Package: standartox (via r-universe)

October 30, 2026

Version 0.0.2

Date 2022-08-08

Title Ecotoxicological Information from the Standartox Database

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Description The <http://standartox.uni-landau.de> database offers cleaned, harmonized and aggregated ecotoxicological test data, which can be used for assessing effects and risks of chemical concentrations found in the environment.

Depends R (>= 3.5.0)

Imports stats, httr (>= 1.4.1), jsonlite (>= 1.6.1), fst (>= 0.9.4), data.table (>= 1.13.0)

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URL https://github.com/andschar/standartox

BugReports https://github.com/andschar/standartox/issues

RoxygenNote 7.1.2

Encoding UTF-8

NeedsCompilation no

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Repository https://cran.r-universe.dev

Date/Publication 2022-08-08 10:00:02 UTC

RemoteUrl https://github.com/cran/standartox

RemoteRef HEAD

RemoteSha a9e3f3265f89190eb8330f10289b4101595bc3ad

Contents

stx_catalog 2
stx_chem 2
stx_query 3
stx_taxa 5

Index **6**

`stx_catalog` *Retrieve data catalog*

Description

Retrieve a data catalog for all variables (and their values) that can be retrieved with stx_query()

Usage

```
stx_catalog(vers = NULL)
```

Arguments

`vers`	integer; Choose the version of the EPA Ecotox on which Standartox is based on. NULL (default) accesses the most recent version

Value

Returns a list of data.frames containing information on data base variables

Author(s)

Andreas Scharmueller <andschar@protonmail.com>

Examples

```
# might fail if API is not available
stx_catalog()
```

`stx_chem` *Retrieve chemical data*

Description

Retrieve data on all chemicals in Standartox.

Usage

```
stx_chem()
```

Value

Returns a data.table containing informaiton on chemicals in Standartox.

Author(s)

Andreas Scharmueller <andschar@protonmail.com>

Examples

```
# might fail if API is not available
stx_chem()
```

`stx_query` *Retrieve Standartox toxicity values*

Description

Retrieve toxicity values from the Standartox data base http://standartox.uni-landau.de/.

Usage

```
stx_query(
  cas = NULL,
  concentration_unit = NULL,
  concentration_type = NULL,
  duration = NULL,
  endpoint = c("XX50", "NOEX", "LOEX"),
  effect = NULL,
  exposure = NULL,
  chemical_role = NULL,
  chemical_class = NULL,
  taxa = NULL,
  ecotox_grp = NULL,
  trophic_lvl = NULL,
  habitat = NULL,
  region = NULL,
  vers = NULL,
  ...
)
```

Arguments

`cas`	character, integer; Limit data base query to specific CAS numbers, multiple entries possible (e.g. 1071-83-6, 1071836), NULL (default).
`concentration_unit`	character; Limit data base query to specific concentration units (e.g. ug/l - default).

`concentration_type`
: character; Limit data base query to specific concentration types, can be one of NULL (default), 'active ingredient', 'formulation', 'total', 'not reported', 'unionized', 'dissolved', 'labile'. See https://cfpub.epa.gov/ecotox/pdf/codeappendix.pdf p.4.

`duration`
: integer vector of length two; Limit data base query to specific test durations (hours) (e.g. c(24, 48)). NULL (default).

`endpoint`
: character; Choose endypoint type, must be one of 'XX50' (default), 'NOEX', 'LOEX'.

`effect`
: character; Limit data base query to specific effect groups, multiple entries possible (e.g. 'Mortality', 'Intoxication', 'Growth'). See https://cfpub.epa.gov/ecotox/pdf/codeappendix.pdf p.95. NULL (default).

`exposure`
: character; Choose exposure type, (e.g. aquatic, environmental, diet). NULL (default).

`chemical_role`
: character; Limit data base query to specific chemical roles (e.g. insecticide), multiple entries possible. NULL (default).

`chemical_class`
: character; Limit data base query to specific chemical classes (e.g. neonicotinoid), multiple entries possible. NULL (default).

`taxa`
: character; Limit data base query to specific taxa, multiple entries possible. NULL (default).

`ecotox_grp`
: character; Convenience grouping of organisms in ecotoxicology, must be one of NULL (default), 'invertebrate', 'fish', 'plant_land', 'macrophyte', 'algae'.

`trophic_lvl`
: character; Trophic level of organism, must be one of NULL (default), 'autotroph', 'heterotroph'.

`habitat`
: character; Limit data base query to specific organism habitats, can be one of NULL (default) 'marine', 'brackish', 'freshwater', 'terrestrial'.

`region`
: character; Limit data base query to organisms occurring in specific regions, can be one of NULL (default) 'africa', 'america_north', 'america_south', 'asia', 'europe', 'oceania'.

`vers`
: integer; Choose the version of the EPA Ecotox on which Standartox is based on. NULL (default) accesses the most recent version.

`...`
: currently not used

Value

Returns a list of three data.tables (filtered data base query results, aggregated data base query results, meta information)

Author(s)

Andreas Scharmueller <andschar@protonmail.com>

Examples

```
# might fail if API is not available
stx_query('1071-83-6')
stx_query(cas = '1071-83-6',
          duration = c(48, 120),
          concentration_unit = 'ug/l')
stx_query(cas = '1071-83-6',
          duration = c(48, 120),
          concentration_unit = 'ug/l',
          endpoint = 'XX50')
```

`stx_taxa` *Retrieve taxa data*

Description

Retrieve data on all taxa in Standartox.

Usage

```
stx_taxa()
```

Value

Returns a data.table containing informaiton on taxa in Standartox.

Author(s)

Andreas Scharmueller <andschar@protonmail.com>

Examples

```
# might fail if API is not available
stx_taxa()
```

Index

stx_catalog, 2
stx_chem, 2
stx_query, 3
stx_taxa, 5