

Package: OpenMindat (via r-universe)

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Type Package

Title Quickly Retrieve Datasets from the 'Mindat' API

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utils, stringi, stringr, usethis

Suggests knitr, rmarkdown, testthat (>= 3.0.0)

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Description The goal of OpenMindat R package is to provide functions
for users or machines to quickly and easily retrieve datasets
from the mindat.org API
(<<https://api.mindat.org/schema/redoc/>>).

VignetteBuilder knitr

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<https://quexiang.github.io/OpenMindat/>

BugReports <https://github.com/quexiang/OpenMindat/issues>

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ConvertDF2JsonLD	<i>Output file as a given format</i>
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Description

Convert the mindat R dataframe to JSON-LD string

Usage

```
ConvertDF2JsonLD(inputdata, template = NULL)
```

Arguments

inputdata	R dataframe of retrieved data from Mindat database.
template	filepath to the template

Examples

```
## Not run:
df <- geomaterials_search_name("Quartz")
df_out <- ConvertDF2JsonLD(df)

## End(Not run)
```

ConvertDF2TTL	<i>Convert a dataframe to a string of TTL format</i>
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Description

Convert the mindat R dataframe to TTL string

Usage

```
ConvertDF2TTL (inputdata, template = NULL)
```

Arguments

inputdata R dataframe of retrieved data from Mindat database.
 template filepath to the template

Examples

```
## Not run:
df <-geomaterials_search_name("Quartz")
df_out <-ConvertDF2TTL(df)

## End(Not run)
```

```
geomaterials_bi_greater_than
      retrieve the geomaterials whose birifrigence are higher than the given
      value.
```

Description

: Queries the list of geomaterials that minmum value of the given birifrigence value.

Usage

```
geomaterials_bi_greater_than(gt, ...)
```

Arguments

gt float value.Birifrigence is calculated from refractive index as (rimax-rimin).Range:
 bi_min - bi_max.
 ... Further named parameters.Other optional arguments.

Details

This function related to the field "bi_min" of geomaterials. retrieve all the geomaterials that has higher birifrigence than the given value(gt).

Value

df, a data frame of geomaterials

Examples

```
## Not run:
df <-geomaterials_bi_greater_than(0.2)

## End(Not run)
```

geomaterials_bi_less_than

retrieve the geomaterials whose birifrigence are lower density than the given value.

Description

: Queries the list of geomaterials that have lower birifrigence than lt.

Usage

```
geomaterials_bi_less_than(lt, ...)
```

Arguments

lt float value. Birifrigence is calculated from refractive index as (rimax-rimin). Range: bi_min - bi_max.
 ... Further named parameters. Other optional arguments.

Details

This function related to the field "bi_max" of geomaterials. retrieve all the geomaterials that has higher birifrigence than the given value(lt).

Value

df, a data frame of geomaterials

Examples

```
## Not run:
df <- geomaterials_bi_less_than(0.3)

## End(Not run)
```

geomaterials_bi_range *retrieve the geomaterials whose birifrigence are higher and lower than the given value.*

Description

: Queries the list of geomaterials that have lower birifrigence than lt.

Usage

```
geomaterials_bi_range(gt,lt, ...)
```

Arguments

gt float value. Birifrigence is calculated from refractive index as (rimax-rimin). Range: bi_min - bi_max.

lt float value. Birifrigence is calculated from refractive index as (rimax-rimin). Range: bi_min - bi_max.

... Further named parameters. Other optional arguments.

Details

This function related to the fields "bi_min" and "bi_max" of geomaterials. retrieve all the geomaterials that has the birifrigence within the given range of (gt,lt).

Value

df, a data frame of geomaterials

Examples

```
## Not run:
df <- geomaterials_bi_range(0.2, 0.3)

## End(Not run)
```

geomaterials_by_groupid

retrieve the geomaterials by an given value of groupid.

Description

: Queries the list of geomaterials that match an given groupid.

Usage

```
geomaterials_by_groupid(gid, ...)
```

Arguments

gid integer value. The id of the group to which this mineral belongs

... Further named parameters. Other optional arguments.

Details

This function related to the field "groupid" of geomaterials. retrieve all the geomaterials that match an given groupid.

Value

df, a data frame of geomaterials

Examples

```
## Not run:  
df <-geomaterials_by_groupid(0)  
  
## End(Not run)
```

geomaterials_cleavagetype
geomaterials that match an given cleavagetype

Description

: Queries the list of geomaterials that match an given cleavagetype

Usage

```
geomaterials_cleavagetype(types, ...)
```

Arguments

types	vector of given cleavagetype (array of strings or null). The field "cleavage" is used to describe the crystallographic orientation of cleavage directions or planes and quality.
...	Further named parameters.Other optional arguments-Additional arguments.

Details

This function related to the field "cleavagetype" of geomaterials. Items Enum: "Distinct/Good" "Imperfect/Fair" "None Observed" "Perfect" "Poor/Indistinct" "Very Good"

Value

df, a data frame of geomaterials

Examples

```
## Not run:  
df <-geomaterials_cleavagetype(c("Poor/Indistinct"))  
  
## End(Not run)
```

geomaterials_colour *geomaterials that have the given colors*

Description

: Queries the list of geomaterials that match a given colors.

Usage

```
geomaterials_colour(colors, ...)
```

Arguments

colors vector of given colors. colors of the mineral or rock - individual minerals at localities can also have color information.

... Further named parameters. Other optional arguments-Additional arguments.

Details

This function related to the field "colour" of geomaterials. For example: "Brown", "Yellow", "green", "Pink", "White", "Orange", "Blue", "Gold", "Dark brown", "Purple".

Value

df, a data frame of geomaterials

Examples

```
## Not run:
df <- geomaterials_colour(c("bright blue"))

## End(Not run)
```

geomaterials_contain_all_but_not_elems
*geomaterials that contain all of some given elements but without any
of some other given elements.*

Description

Queries the list of geomaterials that contain all the given elements listed in icl_elm_vector, but do not contain the given elements listed in ecl_elms_vector.

Usage

```
geomaterials_contain_all_but_not_elems(icl_elm_vector, ecl_elms_vector, ...)
```

Arguments

`icl_elm_vector` vector of elements.
`ecl_elms_vector`
 vector of elements.
 ... Further named parameters. Other optional arguments-Additional arguments.

Details

This function related to the field "elements_inc" and "elements_exc" of geomaterials. This function queries the list of geological materials that contain an given list of elements (`icl_elm_vector`), but not contain the other list of elements (`ecl_elms_vector`). It performs the query operation by calling the `mindat_geomaterial_list` function.

Value

`df`, a data frame of geomaterials.

Examples

```
## Not run:
df<-geomaterials_contain_all_but_not_elems (c('Fe','S'), c('O'),fields ="id,name,mindat_formula,elements")
## End(Not run)
```

```
geomaterials_contain_all_elems
  geomaterials_contain_all_elems
```

Description

retrieve the geomaterials that contain all of the elements. This function queries the list of geomaterials that contain all the given elements. It performs the query operation by calling the `mindat_geomaterial_list` function

Usage

```
geomaterials_contain_all_elems(icl_elms_vector,...)
```

Arguments

`icl_elms_vector`
 vector of elements.
 ... Further named parameters. Other optional arguments-Additional arguments that can be passed to the `mindat_geomaterial_list` function.

Details

This function related to the field "elements_inc" of geomaterials.

Value

df, a data frame of geomaterials list.

Examples

```
## Not run:
df <-geomaterials_contain_all_elems (c('Fe', 'S'), fields ="id,name,mindat_formula,elements")

## End(Not run)
```

geomaterials_contain_any_but_not_elems

geomaterials that contain any of some given elements but with out any of some other given elements

Description

: Queries the list of geological materials that contain any one of the given elements.

Usage

```
geomaterials_contain_any_but_not_elems(any_elems_vector, ecl_elms_vector, ...)
```

Arguments

any_elems_vector
vector of elements. vector of any elements contained.

ecl_elms_vector
vector of elements. vector of any elements excluded.

