



**TRANSMISSION OF
ECLASS IN GS1 CIN 3.1
GS1 STANDARDS**

**ECLASS – STANDARD FOR MASTER DATA
AND SEMANTICS FOR DIGITALISATION**

Version 1.0, MAY 2021

Document information

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About this document

Due to the conversion of the GS1 XML CIN format from version 2.3 or 2.8 to version 3.1 in the area of the transmission of additional classifications such as ECLASS, a revision of the specification has become necessary.

The format is used very frequently on the market, especially in the field of medical devices, so that a detailed description with examples is important for an equal understanding of all participants. This is provided with the present document.

In the German GS1 working group "Product Master Data in Health Care" the necessity of the revision was recognized.

Therefore, the document was produced and created with the participation of the following companies:

- Class.Ing engineering partnership
- B.Braun Melsungen AG
- University Hospital Schleswig-Holstein

Cologne, May 2021

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1 Introduction

The data exchange in the German health care system uses two standards which, in combination, enable the description and transmission of product data.

- ECLASS
standardized classification and property-based description of products
- GS1 XML CIN 3.1
standardized transmission of product data in an XML-based format

After providing basic information on the topic, the integration of ECLASS (classification and properties) into the data transmission standard GS1 XML CIN [3.1](#) is described according to the objective. All use cases can be reproduced using a consistent example. Special requirements - such as the transmission of several values and units - are also explained.

2 Objective

As a classification standard, ECLASS provides the classification of articles and a property-based description. Both information areas are to be transmitted using GS1 XML CIN in the currently published version 3.1. The following example is used throughout the following sections.



Classification

- 34000000 ■ Medical device
 - 34220000 ■ Injection, infusion, transfusion systems
 - 34220200 ■ Injection system (with cannula)
 - 34220203 ■ Heparin, tuberculin injection system (syringe with cannula)

Property based description

Number of syringe parts	3-part
Allergenic potential	latex-free, contains nickel
Coding (based on UMDNS)	16824-Syringes
Attached cannula	No
Product checked according to SVHC on	2020-01-01
Customs tariff number (TARIC)	90183110
Nominal volume of the medical syringe	1 ml
Cannula length	12 mm

Figure 1: Example of a property-based description using a syringe

When selecting the example, it was ensured that a real example based on ECLASS 11.0 and GS1 XML CIN 3.1 would cover as many use cases as possible. The data was selected and prepared by the company B. Braun on the basis of real data.

Note: Not all values are real values!

3 Information on the standards

3.1 GS1 GS1 XML CIN

- The CIN (Catalog Item Notification) is a message type in the GDSN. This message contains the actual product data, e.g. name, dimensions, packaging types and number of items, weights, manufacturer details, etc.

Basic information about the standard as well as the schemes can be found on the following page:

<https://www.gs1.org/standards/qdsn/current-standard>

Information on the German target market profile can be found here:

<https://www.gs1-germany.de/gs1-complete/branchenangebote/gs1-standards-im-gesundheitswesen/>

3.2 ECLASS

Basic information on the standard can be found on the following page:

<https://www.eclass.eu/>

4 Transmission of the ECLASS classification

4.1 Structure and explanation

GS1 XML CIN differentiates between the GS1 Global Product Classification (GPC) and other additional classifications when transmitting classifications. For each item, the GPC class must also be specified under <gpcCategoryCode> next to the ECLASS class. In the health care sector, the two basic classes are used:

- Medical Devices: 10005844
- Drugs: 10005845

Further classifications are transmitted in the area <additionalTradeItemClassification>. First of all, it is necessary to specify which classification (including properties, values) is used. This is to be done via a code from a list provided by GS1; for ECLASS this code is "31".

The following three elements of information shall be provided for the ECLASS classification:

<additionalTradeItemClassificationCodeValue>	ClassCodedName (8-digit number) ⁽¹⁾
<additionalTradeItemClassificationCodeDescription>	Description of the class ⁽²⁾
<additionalTradeItemClassificationVersion>	Version of the ECLASS classification standard ⁽³⁾

⁽¹⁾ The corresponding IRDI (in the example: 0173-1#01-BAF264#014) of the class is not transmitted. Explanations of the IRDI can be found in section [4.4](#).

