

ETOX
Information System Ecotoxicology and Environmental
Quality Targets

Handbook for Queries and Data Recording/Entry

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0 Foreword

With the information system ETOX of the Federal Environmental Agency (Umweltbundesamtes) for the first time a system has become available, in which comprehensive information on the effects of chemicals on organisms of aquatic and terrestrial ecosystems and quality targets (limit- and guidance values) can be searched in a structured way.

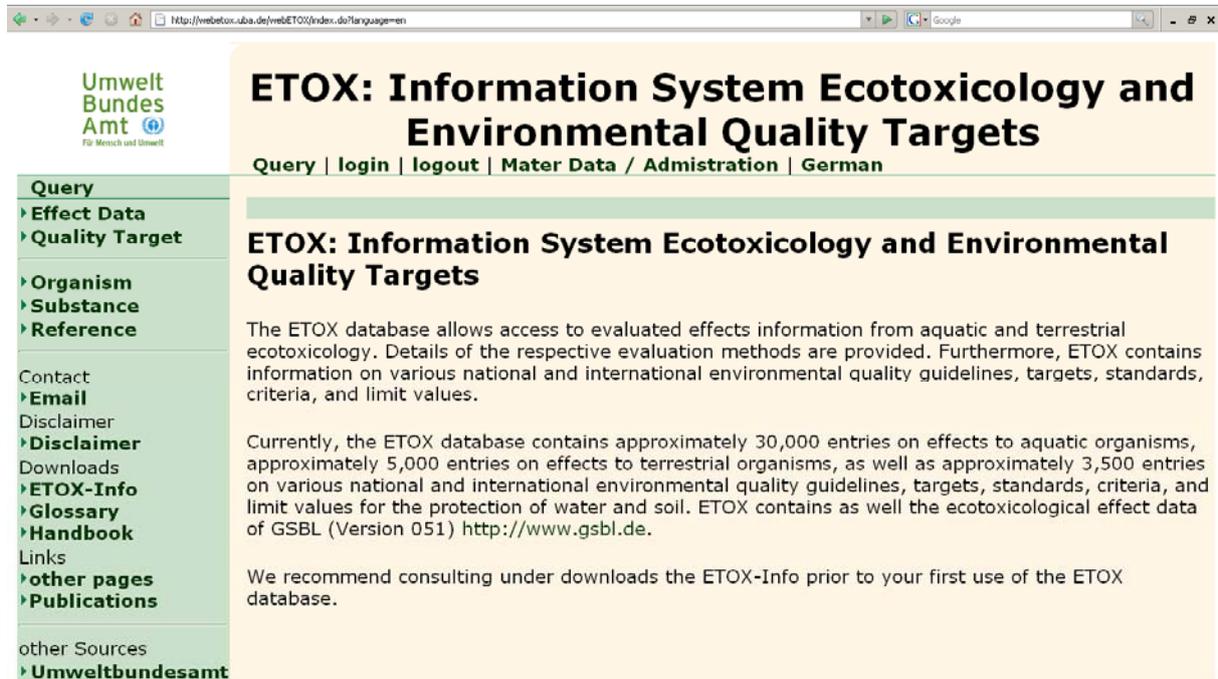
The search for effect data for organisms in water and on land can be performed via chemicals, test organisms, reference and test parameters. These search options and the data structure of ETOX allow for very specialized queries by combining many different search arguments as well as more general comparisons of larger data pools as for example of test results of different salt-compounds of the same heavy metal. The documentation of ecotoxicological test results contains a comprehensive description and evaluation of the individual test methods and test performance, so that it is also possible to compare methodologies with ETOX.

The documentation of national and international limit values and guidance values for surface waters and soil contains detailed information on the legal status, scope of validity, protected assets, and description of the method of derivation of the corresponding values as well as instructions on the procedures for their monitoring. By combining different search keywords very specific or more general enquiries are also possible in the section Quality Targets.

The data pool of ETOX has grown over several consecutive Research and Development projects [Achazie et al. 2002]. For this reason there are differences between the new and old data, which become evident for example in the method description and the assignment of other parameters. In future projects that primarily target an actualization of the data pool, these inconsistencies will be removed.