...
Further named parameters.Other optional arguments-Additional arguments.

Details

This function related to the field "elements_inc" of geomaterials. This function queries the list of geological materials that contain any element of an given list (any_elems). It performs the query operation by looping through each given element and calling the mindat_geomaterial_list function.

Value

df, a data frame of geomaterials.

Examples

```
## Not run:
df <-geomaterials_contain_any_but_not_elems(c('Fe', 'S'), c('O'))

## End(Not run)
```

 geomaterials_contain_any_elems

geomaterials that contain any one of the given elements

Description

: Queries the list of geological materials that contain any one of the given elements.

Usage

```
geomaterials_contain_any_elems(any_elems, ...)
```

Arguments

any_elems vector of elements.

... Further named parameters. Other optional arguments-Additional arguments.

Details

This function related to the field "elements_inc" of geomaterials. This function queries the list of geological materials that contain any element of an given list (any_elems). It performs the query operation by looping through each given element and calling the mindat_geomaterial_list function.

Value

df, a data frame of geomaterials.

Examples

```
## Not run:
df <- geomaterials_contain_any_elems (c('Fe', 'S'), fields = "id,name,mindat_formula,elements")

## End(Not run)
```

 geomaterials_contain_only_elems

geomaterials_contain_only_elems

Description

retrieve the geomaterials that only contain elements in an given list (icl_only_elms_vector).

Usage

```
geomaterials_contain_only_elems (icl_only_elms_vector, ...)
```

Arguments

`icl_only_elms_vector`
vector of elements.

... Further named parameters. Other optional arguments-Additional arguments that can be passed to the `mindat_geomaterial_list` function.

Details

This function related to the fields "elements_inc" and "elements_exc" of geomaterials. Here is a list of all elements that can make up geomaterials: 'H', 'Li', 'Be', 'B', 'C', 'N', 'O', 'F', 'Na', 'Mg', 'Al', 'Si', 'P', 'S', 'Cl', 'K', 'Ca', 'Sc', 'Ti', 'V', 'Cr', 'Mn', 'Fe', 'Co', 'Ni', 'Cu', 'Zn', 'Ga', 'Ge', 'As', 'Se', 'Br', 'Rb', 'Sr', 'Y', 'Zr', 'Nb', 'Mo', 'Ru', 'Rh', 'Pd', 'Ag', 'Cd', 'In', 'Sn', 'Sb', 'Te', 'I', 'Cs', 'Ba', 'La', 'Ce', 'Nd', 'Sm', 'Gd', 'Dy', 'Er', 'Yb', 'Hf', 'Ta', 'W', 'Re', 'Os', 'Ir', 'Pt', 'Au', 'Hg', 'Tl', 'Pb', 'Bi', 'Th', 'U' It performs the query operation by calling the `mindat_geomaterial_list` function

Value

df, a data frame of geomaterials.

Examples

```
## Not run:
df <- geomaterials_contain_only_elms(c('Fe', 'S'), fields = "id,name,mindat_formula,elements")

## End(Not run)
```

`geomaterials_crystal_system`

geomaterials that have the given crystal

Description

: Queries the list of geomaterials that have the given crystal system.

Usage

```
geomaterials_crystal_system(crystals, ...)
```

Arguments

`crystals` vector of given crystals. "crystal system of the mineral; "Amorphous", "Hexagonal", "Icosahedral", "Isomet
... Further named parameters. Other optional arguments.

Details

This function related to the field "crystal_system" of geomaterials. Items Enum: "Amorphous" "Hexagonal" "Icosahedral" "Isometric" "Monoclinic" "Orthorhombic" "Tetragonal" "Triclinic" "Trigonal"

Value

df, a data frame of geomaterials

Examples

```
## Not run:
df <-geomaterials_crystal_system(c("Icosahedral"))

## End(Not run)
```

```
geomaterials_dens_greater_than
  retrieve the geomaterials whose density are higher than a given value.
```

Description

: Queries the list of geomaterials that have higher density than gt.

Usage

```
geomaterials_dens_greater_than(gt, ...)
```

Arguments

gt	float value. dmeas: measured density of the mineral. This is either the lower limit (if there is a dmeas2) or average (if there is no dmeas2). dmeas2:measured maximum density of mineral
...	Further named parameters.Other optional arguments.

Details

This function related to the field "density_min" of geomaterials. retrieve all the geomaterials that has higher density than the given density(gt).

Value

df, a data frame of geomaterials

Examples

```
## Not run:  
df <-geomaterials_dens_greater_than(2)  
  
## End(Not run)
```

```
geomaterials_dens_less_than  
    retrieve the geomaterials whose density are lower density than a given  
    value.
```

Description

: Queries the list of geomaterials that have lower density than lt.

Usage

```
geomaterials_dens_less_than(lt, ...)
```

Arguments

lt	float value. dmeas: measured density of the mineral. This is either the lower limit (if there is a dmeas2) or average (if there is no dmeas2). dmeas2:measured maximum density of mineral
...	Further named parameters.Other optional arguments.

Details

This function related to the field "density_max" of geomaterials. retrieve all the geomaterials that has higher density than the given density(lt).

Value

df, a data frame of geomaterials

Examples

```
## Not run:  
df <-geomaterials_dens_less_than(3)  
  
## End(Not run)
```

geomaterials_dens_range

retrieve the geomaterials whose density are within an given value.

Description

: Queries the list of geomaterials that match an given range.

Usage

```
geomaterials_dens_range(gt,lt, ...)
```

Arguments

gt	float value
lt	float value dmeas: measured density of the mineral. This is either the lower limit (if there is a dmeas2) or average (if there is no dmeas2). dmeas2:measured maximum density of mineral
...	Further named parameters.Other optional arguments.

Details

This function related to the fields "density_min" and "density_max" of geomaterials. retrieve all the geomaterials records that has the density within an given range of (gt,lt).

Value

df, a data frame of geomaterials

Examples

```
## Not run:
df <-geomaterials_dens_range(2,3)

## End(Not run)
```

geomaterials_diapheny *retrieve the geomaterials that have an given diapheny.*

Description

: Queries the list of geomaterials that have an given diapheny.

Usage

```
geomaterials_diapheny(diapheny, ...)
```


Arguments

diapheny string. The diaphany of the mineral - transparent; translucent; opaque
 ... Further named parameters.Other optional arguments.

Details

This function related to the field "diapheny" of geomaterials. The diaphany of the mineral(Items Enum): "Opaque" "Translucent" "Transparent"

Value

df, a data frame of geomaterials

Examples

```
## Not run:
df <-geomaterials_diapheny("Transparent")

## End(Not run)
```

geomaterials_entrytype

retrieve the geomaterials that have the given entrytype

Description

: Queries the list of geomaterials that have the given entrytype

Usage

```
geomaterials_entrytype(types,...)
```

Arguments

types list of entry types.
 ... Further named parameters.Other optional arguments.

Details

This function related to the field "entrytype" of geomaterials. Items Enum: 0 1 2 3 4 5 6 7 8
 Multiple choice: 0- mineral; 1-synonym; 2-variety; 3-mixture; 4-series; 5-grouplist; 6-polytype;
 7-rock; 8-commodity Related field: entrytype_text (description of the entrytype).

Value

df, a data frame of geomaterials

Examples

```
## Not run:  
df <-geomaterials_entrytype(c('1'))  
  
## End(Not run)
```

geomaterials_expand *retrieve the geomaterials that have the given expand.*

Description

: Queries the list of geomaterials that have the given expand.

Usage

```
geomaterials_expand(expanded_fields,...)
```

Arguments

expanded_fields list of expand (Array of strings (Expanded fields)).Select fields to expand.
... Further named parameters.Other optional arguments.

Details

This function related to the field "expand" of geomaterials. The field expand(Items Enum): "description" "type_localities" "localities" "relations" "~all" "*"

Value

df, a data frame of geomaterials

Examples

```
## Not run:  
df <-geomaterials_expand("~all")  
  
## End(Not run)
```

`geomaterials_field_exists`

retrieve the geomaterials records of empty or not empty of a given field.

