

# How to use ATC classification data provided by WHO?

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## Motivation

In the Anatomical Therapeutic Chemical (ATC) classification system, the active substances are divided into different groups according to the organ or system on which they act and their therapeutic, pharmacological, and chemical properties. Drugs are classified at five different levels.

Details and tutorials can be found here <https://www.who.int/tools/atc-ddd-toolkit/atc-classification>.

WHO provides a free online actual electronic list of internationally recognized ATC here [https://www.whocc.no/atc\\_ddd\\_index/](https://www.whocc.no/atc_ddd_index/).

In addition, [https://www.whocc.no/atc\\_ddd\\_index\\_and\\_guidelines/order/](https://www.whocc.no/atc_ddd_index_and_guidelines/order/) the ATC data can be ordered in MS Excel format. This order is for money.

Along with ATC codes and active substances, the ATC list contains Defined Daily Dosage (DDD) for active substances. The DDD provides Units of Measurement (UOM) and Routes of Administration dictionaries.

Thus, the electronic list from WHO provides to Pharmadex 2:

- Active ingredients, recognized by WHO and grouped by ATC codes (who.atc.human)
- WHO Dosage units dictionary (dictionary.who.uom)
- WHO route of administration dictionary (dictionary.who.adminroute)

This manual intends for Pharmadex 2 supervisor user that is responsible for data maintenance.

## Source Data

The data supported by WHO can be ordered here [https://www.whooc.no/atc\\_ddd\\_index\\_and\\_guidelines/order/](https://www.whooc.no/atc_ddd_index_and_guidelines/order/). This data contains English and Spanish versions of actual ATC/DDD registered in WHO. The data is in MS Excel (xlsx) format. The layout of the data seems as stable.

## Import data

Administrare Authorities and Users Processes Configurations dataimport Monitoring changePassAdmin Exit

templateupload

1

dataimport

File Name	Name	Additional information
Error.xlsx	XLSX file contains data import errors	
ATC_DDD_2021_WHO.xlsx	XLSX file contains data to import	

2

dataimport\_codes

6

ATC Code	ATC Name

3 Save Reload Cancel

4 ?

dataimport\_result

5

Save Reload ?

Figure 1 Import the WHO ATC-DDD file

1. Download the non-official MS Excel file of WHO online data for 2021-12-03 only if you do not have the official data [https://www.whooc.no/atc\\_ddd\\_index\\_and\\_guidelines/order/](https://www.whooc.no/atc_ddd_index_and_guidelines/order/).
2. Upload the MS Excel file to import
3. Press "Save" to start the import. The import process will be run in the background. It is possible to do another job, however, the content of the ATC component will be locked.
4. Press "Reload" to check the status – how many imported, how many are left
5. Intermediate and final statuses will be found under the "dataimport\_result"
6. The result of the importing will be available here (Figure 2)

## atc.import

Administrare Authorities and Users Processes Configurations dataimport Monitoring changePassAdmin Exit

Save Reload Cancel

templateupload

dataimport

File Name	Name	Additional Information
Error.xlsx	XLSX file contains data import errors	
ATC_DDD_2021_WHO.xlsx	XLSX file contains data to import	

dataimport\_result

2022-10-11T18:21:31.549 Completed by 6972/6972

dataimport\_codes

Search

ATC Code	ATC Name
A	ALIMENTARY TRACT AND METABOLISM
A01	STOMATOLOGICAL PREPARATIONS
A01A	STOMATOLOGICAL PREPARATIONS
A01AA	Caries prophylactic agents
A01AA01	sodium fluoride, 1.1mg, O, 0.5 mg fluoride
A01AA02	sodium monofluorophosphate
A01AA03	olafur, 1.1mg, O
A01AA04	stannous fluoride
A01AA30	combinations
A01AA51	sodium fluoride, combinations

ATC Code

ATC Code	ATC Name
----------	----------

10

Save Reload Cancel

Figure 2 The result of the importing

In addition, such dictionaries will be created:

- dictionary.who.uom – Units of measures
- dictionary.who.adminroute – administrate routes

The values of these dictionaries are from DDD columns in the Excel file. These values are abbreviations that are not clear for a plain user. After the import, it will be recommended to add descriptions of them manually using the official WHO sources [https://www.whocc.no/atc\\_ddd\\_index/](https://www.whocc.no/atc_ddd_index/).

