



## Topic: PRODUCT CODING and CLASSIFICATION

**The objective:** To study rules of decimal encoding for consumer units of goods and dispatch units of goods, and rules of their transforming into binary numerical code, and then into barcodes according to EAN-8 or EAN-13, DUN-14 or DUN-16. To be able in reading and writing barcodes, binary and decimal digital codes for consumer and dispatch units of goods. To study main principles of product classification, acquire skills to operate with classifiers, be able to identify different kinds of goods using HS/CN and CPC codes.

### Basic concepts and terms which should be acquired by students during their training and studying

*Classification, methods and principles of product classification, code, decimal code, binary code, barcode structure. Harmonized system of classification, hierarchical and facet methods, a classifier, CPC (Central Product Classification) decimal product code, HS/CN decimal code, consumer unit, dispatch unit, a product, service.*

### Questions for self-training

1. Concept "Classification".
2. Classification of goods.
3. Parameters of goods used for their classification.
4. HS/CN classification system (Harmonized System / Combination Numbering), levels of classification.
5. Hierarchical and facet classification methods.
6. Classifiers for production, their range of application.
7. Central product classifier, its structure and purpose.
8. Levels of grouping for goods in Central product classifier, their name and parameters by which they are formed.
9. Product coding as the result of their classification. Purpose of coding.
10. Code and its structure.
11. CPC and HS/CN codes.
12. Decimal numerical code, binary numerical code and barcodes.
13. Decimal digital codes EAN-8, EAN-13 for consumer units.
14. Rules for forming of decimal, binary digital codes and barcodes for consumer units according to EAN-8 and EAN-13.
15. Rules for forming of decimal, binary digital codes and barcodes for dispatch units according to DUN-14, DUN-16. Rules for printing of barcodes for dispatch units by ITF (International Type Formation).
16. Format of DUN-14 code for dispatch units on the basis of EAN-13 code.
17. Format of DUN-14 code for dispatch units on the basis of EAN-8 code.



18. Format of DUN-16 code for dispatch units on the basis of EAN-13 code.

**Practical work**

**Example N 1**

Convert decimal digits 540267 into binary digital code used in codes EAN-8 and EAN-13 for consumer units, using seven-element permutations from the sets A, B, C from table 2.1 of Annex N 2.

**Working Technique**

**Step 1.**

Using the set A (table 2.1 of Annex 2), find binary numerical code for each digit of 540267, signing it under the corresponding digit.

5	4	0	2	6	7
0110001	0100011	0001101	0010011	0101111	0111011

**Step 2.**

Acting similarly and using the set B, we find:

5	4	0	2	6	7
0111001	0011101	0100111	0011011	0000101	0010001

**Step 3.**

Acting similarly and using the set C, we find:

5	4	0	2	6	7
1001110	1011100	1110010	1101100	1010000	1000100

**Example N 2**

Present decimal digits 540267 by binary numerical code, used in codes DUN-14 and DUN-16 for dispatch units, using five-element permutations of table 2.3 of Annex N 2.

**Working Technique**

In table 2.3 of Annex N 2 find the binary numerical code for each digit of number 540267, signing it under the corresponding digit.

5	4	0	2	6	7
10100	00101	00110	01001	01100	00011

**Example N 3**

Using rules for representation of information signs of decimal code EAN for consumer units, present two information signs 1110010 = "0" and 1000010 = "3" of



the set C by a barcode and draw the result on a plotting paper, conventionally supposing for training purposes that 1 Mod=10 mm (in standart barcode 1 Mod=1/3mm).

### Working Technique

#### Step 1.

As binary "ones" are represented with bars and binary "zeros" – with blanks in EAN barcode, in order to write information sign 1110010 = "0" it is necessary to use bars and blanks of the following widths:

- 111- a bar, 3 Mod=30 mm wide,
- 00 - a blank, 2 Mod=20 mm wide,
- 1 - a bar, 1 Mod=10 mm wide,
- 0 - a blank, 1 Mod=10 mm wide.

#### Step 2.

Acting similarly, represent an information sign 1000010 = "3" with bars and blanks of corresponding widths:

- 1- a bar, 1 Mod=10 mm wide,
- 0000 - a blank, 4 Mod=40 mm wide,
- 1 - a bar, 1 Mod=10 mm wide,
- 0 - a blank, 1 Mod=10 mm wide.

#### Step 3.

The result is represented with bars and blanks on a plotting paper (Fig. 1):

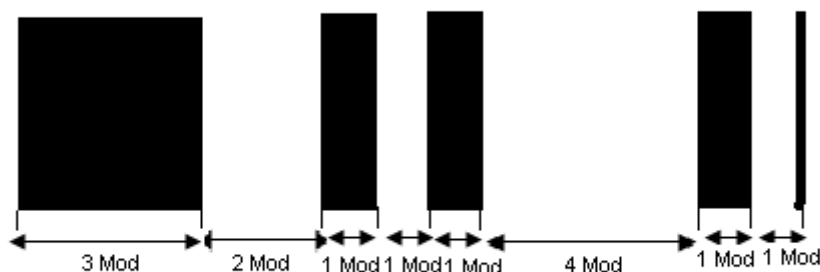


Fig. 1 Representation of information signs 1110010 = "0" and 1000010 = "3" with EAN barcode ( | is a restrictive sign).

### Example N 4

Write two information signs "46" with ITF barcode for dispatch units (DUN system) and represent them on a plotting paper, making width of wide bars and blanks equal to 25 mm, and width of narrow bars and blanks equal to 10 mm (magnification x10).

### Working Technique

#### Step 1

Using tab. 2.3 of Annex 2, write digits 4 and 6 with a binary code: 4=00101, 6=01100.



### Step 2.

Write the information signs 00101 and 01100 with a barcode, according to the following rules for representing of information signs in decimal code for dispatch units:

Binary zeroes are represented with **narrow** bars or blanks; binary “ones” are represented with **wide** bars or blanks. All binary digits of the **left** part of pairs are represented with **bars**; those of the **right** part of pairs are represented with **blanks**.

Thus, "0" being in the first order of the binary code 00101 is represented with a **narrow** bar (10 mm). As in the first order of binary code 01100 (right digits of the pair) their is also "0", it should be represented with a **narrow** blank (10 mm).

Figure "0" being in the second order of a code 00101 (left digits of the pair) should be represented with a **narrow** bar, and "1" which is in the second order of a code 01100 (right digits of the pair) is represented with a **wide** blank (25 mm).

In the third order of a binary code 00101 (left digits of the pair) there is "1". It should be represented with a **wide** bar (25 mm). As bars are followed by blanks and next symbol will be a **wide** blank (25 mm) because in the third order of a code 01100 there is "1".

In the fourth order of a code 00101 there is "0", it is represented with a **narrow** bar (10 mm). In the fourth order of a code 01100 there is "0", therefore we should place a **narrow** blank (10 mm).

In the fifth order of a code 00101 there is "1", therefore it is represented with a **wide** bar (25 mm), and "0" of the right digits is represented by a **narrow** blank (10mm).

After that we should put a restrictive sign **┃** .