⁽²⁾ The following rules and regulations apply to the filling of the element. This is also due to the fact that the description cannot be transmitted in several languages. With the transmission of the ClassCodedName (CCN) and the version, the relevant information is already available. And even if this is a general guideline, it is always advisable to coordinate with the recipient of the data. The rules and regulations are as follows (order as indicated):

- Denomination of the class in the market relevant language (Default: English)
- Retransmission of the ClassCodedName CCN

⁽³⁾ For the version only the corresponding major or minor release is indicated. (example: 10.1, 11.0), patches and sub-releases (example 9.0 P1, 10.0.1) are not mentioned.

4.2 Example

The following illustrations represent the transmission of the classification in accordance with the selected example.

Class transmission with class name in the description

```
<gdsnTradeltemClassification>
  <gpcCategoryCode>10005844</gpcCategoryCode>
  <gpcCategoryDefinition>Medical Devices</gpcCategoryDefinition>
  <gpcCategoryName>Medical Devices</gpcCategoryName>
  <additionalTradeltemClassification>
    <additionalTradeltemClassificationSystemCode>31</additionalTradeltemClassificationSystemCode>
    <additionalTradeltemClassificationValue>
      <additionalTradeltemClassificationCodeValue>34220203
        </additionalTradeltemClassificationCodeValue>
      <additionalTradeltemClassificationCodeDescription>
        Heparin-, tuberculin injection system(syringe with cannula)
        </additionalTradeltemClassificationCodeDescription>
      <additionalTradeltemClassificationVersion>11.0</additionalTradeltemClassificationVersion>
    </additionalTradeltemClassificationValue>
  </additionalTradeltemClassification>
</gdsnTradeltemClassification>
```

Class transmission with ClassCodedName in the description

```
<gdsnTradeltemClassification>
  <gpcCategoryCode>10005844</gpcCategoryCode>
  <gpcCategoryDefinition>Medical Devices</gpcCategoryDefinition>
  <gpcCategoryName>Medical Devices</gpcCategoryName>
  <additionalTradeltemClassification>
    <additionalTradeltemClassificationSystemCode>31</additionalTradeltemClassificationSystemCode>
    <additionalTradeltemClassificationValue>
      <additionalTradeltemClassificationCodeValue>34220203
        </additionalTradeltemClassificationCodeValue>
      <additionalTradeltemClassificationCodeDescription>34220203
        </additionalTradeltemClassificationCodeDescription>
      <additionalTradeltemClassificationVersion>11.0</additionalTradeltemClassificationVersion>
    </additionalTradeltemClassificationValue>
  </additionalTradeltemClassification>
</gdsnTradeltemClassification>
```

4.3 Transmission of several ECLASS versions in one CIN

The transmission of several ECLASS versions is possible by repeating the range <additionalTradeItemClassificationValue>. However, no statement can be made as to whether and which target systems can cope with it.

The procedure is shown in the following example.

Transmission of several ECLASS versions in one CIN

```
<gdsnTradeItemClassification>
  <gpcCategoryCode>10005844</gpcCategoryCode>
  <gpcCategoryDefinition>Medical Devices</gpcCategoryDefinition>
  <gpcCategoryName>Medical Devices</gpcCategoryName>
  <additionalTradeItemClassification>
    <additionalTradeItemClassificationSystemCode>31</additionalTradeItemClassificationSystemCode>
    <additionalTradeItemClassificationValue>
      <additionalTradeItemClassificationCodeValue>34220203
        </additionalTradeItemClassificationCodeValue>
      <additionalTradeItemClassificationCodeDescription>
        Heparin-, tuberculin injection system(syringe with cannula)
        </additionalTradeItemClassificationCodeDescription>
      <additionalTradeItemClassificationVersion>10.0</additionalTradeItemClassificationVersion>
    </additionalTradeItemClassificationValue>
    <additionalTradeItemClassificationValue>
      <additionalTradeItemClassificationCodeValue>34220203
        </additionalTradeItemClassificationCodeValue>
      <additionalTradeItemClassificationCodeDescription>
        Heparin-, tuberculin injection system(syringe with cannula)
        </additionalTradeItemClassificationCodeDescription>
      <additionalTradeItemClassificationVersion>11.0</additionalTradeItemClassificationVersion>
    </additionalTradeItemClassificationValue>
  </additionalTradeItemClassification>
</gdsnTradeItemClassification>
```

