



ISBT 128 Labelling Standard for Blood Components

Data Identifiers and Data Structures



ISBT 128 Technology Standard

- Much more than a new label layout
- Provides standard information and layout for blood component labels
- Defines data structure for information appearing on labels
- Defines technical details for the bar code
- Technical Specifications document available on ICCBBA website

ISBT 128 Data Structures

- Data structures define the way information is presented
 - Product code and unit number are just two of many standard ISBT 128 data structures
- Each data structure consists of data identifiers and data content.
- When data appears in bar code format the data content characters are printed in eye readable format immediately beneath the bar code

ISBT 128 Data Structures

- All ISBT 128 data structures have been designed with process control and future growth in mind
- Data structure can be incorporated into many information delivery systems e.g. bar codes, electronic messages, RFID tags (i.e. not restricted to Code 128 bar code symbology)

ISBT 128 Data Identifiers

- Data identifiers define the type of information the bar code contains (e.g. Product Code, ABO/Rh Blood Group)
- Each bar code on a blood product will begin with 2 data identifier characters (except Donation Number)
- The first character will always be “=” or “&”. By international agreement, these characters specify an ISBT 128 data structure
- Reduces error since data cannot be entered into an incorrect field

ISBT 128 Data Structures

- The data structures and identifiers to be used by Canadian Blood Services are summarized in this presentation
- Refer to the current version of the *ISBT 128 Standard Technical Specification* at ICCBBA.org for a complete description of all the ISBT 128 data structures and identifiers.

Data Identifiers for Bar Codes

- List of Data Identifiers for ISBT 128 bar codes that will appear on Canadian Blood Services labels:

=	Donation Number
=%	Blood Group (ABO/Rh)
=<	Product Code
&*	Collection Date and Time
&}	Production Date and Time
&>	Expiration Date & Time
=\	Special Testing: Red Cell Antigen
&(Special Testing: General

ISBT 128 Data Structures

- List of ISBT 128 Data Structures to be used by Canadian Blood Services:

001	Donation Number
002	Blood Groups
003	Product Code
005	Expiration Date and Time
007	Collection Date and Time
009	Production Date and Time
010	Special Testing: General
012	Special Testing: Red Blood Cell Antigens - General

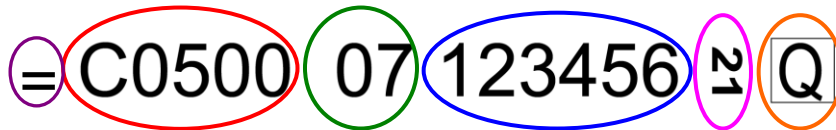
Donation Number

ISBT 128 Data Structure 001

Donation Number Data Structure 001

	=	✂	pppp	yy	nnnnnn	ff
=						
✂pppp						
yy						
nnnnnn						
ff						

ISBT 128 Donation Number



- 13 Digit Donation Number
 - Facility identification number (global)
 - Year indicator (won't repeat for 100 years)
 - Sequential number (999,999/facility/year)
- Additional elements – NOT part of Donation Number
 - Flag characters
 - Manual entry check character (Eye readable only)
 - Data Identifier (Bar code only)

Donation Number – Flag Characters

- Flag characters are NOT part of the Donation Number
- Are used for process control
- Will NOT be the same on component label as on label applied at collection or what is printed on packing slips
- Are encoded in the bar code and printed on labels and reports

Keyboard Entry Check Character

- Keyboard entry into computer system should be strongly discouraged.
- When keyboard entry is necessary, computer software should be designed to recognize manual entry and require entry of Check Character for verification of data entered.
- Check character required for manual entry of long numbers (e.g., donation number and red cell antigen testing)
- Not in the bar code because it's meant to check KEYBOARD entry

Manual Transcription - Donation Number

- A minimum of the 13 digit donation number is required for traceability of the component
 - Same 6 digit serial number may be used by all CBS blood collection sites in same year.
 - Must have 5 digit facility identifier and 2 digit year to make donation number unique and traceable back to the donor.
 - Recording of flag characters and manual check character is optional.

Blood Groups

ISBT 128 Data Structure 002

Blood Groups Data Structure 002

=%ggre

- =%** Data identifier
- gg** ABO & Rh blood group and type of donation or collection information
- r** Optional. If used provides Rh, Kell phenotype as part of blood group structure
- e** Reserved for future use. Value always set to 0 (zero)

Blood Groups – Data Structure 002

- Coding for ABO, Rh & Type of Donation
 - ISBT 128 Technical Specification, Table 5
 - Donation Types used by Canadian Blood Services
 - Default/Not Specified (Volunteer Homologous Donations)
 - Directed (Dedicated/Designated) Collection Use Only
 - For Autologous Use Only
 - For Autologous Use Only/Biohazard
- Data Structure 002 Tables NOT used by Canadian Blood Services
 - Special Messages (Table 6)
 - Coding and Interpretation for Rh, Kell, Mi^a/Mur Phenotypes (Table 7)

Note: Table 7 is used by Héma-Québec

Blood Groups

- Barcode indicates donation type (e.g. Autologous, Directed) as well as ABO/Rh, e.g.
 - O Positive, Use not specified – 5100
 - O Positive, Autologous Use Only – 5300
 - O Positive, Directed Use Only - 4900
- Rh not required for plasma components
 - ABO Group only will be encoded in barcode and printed on labels, e.g.
 - O, Use not specified – 5500
 - A, Use not specified - 6600
- Rh of Pooled Platelets
 - Will be labelled as Rh positive if “mixed” Rh in pool

Product Code

ISBT 128 Data Structure 003

ISBT 128 Product Codes & Definitions

- Product Code Database maintained by ICCBBA. All products distributed nationally/internationally must have a standard ISBT 128 product code.