### Step 3.

Draw ITF barcode of two information signs "46" on a plotting paper (Fig. 2):

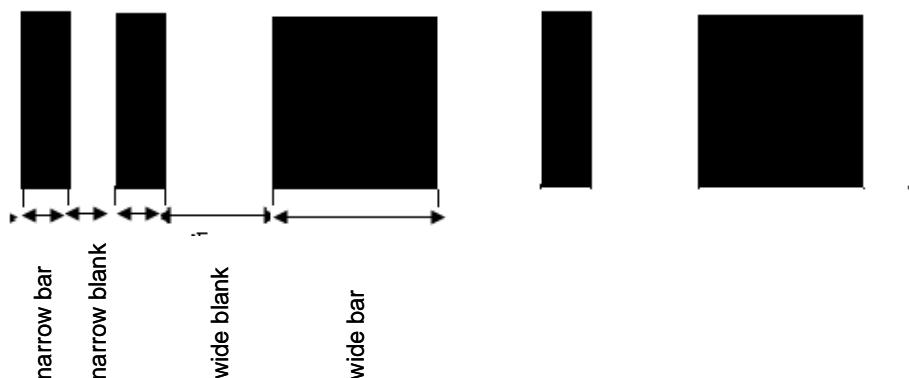


Fig. 2. Barcode ITF of two decimal information signs "46" (magnified x10).

### Example N 5

Using the barcode offered below find decimal code for consumer unit if the digit put outside the left restrictive sign is known. By obtained decimal code determine country of supplier and also test it with check digit.

#### Working Technique

The barcode for training is described in fig. 3.



Fig. 3. Barcode (magnified) of capsules “Uitop”.

**To transform EAN binary codes into decimal ones (or vice versa) the following rules are used:**

- Binary zeroes are represented with blanks and “ones” – with bars.
- Right and left restrictive signs are encoded as 101 and printed as two longer bars at the ends of EAN barcode. Dividing sign encoded as 01010 includes two longer bars and blanks alongside situated in the middle of a barcode.
- There are 3 sets of zero-ones permutations (table 2.1 of Annex 2) for transforming of binary codes into decimal digits. Sets A, B are used for encoding/decoding of the left part of EAN-13 barcode. Set A is used for encoding/decoding of the left part of EAN-8 barcode. Set C is used for encoding/decoding of the right part of any EAN barcode.
- Choice of the set (A or B) for decoding of the left part of EAN-13 barcode depends on the 13th (the most left) digit and position of the 7-12<sup>th</sup> digits (see table 2.2 of Annex 2).

**Step 1.**



As the digit "3" is put outside the left restrictive sign, it means barcode EAN-13 for consumer unit because code EAN-8 has no digits outside the restrictive signs.

**Step 2.**

In fig. 3 bars and blanks 1, 2, 3 and 4 Mod wide are clearly visible.

Using instructions above, we write a binary numerical code for the **right** part of barcode, including a dividing sign 01010 and a restrictive sign "Stop" 101:

01010 | 1001110 | 1010000 | 1101100 | 1110010 | 1110010 | 1000100 | 101

**Step 3.**

Using the set C (tab. 2.1), find digits of a decimal code corresponding to a binary one and write them under a binary code:

01010	1001110	1010000	1101100	1110010	1110010	1000100	101
5	6	2	0	0	7		

**Step 4.**

Write a binary numerical code of the **left** part of barcode, starting from left restrictive sign 101 until dividing sign 01010:

Position		12	11	10	9	8	7
	101	0110111	0111101	0001001	0010111	0001001	0001011
Set		A	A	B	B	B	A

Write position numbers of the left digits above a binary code, and the sets necessary to find corresponding binary code – under it.

**Step 5.**

From tab. 2.1 of Annex 2 we find binary codes from the sets A and B and corresponding digits of decimal code, signing them under a binary code:

101	0110111	0111101	0001001	0010111	0001001	0001011
	8	3	8	9	8	9

So, the resulting decimal code EAN-13 is **3838989562007**.

**Step 6.**

Code 383 indicates country of the supplier–Slovenia (see. tab. 2.4 of Annex 2).

**Step 7.**



Test check digit according to the algorithm described below:

1. Sum digits of the decimal code being on even positions, starting from position N2 (right to left):  
 $0+2+5+8+8+8=31$
2. Multiply the result by 3:  
 $31*3=93$
3. Sum digits being on odd positions, starting from position N3:  
 $0+6+9+9+3+3=30$
4. Sum the results of operations 2 and 3:  
 $93+30=123$
5. Check digit is the least number, which is necessary for adding to the result of operation 4 until the closest number, multiple to 10:  
 $123+7=130$ ,  
So, check digit  $K=7$ , and it's correct.

### Example N 6

Transform barcode for consumer unit offered by the teacher (fig. 4) into decimal code and test check digits.

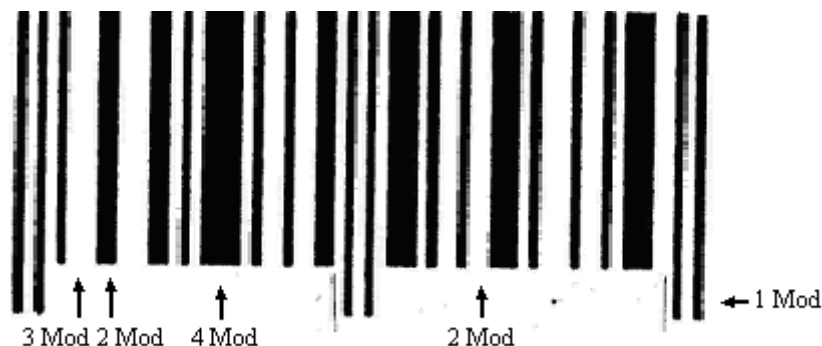


Fig. 4. Barcode EAN-8 for consumer unit.

### Working Technique

According to Annex 2 to find binary numerical code for the right part of decimal code EAN-8 (positions 1 - 4) one should use binary codes from the set C, and for the left part (positions 5 - 8) – from the set A (tab. 2.1 in Annex 2).

#### Step 1.

Write a binary numerical code for left part of barcode EAN-8, including the left restrictive sign 101 and dividing sign 01010:

101 | 0100011 | 0001101 | 0111101 | 0010011 | 01010

#### Step 2.



Using the **set A** (tab. 2.1 in Annex 2), find digits of decimal code and sign them under binary code:

101	0100011	0001101	0111101	0010011	01010
	4	0	3	2	

**Step 3.**

Write binary numerical code for the right part of barcode EAN-8, including the right restrictive sign 101:

1110100	1001110	1000100	1011100	101
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**Step 4.**

Using the **set C** (tab. 2.1 in Annex 2), find digits of decimal code and sign them under binary code:

1110100	1001110	1000100	1011100	101
9	5	7	4	

So, the resulting decimal code EAN-8 represented with the barcode in fig. 4 is the following:

**40329574.**

**Step 5.**

Test the check digit:

1. Sum digits of the decimal code being on even positions, starting from position N2 (right to left):

$$7+9+3+4 = 23$$

2. Multiply the result by 3:

$$23*3=69$$

3. Sum digits being on odd positions, starting from position N3:

$$5+2+0 = 7$$

4. Sum the results of operations 2 and 3:

$$69+7 = 76$$

5. Check digit is the least number, which is necessary for adding to the result of operation 4 until the closest number, multiple to 10:

$$76+4=80.$$

So, check digit K=4, it's correct.

**Example N 7**

Batch of cosmetic goods in shipping package arrived into chemist's warehouse. Scanner was damaged and pharmacist input decimal code into computer manually. But software displayed an error message. Then manager brought another scanner and it read the code successfully.





Check up conformity of barcode to decimal code for dispatch unit, offered below (fig. 5). Test its check digit.

