

PPN

Pharmacy Product Number

Technical Specification

Version: 01.4
January 2012

Document Maintenance Summary

This document has had the following changes since the first issue.

Date	Action	Summary
2011-06-14	Update	Insertion of DI (9N) after proposal of the ASC DI Maintenance Committee for registration of (9N)
2011-08-26	Correction	Correction of wording according ASC DI Metadata Form
2011-09-05	First release	
2011-09-30	Ed. corrections	Received editorial corrections inserted
2011-11-04	V.1.3: Corr .Table 2	PRA-Code "00" defined
2012-01-24	V 1.4 Editorial Changes	New Layout, Link for assigned PRA-Codes

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1 Foreword

The Pharmacy Product Number (PPN) has been developed by a stakeholder consortium consisting of pharmaceutical product manufacturers, distributors and pharmacists in order to integrate existing local systems into global standards of the International Standardization Organization (ISO) and ensuring the PPN is internationally unique. IFA acts as the executive organization maintaining the PPN. The PPN allows the use of standardized modules providing for the verification of products and meeting governmental requirements. The ASC Data Identifier system has been chosen to carry the PPN as it provides the required capacity and features for unique product marking. A specific Data Identifier (9N) has been assigned for the PPN by the ANS MH 10.8.2 DI Maintenance Committee under the category "Industry Assigned Codes". The PPN system is open for any Product Registration Agencies (PRA) who want to use this ISO compliant solution.

PRAs desiring an assignment of a Product Registration Agency Code (PRA) may submit "Application Form PRA-Code" to the IFA (http://www.ifa-coding-system.org/de/home/issuing_agency).

At the time of approval of the PPN specification, the maintenance committee consisted of the following members:

- **ABDA - Bundesvereinigung Deutscher Apothekerverbände**
(German Federal Association of Pharmacists)
- **Bundesverband der Arzneimittel-Hersteller e.V. (BAH)**
(German Medicines Manufacturers` Association)
- **Bundesverband der Pharmazeutischen Industrie e.V. (BPI)**
(German Pharmaceutical Industry Association)
- **Bundesverband des Pharmazeutischen Großhandels – PHAGRO - e.V.**
(Association of Pharmaceutical Wholesalers)
- **Pro Generika e.V.**
(Association of Generic Medical Manufacturers)
- **Verband Forschender Arzneimittelhersteller e.V. (vfa)**
(Association of Research-Based Pharmaceutical Companies)

2 Scope

This specification provides the definition for the Pharmacy Product Number and its structure. It reserves the codes for Product Registration Agencies and space for registered product references. This specification does not include the definitions of the registered product codes to be embedded within a PPN but provides a shell for it. Additional data elements to be concatenated (i.e. lot, expiry date, serial number) as specific labeling requirements and are not part of this specification. This is subject of additional mandated labeling requirements (e.g. IFA Coding System).

3 References

ISO/IEC 15418	Information technology – Automatic identification and data capture techniques – GS1 Application Identifiers and ASC MH 10 Data Identifiers
ANSI MH10.8.2	Data Identifier and Application Identifier Standard (DI part of ISO/IEC 15418)
ISO/IEC 15434	Information technology – Automatic identification and data capture techniques – Syntax for High Capacity Media
ISO/IEC 16022	Data Matrix
EUROCODE IBLS	International Blood Labeling System, www.eurocode.org
PZN8	Pharma Central Number (Pharmazentralnummer), www.ifaffm.de

4 Terms and definitions

IFA	Registration Agency for Product registration agencies and maintenance organisation for PZNs
PPN	Pharmacy Product Number identified by DI “9N”.
PRA	Product Registration Agency
PRA-Code	A prefix for identifying a Product Registration Agency for health industry product numbers
PZN	German National Pharmaceutical Product Number (Pharmazentralnummer)
RPN	Registered Product Number (locally assigned by product registration agencies)
PPN-Code	www.ifa-coding-system.org

5 PPN Definition

The Pharmacy Product Number PPN is structured as follows:

Two-digit Product Registration Agency Code assigned by IFA GmbH, followed by the registered product number (assigned by product registration agencies) and two PPN check digits.

Illustration of the structure of a PPN with preceding DI "9N:" <PRA-Code><RPN><CC>

Data Identifier (DI):	9N	Reserved for IFA in ANSI MH10.8.2
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The definition of the elements of a PPN is shown in table 1.

Table 1: PPN elements

Data-Element	Type/Length	Remark
PRA-Code	an2	Product Registration Agency Code assigned by IFA
RPN	an1..18	By PRA registered product number.
CC	n2	Check sum; Modulo 97 calculation

The PPN character set is 0 to 9 and A to Z upper case if not stated otherwise by Product Registration Agency.

Illustration of a PPN with a sample PRA-Code "00", a 9 digit RPN sample and 99 as place holder for the check sum.