Description

: Queries the list of geomaterials with an empty or not empty of a given field.

Usage

```
geomaterials_field_exists(fieldname,bexists,...)
```

Arguments

fieldname	string
bexists	bool
...	Further named parameters.Other optional arguments.

Details

This function related to all the fields of geomaterials. e.g. meteoritical_code_exists.Meteoritical code exists. Include non-empty (true) / include empty only (false) retrieve the geomaterial list with an empty or not empty of a given field.

Value

df, a list of geomaterials

Examples

```
## Not run:  
df <-geomaterials_field_exists("meteoritical_code")  
  
## End(Not run)
```

`geomaterials_fracturetype`

retrieve the geomaterials that have the given fracturetype.

Description

: Queries the list of geomaterials that have the given fracturetype.

Usage

```
geomaterials_fracturetype(types, ...)
```

Arguments

types	list of types.fracturetype(Array of strings or null): How the mineral breaks-"Conchoidal" "Fibrous" "Hackly" "Irregular/Uneven" "Micaceous" "None observed" "Splintery" "Step-Like" "Sub-Conchoidal".
...	Further named parameters.Other optional arguments.

Details

This function related to the field "fracturetype" of geomaterials. fracturetype(Items Enum): "Conchoidal" "Fibrous" "Hackly" "Irregular/Uneven" "Micaceous" "None observed" "Splintery" "Step-Like" "Sub-Conchoidal"

Value

df, a data frame of geomaterials

Examples

```
## Not run:
df <-geomaterials_fracturetype(c("Step-Like"))

## End(Not run)
```

```
geomaterials_hardness_gt
```

retrieve the geomaterials whose hardness are higher than an given value.

Description

: Queries the list of geomaterials that have higher hardness than an given value(hmin).

Usage

```
geomaterials_hardness_gt(hmin, ...)
```

Arguments

hmin	float value of the Mohs scale of mineral hardness, which ranging from 0 to 10.
...	Further named parameters.Other optional arguments.

Details

This function related to the field "hardness_min" of geomaterials. retrieve all the geomaterials that has higher hardness than the given value(hmin). hmin:the given value of minimum Moh's hardness

Value

df, a data frame of geomaterials

Examples

```
## Not run:  
df <-geomaterials_hardness_gt(8)  
  
## End(Not run)
```

geomaterials_hardness_lt

retrieve the geomaterials whose hardness are lower than an given value.

Description

: Queries the list of geomaterials that have lower hardness than an given vlaue(hmax).

Usage

```
geomaterials_hardness_lt(hmax, ...)
```

Arguments

hmax	float value of the Mohs scale of mineral hardness, which ranging from 0 to 10.
...	Further named parameters.Other optional arguments.

Details

This function related to the field "hardness_max" of geomaterials. retrieve all the geomaterials that has lower hardness than an given value(hmax). hamx: maximum Moh's hardness

Value

df, a data frame of geomaterials

Examples

```
## Not run:  
df <-geomaterials_hardness_lt(2)  
  
## End(Not run)
```

geomaterials_hardness_range

retrieve the geomaterials whose hardness is within the given range.

Description

: Queries the list of geomaterials that have hardness within the given range.

Usage

```
geomaterials_hardness_range(hmin,hmax, ...)
```

Arguments

hmin	float value of the Mohs scale of mineral hardness, which ranging from 0 to 10.
hmax	float value of the Mohs scale of mineral hardness, which ranging from 0 to 10.
...	Further named parameters.Other optional arguments.

Details

This function related to the fields "hardness_min" and "hardness_max" of geomaterials. retrieve all the geomaterials that has the hardness within an given range(hmin,hmax). hmin:the given value of minimum Moh's hardness hamx: maximum Moh's hardness

Value

df, a data frame of geomaterials

Examples

```
## Not run:
df <-geomaterials_hardness_range(2,3)

## End(Not run)
```

geomaterials_ima

retrieve the geomaterials approved by IMA or not.

Description

: Queries the geomaterials within or without the ima.

Usage

```
geomaterials_ima(btrue,...)
```

Arguments

btrue boolean value.TRUE IMA approved, otherwise not approved.
 ... Further named parameters.Other optional arguments.

Details

This function related to the field "ima" of geomaterials. retrieve all the geomaterials that are approved by the IMA or not.

Value

df, a data frame of geomaterials

Examples

```
## Not run:
df <-geomaterials_ima(TRUE)

## End(Not run)
```

geomaterials_ima_notes

retrieve the geomaterials match given notes.

Description

: Queries the geomaterials with an given .

Usage

```
geomaterials_ima_notes(enum_item,...)
```

Arguments

enum_item Array of integers or null. Ima notes: multiple choice (OR) : "GROUP" "INTERMEDIATE" "NAMED_AMPHIBOLE" "PENDING_APPROVAL" "PUBLISHED_WITHOUT_APPROVAL" "REDEFINED" "REJECTED" "RENAMED" "UNNAMED_INVALID" "UNNAMED_VALID"
 ... Further named parameters.Other optional arguments.

Details

This function related to the field "ima_notes" of geomaterials. Rejected by the IMA; Pending approval; IMA Approved Group Name; Redefined by the IMA; Renamed by the IMA; Intermediate member of a solid-solution series; Published without approval; Unnamed (probably valid); Unnamed (probably invalid); Named Amphibole

retrieve all the geomaterials that match the input IMA notes.

Value

df, a data frame of geomaterials

Examples

```
## Not run:  
df <-geomaterials_ima_notes(c("PENDING_APPROVAL"))  
  
## End(Not run)
```

geomaterials_ima_status

retrieve the geomaterials matched given IMA status.

Description

: Queries the geomaterials with an given ima status.

Usage

```
geomaterials_ima_status(enum_status,...)
```

Arguments

enum_status	Ima status: multiple choice (OR):"APPROVED" "DISCREDITED" "GRAND-FATHERED" "PENDING_PUBLICATION" "QUESTIONABLE"
...	Further named parameters.Other optional arguments.

Details

This function related to the field "ima_status" of geomaterials. retrieve all the geomaterials that match the input IMA notes.

Value

df, a data frame of geomaterials

Examples

```
## Not run:  
df <-geomaterials_ima_status(c("APPROVED"))  
  
## End(Not run)
```

```
geomaterials_lustretype
```

retrieve the geomaterials that match an given lustretype.

Description

: Queries the geomaterials that match an given lustretype.

Usage

```
geomaterials_lustretype(types, ...)
```

Arguments

types	string of the type name (Array of strings or null). adamantine, subadamantine, vitreous, subvitreous, resinous, waxy, greasy, silky, pearly, metallic, submetallic, dull, earthy
...	Further named parameters. Other optional arguments.

Details

This function related to the field "lustretype" of geomaterials. lustretype(Items Enum): "Adamantine" "Dull" "Earthy" "Greasy" "Metallic" "Pearly" "Resinous" "Silky" "Sub-Adamantine" "Sub-Metallic" "Sub-Vitreous" "Vitreous" "Waxy" multiple choice (AND)

Value

df, a data frame of geomaterials

Examples

```
## Not run:
df <- geomaterials_lustretype(c("Adamantine"))

## End(Not run)
```

```
geomaterials_meteoritical_code
```

retrieve the geomaterials matched a given string in its meteoritical code.

Description

: Queries the geomaterials with a given string matched its given meteoritical_code.

Usage

```
geomaterials_meteoritical_code(str_meteoritical_code,...)
```

Arguments

```
str_meteoritical_code      boolean, meteoritical code exists. Include non-empty (TRUE) / include empty
                           only (FALSE).
...                        Further named parameters.Other optional arguments.
```

Details

This function related to the field "meteoritical_code_exists" of geomaterials. Meteoritical code exists. Include non-empty (true) / include empty only (false). retrieve all the geomaterials that match the input str_meteoritical_code.

Value

df, a data frame of geomaterials

Examples

```
## Not run:
df <-geomaterials_meteoritical_code(TRUE)

## End(Not run)
```

geomaterials_name	<i>retrieve the geomaterials matched a given string in its name.</i>
-------------------	--

Description

: Queries the geomaterials with a given name.