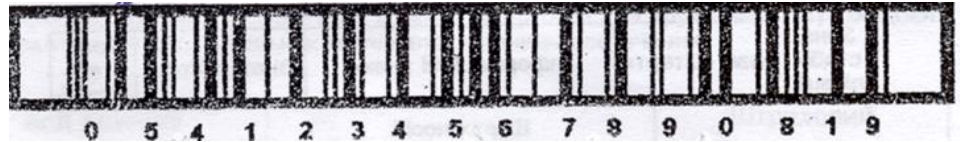


Fig. 5. Barcode DUN-16 for dispatch unit with visually readable decimal code.

### Working Technique

The barcode is printed by ITF font (International Type Format), therefore for its transformation into decimal digits it's necessary to use the rules described in example N 4.

#### Step 1.

Divide decimal code into pairs of digits:

05 | 41 | 23 | 45 | 67 | 89 | 08 | 19

#### Step 2.

Write the left digits of each pair which are situated on even positions (counting right to left):

04246801

In ITF barcodes they are signed with **bars**; and narrow bars correspond to "zeros", and wide bars - to "ones".

#### Step 3.

Using fig. 5, write binary numerical code represented with bars, excepting "Start zone" (the first left 2 bars and 2 blanks – 0000) and "Stop zone" (the last right 1 wide, 1 narrow bars and narrow blank between – 100):

| 00110 | 00101 | 01001 | 00101 | 01100 | 10010 | 00110 | 10001 |

#### Step 4.

Using tab. 2.3 (annex 2), sign corresponding digits of decimal code under their binary code:

00110	00101	01001	00101	01100	10010	00110	10001
0	4	2	4	6	8	0	1

We see that the left pairs of decimal digits are encoded correctly.

#### Step 5.

Write the right digits of each pair situated on odd positions:



51357989.

In ITF barcodes they are signed with **blanks**; narrow blanks correspond to "zeros", and wide blanks - to "ones".

**Step 6.**

Using fig. 5, write binary numerical code represented with blanks, excepting "Start zone" and "Stop zone":

| 10100 | 10001 | 11000 | 10100 | 00011 | 01010 | 10010 | 00011 |

**Step 7.**

Using tab. 2.3 of Annex 2, sign corresponding digits of decimal code under their binary code:

10100	10001	11000	10100	00011	01010	10010	00011	
5	1	3	5	7	9	8	7!	

We see that the last decimal digit is encoded or printed incorrectly.

**Step 8.**

Test the check digit:

1. Sum digits of the decimal code being on even positions, starting from position N2 (right to left):

$$1+0+8+6+4+2+4+0 = 25$$

2. Multiply the result by 3:

$$25 * 3 = 75$$

3. Sum digits being on odd positions, starting from position N3:

$$8+9+7+5+3+1+5 = 38$$

4. Sum the results of operations 2 and 3:

$$75 + 38 = 113$$

5. Check digit is the least number, which is necessary for adding to the result of operation 4 until number, multiple to 10:

$$113+7 = 120.$$

So, check digit should be K=7. Hence, the binary code is correct, but the last decimal digit printed is false.

**Example N 8**

Find HS/CN code for sterile surgical catgut in International Trade Commodity Classifier.



### Working Technique

#### Step 1.

Using hierarchical structure of the International classifier (chapter 3.1 of Annex 3), first of all try to find the most suitable category.

It seems that categories I “Animals & animal products” and VI “Chemical products” are suitable.

#### Step 2.

Seek within category I. It seems that chapter 05 can contain the product of interest. Search of the whole chapter fails.

#### Step 3.

Seek within category VI. It seems that chapters 29, 30 can contain the product of interest. Search of all headings of the chapter 29 fails.

#### Step 4.

Search within chapter 30 reveals that heading 3006 seems to be suitable. Exploring the heading 3006, we can find the code **300610** for sterile surgical catgut.

### Example N 9

Find CPC code for substance of vitamin A (in bulk).

### Working Technique

#### Step 1.

Using broad structure of CPC classifier (chapter 3.2 of Annex 3), find the most suitable section and division for the product to be classified.

It seems that section 3 and divisions 34-35 are suitable.

#### Step 2.

Open electronic pdf-version of the comprehensive CPC classifier (in PC) and try to find the product within divisions 34-35.

Listing detailed structure of the comprehensive CPC classifier, find product of interest in Group 352 “Pharmaceutical products”, Class 3525, Subclass 35250 “Provitamins, vitamins and hormones; glycosides and vegetable alkaloids and their salts, ethers, esters and other derivatives; antibiotics”.

Thus, CPC code for vitamin A is 35250.

### Example N 10

Find CPC code for analytical balances.

### Working Technique

#### Step 1.



Using broad structure of CPC classifier (chapter 3.2 of Annex 3), find the most suitable section and division for the product to be classified.

It seems that section 4 and division 48 is suitable.

### Step 2.

Open electronic pdf-version of the comprehensive CPC classifier (in PC) and try to find the product within division 48.

Listing detailed structure of the comprehensive CPC classifier, look for the product of interest within classes of the Group 482 “Instruments and appliances for measuring, checking, testing, navigating and other purposes, except optical instruments; industrial process control equipment; parts and accessories thereof”.

Class 4823 seems to be the most suitable.

Searching within class 4823, find the CPC code **48231** for “Balances with a sensitivity of 5 cg or better”, which satisfies the request for analytical balances.

## Situational tasks

### Task N 1

While accepting products in a drug warehouse it was found that the decimal code of dispatch unit (sedative drug “Donormilum”, France) scanned from ITF barcode (fig. 6) was the following:

01 | 16 | 25 | 70



Fig. 6. Barcode of dispatch unit of sedative drug “Donormilum”, France.

Scanner software displayed an error message.

Check manually whether scanner has read ITF barcode incorrectly or there were some problems with computer software.

### Task N 2

While accepting products in a drug warehouse it was found, that barcode EAN-13 of consumer unit was marked onto package (fig.7) without decimal code **4981046050142** which was indicated only in accompanying documents. Besides, there was no scanner to read barcode in a warehouse.

Using technique for transforming of EAN-13 code, described in examples 5, 6, and tables of Annex 2, ensure, that the decimal code indicated in accompanying documents corresponds to the barcode below.



Fig. 7. Barcode of consumer unit «Digital device for measuring of arterial pressure and pulse rate, Japan, Tokyo».

### Task N 3

Determine HS-code for the goods below using ITC-classifier (see chapter 3.1 of Annex 3):

Variant 1: Licorice extract, vitamin B<sub>2</sub> in bulk, shampoos, autoclaves.

Variant 2: Agar-agar, insulin in vials, Dichlophos, contact lenses.

Variant 3: Oxygen, 0.1% sol. of atropine sulf. in amp., Na-Carboxymethylcellulose, metal spectacle frames.

Variant 4: Magnesium sulfate, contraceptive preparations, plastic bottles, hearing aids.

Variant 5: Ephedrine hydrochloride in bulk, querbacho extract, glass ampoules, thermostats.

### Task N 4

Determine CPC-code for the goods below using CPC-classifier (see chapter 3.2 of Annex 3 and electronic PDF-version of the comprehensive CPC-classifier):

Variant 1: Lime flowers (crude drug), corrugated carton box, aspirin, plastic closures.

Variant 2: Green tea, liquid propane, sulphacetamide sodium, glass ampoules.

Variant 3: Fresh seeds of milk thistle, soap, strophantin, high-precision balances with sensitivity 0.1 cg.