4.4 Using ID / IRDI values

ECLASS is based on ISO / IEC standards as an international standard. The central element is the use of the International Registration Data Identifier (IRDI), which is based on the standards ISO/IEC 11179-6, ISO 29002 and ISO 6532 and is anchored in the entire standard. An explanation can be found at <https://wiki.eclass.eu/wiki/IRDI>.

This IRDI is used for data exchange because both the GS1 standard and the ECLASS standard are to be applied in the correct form. This means that the mere transmission of the identifier (e.g. ABC123) is not sufficient for properties, values, etc. The use of IRDIs for properties with value lists is explained in detail in sections [5.4.1](#) or [5.4.2](#) (property with value(s) from a value list) and [5.4.4](#) (Boolean property).

Exception: When transmitting the class, the Class Coded Name (CCN) is used (see section [4.1](#)), it is not possible to specify the IRDI.

Note: In the figurative sense, this would be equivalent to the procedure of omitting the check digit when transmitting a GTIN because it does not contain any actual information.

5 Transmission of ECLASS properties

5.1 Structure

In addition to the class, the GS1 XML CIN format can also be used to transmit properties and the associated values. If ID values (called IRDI in the context of ECLASS) are available for properties and values, these are transmitted in a language-neutral manner. The use of units is described separately in Section [5.6](#), with the two relevant data types in Section [5.2](#) being indicated accordingly.

The transmission of the property takes place with the following two to three elements:

- Property code <additionalTradeItemClassificationPropertyCode> (mandatory)
- Property description <additionalTradeItemClassificationPropertyDescription> (optional, included in the following examples, without speech recognition)
- Property specification depending on the data type of the property of one of the elements listed in the following section (mandatory) - when an IRDI is submitted, the format does not allow the provision of a readable term

5.2 Different data types (Mapping)

ECLASS and GS1 XML CIN use differently named data types, which are compared in the table below.

Table 1: Comparison of ECLASS and XML CIN

ECLASS		GS1 XML CIN 3.1
STRING_TRANSLATABLE		<propertyString>
STRING	IRDI	<propertyCode>
INTEGER_COUNT	Without unit	<propertyInteger>
REAL_COUNT	Without unit	<propertyFloat>
INTEGER_MEASURE	With unit	<propertyMeasurement measurementUnitCode="[UoM*]">
REAL_MEASURE	With unit	<propertyMeasurement measurementUnitCode="[UoM*]">
BOOLEAN	IRDI	<propertyCode>

DATE		<propertyDateTime>
------	--	--------------------

In the field of number-based data types, a distinction is made between data types with and without a unit. An explanation is given in the section on detailed examples in [5.4](#).

5.3 Data base for the example

The cases explained in section [5.4](#) are illustrated by examples according to the objectives in section 2. The following figure gives an overview of the cases considered, including all ECLASS relevant information (properties, values and units).