Usage

```
geomaterials_name(str_name,...)
```

Arguments

```
str_name      Text search supporting: _ as wildcards, e.g. "qu_rtz", "bario*"
...           Further named parameters.Other optional arguments.
```

Details

This function related to the field "name" of geomaterials. retrieve all the geomaterials that match the input IMA notes.

Value

df, a data frame of geomaterials

Examples

```
## Not run:  
df <-geomaterials_name("qu_rtz")  
  
## End(Not run)
```

geomaterials_not_contain_elems
geomaterials that do not contain the elements

Description

retrieve the geomaterials that do not contain any of the given elements.

Usage

```
geomaterials_not_contain_elems (ecl_elms_vector, ...)
```

Arguments

ecl_elms_vector
vector of elements.
... Further named parameters. Other optional arguments-Additional arguments.

Details

This function related to the field "elements_exc" of geomaterials.

Value

df, a data frame of geomaterials list.

Examples

```
## Not run:  
df <-geomaterials_not_contain_elems (c('Fe', 'S', 'O'), fields ="id,name,mindat_formula,elements")  
  
## End(Not run)
```

```
geomaterials_optical2v_max
    retrieve the geomaterials that less than the given optical 2v.
```

Description

: Queries the geomaterials have the lower optical 2v value than the given lt.

Usage

```
geomaterials_optical2v_max(lt, ...)
```

Arguments

lt list of the signs.Please refer to the details.
 ... Further named parameters.Other optional arguments.

Details

This function related to the field "optical2v_max" of geomaterials. optical2vcalc:The calculated 2V angle minimum or average of biaxial minerals optical2vcalc2:The calculated 2V angle maximum of biaxial minerals optical2vmeasured:The measured 2V angle minimum or average of biaxial minerals optical2vmeasured2:The measured 2V angle maximum of biaxial minerals

Value

df, a data frame of geomaterials

Examples

```
## Not run:
df <-geomaterials_optical2v_max(0.2)

## End(Not run)
```

```
geomaterials_optical2v_min
    retrieve the geomaterials that has higher value than the given optical
    2v.
```

Description

: Queries the geomaterials have the higher optical 2v value than the given gt.

Usage

```
geomaterials_optical2v_min(gt, ...)
```

Arguments

gt given value of optical 2v of mineral.Please refer to the details.
 ... Further named parameters.Other optional arguments.

Details

This function related to the field "optical2v_mix" of geomaterials. optical2vcalc:The calculated 2V angle minimum or average of biaxial minerals optical2vcalc2:The calculated 2V angle maximum of biaxial minerals optical2vmeasured:The measured 2V angle minimum or average of biaxial minerals optical2vmeasured2:The measured 2V angle maximum of biaxial minerals

Value

df, a data frame of geomaterials

Examples

```
## Not run:
df <-geomaterials_optical2v_min(0.1)

## End(Not run)
```

```
geomaterials_optical2v_range
      retrieve the geomaterials that has the given range of optical 2v.
```

Description

: Queries the geomaterials have the higher optical 2v value than the given lt.

Usage

```
geomaterials_optical2v_range(gt,lt,...)
```

Arguments

gt given value of minimum of optical 2v of mineral.Please refer to the details.
 lt an given value of maximum of optical 2v of mineral.Please refer to the details.
 ... Further named parameters.Other optional arguments.

Details

This function related to the field "optical2v_min" and "optical2v_max" of geomaterials. optical2vcalc:The calculated 2V angle minimum or average of biaxial minerals optical2vcalc2:The calculated 2V angle maximum of biaxial minerals optical2vmeasured:The measured 2V angle minimum or average of biaxial minerals optical2vmeasured2:The measured 2V angle maximum of biaxial minerals

Value

df, a data frame of geomaterials

Examples

```
## Not run:  
df <-geomaterials_optical2v_range(0.1,0.2)  
  
## End(Not run)
```

geomaterials_opticalsign

retrieve the geomaterials that match an given optical signs.

Description

: Queries the geomaterials match an given optical signs.

Usage

```
geomaterials_opticalsign(signs, ...)
```

Arguments

signs	list of the signs(string or null). sign for uniaxial and biaxial minerals: +;-;+/- .Please refer to the details.
...	Further named parameters.Other optional arguments.

Details

This function related to the field "opticalsign" of geomaterials. Optical sign: single choice (Enum): "+", "+/-", "-"

Value

df, a data frame of geomaterials

Examples

```
## Not run:  
df <-geomaterials_opticalsign("-")  
  
## End(Not run)
```

 geomaterials_opticaltype

retrieve the geomaterials that match an given optical type.

Description

: Queries the geomaterials match an given optical type.

Usage

```
geomaterials_opticaltype(types, ...)
```

Arguments

types list of the types for the field of opticaltype. Please refer to the details.
 ... Further named parameters.Other optional arguments.

Details

This function related to the field "opticaltype" of geomaterials. transparent mineral. optical-type(Enum): "Biaxial" "Isotropic" "Uniaxial"

Value

df, a data frame of geomaterials

Examples

```
## Not run:
df <-geomaterials_opticaltype("Isotropic")

## End(Not run)
```

 geomaterials_polytypeof

retrieve the geomaterials by an given id of polytype of (the id of the mineral that this record is the polytype of.)

Description

: Queries the geomaterials by an given id for its polytype. A mineral that differs from another only in the stacking of similar structural units in its atomic structure

Usage

```
geomaterials_polytypeof(ptype, ...)
```

Arguments

ptype integer. an mindat id of the mineral that this record is the polytype of
 ... Further named parameters. Other optional arguments.

Details

This function related to the field "polytypeof" of geomaterials. retrieve the geomaterials with an given id of polytypeof.

Value

df, a data frame of geomaterials

Examples

```
## Not run:
df <-geomaterials_polytypeof(0,fields = "id,name,polytypeof")
## End(Not run)
```

geomaterials_ri_gt *retrieve the geomaterials that refractive index higher than an given value(gt).*

Description

: Queries the geomaterials have the higher refractive index than an given value(gt).

Usage

```
geomaterials_ri_gt(gt, ...)
```

Arguments

gt float value. Refractive index, from (rimax>=).
 ... Further named parameters. Other optional arguments.

Details

This function related to the field "ri_min" of geomaterials. retrieve the geomaterials with the refractive index higher than an given value(gt).

Value

df, a data frame of geomaterials

Examples

```
## Not run:  
df <-geomaterials_ri_gt(0.3)  
  
## End(Not run)
```

geomaterials_ri_lt *retrieve the geomaterials that refractive index lower than an given value(lt).*

Description

: Queries the geomaterials have the lower refractive index than an given value(lt).

Usage

```
geomaterials_ri_lt(lt,...)
```

Arguments

lt float value. Refractive index, to (rimin<=)
... Further named parameters.Other optional arguments.

Details

This function related to the field "ri_max" of geomaterials. retrieve the geomaterials with the refractive index lower than an given value(lt).

Value

df, a data frame of geomaterials

Examples

```
## Not run:  
df <-geomaterials_ri_lt(0.5)  
  
## End(Not run)
```

geomaterials_ri_range *retrieve the geomaterials whose refractive index is within an given range(gt,lt).*

Description

: Queries the list of geomaterials that have refractive index within an given range(gt,lt).

Usage

```
geomaterials_ri_range(gt,lt, ...)
```

Arguments

gt	float value. Refractive index, from (rimax>=).
lt	float value. Refractive index, to (rimin<=)
...	Further named parameters.Other optional arguments.

Details

This function related to the fields "ri_min" and "ri_max" of geomaterials. retrieve all the geomaterials that has the refractive index within the range of (gt,lt).

Value

df, a data frame of geomaterials

Examples

```
## Not run:  
df <-geomaterials_ri_range(0.2,0.5)  
  
## End(Not run)
```

geomaterials_search_name
retrieve the geomaterials by a given name.

Description

: Queries the list of geomaterials by a given name.