Variant 4: Pure sodium chloride, chloroform, erythromycin, syringes.



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Variant 5: Natural diamonds, ethanol, dressings, apparatus for artificial respiration.



## ANNEX 2

### 2.1. Table for transforming of binary codes into decimal digits using different sets of zero-ones permutations for EAN barcodes

Decimal	Binary		
	Set A	Set B	Set C
0	0001101	0100111	1110010
1	0011001	0110011	1100110
2	0010011	0011011	1101100
3	0111101	0100001	1000010
4	0100011	0011101	1011100
5	0110001	0111001	1001110
6	0101111	0000101	1010000
7	0111011	0010001	1000100
8	0110111	0001001	1001000
9	0001011	0010111	1110100

Sets A, B are used for encoding/decoding of the left part of EAN-13 barcode  
Set A is used for encoding/decoding of the left part of EAN-8 barcode  
Set C is used for encoding/decoding of the right part of any EAN barcode

### 2.2. Table to choose the set for each digit of the left part of EAN-13 barcode depending on the 13<sup>th</sup> (the most left) digit

13th digit (the most left)	Position of the digit					
	12	11	10	9	8	7
0	A	A	A	A	A	A
1	A	A	B	A	B	B
2	A	A	B	B	A	B
3	A	A	B	B	B	A
4	A	B	A	A	B	B
5	A	B	B	A	A	B
6	A	B	B	B	A	A
7	A	B	A	B	A	B
8	A	B	A	B	B	A
9	A	B	B	A	B	A



2.3. Table for transforming of binary codes into decimal digits  
using different sets of zero-ones permutations  
for DUN barcodes

Decimal	Binary
0	00110
1	10001
2	01001
3	11000
4	00101
5	10100
6	01100
7	00011
8	10010
9	01010

2.4. Table of country codes

00-13	USA & Canada	599	Hungary	785	Peru
20-29	reserved for local use (store/warehouse)	600-601	South Africa	786	Ecuador
30-37	France	609	Mauritius	789	Brazil
383	Slovenia	611	Morocco	80-83	Italy
400-440	Germany	613	Algeria	84	Spain
45	Japan	619	Tunisia	850	Cuba
46	Russian Federation	622	Egypt	858	Slovakia
471	Taiwan	625	Jordan	859	Czech Republic
479	Sri Lanka	626	Iran	860	Yugoslavia
480	Philippines	64	Finland	869	Turkey
482	Ukraine	690-692	China	87	Netherlands
489	Hong Kong	70	Norway	880	South Korea
49	Japan	729	Israel	885	Thailand
50	UK	73	Sweden	888	Singapore
520	Greece	740-745	Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica & Panama	890	India





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528	Lebanon	746	Republica Dominicana	893	Vietnam
529	Cyprus	750	Mexico	899	Indonesia
531	Macedonia	759	Venezuela	90-91	Austria
535	Malta	76	Switzerland	93	Australia
539	Ireland	770	Colombia	94	New Zealand
54	Belgium & Luxembourg	773	Uruguay	955	Malaysia
560	Portugal	775	Peru	977	ISSN (International Standard Serial Number for periodicals)
569	Iceland	777	Bolivia	978	ISBN (International Standard Book Number)
57	Denmark	779	Argentina	979	ISMN (International Standard Music Number)
590	Poland	780	Chile	980	Refund receipts
594	Romania	784	Paraguay	99	Coupons



### ANNEX 3

#### 3.1. Structure of International Trade Classifier (ITC) based on Harmonization System (HS) Codes

##### CATEGORY I - ANIMALS & ANIMAL PRODUCTS

- Code 01 - Live animals
- Code 02 - Meat and edible meat offal
- Code 03 - Fish, crustaceans & aquatic invertebrates
- Code 04 - Dairy produce; birds eggs; honey and other edible animal products
- Code 05 - Other products of animal origin

##### Code 01 - Live Animals

- 0101 Horses, asses, mules and hinnies, live
- 010111 Horses, live, purebred breeding
- ...
- 010120 Asses, mules and hinnies, live
- 0102 Bovine animals, live cows, bulls, heifers
- 010599 Turkeys, ducks, geese, guinea fowls, live, over 185g
- 0106 Other animals, live birds, foxes, monkeys, rabbits, worms, bait, nesoi
- 010600 Animals, live, nesoi
- ...

##### CATEGORY II - VEGETABLE PRODUCTS

- Code 06 - Live trees, plants; bulbs, roots; cut flowers & ornamental foliage & spices
- Code 07 - Edible vegetables & certain roots & tubers[C:\Documents and Settings\Roman Fam\Local Settings\ClassCod\ITC\\_HS\\_06-014.html - code-07#code-07](C:\Documents and Settings\Roman Fam\Local Settings\ClassCod\ITC_HS_06-014.html - code-07#code-07)
- Code 08 - Edible fruit & nuts; citrus fruit or melon peel
- Code 09 - Coffee, tea, mate & spices
- Code 10 - Cereals
- Code 11 - Milling products; malt; starch; inulin; wheat gluten
- Code 012- Oil seeds & oleaginous fruits; miscellaneous grains, seeds & fruit; industrial or medicinal plants; straw & fodder
- Code 013- Lac; gums, resins & other vegetable sap & extracts
- Code 014- Vegetable plaiting materials & other vegetable products

##### Code 06 - Live trees, plants; bulbs, roots; cut flowers & ornamental foliage te & spices

- 0601 Bulbs, tubers; chicory plants & roots, corms, crowns & rhizomes
- 060110 Bulbs, tubers, corms, crowns & rhizomes etc dormant
- 060120 Bulbs, etc in growth or flower; chicory
- 0602 Other live plants (including roots), cuttings & slips; mushroom spawn



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060210	Live plant cuttings and slips, unrooted
060220	Edible fruit or nut trees, shrubs and bushes
060230	Rhododendrons and azaleas, grafted or not
060240	Roses, grafted or not
060291	Mushroom spawn
060299	Live plants (including their roots) etc
0603	Cut flowers & buds for bouquets or ornaments; prepared, fresh, dried, bleached, impregnated
060310	Cut flowers and flower buds, fresh
060390	Cut flowers/buds dried, dyed or otherwise prepared
0604	Foliage without flowers or buds, grasses, mosses, lichens for bouquets, prepared, fresh, dried, bleached, impregnated
060410	Mosses, lichens fresh dried etc otherwise prepared
060491	Foliage, branches etc, fresh
060499	Foliages, branches etc dried/dyed/bleached/impreg. etc
...	...
Code 013	- Lac; gums, resins & other vegetable sap & extracts
1301	Lac; natural gums, resins, gum-resins and balsams
130110	Lac/shellac/stick lac/seed lac/button lac/othr lac
130120	Gum arabic
130190	Natural gums, gum resins, resins and balsams
1302	Vegetable saps & extracts; pectates; agar-agar; mucilages & thickeners
130211	Vegetable saps and extracts, opium
130212	Vegetable saps and extracts of licorice
130213	Vegetable saps and extracts of hops
130214	Vegtbl sap & extract of pyrethrum/rts cnt rotenone
130219	Vegetable saps and extracts
130220	Pectic substances, pectinates and pectates
130231	Agar-agar
130232	Mucilages/thicknrs frm locust bean/seed, guar seed
130239	Mucilage & thickener w/n modified, frm veg prd
...	...