Use case	Property name	Property IRDI	Data type eClass	Unit	Unit IRDI	Value name	Value IRDI
List of values, Single choice	Number of syringe parts	0173-1#02-AAA363#005	STRING			3-part	0173-1#07-AAJ261#004
List of values, Multiple choice	Allergenic potential	0173-1#02-AAA305#008	STRING			latex-free, contains nickel	0173-1#07-AAJ030#004 0173-1#07-AAB200#003
Free text	Coding (based on UMDNS)	0173-1#02-AAQ199#002	STRING_TRANSLATABLE			16824-Syringes	
Boolean	Attached cannula	0173-1#02-AAA389#006	BOOLEAN			No	0173-1#07-CAA017#003
Date*	Product checked according to SVHC on	0173-1#02-AAO222#003	DATE			2020-01-01	
Integer without unit*	Customs tariff number (TARIC)	0173-1#02-AAD931#005	INTEGER_COUNT			90183110	
Integer with unit	Nominal volume of the medical syringe	0173-1#02-AAA720#007	INTEGER_MEASURE	mm	0173-1#05-AAA480#003	12 mm	
Float with unit	Nennvolumen der medizinischen Spritze	0173-1#02-AAA962#007	REAL_MEASURE	ml	0173-1#05-AAA678#003	1 ml	

*: Data are sample data that are used to complete the data and do not come from B. Braun

Figure 2: Data base for the example

5.4 Overview of the different data types (with example)

5.4.1 List of values, single selection

ECLASS Data type: STRING, GS1 Data type: propertyCode

Here a property combined with a value is transmitted. The value has been selected from a list of values and is therefore transmitted in a language-neutral manner via IRDI.

- Property: number of injection parts 0173-1#02-AAA363#005
- Value: 3 parts 0173-1#07-AAJ261#004

The XML-based description follows:

```
<gdsnTradelItemClassification>
  <gpcCategoryCode>10005844</gpcCategoryCode>
  <gpcCategoryDefinition>Medical Devices</gpcCategoryDefinition>
  <gpcCategoryName>Medical Devices</gpcCategoryName>
  <additionalTradelItemClassification>
    <additionalTradelItemClassificationSystem-Code>31</additionalTradelItemClassificationSystemCode>
    <additionalTradelItemClassificationValue>
      <additionalTradelItemClassificationCodeValue>34220201
        </additionalTradelItemClassificationCodeValue>
        <additionalTradelItemClassificationCodeDescription>Injection system (with cannula)
          </additionalTradelItemClassificationCodeDescription>
        <additionalTradelItemClassificationVersion>11.0</additionalTradelItemClassificationVersion>
        <additionalTradelItemClassificationProperty>
          <additionalTradelItemClassificationPropertyCode>0173-1#02-AAA363#005
            </additionalTradelItemClassificationPropertyCode>
            <additionalTradelItemClassificationPropertyDescription>Number of syringe parts
              <additionalTradelItemClassificationPropertyDescription>
                <propertyCode>0173-1#07-AAJ261#004</propertyCode>
              </additionalTradelItemClassificationPropertyDescription>
            </additionalTradelItemClassificationProperty>
          </additionalTradelItemClassificationValue>
        </additionalTradelItemClassification>
      </gdsnTradelItemClassification>
```

5.4.2 Value list, multiple selection

ECLASS Data type: STRING, GS1 Data type: propertyCode

Here a property combined with several values is transmitted. The values have been selected from a list of values and are thus transmitted in a language-neutral manner via IRDI.

- Property: allergenic potential 0173-1#02-AAA305#008
- Value 1: latex-free 0173-1#07-AAJ030#004
- Value 2: Nickel-containing 0173-1#07-AAB200#003