Usage

```
geomaterials_search_name(name,...)
```

Arguments

name string. Text search supporting wildcards, e.g. qu_rtz, bario*"
 ... Further named parameters. Other optional arguments.

Details

This function related to the fields "name" of geomaterials. retrieve the geomaterial list that match the given name.

Value

df, a list of geomaterials

Examples

```
## Not run:
df <-geomaterials_search_name("Quartz")

## End(Not run)
```

geomaterials_streak *retrieve the geomaterials that match an given streak.*

Description

: Queries the list of geomaterials that match an given steak.

Usage

```
geomaterials_streak(str,...)
```

Arguments

str string. The color of the streak (color of powdered mineral)
 ... Further named parameters. Other optional arguments.

Details

This function related to the fields "steak" of geomaterials. The color of the streak (color of powdered mineral). retrieve the geomaterials that has the given steak.

Value

df, a data frame of geomaterials

Examples

```
## Not run:  
df <-geomaterials_streak("orange")  
  
## End(Not run)
```

geomaterials_synid *retrieve the geomaterials by an given synid.*

Description

: Queries the list of geomaterials that match an given synid.

Usage

```
geomaterials_synid(idnum,...)
```

Arguments

idnum integer,an given synonym id.
... Further named parameters.Other optional arguments.

Details

This function related to the fields "synid" of geomaterials. The id of the geomaterial that is the synonym of this record (this geomaterial cannot be added to a locality). retrieve the geomaterials that has an given synid.

Value

df, a data frame of geomaterials

Examples

```
## Not run:  
df <-geomaterials_synid(3777)  
  
## End(Not run)
```

`geomaterials_updated_at`*retrieve the geomaterials updated at an given time.*

Description

: Queries the list of geomaterials that were updated at an given time

Usage

```
geomaterials_updated_at(strDate,...)
```

Arguments

<code>strDate</code>	string, Last updated datetime in format %Y-%m-%d %H:%M:%S
<code>...</code>	Further named parameters.Other optional arguments.

Details

This function related to the fields "updated_at" of geomaterials. Last updated datetime in format %Y-%m-%d %H:%M:%S retrieve the geomaterials that have the latest updated at the given time.

Value

df, a data frame of geomaterials

Examples

```
## Not run:  
df <-geomaterials_updated_at("2020-2-12 10:15:12")  
  
## End(Not run)
```

`geomaterials_varietyof`*retrieve the geomaterials that are varieties of an given id of geomaterials.*

Description

: Queries the list of geomaterials that match the given varietyof.

Usage

```
geomaterials_varietyof(intvalue,...)
```

Arguments

intvalue integer, id of mineral that has this variety.
 ... Further named parameters. Other optional arguments.

Details

This function related to the fields "varietyof" of geomaterials. Varieties are geomaterials that have a special distinction from the main geomaterial ie. amethyst var. quartz retrieve the geomaterials that are varieties of an given id of geomaterials.

Value

df, a data frame of geomaterials

Examples

```
## Not run:
df <-geomaterials_varietyof(3337)

## End(Not run)
```

`geomeaterials_non_utf` *retrieve the geomaterials that include non-utf mineral names or not.*

Description

: Queries the geomaterials include non-utf mineral names or not.

Usage

```
geomeaterials_non_utf(btrue =TRUE,...)
```

Arguments

btrue boolean. Include non-UTF mineral names?.Default is TRUE.
 ... Further named parameters. Other optional arguments.

Details

This function related to the field "non_utf" of geomaterials. retrieve the geomaterials that contain (or not contain) the non-utf name.

Value

df, a data frame of geomaterials

Examples

```
## Not run:  
df <-geomeaterials_non_utf(TRUE,fields = "id,name,non_utf")  
  
## End(Not run)
```

geomeaterials_ordering

retrieve the geomaterials by an given ordering.

Description

: Queries the geomaterials by an given ordering.

Usage

```
geomeaterials_ordering(ord, ...)
```

Arguments

ord string of field. Prepend "-" to the field name for descending order. Enum: "approval_year" "id" "minstats__ms_locentries" "minstats__ms_photos" "name" "updttime" "weighting".

... Further named parameters.Other optional arguments.

Details

This function related to the field "ordering" of geomaterials. ordering=-id - sort by id descending. Prepend "-" to the field name for descending order. fields:"approval_year" "id" "minstats__ms_locentries" "minstats__ms_photos" "name" "updttime" "weighting". retrieve the geomaterials by an given ordering.

Value

df, a data frame of geomaterials

Examples

```
## Not run:  
df <-geomeaterials_ordering(-id)  
  
## End(Not run)
```

getExtension	<i>Output the file extension of a filename</i>
--------------	--

Description

Convert the mindat R dataframe to JSON-LD string

Usage

```
getExtension (filename)
```

Arguments

filename R dataframe of retrieved data from Mindat database.

Examples

```
filename<- "fname.txt"  
fname_extension<- getExtension(filename)
```

localities_list_all	<i>retrieve the localities list.</i>
---------------------	--------------------------------------

Description

: Queries the list of localities.

Usage

```
localities_list_all(...)
```

Arguments

... Further named parameters. Other optional arguments.

Details

This function related to the fields "ids" of localities. retrieve all the localities.

Value

df, a data frame of localities

Examples

```
## Not run:  
df <-localities_list_all(fields = "id,name,latitude,longitude")  
  
## End(Not run)
```

 localities_list_country

retrieve the localities list that are belong to a given country.

Description

: Queries the list of localities that are within a given country.

Usage

```
localities_list_country(country,...)
```

Arguments

country	name of country,
...	Further named parameters.Other optional arguments.

Details

This function related to the field "country" of localities. Enum: "Afghanistan" "Albania" "Algeria" "American Samoa" "Andorra" "Angola" "Anguilla" "Antigua and Barbuda" "Argentina" "Armenia" "Aruba" "Ashmore and Cartier Islands" "Australia" "Austria" "Azerbaijan" "Bahamas" "Bahrain" "Bangladesh" "Barbados" "Belarus" "Belgium" "Belize" "Benin" "Bermuda" "Bhutan" "Bolivia" "Bosnia And Herzegovina" "Botswana" "Bouvet Island" "Brazil" "British Indian Ocean Territories" "British Solomon Islands" "British Virgin Islands" "Brunei" "Bulgaria" "Burkina Faso" "Burundi" "Cambodia" "Cameroon" "Canada" "Cape Verde" "Cayman Islands" "Central African Republic" "Chad" "Chile" "China" "Christmas Island" "Cocos Islands" "Colombia" "Comoro Islands" "Cook Islands" "Costa Rica" "Croatia" "Cuba" "Cyprus" "Czech Republic" "Democratic Republic of the Congo" "Denmark" "Djibouti" "Dominica" "Dominican Republic" "East Timor" "Ecuador" "Egypt" "El Salvador" "Equatorial Guinea" "Estonia" "Ethiopia" "Faeroe Islands" "Falkland Islands" "Federated States of Micronesia" "Fiji" "Finland" "France" "French Guiana" "French Polynesia" "Gabon" "Gambia" "Georgia" "Germany" "Ghana" "Gibraltar" "Greece" "Greenland" "Grenada" "Guadeloupe" "Guam" "Guatemala" "Guernsey" "Guinea" "Guinea-Bissau" "Guyana" "Haiti" "Honduras" "Hong Kong" "Hungary" "Iceland" "India" "Indonesia" "Iran" "Iraq" "Ireland" "Isle of Man" "Israel" "Italy" "Ivory Coast (Côte d'Ivoire)" "Jamaica" "Japan" "Jersey" "Jordan" "Kazakhstan" "Kenya" "Kiribati" "Kosovo" "Kuwait" "Kyrgyzstan" "Laos" "Latvia" "Lebanon" "Lesotho" "Liberia" "Libya" "Liechtenstein" "Lithuania" "Luxembourg" "Macao" "Madagascar" "Malawi" "Malaysia" "Maldives" "Mali" "Malta" "Martinique" "Mauritania" "Mauritius" "Mexico" "Moldova" "Monaco" "Mongolia" "Montenegro" "Montserrat" "Morocco" "Mozambique" "Myanmar" "Namibia" "Nauru" "Nepal" "Netherlands" "Netherlands Antilles" "New Caledonia" "New Zealand" "Nicaragua" "Niger" "Nigeria" "North Korea" "Norway" "Oman" "Pakistan" "Panama" "Papua New Guinea" "Paraguay" "Peru" "Philippines" "Poland" "Portugal" "Puerto Rico" "Qatar" "Republic of Congo (Brazzaville)" "Republic of Macedonia" "Reunion Island" "Romania" "Russia" "Rwanda" "Saint Helena" "Saint Lucia" "Saint Vincent and the Grenadines" "San Marino" "Sao Tome And Principe" "Saudi Arabia" "Senegal" "Serbia" "Seychelles" "Sierra Leone" "Singapore" "Slovakia" "Slovenia" "Solomon Islands" "Somalia" "South Africa" "South Korea" "Spain"