CATEGORY III - ANIMAL OR VEGETABLE FATS

...

CATEGORY IV - PREPARED FOODSTUFF

- Code 16 - Edible preparations of meat, fish, crustaceans, molluscs or other aquatic invertebrates
- Code 17 - Sugars and sugar confectionary
- Code 18 - Cocoa and cocoa preparations
- Code 19 - Preparations of cereals, flour, starch or milk; bakers wares



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- Code 20 - Preparations of vegetables, fruit, nuts or other plant parts
- Code 21 - Miscellaneous edible preparations
- Code 22 - Beverages, spirits and vinegar
- Code 23 - Food industry residues & waste; prepared animal feed
- Code 24 - Tobacco and manufactured tobacco substitutes

**CATEGORY V - MINERAL PRODUCTS**

- Code 25- Salt; sulfur; earth & stone; lime & cement plaster
- Code 26- Ores, slag and ash
- Code 27- Mineral fuels, mineral oils & products of their distillation; bitumen substances; mineral wax

**CATEGORY VI - CHEMICAL PRODUCTS**

- Code 28- Inorganic chemicals; organic or inorganic compounds of precious metals, of rare-earth metals, of radioactive elements or of isotopes
- Code 29- Organic chemicals
- Code 30- Pharmaceutical products
- Code 31- Fertilizers Code
- Code 32- Tanning or dyeing extracts; tannins & derivatives; dyes, pigments & coloring matter; paint & varnish; putty & other mastics; inks
- Code 33- Essential oils and resinoids; perfumery, cosmetic or toilet preparations
- Code 34- Soap; waxes; polish; candles; modelling pastes; dental preparations with basis of plaster
- Code 35- Albuminoidal substances; modified starch; glues; enzymes
- Code 36- Explosives; pyrotechnic products; matches; pyrophoric alloys; certain combustible preparations
- Code 37- Photographic or cinematographic goods
- Code 38- Miscellaneous chemical products

Code 28 - Inorganic chemicals; organic or inorganic compounds of precious metals, of rare-earth metals, of radioactive elements or of isotopes

2801 Fluorine, chlorine, bromine & iodine

280110 Chlorine

280120 Iodine

280130 Fluorine; bromine

2802 Sulfur, sublimed or precipitated; colloidal sulfur

280200 Sulfur, sublimed or precipitated; colloidal sulfur

2803 Carbon, including carbon black & other carbons nesoi\*

280300 Carbon, nesoi (including carbon black)

2804 Hydrogen, rare gases and other nonmetals argon, helium, nitrogen, oxygen, boron, silicon, phosphorous, arsenic, selenium

... ..



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- 280440 Oxygen  
... ..  
2825 Hydrazine & hydroxylamine & their inorganic salts; other inorganic bases, metal oxides, hydroxides & peroxides  
\* not elsewhere specified or included  
282510 Hydrazine & hydroxylamine & their inorganic salts  
... ..  
2827 Chlorides, chloride oxides & hydroxides, bromides & bromide oxides, iodides & iodide oxides  
282710 Ammonium chloride  
282720 Calcium chloride  
... ..  
282739 Chlorides, nesoi  
282741 Chloride oxides and chloride hydroxides of copper  
282749 Chloride oxides and chloride hydroxides, nesoi  
282751 Bromides of sodium or of potassium  
282759 Bromides and bromide oxides, nesoi  
282760 Iodides and iodide oxides  
2828 Hypochlorites; commercial calcium hypochlorite; chlorites; hypobromites  
282810 Commercial calcium hypochlorite  
... ..  
2830 Sulfides; polysulfides  
... ..  
2832 Sulfites; thiosulfates  
283210 Sodium sulfites  
283220 Other sulfites, except sodium sulfites, nesoi  
283230 Thiosulfates  
2833 Sulfates; alums; peroxosulfates, persulfates  
... ..  
283321 Magnesium sulfate  
... ..  
2844 Radioactive chemical elements & isotopes and compounds, mixtures & residues  
... ..  
2847 Hydrogen peroxide, whether or not solidified with urea  
284700 Hydrogen peroxide, whether/not solidified w/ urea  
... ..  
2851 Other inorganic compounds; liquid & compressed air; amalgams not of precious metal  
285100 Other inorganic compounds; liquid air; amalgams, nesoi

Code 29 - Organic chemicals



- 2901 Acyclic hydrocarbons (saturated & unsaturated)  
... ..  
2903 Halogenated derivatives of hydrocarbons  
... ..  
290323 Tetrachloroethylene (perchloroethylene)  
290329 Unsat. chlorine derivatives of acyclic hydrocarbons nesoi  
290330 Fluorinated etc derivatives of acyclic hydrocarbns  
... ..  
2905 Acyclic alcohols and their halogenated, sulfonated, nitrated, nitrosated derivatives  
290511 Methanol (methyl alcohol)  
... ..  
290550 Halo, sulfo, nitro or nitroso der. of acyclic alcohols  
2906 Cyclic alcohols and their halogenated, sulfonated, nitrated, nitrosated derivatives  
290611 Menthol  
290612 Cyclohexanol, methyl and dimethyl cyclohexanols  
290613 Sterols and inositols  
... ..  
2910 Epoxides, epoxyalcohols, epoxyphenols & epoxyethers, with a 3-membered ring and their halogenated, sulfonated, nitrated, nitrosated derivatives  
291010 Oxirane (ethylene oxide)  
... ..  
2932 Heterocyclic compounds with oxygen hetero-atom(s) only  
293211 Tetrahydrofuran  
... ..  
293221 Coumarin, methylcoumarins, and ethylcoumarins  
293229 Lactones nesoi  
293290 Heterocyclic comp with oxygen hetero-atom etc nesoi  
2933 Heterocyclic compounds with nitrogen hetero-atom; nucleic acids & their salts  
293311 Phenazone (antipyrine) and its derivatives  
293319 Heterocyclic comp with unfused pyrazole ring nesoi  
293321 Hydantoin and its derivatives  
293329 Heterocyclic cmp, unfused imidazole ring etc nesoi  
293331 Pyridine and its salts  
293339 Cmpds cont. an unfused pyridine ring etc nesoi  
293340 Heterocyclic comp with a quinoline etc ring-system  
293351 Malonylurea (barbituric acid) and its deriv etc  
293359 Comp. with pyrimidine ring, nucleic acid etc nesoi  
293361 Melamine  
293369 Cmpds (exc melamine) cont. an unfused triazine ring  
293371 6-Hexanelactam (epsilon-caprolactam)  
293379 Lactams (excluding 6-hexanelactam)  
293390 Heterocyclic comp w. nitrogen heteroatom only nesoi  
2934 Other heterocyclic compounds