Product Code Data Structure 003

=<αoooo t d s

=<	Data identifier
αoooo	Product code
t	Donation type (e.g. Volunteer, Directed)
d	Divisions A0, B0,
s	Second level divisions Ba, Bb, Bc

ISBT 128 Product Codes & Definitions

- 8 digit product code data structure includes donation type and allows for definition of additional information
- 5 digit 'core' product code which defines
 - Core conditions – e.g. anticoagulant, volume, storage conditions
 - Component Class - e.g. Red Blood Cells, Platelets
 - Modifiers – e.g. washed, thawed
 - Attributes – e.g. irradiated, residual white count, low platelet count
- 3 digits define donation type and divisions/splits

Example of ISBT 128 Product Code

- Component Class: Red Blood Cells
- Modifier: None
- Core Conditions
 - Anticoagulant CPD, SAGM Added
 - original volume 500 ml
 - storage conditions refrigerated
- Attributes: Irradiated
Leukoreduced

ISBT PRODUCT CODE = E6051

Type of Donation

6th Character

- Sixth character identifies donation type

E6051V00

V = Volunteer Donor*

1= Autologous Use Only

2= Directed Use Only

X= Autologous Biohazard

* Volunteer homologous (allogeneic) donation (default)

Divisions/Splits

E6051V00 (Original product)

RED BLOOD CELLS/CPD>SAGM/from 500 mL whole blood/refrig

E6051VA0 (Divided from original –e.g. pediatric)

RED BLOOD CELLS/CPD>SAGM/from 500 mL whole blood/refrig/Divided

E6051VAa (Divided from first level division (e.g. syringe)

RED BLOOD CELLS/CPD>SAGM/from 500 mL whole blood/refrig/Divided

BLOOD.CA WWW.BLOOD.CA WWW

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it's in you to give

Product Codes – Codabar vs ISBT 128

No one to one relationship between Codabar & ISBT 128.

Codabar ‘Core’ Product Code E6051

ISBT 128 Product Codes include:

Volunteer Donor	E6051V00
Autologous	E6051100
Directed	E6051200
Volunteer Donor, Divided Part 1	E60511A0
Etc.....	

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Expiration Date and Time

ISBT 128 Data Structure 005



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Expiration Date & Time Data Structure 005

&>cyjhhmm

- &> Data identifier
- c Century in which product expires
- yy Year within the century in which product expires
- jjj Julian day of the year on which product expires
- hh Hour at which product expires (00 to 23)
- mm Minute at which product expires (00 to 59)



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Collection Date and Time

ISBT 128 Data Structure 007



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Collection Date & Time Data Structure 007

&*cyjjjhhmm

- &* Data identifier
- c Century in which product was collected
- yy Year within the century in which product collected
- jjj Julian day of the year on which product collected
- hh Hour at which product collected (00 to 23)
- mm Minute at which product collected (00 to 59)

Note: *Used for all components except Pooled Platelets.*



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Production Date and Time

ISBT 128 Data Structure 009



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Production Date & Time Data Structure 009

&}cyjijhhmm

- &} Data identifier
- c Century in which product was produced
- yy Year within the century in which product produced
- jij Julian day of the year on which product produced
- hh Hour at which product produced (00 to 23)
- mm Minute at which product produced (00 to 59)

Note: *Used only for Pooled Platelets*



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Special Testing: General

ISBT 128 Data Structure 010



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Special Testing: General Data Structure 010

&(zzzzz

&(Data identifier

zzzzz 5 digit alphanumeric data content string (A-Z;0-9)

- Data content string encoded and interpreted with reference to Special Testing database table, published and maintained by ICCBBA.



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Special Testing: General Data Structure 010

Purpose:

- Indicates special characteristics of a product, e.g. CMV antibody status, IgA deficiency
- Will be found on labels of platelet and plasma products produced by Canadian Blood Services

Special Testing: Red Blood Cell Antigens - General

ISBT 128 Data Structure 012

Special Testing: Red Blood Cell Antigens - General Data Structure 012

-\aaaaaaaaaaaaaaaaaii

=\ Data identifier

aaaaaaaaaaaaaaaaaii 18 character data content string (0-9)

- Data content string encoded and interpreted using Table 10 in ISBT 128 Standard Technical Specification (ICCBBA)

Special Testing: Red Blood Cell Antigens Data Structure 012

- Will be on labels of whole blood and red blood cell components produced by Canadian Blood Services
- Canadian Blood Services will encode Rh antigens individually using positions 14, 15 and/or 16 and value of column 1 will be set to 9 (no information)
- If additional red cell antigen testing has been performed but cannot be encoded in the bar code structure, the information will appear on the label in eye readable form
- Rules for printing of eye readable red cell phenotype (e.g bold, underline) will not change with ISBT 128 implementation.



**For more information on ISBT 128
implementation at Canadian
Blood Services:
www.transfusionmedicine.ca**