"Sri Lanka" "St Christopher-Nevis Islands" "Sudan" "Suriname" "Swaziland" "Sweden" "Switzerland" "Syria" "Taiwan" "Tajikistan" "Tanzania" "Thailand" "Togo" "Tonga" "Trinidad And Tobago" "Tunisia" "Turkey" "Turkmenistan" "Turks And Caicos Islands" "Tuvalu" "U.S. Virgin Islands" "Uganda" "Ukraine" "United Arab Emirates" "United Kingdom" "United States" "Uruguay" "Uzbekistan" "Vanuatu (Republic of Vanuatu; New Hebrides)" "Venezuela" "Vietnam" "Western Sahara" "Western Samoa" "Yemen" "Zambia" "Zimbabwe"

Value

df, a data frame of localities

Examples

```
## Not run:
df <-localities_list_country ("Norway")

## End(Not run)
```

localities_list_description

retrieve the localities that contain the given description

Description

: Queries the list of localities that contain the given description.

Usage

```
localities_list_description(desc,...)
```

Arguments

desc string,
... Further named parameters.Other optional arguments.

Details

This function related to all the field "description" of localities. retrieve the localities that contain the given description

Value

df, a data frame of localities

Examples

```
## Not run:
df <-localities_list_description("volcano")

## End(Not run)
```

`localities_list_elems_exc`*localities that do not contain the given elements*

Description

Queries the list of localities that do not contain the given elements.

Usage

```
localities_list_elems_exc(exc_elems_list, ...)
```

Arguments

`exc_elems_list` vector of elements.

`...` Further named parameters. Other optional arguments-Additional arguments.

Details

This function related to the field "elements_exc" of localities. This function queries the list of localities that do contain the specified elements.

Value

`df`, a data frame of localities

Examples

```
## Not run:  
df <-localities_list_elems_exc(c("H", "O", "Si", "Al", "Fe", "Ca", "Na", "K", "P", "C", "Mn", "F", "Mg", "S"))  
  
## End(Not run)
```

`localities_list_elems_inc`*localities that contain the given elements*

Description

Queries the list of localities that contain the given elements.

Usage

```
localities_list_elems_inc(inc_elems_list, ...)
```

Arguments

inc_elems_list vector of elements.
 ... Further named parameters.Other optional arguments-Additional arguments.

Details

This function related to the field "elements_inc" of localities. This function queries the list of localities that contain the given elements.

Value

df, a data frame of localities

Examples

```
## Not run:
df <-localities_list_elems_inc(c("Dy"))

## End(Not run)
```

localities_list_elems_inc_exc

localities that contain the given elements but not contain some other given elements.

Description

Queries the list of localities that contain the given elements,but not contain some other given elements.

Usage

```
localities_list_elems_inc_exc(inc_elems_list,exc_elems_list, ...)
```

Arguments

inc_elems_list vector of elements.
 exc_elems_list vector of elements.
 ... Further named parameters.Other optional arguments-Additional arguments.

Details

This function related to the fields "elements_inc" and "elements_exc" of localities. This function queries the list of localities that contain the given elements,but not contain some other given elements.

Value

df, a data frame of localities

Examples

```
## Not run:  
df <-localities_list_elems_inc_exc(c("Dy"), c("Li"))  
  
## End(Not run)
```

localities_list_expand

localities that contain the given expands.

Description

Queries the list of localities that contain the given expands.

Usage

```
localities_list_expand(expands,...)
```

Arguments

expands vector of expands.
... Further named parameters.Other optional arguments-Additional arguments.

Details

This function related to the fields "expand" of localities. Items Enum: "geomaterials" "~all" "*" This function queries the list of localities that contain the given expands.

Value

df, a data frame of localities

Examples

```
## Not run:  
df <-localities_list_expand("~all")  
  
## End(Not run)
```

localities_list_txt *localities that contain the given txt name.*

Description

Queries the list of localities that contain the given txt name.

Usage

```
localities_list_txt(txt,...)
```

Arguments

txt	string.
...	Further named parameters.Other optional arguments.

Details

This function related to the fields "txt" of localities. This function queries the list of localities that contain the given txt name.

Value

df, a data frame of localities

Examples

```
## Not run:
df <-localities_list_txt("lava")

## End(Not run)
```

localities_list_updated_at
retrieve the localities list updated at the given time.

Description

: Queries the list of localities that have the given time

Usage

```
localities_list_updated_at(updateDate,...)
```

Arguments

updateDate string, Last updated datetime in format %Y-%m-%d %H:%M:%S
 ... Further named parameters.Other optional arguments.

Details

This function related to all the fields "updated_at" of localities. retrieve the localities that have the latest updated at the given time.

Value

df, a data frame of localities

Examples

```
## Not run:
df <-localities_list_updated_at("lava")

## End(Not run)
```

localities_retrieve_id

retrieve the localities by a given mindat id.

Description

: Queries the localitiy by given id.

Usage

```
localities_retrieve_id(id,...)
```

Arguments

id integer. the mindat localitiy id.
 ... Further named parameters.Other optional arguments.

Details

This function related to all the fields "id" of localities. retrieve the localities by a given id.

Value

df, a data frame of localities

Examples

```
## Not run:  
df <-localities_retrieve_id(3337)  
  
## End(Not run)
```

```
localities_status_list  
                          localities_status_list
```

Description

retrieve all locality status list.

Usage

```
localities_status_list (...)
```

Arguments

... Further named parameters.

Details

This function is to retrieve all the locality_status list.

Value

df, data frame of locality status

Examples

```
## Not run:  
df <-localities_status_list()  
  
## End(Not run)
```

localities_status_retrieve
localities_status_retrieve

Description

retrieve locality status by its id.

Usage

```
localities_status_retrieve (id,...)
```

Arguments

id	the mindat locality status id
...	Further named parameters.

Details

This function is to retrieve the locality_status by an given id of locality.

Value

df, data frame of locality status.

Examples

```
## Not run:  
df <-localities_status_retrieve(10)  
  
## End(Not run)
```

localitiy_type_retrieve
localitiy_type_retrieve

Description

retrieve locality type by an given id of locality.

Usage

```
localitiy_type_retrieve (id,...)
```

Arguments

id the mindat localitiy id
... Further named parameters.

Details

This function is to retrieve the locality types by an given id of locality. @export

Value

df, data frame of locality status.

Examples

```
## Not run:  
df <-localitiy_type_retrieve(50)  
  
## End(Not run)
```

locality_age	<i>locality_age</i>
--------------	---------------------

Description

retrieve locality age by its id

Usage

```
locality_age (id,...)
```

Arguments

id the mindat localitiy age id.
... Further named parameters.

Details

This function related to the fields "id" of locality_age and locality.

Value

df, data frame of locality age.

Examples

```
## Not run:  
df <-locality_age(3337)  
  
## End(Not run)
```

locality_age_list *locality_age_list*

Description

retrieve all locality age list or by its conditions

Usage

```
locality_age_list (...)
```

Arguments

... Further named parameters.

Details

This function is to retrieve all the locality_age list.

Value

df, data frame of locality age.

Examples

```
## Not run:  
df <-locality_age_list()  
  
## End(Not run)
```

locality_type_list *locality_type_list*

Description

retrieve all locality type list.