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- 293410 Heterocyclic compounds, unfused thiazole ring in the structure
- 293420 Compounds containing a benzothiazole ring-system etc
- 293430 Heterocyclic compounds with phenothiazine ring-system
- 293490 Heterocyclic compounds nesoi
- 2935 Sulfonylamides
- 293500 Sulfonylamides
- 2936 Provitamins and vitamins, derivatives & intermixtures
- 293610 Provitamins, unmixed
- 293621 Vitamins A and their derivatives unmixed
- 293622 Vitamin B1 (thiamine) and its derivatives
- 293623 Vitamin B2 (riboflavin) and its derivatives
- 293624 D- or dl-pantothenic acid (vitamin B3 or B5) and derivatives
- 293625 Vitamin B6 (pyridoxine etc) and its derivatives
- 293626 Vitamin B12 and its derivatives
- 293627 Vitamin C (ascorbic acid) and its derivatives
- 293628 Vitamin E and its derivatives
- 293629 Vitamins and their derivatives, unmixed, nesoi
- 293690 Other including natural concentrates
- 2937 Hormones, derivatives & steroids used as hormones
- 293710 Pituitary (anterior) or similar hormones
- 293721 Cortisone, hydrocortisone, prednisone, etc
- 293722 Halogenated derivatives of adrenal cortical hormones
- 293729 Adrenal cortical hormones and derivatives nesoi
- 293791 Insulin and its salts
- 293792 Estrogens and progestins
- 293799 Hormones and derivatives nesoi, steroids etc nesoi
- 2938 Glycosides & their salts, ethers, esters & other derivatives
- 293810 Rutoside (rutin) and its derivatives
- 293890 Glycosides, natural or synthetic and derivatives nesoi
- 2939 Vegetable alkaloids & their salts, ethers, esters & other derivatives
- 293910 Alkaloids of opium and their derivatives, salts thereof
- 293921 Quinine and its salts
- 293929 Alkaloids of cinchona and their derivatives nesoi
- 293930 Caffeine and its salts
- 293940 Ephedrines and their salts
- 293950 Theophylline and aminophylline and their derivatives
- 293960 Alkaloids of rye ergot and their derivatives
- 293970 Nicotine and its salts
- 293990 Vegetable alkaloids, natural or reproduced nesoi
- 2940 Sugars, chemically pure (not sucrose, lactose, maltose, glucose, fructose), sugar ethers & esters & their salts (not 2937, 2938, 2939)
- 294000 Sugars, chem. pure (exc sucrose, lactose, etc)
- 2941 Antibiotics penicillin, streptomycin, tetracycline, chloramphenicol, erythromycin



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- 294110 Penicillins & deriv w penicillanic acid st; salts
- 294120 Streptomycins and their derivatives; salts thereof
- 294130 Tetracyclines and their derivatives; salts thereof
- 294140 Chloramphenicol and its derivatives; salts thereof
- 294150 Erythromycin and its derivatives; salts thereof
- 294190 Antibiotics, nesoi
- 2942 Other organic compounds
- 294200 Organic compounds nesoi

Code 30 - Pharmaceutical products

- 3001 Glands & extracts, secretions for organotherapeutic uses; heparin & its salts; other human or animal substances for therapeutic or prophylactic use
  - 300110 Glands and other organs, dried, incl powdered
  - 300120 Extracts of glands or other orgs or secretions
  - 300190 Heparin and its salts; other human or animal subst
- 3002 Human & animal blood; antisera, vaccines, toxins, micro-organism cultures (not yeast)
  - 300210 Antisera and other blood fractions
  - 300220 Vaccines for human medicine
  - 300231 Vaccines against foot and mouth disease
  - 300239 Other vaccines for veterinary medicine
  - 300290 Human blood; animal blood prep, toxins, cultrs etc
- 3003 Medicament mixtures (not 3002, 3005, 3006), not in dosage or packaged for retail
  - 300310 Medicaments cont penicillins or derivatives etc
  - 300320 Medicaments containing other antibiotics etc
  - 300331 Medicaments containing insulin, no antibiotics etc
  - 300339 Medicament cont hormones or prod of hd 2937 etc
  - 300340 Medicaments containing alkaloids or derivat etc
  - 300390 Other medicaments (exc goods of hds 3002,3005 etc)
- 3004 Medicament mixtures (not 3002, 3005, 3006), put in dosage or packaged for retail
  - 300410 Penicillins or streptomycins & deriv, dosage form
  - 300420 Antibiotics nesoi, in dosage form
  - 300431 Medicaments cont insulin but not cont antibiotics
  - 300432 Medicaments cont adrenal cortex hormones etc doses
  - 300439 Hormones etc. (no antibiotics contained) dosage fm
  - 300440 Alkaloids (no hormones or antibiotics), dosage etc
  - 300450 Vitamins, natural or synthetic, dosage etc form
  - 300490 Medicaments nesoi, measured doses, retail pk nesoi
- 3005 Wadding, gauze, bandages, impregnated or coated or packaged for retail
  - 300510 Adhesive dressings and other artcl having adh lay
  - 300590 Wadding, gauze and similar articles etc nesoi
- 3006 Pharmaceutical goods, specified sterile products sutures, laminaria, blood-grouping reagents, dental cements & fillings, first aid kits, contraceptives from hormones





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- or spermicides
- 300610 Sterile surgical catgut, similar sterile mater etc
- 300620 Blood-grouping reagents
- 300630 Opacifying preparations for x-ray examinations etc
- 300640 Dental cements and other dental fillings etc
- 300650 First-aid boxes and kits
- 300660 Chemical contraceptive preps based on hormones etc

Code 32 - Tanning or dyeing extracts; tannins & derivatives; dyes, pigments & coloring matter; paint & varnish; putty & other mastics; inks

- 3201 Tanning extracts of vegetable origin; tannins & their salts, ester, esters & other derivatives
- 320110 Quebracho extract
- 320120 Wattle extract
- 320130 Oak or chestnut extract
- 320190 Tanning extracts of vegetable origin, nesoi, etc
- 3202 Synthetic organic or inorganic tanning substances; tanning preparations; enzymatic preparations for pre-tanning
- 320210 Synthetic organic tanning substances
- 320290 Inorganic tanning substances & tanning prep, nesoi
- 3203 Coloring matter of vegetable or animal origin
- 320300 Coloring matter of vegetable or animal origin
- 3204 Synthetic organic coloring matter & preparations; used as brightening agents or luminophores
- 320411 Disperse dyes and preparations based thereon
- 320412 Acid dyes & preps, mordant dyes & preps
- 320413 Basic dyes and preparations based thereon
- 320414 Direct dyes & preparations based thereon
- 320415 Vat dyes & preparations based thereon
- 320416 Reactive dyes & preparations based thereon
- 320417 Pigments & preparations based thereon
- 320419 Synth organic coloring matter mixtures & nesoi
- 320420 Synthetic organic prod, fluorescent brightng agent
- 320490 Synthetic organic coloring matter, nesoi

...

Code 33 - Essential oils and resinoids; perfumery, cosmetic or toilet preparations

- 3301 Essential oils; resinoids; terpenic by-products etc
- 330111 Essential citrus fruit oils of bergamot
- 330190 Concentrates etc of essential oils

...

- 3302 Odoriferous mixtures as raw materials for industry



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...

- 3303 Perfumes and toilet waters
- 330300 Perfumes and toilet waters
- 3304 Beauty, make-up & skin-care preparations; sunscreens, manicure or pedicure preparations
- 3305 Preparations for use on the hair shampoo, hair lacquers, hair straighteners
- 330510 Shampoos
- 330520 Preparations for permanent waving or straightening
- 330530 Hair lacquers
- 330590 Preparations for use on the hair, nesoi
- 3306 Preparations for oral or dental hygiene toothpaste
- 330610 Dentifrices
- 330690 Preparations for oral/dental hygiene, nesoi
- 3307 Personal toilet preparations shaving preparations, deodorants, room deodorizers, bath
- 330710 Pre-shave, shaving or after-shave preparations
- 330720 Personal deodorants and antiperspirants
- 330730 Perfumed bath salts and other bath preparations
- 330741 Odoriferous preparations which operate by burning
- 330749 Preparations for perfuming/deodorizing rooms
- 330790 Perfumery, cosmetic or toilet preparations, nesoi

Code 34 - Soap; waxes; polish; candles; modelling pastes; dental preparations with basis of plaster

3401 Soap; organic surface-active preparations for soap use, in all forms

...

