means is that you can scan any barcode format with the one scanner, and the scanner is able to automatically recognise the barcode standard scanned, and read the encoded data.***

## HIBC numbering format

The HIBC numbering format is a variable length, alphanumeric numbering system. The structure of the barcode and number is illustrated below:



+H491400163246 where,

+ = HIBC Flag character (this indicates that the number in the barcode uses the HIBC numbering system)

H491 = Labeler Identification Code (LIC). This is a unique code that is provided to suppliers by HIBCC on application.

4001632 = The product number as assigned by the supplier. This number can be a variable length alphanumeric number between 1 and 13 characters in length. The number inserted here by most suppliers is the Manufacturers Part Number. However, where the Part Number contains a space or hyphen, then these characters need to be removed when creating a HIBC number.

4 = Unit of measure (UOM) indicator. 0 is for base unit, and 1 through 9 are used to indicate the different packaging levels – (eg Pack of 6, Carton of 6 packs of 6 etc).

6 = Link (or check) character. This is a mathematically determined character using the modulus 43 mathematical formula.

***To convert the HIBC to a UPN, all that is required is to remove the “+” character, and the Link character. Therefore the UPN for the number in the example above is H49140016324.***

The easiest way to illustrate the HIBC numbering system is through examples. The following are HIBC numbers for a sample of different products:

HIBC NUMBER	BARCODE REPRESENTATION	DESCRIPTION	UPN
+H491400163246	 +H491400163246	RP XOMAT DEVELOPER REPLENISHER 38L	H49140016324
+E5041689H2L	 +E5041689H2L	SILK 2/0 FSLX 75CM	E5041689H2
+H2021940001Y	 +H2021940001Y	PENNINGTON TISSUE GRASP FORCEP	H2021940001

## EAN Numbering Format

There are a number of EAN numbering formats in use. The most common formats in use are EAN 8, EAN 13, and EAN 14.

All EAN formats are fixed length **all numeric** numbers. The structure of EAN numbers is generally as shown following:

### EAN 8

An EAN 8 number can only be issued by EAN on direct application to EAN. EAN controls the number of EAN 8 numbers issued. The following barcode is an example of the EAN 8.



93287739 where,

9328 = company prefix. This is the unique prefix given to a supplier. **Note that the length of the company prefix can vary.**

773 = the product number assigned by the supplier, where the company prefix is 4 numeric characters.

9 = Check digit. Mathematically calculated number using the modulus 10 formula.

### EAN 13

The structure of the EAN 13 number is illustrated following:



9314598110272 where,

9314598 = company prefix, where EAN has supplied a 7 digit company prefix to the supplier. The company prefix is provided by EAN on application.

931459811 = company prefix, where EAN has supplied a 9 digit company prefix to the supplier. This is EAN's preference in order to "conserve the available pool of numbers for allocation"<sup>1</sup>

11027 = Product number assigned by the supplier (where a 7-digit company prefix has been allocated to the supplier). This is a fixed length 5-digit number. **Note: Where a 9-digit company prefix has been allocated by EAN, the product number will be a fixed length 3 digit number (027).**

2 = Check digit. Mathematically calculated number using the modulus 10 formula.

### EAN 14



19314598110279 Same as for EAN 13, with the addition of a packaging level indicator at the front of the number. In the example above, the number "1", is the packaging level indicator.

To convert the EAN format to UPN, is very straightforward. The EAN 14 is exactly the same, whereas for EAN 8 and EAN 13, it is required to backfill the number with leading zeros.

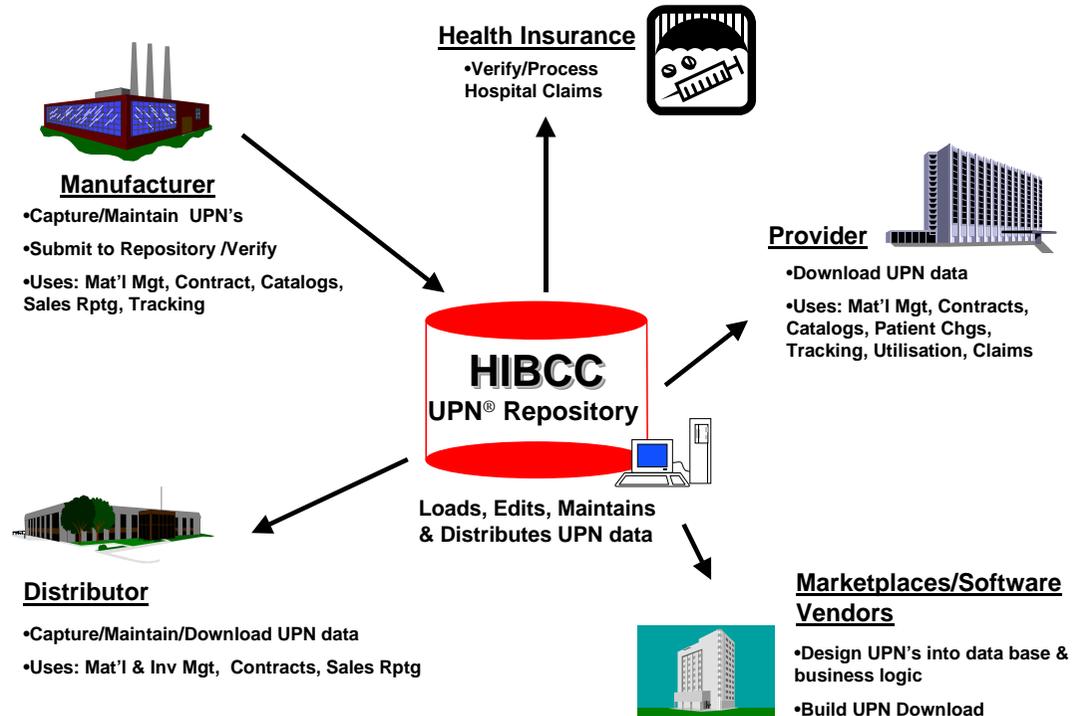
EAN will often use the EAN 128 symbology to represent the EAN 14 format. In this instance, the number will commence with (01), which is the "Application Identifier" for the Global Trade Item Number (GTIN– the name that EAN prefers to use for the EAN number). The UPN representation of the number in this case will require that the (01) is removed.

The table following illustrates the UPN conversion for some example EAN numbers.

<sup>1</sup> Quote from EAN brochure – "The EAN Standard Numbering and Barcoding System"

EAN (OR GTIN) NUMBER	BARCODE REPRESENTATION	UPN EQUIVALENT
93287739		0000093287739
9314598110272		09314598110272
19314598110279		19314598110279
(01)19314598110279		19314598110279

The contents of the UPN Repository are provided and maintained by the suppliers. Users of the data include Health Providers (such as hospitals), distributors, health regulators and software vendors needing the data for their particular applications.



## What is the UPN Repository?

The UPN Repository is a master catalogue of medical and surgical products containing basic data elements such as Manufacturer Name, Product Description and other relevant information about medical and surgical products. The UPN Repository is a centrally maintained database, managed by HIBCC.

The purpose of the UPN Repository is to provide an accurate and up-to-date source of product data, "synchronised" across the entire health supply chain. The UPN repository ensures that costly product data errors are minimised, and information flowing through the supply chain is streamlined and readily available.

*The UPN number uniquely identifies products in the UPN repository and its format can be either a HIBC or EAN number, since the UPN field is formatted to accept either the HIBC or EAN formats.*

For further information about the UPN numbering system, or any of the other HIBCC standards and services, please contact HIBCC AU.



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