Usage

```
locality_type_list (...)
```

Arguments

... Further named parameters.

Details

This function is to retrieve the locality types list.

Value

df, data frame of locality type.

Examples

```
## Not run:  
df <-locality_type_list()  
  
## End(Not run)
```

```
mindat_build_querystring  
                          mindat_build_querystring
```

Description

Build query string based on the query conditions.

Usage

```
mindat_build_querystring (args)
```

Arguments

args query args.

Value

qs. generated query string.

Examples

```
## Not run:  
mindat_cache_set('page_size', 800)  
ids<-c("")  
hardness_min<- 9.3  
fields<- c("name,hardness")  
args<- list(ids,hardness_min,fields)  
querystring<-mindat_build_querystring(args)  
  
## End(Not run)
```

mindat_cache_delete *Delete a cached value by the users input varname*

Description

Remove (clear) the cache named varname in current environment.

Usage

```
mindat_cache_delete(varname)
```

Arguments

varname string input a cached name. Set a cached value empty by the given varname. A string, list or other objects.

Examples

```
mindat_cache_delete('api_token')
```

mindat_cache_empty *Remove all cached values*

Description

Clear all current cached values. Set current environment cache empty.

Usage

```
mindat_cache_empty()
```

Examples

```
mindat_cache_empty()
```

mindat_cache_get	<i>Get cache value</i>
------------------	------------------------

Description

Retrieve the value of the cache named varname in current environment.

Usage

```
mindat_cache_get(varname)
```

Arguments

varname	string
---------	--------

Value

cached value. A string, list or other objects.

Examples

```
token<- mindat_cache_get('api_token')
```

mindat_cache_has	<i>Check if the current environment has the cached value of varname.</i>
------------------	--

Description

Check whether or not the current environment has the cache named varname.

Usage

```
mindat_cache_has(varname)
```

Arguments

varname	string.
---------	---------

Value

Boolean value. if the varname is found in current environment cache, return True otherwise return False.

Examples

```
b_has <- mindat_cache_has('api_token')
```

mindat_cache_return_or_setup

Check if the current environment has the cached function named varname.

Description

Check whether the current environment has the cached function named varname, if has, return it. if not, setup up a new cache function named varname.

Usage

```
mindat_cache_return_or_setup(varname, setupfun)
```

Arguments

varname	string.
setupfun	boolean, if the cached is a setup function.

Value

If the varname is found in current environment cache, return cached function. If not, eval the function and return cached function.

Examples

```
aep<- api_end_points<-mindat_cache_return_or_setup('api_end_points', function(){return (list()) })
```

mindat_cache_set *Set cache name and value*

Description

Assigns the value to the cache named varname in current environment.

Usage

```
mindat_cache_set(varname, value)
```

Arguments

varname	string. The cached varname.
value	string.

Examples

```
mindat_cache_set('api_token', "9ce67655d74bcd981e937be80dcea9cb")
```

mindat_connection *Initializing Mindat API*

Description

Initializing API Call. Setup the base_url, token and format.

Usage

```
mindat_connection(token, base_url = "https://api.mindat.org", fmt = "json", page_size = 800)
```

Arguments

token	string. You can apply a token from Mindat.org.
base_url	string. The base url of mindat API, default is "https://api.mindat.org".
fmt	string. The format of the request and response, default is json.
page_size	interger, setting the page size of responded data from the API server.

Examples

```
mindat_connection("9ce67655d74bcd981e937be80dcea9cb", page_size = 1500)
```

mindat_countries *mindat_countries*

Description

retrieve all countries list or the contries by given conditions.

Usage

```
mindat_countries (...)
```

Arguments

...	Further named parameters.
-----	---------------------------

Value

df, data frame of countries list

Examples

```
## Not run:
df<- mindat_countries()

## End(Not run)
```

mindat_country	<i>mindat_country</i>
----------------	-----------------------

Description

retrieve the country by given its id.

Usage

```
mindat_country (id,...)
```

Arguments

id	country id in mindat.
...	Further named parameters.

Value

df, a data frame of country

Examples

```
## Not run:  
df<- mindat_country(1)  
  
## End(Not run)
```

mindat_extract_response_body	<i>mindat_extract_response_body</i>
------------------------------	-------------------------------------

Description

.

Usage

```
mindat_extract_response_body (response)
```

Arguments

response	response json
----------	---------------

Value

if status of the response is success (200),return the all_data_text(the content of response). Otherwise,report the errors.

Examples

```
## Not run:
library(httr)
uri<- "https://api.mindat.org/geomaterials/?id__in=&hardness_min=9.3&fields=name,+
hardness&page_size=1500"
api_token<- "9ce67655d74bcd981e937be80dcea9cb"
response <- GET(uri,add_headers('Authorization'= paste('Token ',api_token,sep = "")))
raw_data <- mindat_extract_response_body(response)

## End(Not run)
```

mindat_geomaterial *mindat_geomaterial*

Description

retrieve geomaterial by its id

Usage

```
mindat_geomaterial (id,...)
```

Arguments

id	geomaterial id
...	Further named parameters.

Value

df, data frame of locality type list

Examples

```
## Not run:
df<- mindat_geomaterial(3337)

## End(Not run)
```

```
mindat_geomaterial_list
      mindat_geomaterial_list
```

Description

retrieve all the geomaterial list or the geomaterial by given conditions.

Usage

```
mindat_geomaterial_list(...)
```

Arguments

... Further named parameters.

Value

df, data frame of locality type list

Examples

```
## Not run:
df<- mindat_geomaterial_list()

## End(Not run)
```

```
mindat_geomaterial_search
      mindat_geomaterial_search
```

Description

retrieve all the geomaterial list or the geomaterial by given conditions.

Usage

```
mindat_geomaterial_search (...)
```

Arguments

... Further named parameters.

Value

df, data frame of geomaterials match the search

Examples

```
## Not run:  
df<- mindat_geomaterial_search(q="Quartz")  
  
## End(Not run)
```

```
mindat_geomaterial_varieties  
  mindat_geomaterial_varieties
```

Description

retrieve the geomaterial varieties by the id of geomaterial.

Usage

```
mindat_geomaterial_varieties (id,...)
```

Arguments

```
id          geomaterial id  
...        Further named parameters.
```

Value

df, data frame of locality type list

Examples

```
## Not run:  
df<- mindat_geomaterial_varieties(3337)  
  
## End(Not run)
```

```
mindat_get_data_from_uri  
  mindat_get_data_from_uri
```

Description

retrieve data from the uri.

Usage

```
mindat_get_data_from_uri (uri)
```

Arguments

`uri` request uri

Value

df. R data frame of the request uri.

Examples

```
## Not run:
library(httr)
uri <- "https://api.mindat.org/geomaterials/?id__in=&hardness_min=9.3&fields=name,+
hardness&page_size=1500"
mindat_cache_set('api_token', "9ce67655d74bcd981e937be80dcea9cb")
df <- mindat_get_data_from_uri(uri)

## End(Not run)
```

`mindat_localities_list`
mindat_localities_list

Description

retrieve localities list

Usage

```
mindat_localities_list (...)
```

Arguments

... Further named parameters.

Value

df. data frame of localities list.

Examples

```
## Not run:
df<- mindat_localities_list()

## End(Not run)
```

mindat_locality	<i>mindat_locality</i>
-----------------	------------------------

Description

retrieve locality by its id

Usage

```
mindat_locality (id,...)
```

Arguments

id	the mindat locality id
...	Further named parameters.

Value

df, data frame of locality

Examples

```
## Not run:  
df<- mindat_locality(3337)  
  
## End(Not run)
```

mindat_locality_status	<i>mindat_locality_status</i>
------------------------	-------------------------------

Description

retrieve all locality status by its id

Usage

```
mindat_locality_status (id,...)
```

Arguments

id	the mindat locality status id.
...	Further named parameters.