- 3402 Organic surface-active agents not soap or 3401
- 340211 Soap & other orgn surf-act prod not toilet use, bars
- 340212 Cationic organic surface-active agents
- 340213 Nonionic organic surface-active agents
- 340219 Organic surface-active agents, retail or not nesoi
- 340220 Surface-active, washing etc prep etc, retail sale
- 340290 Surface-active, washing, etc preparations nesoi
- 3403 Lubricating preparations, antirust or for treating textiles, leather
- 340311 Lubricating prep for textile etc treat with oils
- 340319 Lubricating preps cont petroleum oil fr bituminous
- 340391 Lubricating prep for text etc, no petr etc oil
- 340399 Lubricating preps, not cont petroleum oils, nesoi
- 3404 Artificial and prepared waxes

...

Code 38 - Miscellaneous chemical products

3801 Artificial graphite; colloidal or semi-colloidal graphite & preparations thereof



- ...
- 3808 Insecticides, rodenticides; fungicides, herbicides, antisprouting products, disinfectants packaged for retail
- 380810 Insecticides
- 380820 Fungicides, for retail sale etc.
- 380830 Herbicides, antisprouting products & plt-grwth reg
- 380840 Disinfectants, for retail sale etc
- 380890 Rodenticides and similar products, for retail sale
- ...
- 3821 Prepared culture media for development of microorganisms
- 382100 Prepared cultura media for devel of microorganisms
- 3822 Composite diagnostic or laboratory reagents (not 3002,3006)
- 382200 Composite diagnostic/lab reagents, exc 3002/3006
- ...

#### CATEGORY VII - PLASTIC AND RUBBER

Code 39 - Plastics and articles thereof

- 3901 Polymers of ethylene, in primary forms
- ...
- 3902 Polymers of propylene or other olefins, in primary forms
- ...
- 3903 Polymers of styrene, in primary forms
- ...
- 3904 Polymers of vinyl chloride or halogenated olefins, in primary forms
- ...
- 3905 Polymers of vinyl acetate or other vinyl esters or polymers, in primary forms
- ...
- 3906 Acrylic polymers in primary forms
- ...
- 3910 Silicones, in primary forms
- ...
- 3912 Cellulose and chemical derivatives nesoi in primary forms
- 391211 Cellulose acetates, nonplasticized
- 391212 Cellulose acetates, plasticized, pr fms
- 391220 Cellulose nitrates (including collodions)
- 391231 Carboxymethylcellulose and its salts, pr fms
- 391239 Cellulose ethers, nesoi
- 391290 Cellulose & its chemical deriv, nesoi, primary fms
- 3913 Natural & modified natural polymers nesoi (not elsewhere specified or included) in primary forms alginic acid, hardened proteins
- 391310 Alginic acid, its salts and esters, pr fms
- 391390 Natural and modified natural polymers nesoi, pr fm
- 3914 Ion-exchangers based on polymers (plastics), in primary forms



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- ...
- 3923 Articles of plastic for the conveyance or packing of goods or closures stoppers, lids, caps, closures, plastic containers, boxes, crates, cases, bottles
- 392310 Boxes, cases, crates & similar articles, of plastic
- 392321 Sacks & bags (incl cones) of polymers of ethylene
- 392329 Sacks & bags(including cones) of other plastics
- 392330 Carboys, bottles, flasks & similar items, plastic
- 392340 Spools, cops, bobbins & similar supports, plastics
- 392350 Stoppers, lids, caps & other closures, of plastic
- 392390 Art for conveying or packing of goods, plast, nesoi
- ...
- Code 40 - Rubber and articles thereof
- 4001 Natural rubber in primary form or plates balata, gutta-percha, guayule, chicle
- ...
- 4002 Synthetic rubber & factice from oils or mixed with natural rubber in primary form or sheets, strips
- ...
- 4006 Unvulcanized rubber in other forms and articles rods, tubes, profile shapes, discs, rings
- 400610 Camel-back strip for retreading tires, unvul rubber
- 400690 Other forms & articles, of vulcanized rub, nesoi
- ...
- 4009 Vulcanized rubber tubes, pipes, hoses (not hard rubber), with or without fittings joints, elbows, flanges
- ...

**CATEGORY XIII - ARTICLES OF STONE, PLASTER, CEMENT, ASBESTOS**

Code 68 - Articles of stone, plaster, cement, asbestos, mica or similar materials

Code 69 - Ceramic products

Code 70 - Glass and glassware

- ...
- 7010 Glass containers; stoppers, lids and other closures of glass carboys, bottles, flasks, jars, pots, vials, ampoules
- 701010 Ampoules, glass, for conveyance or packng of goods
- 701090 Glass containers nesoi & glass closures
- ...
- 7012 Glass inners for vacuum flasks or other vacuum vessels
- 701200 Glass inners for vacuum flasks a oth vacuum vessls
- ...
- 7017 Glassware for laboratory, hygienic or pharmaceutical use
- 701710 Lab, hygienic, pharmaceut glswr, fUSD quartz/silica
- 701720 Lab, hyginc, pharm glswr w lin coef nov  $5 \times 10^{-6}$  nes
- 701790 Laboratory, hygienic or pharmaceut glassware nesoi



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**CATEGORY XVI - MACHINERY & MECHANICAL APPLIANCES**

Code 84 - Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof

Code 85 - Electric machinery, equipment and parts; sound equipment; television equipment

...

8419 Nonelectric instantaneous/storage water heaters; machinery, plant or laboratory equipment for..treatment of material by temperature change i.e heating, distilling, sterilizing, condensing, cooling (not domestic) microwave ovens

841911 Instantaneous gas water heaters

841919 Instant/storage water heaters ex instant gas wtr ne

841920 Medical, surgical or laboratory sterilizers

...

841940 Distilling or rectifying plant

841950 Heat exchange units, industrial type

...

**CATEGORY XVIII - INSTRUMENTS - MEASURING, MUSICAL**

Code 90 - Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments/apparatus; parts & accessories

Code 91 - Clocks and watches and parts thereof

Code 92 - Musical instruments; parts and accessories thereof

9001 Optical fibers/fiber bundles/fiber cables(not 8544); polarizing material sheets & plates; lenses, prisms, mirrors, other optical elements(not mounted) contact lenses

...

900130 Contact lenses

900140 Spectacle lenses of glass, unmounted

900150 Spectacle lenses of materials other than glass

...

9003 Frames & mountings for spectacles, goggles etc; parts

900311 Frames and mountings for spectacles etc, plastic

900319 Frames and mountings of other materials

900390 Parts for frames and mountings, spectacles, etc

9004 Spectacles, goggles etc, corrective, protective etc sunglasses

900410 Sunglasses

900490 Spectacles, etc, corrective, protective, nesoi

...

9011 Compound optical microscopes; parts & accessories

901110 Stereoscopic microscopes

901120 Microscopes, for microphotography & cinema etc, nesoi

...