## Re-import

The complete data file should be used for re-import. Follow the same procedure as for the initial import. The re-import procedure:

1. Makes unusable all ATC records that are not present in the Excel file
2. Add new ATC records to the database that is present in the Excel file, but not present in the database

The e-import software determines the ATC record in the Excel file and the database as the same when all the following conditions will occur:

- ATC codes are equals
- DDD, UoM, and Admin Route are equal or empty in the both

For dictionaries dictionary.who.uom and dictionary.who.adminroute:

- The existing data will not be re-written
- The new abbreviations will be added

atc.import

## Country specific data

It is possible when a country uses active ingredients, UoMs, and routes of administration, that are not listed in the WHO data. In this case, this data should be added manually.

- For the active ingredients, country-specific records should be added to the end of the WHO data. The coding and description should follow rules for a particular country.
- UOMs should be added to the dictionary.who.uom
- Route of Administration should be added to the dictionary.who.adminroute

## Languages

For current, it is no way to determine ATC and active ingredient data in the national language. This feature will be added soon.

For dictionary.who.uom and dictionary.who.adminroute it is possible to add data in the national language like to any other dictionary.

## Usage

### Component “ATC”

The “ATC” component is dedicated to selecting ATC codes. Details can be found here <http://redmine.inka.in.ua/documents/129>. From November 2022 this component will be deprecated in favor of the “links” component.

atc

Search

ATC Code	ATC Name
A	ALIMENTARY TRACT AND METABOLISM
A01	STOMATOLOGICAL PREPARATIONS
A01A	STOMATOLOGICAL PREPARATIONS
A01AA	Caries prophylactic agents
A01AA01	sodium fluoride, 1.1mg, O, 0.5 mg fluoride
A01AA02	sodium monofluorophosphate
A01AA03	olafiur, 1.1mg, O
A01AA04	stannous fluoride
A01AA30	combinations
A01AA51	sodium fluoride, combinations

< 1 2 3 4 ... 697 >

10

▼

ATC Code

ATC Code	ATC Name
A01AA	Caries prophylactic agents
A01AA51	sodium fluoride, combinations

10

▼

Figure 3 ATC component

## atc.import

Save

Remove

Cancel

varName

atc

varNameExt

Additional information

Class

atc

Minimal Offset

0

Maximal Offset

0

required

No

mult

No

screenposition

row

0

col

1

ord

1

Auxiliary Data

url

coop.atc

dictUrl

who.atc.human

auxUrl

readOnly

No

unique

No

Name

No

The pattern for the field or file names

Save

Remove

Cancel

Figure 4 ATC component configuration

## Component “links”

The “links” is a universal component that allows adding references to the:

- Application's data
- Imported legacy data
- Imported ATC codes

atc.import

Details can be found here <http://redmine.inka.in.ua/documents/129>. The usage of this component is strongly recommended instead of the ATC component.

#### ingredients

Select ingredients from the list, and, then, role of this ingredient in medicine

	<u>Name</u> ↓	<u>Additional information</u>
<input type="checkbox"/>	<a href="#">A</a>	ALIMENTARY TRACT AND METABOLISM
<input type="checkbox"/>	<a href="#">A01</a>	STOMATOLOGICAL PREPARATIONS
<input type="checkbox"/>	<a href="#">A01A</a>	STOMATOLOGICAL PREPARATIONS
<input type="checkbox"/>	<a href="#">A01AA</a>	Caries prophylactic agents
<input type="checkbox"/>	<a href="#">A01AA01</a>	sodium fluoride, 1.1mg, O, 0.5 mg fluoride
<input type="checkbox"/>	<a href="#">A01AA02</a>	sodium monofluorophosphate
<input type="checkbox"/>	<a href="#">A01AA03</a>	olaflur, 1.1mg, O
<input type="checkbox"/>	<a href="#">A01AA04</a>	stannous fluoride
<input type="checkbox"/>	<a href="#">A01AA30</a>	combinations
<input type="checkbox"/>	<a href="#">A01AA51</a>	sodium fluoride, combinations

< 1 2 3 4 ... 697 >


 10 ▾

Figure 5 Usage of component "links" for active ingredient references

## atc.import

Save

Remove

Cancel

varName

ingredients

varNameExt

Additional information

Select ingredients from the list, and, then, role of this ingredient in medicine

Class

links

Minimal Offset

0

Maximal Offset

0

required

Yes

mult

No

screenposition

row

0

col

0

ord

3

Auxiliary Data

url

coop.atc

dictUrl

auxUrl

who.atc.human

readOnly

No

unique

No

Name

Yes

The pattern for the field or file names

Figure 6 The configuration of the component above

The value of the field “Name” is “Yes, thus the selection will be copied to literals:

- prefLabel - selected ingredient
- description - selected ingredient along with ATC, DDD, and notes
- atc - ATC code