1 Queries in ETOX

ETOX is accessed via the home-page <http://webetox.uba.de/webETOX> (Picture 1). There is no need to register to perform a query in the database. However a registered user can be assigned different privileges: for example after registration via the button “login“, a registered user can call up the forms for data entry.



Picture 1: Home-page

From the home-page of ETOX access to search on ecotoxicological test results is gained via the link (button) “Effect Data“ or on information on German and international limit values / guidance values via the link “>Quality Target“. Clicking the corresponding button with the left mouse-button will open the associated search mask.

By clicking on the links “>Organism, >Substance or >Reference“, you are transferred to the search masks to perform queries on organisms, substances or the literature catalogue of the database ETOX.

Clicking on “>Handbook“, the technical handbook to ETOX is opened. In the section “>Glossary“, technical terms, which are used in the database, are explained. “>Further information“ provides a short description of the database.

1.1 Queries of Test Data / Effect Data

There are several options to enter search terms for queries on effect data (Picture 2). In fields where you can enter the search item via the keyboard, it is possible to search with so-called wildcards * before and/or after the search term. In selection boxes you can only search by choosing from the entries of the selection list. If several lines are available for one search category e.g. substance name, the entries are connected via OR for the search.

The entries of different search categories are connected via "AND".

If the substance name and substance number (CAS-number) do not match, the query will be unsuccessful. A query should therefore be performed only via substance name or number.

For Substance Name, Substance Number (Substance No), Organism Name, and Reference it is possible to perform a pre-search on the entries under Specific Search (right bar). By clicking on the desired entry from the hit-list of the corresponding pre-search the search term is transferred into the search mask.

The search can be activated by clicking on the button "Search".

With the button "New Search", all entries in all fields are erased.

The search results are shown in the form of a hit-list. Clicking on the button "Print", an expanded overview table (rft-file) can be opened, printed or saved. To export the data as text file with character separated values, click on the button "csv export".

The screenshot shows a web browser window with the URL <http://webetox.lba.de/webETOX/public/search/test/opens.do>. The page header includes the logo of 'Umwelt Bundes Amt' and the title 'ETOX: Information System Ecotoxicology and Environmental Quality Targets'. Below the header, there are navigation links for 'Query', 'login', 'logout', 'Master Data', and 'Administration | German'. The main content area is titled 'Test Data' and contains a search form with the following fields and options:

- Substance Name:** A text input field followed by a dropdown menu.
- Substance No:** A text input field followed by a dropdown menu.
- Habitat Type:** A dropdown menu.
- Effect:** A dropdown menu followed by a text input field with an asterisk (*).
- Effect Measurement:** A dropdown menu followed by a text input field with an asterisk (*).
- Standard Test:** A dropdown menu followed by a text input field with an asterisk (*).
- Endpoints:** A dropdown menu followed by a text input field with an asterisk (*).
- Test Medium:** A dropdown menu.
- Test Evaluation:** A dropdown menu.
- Organism Name:** A table with three columns, each containing a dropdown menu.
- Reference Title:** A text input field.

On the left side, there is a navigation menu with categories like 'Query', 'Effect Data', 'Quality Target', 'Organism', 'Substance', 'Reference', 'Contact', 'Email', 'Disclaimer', 'Downloads', 'ETOX-info', 'Glossary', 'Handbook', 'Links', 'other pages', 'Publications', and 'other Sources'. On the right side, there is a 'Specific Search' section with options for 'Substance Name', 'Substance No', 'Organism Name', and 'Reference'.

Picture 2: Search mask for effect data

1.1.1 Section “Substance Name / Substance Number“

Field “Substance Name“

The substance name, for which tests are being searched, can be entered in the field “Substance Name“. By default the search is then performed in all types of substance names. A selection in the field “Substance name type“ (field behind “Substance name“) is usually not required. For example if you enter Cadmium* all tests, in which cadmium or cadmium compounds were tested, will be retrieved.

For organic substances it is recommended, to perform the search on a substance via the CAS-number in the field “Substance Number“, since not all possible synonyms of a substance might have been captured.