9016 Balances of sensitivity 5 cg or better; parts & accessories

901600 Balances, sensitivity >=5 cg, w or w/o wgt, & pts



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- 9018 Medical/surgical/dental/veterinary instruments & appliances; electro-medical apparatus & sight-testing instruments; parts & accessories scintigraphic apparatus
- 901811 Electrocardiographs, and parts and accessories
- 901819 Electro-diagnostic apparatus nesoi, and parts etc.
- 901820 Ultraviolet or infrared ray apparatus, & pts & acc
- 901831 Syringes, with or without needles; pts & access
- 901832 Tubular metal needles & needles for sutures & parts
- 901839 Med needles. nesoi, catheters etc and parts etc
- 901841 Dental drill engines and parts and accessories
- 901849 Inst & appln for dental science, & pts & acc, nesoi
- 901850 Other ophthalmic instruments & appliances & parts
- 901890 Instr & appl f medical surgical dental vet, nesoi
- 9019 Mechanotherapy, massage, psychological aptitude testing test, artificial respiration appliances & apparatus; ozone, oxygen, aerosol therapy
- 901910 Mech-thrpy appl; mssg appr; psych apt-test; appr; pts
- 901920 Ozone, oxygen, etc therapy, respiration apparatus, pt
- 9020 Breathing appliances & gas masks (not protective masks); parts & accessories
- 902000 Breathing appliances & gas masks nesoi; parts etc
- 9021 Orthopedic appliances; artificial body parts; hearing aids; parts & accessories crutches, surgical, belts, trusses, splints, bone plates/screws/nails, artificial teeth, pacemakers
- 902111 Artificial joints and parts and accessories
- 902119 Orthpdc/fractr appl (ex art joint/pt), pt & access
- 902121 Artificial teeth and parts and accessories
- 902129 Dental fittings and parts and accessories
- 902130 Oth artificial pts of the body & pts & accessories
- 902140 Hearing aids, excluding parts and accessories
- 902150 Pacemakers for stimulating heart muscles
- 902190 Appliances worn, carried, implanted in body & pt, nesoi
- 9022 X-ray, alpha, beta, gamma radiation apparatus x-ray tubes, x-ray generators; control panels, desks, screens, chairs
- 902211 Appts base on x-ray for medical, dental, etc uses
- 902219 Apparatus base on x-ray for oth use, ex medical, etc
- 902221 Appts base on alpha, beta, etc radiation, medical, etc
- 902229 Appr use of alpha beta gamma rdtn n f med surg etc
- 902230 X-ray tubes
- 902290 X-ray/hi tnsn genr cntr pnl & dsk exm/trtmnt tb pt
- 9023 Instruments, apparatus, models for demonstrational purposes (no other use); parts & accessories
- 902300 Inst, appts & models, for demonstrational use & parts
- 9024 Machines, appliances for testing elasticity or mechanical properties of material; parts



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- & accessories
- 902410 Machines and appliances for testing metals
- 902480 Machine & appliance, test hardness, strength, etc, nesoi
- 902490 Pts, machine & appln, test hardness/strength, etc
- 9025 Hydrometers, thermometers, pyrometers, barometers, hygrometers, psychrometers; parts & accessories
- 902511 Thermometers n cmbnd w ot inst liq-flld drct read
- 902519 Thermometers, nt combined with oth inst, nesoi
- 902520 Barometers, not combined with other instruments
- 902580 Hydrometers, pyrometers, hygrometers, etc, nesoi
- 902590 Pts, hydrometers, therometers, pyrometers, etc
- 9026 Instruments & apparatus for measuring/checking liquid/gases flow, level pressure(not 9014, 9015, 9028, 9032) flow meters, level gauges, manometers, heat meters
- 902610 Inst & apprts, measure/checking flow/level of liq
- 902620 Inst & apprts, measuring/checking pressure
- 902680 Inst measure/checking variable of liq/gases, nesoi
- 902690 Pts, inst & apprts measure/check variables liq/gas
- 9027 Instruments & apparatus for physical or chemical analysis polarimeters, refractometers, spectrometers, exposure meters, microtomes
- 902710 Gas or smoke analysis apparatus
- 902720 Chromatographs and electrophoresis instruments
- 902730 Spctmtr spctrphtmr etc using optical radiations
- 902740 Exposure meters
- 902750 Instruments etc using optical radiations nesoi
- 902780 Phy chem ins/appr; meas vscty & heat nesoi
- 902790 Pts of inst, phys/chem analysis etc, nesoi
- ...
- 9030 Oscilloscopes, spectrum analyzers & other instruments & apparatus for measuring/checking electrical quantities (not 9028), or alpha, beta, gamma, x-ray etc radiation; parts & accessories
- 903010 Inst for measuring/detecting ionizing radiations
- 903020 Cathode-ray oscilloscopes & cathode-ray oscillograph
- 903031 Multimeters without a recording device)
- 903039 Inst meas volt crrent etc w-out rcrdng dvce, mltmtr
- 903040 Oth inst, specially designed for telecommunication
- 903081 Oth inst, recording device, measure/check elec qtys
- 903089 Inst, measuring/checking electrical quantitie, nesoi
- 903090 Pts of inst f meas elect quat alpha beta inzng rdt
- 9031 Other machines/instruments/appliances; profile projectors; parts & accessories balancing machines, test benches, photomasks
- ...
- 9032 Automatic regulating or control instruments; parts & accessories
- 903210 Thermostats



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- 903220 Manostats
- 903281 Hydraulic/pneumatic auto regulating/contr ins/appr
- 903289 Auto regulating ins & appr ex throstat, mnstat, etc
- 903290 Pts, autom regulating/controlling inst & apprts
- 9033 Parts & accessories of 9001-9032, nesoi (not elsewhere specified or included)
- 903300 Pts, nesoi for machines, appln, inst/appts of chap90





## 2.6. Broad structure of CPC classifier (photocopy)

Section	Division	Groups	Classes	Subclasses
36	Rubber and plastics products	5	24	28
37	Glass and glass products and other non-metallic products n.e.c.	7	34	51
38	Furniture; other transportable goods n.e.c.	8	41	58
39	Wastes or scraps	4	30	39
<b>4</b>	<b>Metal products, machinery and equipment</b>	<b>50</b>	<b>210</b>	<b>457</b>
41	Basic metals	6	23	86
42	Fabricated metal products, except machinery and equipment	4	15	36
43	General purpose machinery	6	28	60
44	Special purpose machinery	9	39	97
45	Office, accounting and computing machinery	2	17	17
46	Electrical machinery and apparatus	6	24	34
47	Radio, television and communication equipment and apparatus	6	16	26
48	Medical appliances, precision and optical instruments, watches and clocks	4	26	52
49	Transport equipment	7	22	49
<b>5</b>	<b>Construction services</b>	<b>8</b>	<b>38</b>	<b>53</b>
54	Construction services	8	38	53
<b>6</b>	<b>Distributive trade services; lodging; food and beverage serving services; transport services; and utilities distribution services</b>	<b>32</b>	<b>123</b>	<b>486</b>
61	Wholesale trade services	2	18	122
62	Retail trade services	5	45	267
63	Lodging; food and beverage serving services	3	7	12
64	Land transport services	4	11	30
65	Water transport services	2	8	15
66	Air transport services	4	6	6
67	Supporting and auxiliary transport services	9	22	24
68	Postal and courier services	1	2	5
69	Electricity distribution services; gas and water distribution services through mains	2	4	5
<b>7</b>	<b>Financial and related services; real estate services; and rental and leasing services</b>	<b>11</b>	<b>39</b>	<b>72</b>
71	Financial intermediation, insurance and auxiliary services	6	17	35
72	Real estate services	2	7	11



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