The XML-based description follows. The block <additionalTradelItemClassificationProperty> is transmitted multiple times, whereby the property is transferred multiple times.

```
<gdsnTradelItemClassification>
  <gpcCategoryCode>10005844</gpcCategoryCode>
  <gpcCategoryDefinition>Medical Devices</gpcCategoryDefinition>
  <gpcCategoryName>Medical Devices</gpcCategoryName>
  <additionalTradelItemClassification>
    <additionalTradelItemClassificationSystem-Code>31</additionalTradelItemClassificationSystemCode>
    <additionalTradelItemClassificationValue>
      <additionalTradelItemClassificationCodeValue>34220201
        </additionalTradelItemClassificationCodeValue>
      <additionalTradelItemClassificationCodeDescription> Injection system (with cannula)
        </additionalTradelItemClassificationCodeDescription>
      <additionalTradelItemClassificationVersion>11.0</additionalTradelItemClassificationVersion>
      <additionalTradelItemClassificationProperty>
        <additionalTradelItemClassificationPropertyCode>0173-1#02-AAA305#008
          </additionalTradelItemClassificationPropertyCode>
        <additionalTradelItemClassificationPropertyDescription> Number of syringe parts
          <additionalTradelItemClassificationPropertyDescription>
            <propertyCode>0173-1#07-AAJ030#004</propertyCode>
          </additionalTradelItemClassificationProperty>
        <additionalTradelItemClassificationProperty>
          <additionalTradelItemClassificationPropertyCode>0173-1#02-AAA305#008
            </additionalTradelItemClassificationPropertyCode>
          <additionalTradelItemClassificationPropertyDescription> Number of syringe parts
            <additionalTradelItemClassificationPropertyDescription>
              <propertyCode>0173-1#07-AAB200#003</propertyCode>
            </additionalTradelItemClassificationProperty>
          </additionalTradelItemClassificationProperty>
        </additionalTradelItemClassificationValue>
      </additionalTradelItemClassification>
    </gdsnTradelItemClassification>
```

5.4.3 Free-text

ECLASS Data type: STRING _TRANSLATABLE, GS1 Data type: propertyString

Here a property together with a value is transmitted. The value is transmitted as free text and not via IRDI. Transmission of the value in several languages is not provided for in the schema. Therefore, the language must be agreed with the recipient if it is not defined by the main language of the target market profile.

- Property: Codification (in accordance with UMDNS) 0173-1#02-AAQ199#002
- Value: „16824-Syringes“

The XML-based description follows:

```
<gdsnTradelItemClassification>
  <gpcCategoryCode>10005844</gpcCategoryCode>
  <gpcCategoryDefinition>Medical Devices</gpcCategoryDefinition>
  <gpcCategoryName>Medical Devices</gpcCategoryName>
  <additionalTradelItemClassification>
    <additionalTradelItemClassificationSystem-Code>31</additionalTradelItemClassificationSystemCode>
    <additionalTradelItemClassificationValue>
      <additionalTradelItemClassificationCodeValue>34220201
        </additionalTradelItemClassificationCodeValue>
      <additionalTradelItemClassificationCodeDescription> Injection system (with cannula)
        </additionalTradelItemClassificationCodeDescription>
      <additionalTradelItemClassificationVersion>11.0</additionalTradelItemClassificationVersion>
      <additionalTradelItemClassificationProperty>
        <additionalTradelItemClassificationPropertyCode>0173-1#02-AAQ199#002
          </additionalTradelItemClassificationPropertyCode>
        <additionalTradelItemClassificationPropertyDescription>Coding (based on UMDNS)
          <additionalTradelItemClassificationPropertyDescription>
            <propertyString>16824-Syringes</propertyString>
          </additionalTradelItemClassificationPropertyDescription>
        </additionalTradelItemClassificationProperty>
      </additionalTradelItemClassificationValue>
    </additionalTradelItemClassification>
  </gdsnTradelItemClassification>
```


5.4.4 Boolean

ECLASS Data type: BOOLEAN, GS1 Data type: propertyCode

Here a property together with a value is transmitted. The transmission of values is analogous to the transmission of value lists and is therefore transmitted in a language-neutral manner via IRDI.