Value

df, data frame of locality status

Examples

```
## Not run:  
df<- mindat_locality_status(10)  
  
## End(Not run)
```

mindat_locality_status_list
mindat_locality_status_list

Description

retrieve all locality status list

Usage

```
mindat_locality_status_list (...)
```

Arguments

... Further named parameters.

Value

df, data frame of locality status list

Examples

```
## Not run:  
df<- mindat_locality_status_list()  
  
## End(Not run)
```

mindat_locality_type *mindat_locality_type*

Description

retrieve locality type by its id

Usage

```
mindat_locality_type (id,...)
```

Arguments

id	locality type id
...	Further named parameters.

Value

df, data frame of locality type list

Examples

```
## Not run:  
df<- mindat_locality_type(50)  
  
## End(Not run)
```

mindat_locality_type_list
 mindat_locality_type_list

Description

retrieve all locality type list

Usage

```
mindat_locality_type_list (...)
```

Arguments

...	Further named parameters.
-----	---------------------------

Value

df, data frame of locality type list

Examples

```
## Not run:  
df<- mindat_locality_type_list()  
  
## End(Not run)
```

```
mindat_make_data_frame  
                          mindat_make_data_frame
```

Description

convert the response json to dataframe of R

Usage

```
mindat_make_data_frame (reg_list)
```

Arguments

reg_list response json data to list format obj.

Value

df_out, R data frame

Examples

```
## Not run:  
id<- c('42155','9300','11282','48322')  
name<- c('Cuarzo opalescente', 'Cupromagnesite', 'Cuprozippeite', 'Quartz-anorthosite')  
ima_status <- c(0,0,0,0)  
synid <- c(42133, 9281, 0, 0)  
list_cvt <- list(id=id, name=name, ima_status=ima_status, synid=synid)  
df<- mindat_make_data_frame(list_cvt)  
  
## End(Not run)
```

mindat_mineral_ima *mindat_mineral_ima*

Description

retrieve ima mineral by its id.

Usage

```
mindat_mineral_ima (id,...)
```

Arguments

id	mindat id
...	Further parameters.

Value

df. query results in data frame format.

Examples

```
## Not run:  
df<- mindat_mineral_ima(3337)  
  
## End(Not run)
```

mindat_mineral_ima_list
 mindat_mineral_ima_list

Description

retrieve ima mineral list

Usage

```
mindat_mineral_ima_list (...)
```

Arguments

..., Further named parameters.

Value

df, data frame of mineral list.

Examples

```
## Not run:
df<- mindat_mineral_ima_list()

## End(Not run)
```

mindat_parse_raw_data *mindat_parse_raw_data*

Description

parse the raw response of json to dataframe of R. If the raw_data obtained from the response is paged, request all the pages and then add them into the df_out data frame.

Usage

```
mindat_parse_raw_data (raw_data)
```

Arguments

raw_data content of the response body

Value

df_out, R data frame

Examples

```
## Not run:
rd<-"{"count":5,"next":null,"previous":null,+
"results":[{"name":"Diamond"},{"name":"Khamrabaevite"},+
{"name":"Moissanite"},{"name":"Qingsongite"},{"name":"Uakitite"}]}"
df<- mindat_parse_raw_data(rd)

## End(Not run)
```

mindat_query *mindat_query*

Description

Basic function for query dataset at a specified endpoint.

Usage

```
mindat_query (endpoint, query = list())
```

Arguments

endpoint query endpoint, e.g.'minerals_ima'.
query list for query conditions.

Value

df query results in data frame format.

Examples

```
## Not run:  
df <-mindat_query("geomaterials_list",list(ids="",hardness_min=9))  
  
## End(Not run)
```

mindat_setup

mindat_setup

Description

set up of the mindat basic uri, endpoints, and cache

Usage

```
mindat_setup(base_uri = 'https://api.mindat.org',page_size = 800)
```

Arguments

base_uri base uri of mindat API.
page_size interger,setting the page size of responded data from the API server.

Examples

```
## Not run:  
mindat_setup()  
  
## End(Not run)
```

minerals_ima_list	<i>minerals_ima_list</i>
-------------------	--------------------------

Description

retrieve all mineral ima list.

Usage

```
minerals_ima_list (...)
```

Arguments

... Further named parameters.

Details

This function is to retrieve the IMA minerals list.

Value

df, data frame of minerals.

Examples

```
## Not run:  
df <-minerals_ima_list()  
  
## End(Not run)
```

minerals_ima_list_expand	<i>minerals_ima_list_expand</i>
--------------------------	---------------------------------

Description

retrieve mineral ima list with the given expand.

Usage

```
minerals_ima_list_expand (expand,...)
```

Arguments

expand description
... Further named parameters.

Details

This function is related to the filed "expand" of ima mineral. Items Enum: "~all" "*"

Value

df, data frame of ima minerals with expanded fields.

Examples

```
## Not run:  
df <-minerals_ima_list_expand("~all")  
  
## End(Not run)
```

minerals_ima_list_ima *minerals_ima_list_ima*

Description

retrieve mineral ima list with the given intValue.

Usage

```
minerals_ima_list_ima (intValue,...)
```

Arguments

intValue	Integer
...	Further named parameters.

Details

This function is related to the filed "ima" of ima minerals. Integer. 0: "PENDING_PUBLICATION"
1: "APPROVED"

Value

df, data frame of locality type.

Examples

```
## Not run:  
df <-minerals_ima_list_ima(1)  
  
## End(Not run)
```

```
minerals_ima_retrieve minerals_ima_retrieve
```

Description

retrieve mineral ima by its id.

Usage

```
minerals_ima_retrieve (id,...)
```

Arguments

id	the mindat ima id
...	Further named parameters.

Details

This function is related to the filed "id" of ima minerals.

Value

df, data frame of ima mineral by a given id.

Examples

```
## Not run:
df <-minerals_ima_retrieve(3337)

## End(Not run)
```

```
minerals_ima_updated_at
```

retrieve the mineral_ima list updated at the given time.

Description

: Queries the list of mineral_ima that have the given time

Usage

```
minerals_ima_updated_at(updateDate,...)
```

Arguments

updateDate	string, Last updated datetime in format %Y-%m-%d %H:%M:%S
...	Further named parameters.Other optional arguments.

Details

This function is related to the filed "updated_at" of ima minerals. retrieve the localities that have the latest updated at the given time.

Value

df, a data frame of localities

Examples

```
## Not run:  
df <-minerals_ima_updated_at("2020-11-10 10:12:20")  
  
## End(Not run)
```

params_to_string	<i>params_to_string</i>
------------------	-------------------------

Description

Prase params to string,so that the query function can deal with the other exteranl condition set by the users.

Usage

```
params_to_string (params)
```

Arguments

params convert params to string,which is used by the mindat query function.

Value

str .

Examples

```
## Not run:  
params_to_string("")  
  
## End(Not run)
```

saveMindatDataAs	<i>Output file as a given format</i>
------------------	--------------------------------------

Description

Save the mindat R dataframe to a specify format

Usage

```
saveMindatDataAs (inputdata,outputfname)
```

Arguments

inputdata	R dataframe of retrieved data from Mindat database.
outputfname	string. the output file name.

Examples

```
## Not run:  
df <-geomaterials_search_name("Quartz")  
saveMindatDataAs(df,"test.jsonld")  
  
## End(Not run)
```

set_api_base	<i>set_api_base</i>
--------------	---------------------

Description

set base uri of current environment

Usage

```
set_api_base (api_base)
```

Arguments

api_base	string. The base uri of mindat api.
----------	-------------------------------------

Examples

```
set_api_base("9ce67655d74bcd981e937be80dcea9cb")
```

set_api_token	<i>set_api_token</i>
---------------	----------------------

Description

set the token of current environment

Usage

```
set_api_token (api_token)
```

Arguments

api_token string. The token of mindat api.

Examples

```
set_api_token("9ce67655d74bcd981e937be80dcea9cb")
```

set_page_size	<i>set_page_size</i>
---------------	----------------------

Description

set the page_size of response records.

Usage

```
set_page_size (page_size)
```

Arguments

page_size string. The token of mindat api.

Examples

```
set_page_size(800)
```

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