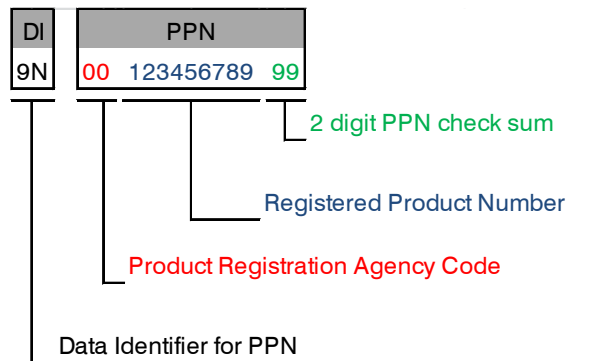


Table 2 shows registered and reserved PRA-Codes at the time of issue of the PPN specification.

Table 2: Assigned PRA-Codes

PRA-Code	Assigned to	Used for
00-10	Reserved	
11	IFA	PZN - registered Pharmacy Product Number Germany
12	EUROCODE IBLS	Registered Blood Product Number
13-99	Reserved	
AA-ZZ	Reserved	

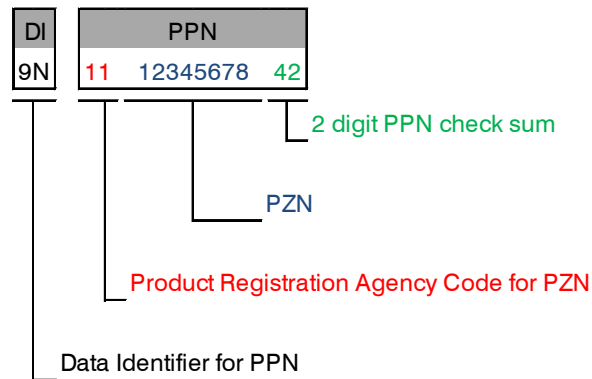
Note: This table is subject to maintenance

Current registered and reserved PRA-Codes are listed under:
http://www.ifa-coding-system.org/de/home/issuing_agency

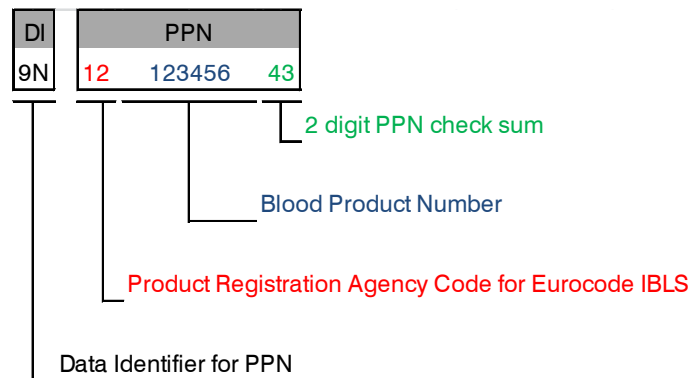
6 PPN Examples applied with registered PRA-Codes

The examples below show a PPN with Product Registration Agency Code “11” for a PZN and one with “12” for a product number according to EUROCODE.

PPN example with PRA-Code “11”



PPN example with PRA-Code “12” for Blood Product codes according to Eurocode IBLS standard.



7 Syntax and additional data elements

PPN and additional data elements will be embedded with ISO/IEC 15434 Syntax for High Capacity Media. Additional data elements shall be pre-fixed by an ASC Data Identifier. Typical Data Identifiers for completing the data information are (D) for Expiry Date, (1T) for the lot number, (S) for a serial number, (8P) for a GTIN.

8 AIDC Media

The PPN data structure has been designed as a media independent structure. Nevertheless Data Matrix (ISO/IEC 16022) is the recommended optical symbology for carrying a PPN in conjunction with ISO/IEC 15434 Syntax for High Capacity Media, specifically for a full set of concatenated data elements (e.g. PPN, Expiry Date, Lot, SN, etc). RFID is an alternative technology to be used alone or in a hybrid solution with optical codes. In all cases the relevant ISO/IEC standards apply.

9 Calculation of PPN Check Sum

Each PPN requires a Modulo 97 Check Sum for additional data security. To calculate the check sum the ASCII value of the alphanumeric characters are used. Each of the characters is converted into the ASCII value and multiplied with the incrementing weight factor beginning with the most significant character to the left and with weight factor 2. The results of each multiplication are summed and divided by 97 and the remainder is the check number. If the remainder is only one digit then a leading zero is added. This 2 character string is appended to the PPN string as the check sum.

Check Sum generation is illustrated by the example in the table below:

The check sum for PPN sample “1103752864” is “14” and is calculated as follows:

	PRA Code		PRN								PPN check sum	
PPN	1	1	0	3	7	5	2	8	6	4	1	4
ASCII character value	49	49	48	51	55	53	50	56	54	52		
Weight factor	2	3	4	5	6	7	8	9	10	11		
Multiply ASCII value and weight factor	98	147	192	255	330	371	400	504	540	572		
Sum	3409 / 97 = 35 – 14 remains and 1 and 4 are the last two digits representing the check sum.										1	4

Note: 97 is a prime number providing a high security level if used in a MODULO check digit calculation.