- Property: fitted cannula 0173-1#02-AAA389#006
- Value: No 0173-1#07-CAA017#003

The XML-based description follows:

```
<gdsnTradelItemClassification>
  <gpcCategoryCode>10005844</gpcCategoryCode>
  <gpcCategoryDefinition>Medical Devices</gpcCategoryDefinition>
  <gpcCategoryName>Medical Devices</gpcCategoryName>
  <additionalTradelItemClassification>
    <additionalTradelItemClassificationSystemCode>31</additionalTradelItemClassificationSystemCode>
    <additionalTradelItemClassificationValue>
      <additionalTradelItemClassificationCodeValue>34220201
        </additionalTradelItemClassificationCodeValue>
      <additionalTradelItemClassificationCodeDescription> Injection system (with cannula)
        </additionalTradelItemClassificationCodeDescription>
      <additionalTradelItemClassificationVersion>11.0</additionalTradelItemClassificationVersion>
      <additionalTradelItemClassificationProperty>
        <additionalTradelItemClassificationPropertyCode>0173-1#02-AAA389#006
          </additionalTradelItemClassificationPropertyCode>
        <additionalTradelItemClassificationPropertyDescription>attached cannula
          <additionalTradelItemClassificationPropertyDescription>
            <propertyCode>0173-1#07-CAA017#003</propertyCode>
          </additionalTradelItemClassificationProperty>
        </additionalTradelItemClassificationValue>
      </additionalTradelItemClassification>
    </gdsnTradelItemClassification>
```

5.4.5 Date

ECLASS Data type: DATE, GS1 Data type: propertyDateTime

Here a property together with a value is transmitted. ECLASS only supports the date here, while GS1 uses date and time. Therefore, date and time must be indicated according to the data type of GS1. The time must then be set to zero clock.

- Property: Product tested according to SVHC on 0173-1#02-AAO222#003
- Value: 2020-12-31T00:00:00

The XML-based description follows:

```
<gdsnTradeltemClassification>
  <gpcCategoryCode>10005844</gpcCategoryCode>
  <gpcCategoryDefinition>Medical Devices</gpcCategoryDefinition>
  <gpcCategoryName>Medical Devices</gpcCategoryName>
  <additionalTradeltemClassification>
    <additionalTradeltemClassificationSystem-Code>31</additionalTradeltemClassificationSystemCode>
    <additionalTradeltemClassificationValue>
      <additionalTradeltemClassificationCodeValue>34220201
        </additionalTradeltemClassificationCodeValue>
      <additionalTradeltemClassificationCodeDescription> Injection system (with cannula)
        </additionalTradeltemClassificationCodeDescription>
      <additionalTradeltemClassificationVersion>11.0</additionalTradeltemClassificationVersion>
      <additionalTradeltemClassificationProperty>
        <additionalTradeltemClassificationPropertyCode>0173-1#02-AAO222#003
          </additionalTradeltemClassificationPropertyCode>
        <additionalTradeltemClassificationPropertyDescription>Product checked according to SVHC on
          <additionalTradeltemClassificationPropertyDescription>
            <propertyDateTime>2020-12-31T00:00:00</propertyDateTime>
          </additionalTradeltemClassificationProperty>
        </additionalTradeltemClassificationValue>
      </additionalTradeltemClassification>
    </gdsnTradeltemClassification>
```

5.4.6 Integer without unit

ECLASS Data type: INTEGER_COUNT, GS1 Data type: propertyInteger

Here a property together with a value is transmitted. ECLASS uses an integer value without unit.

- Property: Customs tariff number (TARIC) 0173-1#02-AAD931#005
- Value: 90183110

The XML-based description follows:

```
<gdsnTradeltemClassification>
  <gpcCategoryCode>10005844</gpcCategoryCode>
  <gpcCategoryDefinition>Medical Devices</gpcCategoryDefinition>
  <gpcCategoryName>Medical Devices</gpcCategoryName>
  <additionalTradeltemClassification>
    <additionalTradeltemClassificationSystem-Code>31</additionalTradeltemClassificationSystemCode>
    <additionalTradeltemClassificationValue>
      <additionalTradeltemClassificationCodeValue>34220201
        </additionalTradeltemClassificationCodeValue>
      <additionalTradeltemClassificationCodeDescription> Injection system (with cannula)
        </additionalTradeltemClassificationCodeDescription>
      <additionalTradeltemClassificationVersion>11.0</additionalTradeltemClassificationVersion>
      <additionalTradeltemClassificationProperty>
        <additionalTradeltemClassificationPropertyCode>0173-1#02-AAD931#005
          </additionalTradeltemClassificationPropertyCode>
        <additionalTradeltemClassificationPropertyDescription>Customs tariff number (TARIC)
          <additionalTradeltemClassificationPropertyDescription>
            <propertyInteger>90183110</propertyInteger>
          </additionalTradeltemClassificationProperty>
        </additionalTradeltemClassificationValue>
      </additionalTradeltemClassification>
    </gdsnTradeltemClassification>
```

5.4.7 Integer with unit

ECLASS Data type: INTEGER_MEASURE,

GS1 Data type: propertyMeasurement measurementUnitCode ="[UoM*]

Here a property together with a value is transmitted. ECLASS uses an integer value with unit.

Important: Please clarify with the recipient of the data whether this data type can be used. As described in section [5.6](#), there are problems at this point due to different unit systems. A common solution is described in Section [6](#). This section describes the official use of the standard.

- Property: Cannula lenght 0173-1#02-AAA720#007
- Value: 12
- Unit: mm (UNECE: MMT)

The XML-based description follows:

```
<gdsnTradeltemClassification>
  <gpcCategoryCode>10005844</gpcCategoryCode>
  <gpcCategoryDefinition>Medical Devices</gpcCategoryDefinition>
  <gpcCategoryName>Medical Devices</gpcCategoryName>
  <additionalTradeltemClassification>
    <additionalTradeltemClassificationSystem-Code>31</additionalTradeltemClassificationSystemCode>
    <additionalTradeltemClassificationValue>
      <additionalTradeltemClassificationCodeValue>34220201
        </additionalTradeltemClassificationCodeValue>
      <additionalTradeltemClassificationCodeDescription> Injection system (with cannula)
        </additionalTradeltemClassificationCodeDescription>
      <additionalTradeltemClassificationVersion>11.0</additionalTradeltemClassificationVersion>
      <additionalTradeltemClassificationProperty>
        <additionalTradeltemClassificationPropertyCode>0173-1#02-AAA720#007
          </additionalTradeltemClassificationPropertyCode>
        <additionalTradeltemClassificationPropertyDescription>Cannula lenght
          <additionalTradeltemClassificationPropertyDescription>
            <propertyMeasurement measurementUnitCode ="MMT">12</propertyMeasurement>
          </additionalTradeltemClassificationPropertyDescription>
        </additionalTradeltemClassificationProperty>
      </additionalTradeltemClassificationValue>
    </additionalTradeltemClassification>
  </gdsnTradeltemClassification>
```

5.4.8 Float without unit

ECLASS Data type: REAL_COUNT, GS1 Data type: propertyFloat

Note: The property shown in the example is not part of the class and is intended to illustrate the interaction between the two standards.

Here a property is transmitted together with a value. ECLASS uses a real numerical value with decimal places without unit.

- Property: overall width (TE) 0173-1#02-AAT072#001
- Value: 5,5

The XML-based description follows:

```
<gdsnTradelItemClassification>
  <gpcCategoryCode>10005844</gpcCategoryCode>
  <gpcCategoryDefinition>Medical Devices</gpcCategoryDefinition>
  <gpcCategoryName>Medical Devices</gpcCategoryName>
  <additionalTradelItemClassification>
    <additionalTradelItemClassificationSystemCode>31</additionalTradelItemClassificationSystemCode>
    <additionalTradelItemClassificationValue>
      <additionalTradelItemClassificationCodeValue>34220201
        </additionalTradelItemClassificationCodeValue>
      <additionalTradelItemClassificationCodeDescription> Injection system (with cannula)
        </additionalTradelItemClassificationCodeDescription>
      <additionalTradelItemClassificationVersion>11.0</additionalTradelItemClassificationVersion>
      <additionalTradelItemClassificationProperty>
        <additionalTradelItemClassificationPropertyCode>0173-1#02-AAT072#001
          </additionalTradelItemClassificationPropertyCode>
        <additionalTradelItemClassificationPropertyDescription>Overall width (TE)
          <additionalTradelItemClassificationPropertyDescription>
            <propertyFloat>5.5</propertyFloat>
          </additionalTradelItemClassificationPropertyDescription>
        </additionalTradelItemClassificationProperty>
      </additionalTradelItemClassificationValue>
    </additionalTradelItemClassification>
  </gdsnTradelItemClassification>
```

5.4.9 Float with unit

ECLASS Data type: REAL_MEASURE, GS1 Datentyp: propertyMeasurement measurementUnitCode ="[UoM*]

Here a property together with a value is transmitted. ECLASS uses a real numerical value with decimal places with unit.

Important: Please clarify with the recipient of the data whether this data type can be used. As described in section [5.6](#), there are problems at this point due to different unit systems. A common solution is described in section [6](#). This section describes the official use of the standard.

- Property: Nominal volume of medical syringe 0173-1#02-AAA962#007
- Value: 1
- Unit: ml UNECE: MLT

The XML-based description follows:

```
<gdsnTradeltemClassification>
  <gpcCategoryCode>10005844</gpcCategoryCode>
  <gpcCategoryDefinition>Medical Devices</gpcCategoryDefinition>
  <gpcCategoryName>Medical Devices</gpcCategoryName>
  <additionalTradeltemClassification>
    <additionalTradeltemClassificationSystem-Code>31</additionalTradeltemClassificationSystemCode>
    <additionalTradeltemClassificationValue>
      <additionalTradeltemClassificationCodeValue>34220201
      </additionalTradeltemClassificationCodeValue>
      <additionalTradeltemClassificationCodeDescription> Injection system (with cannula)
      </additionalTradeltemClassificationCodeDescription>
      <additionalTradeltemClassificationVersion>11.0</additionalTradeltemClassificationVersion>
      <additionalTradeltemClassificationProperty>
        <additionalTradeltemClassificationPropertyCode>0173-1#02-AAA962#007
        </additionalTradeltemClassificationPropertyCode>
        <additionalTradeltemClassificationPropertyDescription> Nominal volume of medical syringe
        <additionalTradeltemClassificationPropertyDescription>
          <propertyMeasurement measurementUnitCode ="MLT">1</propertyMeasurement>
        </additionalTradeltemClassificationProperty>
      </additionalTradeltemClassificationValue>
    </additionalTradeltemClassification>
  </gdsnTradeltemClassification>
```

5.5 Transmission of several values for a property

The transmission of multiple values to a property is described in section [5.4.2](#). If several free text values are to be transmitted, use <propertyString> for the value.

5.6 Units

Both standards use different unit systems from their origin:

- ECLASS: IRDI-based own system of units with reference to United Nations Economic Commission for Europe (UNECE) and ISO units
- GS1 XML CIN: UNECE units (reduced list)

The GS1 XML CIN UNECE unit list is available at the following link:

http://apps.gs1.org/GDD/Pages/clDetails.aspx?semanticURN=urn:gs1:qdd:cl:MeasurementUnitCode_GDSN&release=9

In GS1 XML CIN, it is not the IRDI of the unit to be transmitted, but the corresponding UNECE code.

Unfortunately, UNECE codes are not available for all ECLASS units.

Note: Based on the working group that prepared this document and the corresponding working group at ECLASS (Center of Research and Development (CRD)), missing units are submitted to the UNECE. However, this does not guarantee that these can also be used in GS1.

Note: Some recipients have agreed on a solution to the problem, which is described in section [6](#). Please contact your recipient as part of the process of providing the data.

6 Solution approach of some data pool operators for the transmission of ECLASS properties with units in GS1 XML GIN 3.1

Some data pools do not follow the general guide and description above in terms of classification, properties and values. As not all units of the ECLASS standard represented by an IRDI have a corresponding unit in the UNECE list of units, the following procedure was chosen:

When transmitting numerical values with the data types given below, the element `<propertyMeasurement measurementUnitCode="UNECE">` is not used, but the corresponding element without unit. The unit is defined by the ECLASS standard and is not transmitted.

It concerns the following data types:

Table 2: Used data types diverse pool operator

ECLASS	GS1 XML CIN 3.1
INTEGER_MEASURE	<code><propertyInteger></code>
REAL_MEASURE	<code><propertyFloat></code>