For queries with generic categories (e.g. pesticides, heavy metals, drugs) or with the molecular formula, you have to enter this in the field “Substance Name“. The search is then performed with the term entered, which is assigned to a substance. It should be noted that not all substances have been assigned generic categories or chemical formulas.

Field "Substance Number"

In ETOX the substances are assigned identification numbers (substance numbers). Provided that a CAS-number (Chemical Abstracts Services Registry Number) exists for the individual substances, congener mixtures etc., all substances recorded in ETOX are assigned a CAS-number.

The substance number can be entered in the field "Substance number". The query is performed by including all types of substance numbers. Usually it is not necessary to make a selection in the field "substance number type" (field behind "Substance number"), because the different substance numbers vary in their structure.

In addition some substances are assigned a RTECS- (Registry of Toxic s of Chemical Substances), EINECS- (European Inventory of Existing Commercial Chemical Substances, out of use) or EC-number (former European Inventory of Existing Chemical Substances EINECS or European List of Notified Chemical Substances ELINCS respectively). A revision of the substance catalogue is planned, so that queries can then also be performed via EC- - number.

1.1.2 "Testparameter"

In this section of the search menu (Picture 2) the search criteria on frame conditions of ecotoxicological tests can be defined for the query.

Field "Habitat Type"

Here you can chose whether test data for water- or soil organisms shall be searched. Test data with benthic organisms will only be available in the future. If no entry is made in this field, by default all types of habitat will be searched.

Field "Standard Test"

Choosing a standardized test method from the selection list, the query will retrieve only data that were generated in accordance with the selected standard method(s).

Field "Effect"

By choosing an effect endpoint (e.g. mortality) from the selection list, the query will retrieve only data the corresponding effect.

Field "Effect Measurement"

Choosing an endpoint from the selection list only effect data, for which this specific measured effect was determined, are retrieved. It should be noted, that a measured effect has not been entered for all records.

Field "Endpoint "

Via the field "Endpoint", data are retrieved via statistically determined parameters like LC₅₀, EC₁₀, LOEC etc.

Additional for free text search is possible for "Standard Test", "Effect", "Effect Measurement" "Endpoint" with * and ? as wildcards

Field "Test Medium"

In the field "Test Medium", the substrate used can be selected from the selection list as search argument.

Field "Test Evaluation"

Via the field "Test Evaluation", you can investigate effect data, for which an evaluation of the quality of the test is available. So far ratings have mainly been entered for effect data of the terrestrial field. The four-step rating of the quality of the effect values referenced, which were used in the frame of an R+D-project, are based on the following schema:

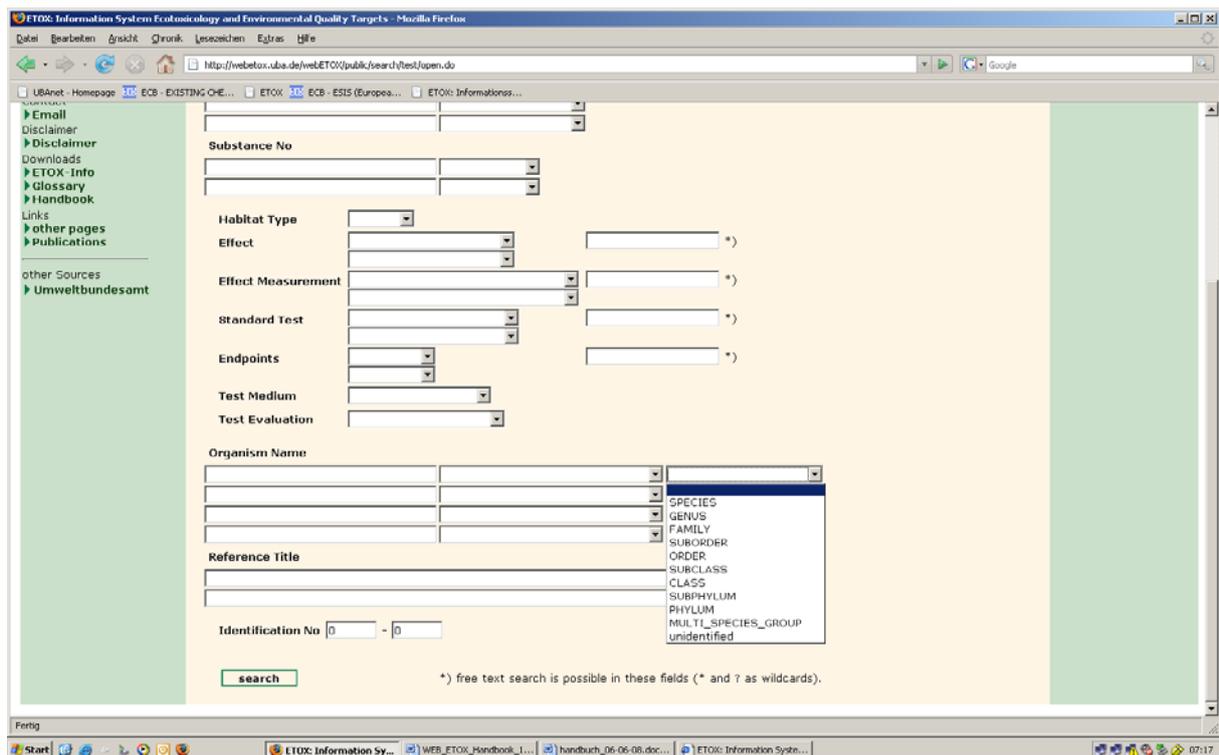
Rating 1 Encompassing description of the tested substance, the test organisms, the test substrate and the test performance (following existing test protocols if possible) as well as information on the statistical evaluation, determination of the concentration steps via chemical analysis, appropriate number of test organisms and replicates.

Rating 2 Individual specifications defined in Rating 1 are missing.

Rating 3 Important and/or several specifications are missing.

Rating 4 The quoted test differs in significant points from the specifications mentioned in Rating 1.

You can find further information on the entries in the section **Master Data**.



Picture 3: Search mask for effect data – section “Organism”

1.1.3 Section “Organism Name / Taxonomic Group“

Field “Organism name“

In this field it is possible to search for data via the scientific (Latin) name of the test organism. Furthermore synonyms, English or common names or collective names may be entered to search for tests on specific organisms. Under “_Organism Group_German “, you can search data for species groups like insects (Insekten), crayfish (Krebse), seed-plants (spermatophytes) (Samenpflanzen), microorganisms (Mikroorganismen), etc..

A selection in the field “Organism name type“, (field behind “Organism-name“) is usually not required. A selection in the field “Taxonomic Level“, (field behind “Organism name type“) is usually not required. A selection is only required for very specific searches. Example: All test results for all organisms belonging to from the family *Daphniidae* should be searched. In this case the “Taxonomic Level” FAMILY must be selected..

In case of microbiological studies on harmful effects of chemicals, endpoints are often determined as respiration or enzyme-activity of a soil sample, without specification of the individual microorganisms involved; In the case of these data the term “Microorganisms (microbial activity)” is therefore used as organism name.

Field "Taxonomic group"

In the field "Taxonomic group", queries for taxonomical classification of plants or animals are possible. So far the classification of test organisms into classes, orders and families has only been performed for organisms of the terrestrial habitat. A revision of the organism catalogue is planned for 2005.

1.1.4 Section "Reference - Titel"

Here you can search for the title of a study. For a specific reference query, please use the specific search with further search criteria and transfer the desired term from the hit-list into the search mask by clicking on it.

An overview over the literature recorded in ETOX is accessible via the button ">Reference"(Chapter 1.5).

1.1.5 Field "Identification Number"

The field "Identification Number" ("from" "to"), refers to the ETOX-internally assigned data record number of the recorded test in the actual database. This field helps to quickly and unequivocally find a record again.

1.1.6 Additional Fields

Registered users (project user) have the possibility to search with the fields "Project" and "data status". Users with the right to enter data will find the button "new" in the head bar. In chapter 2.1 you can find more about entry of effect data.

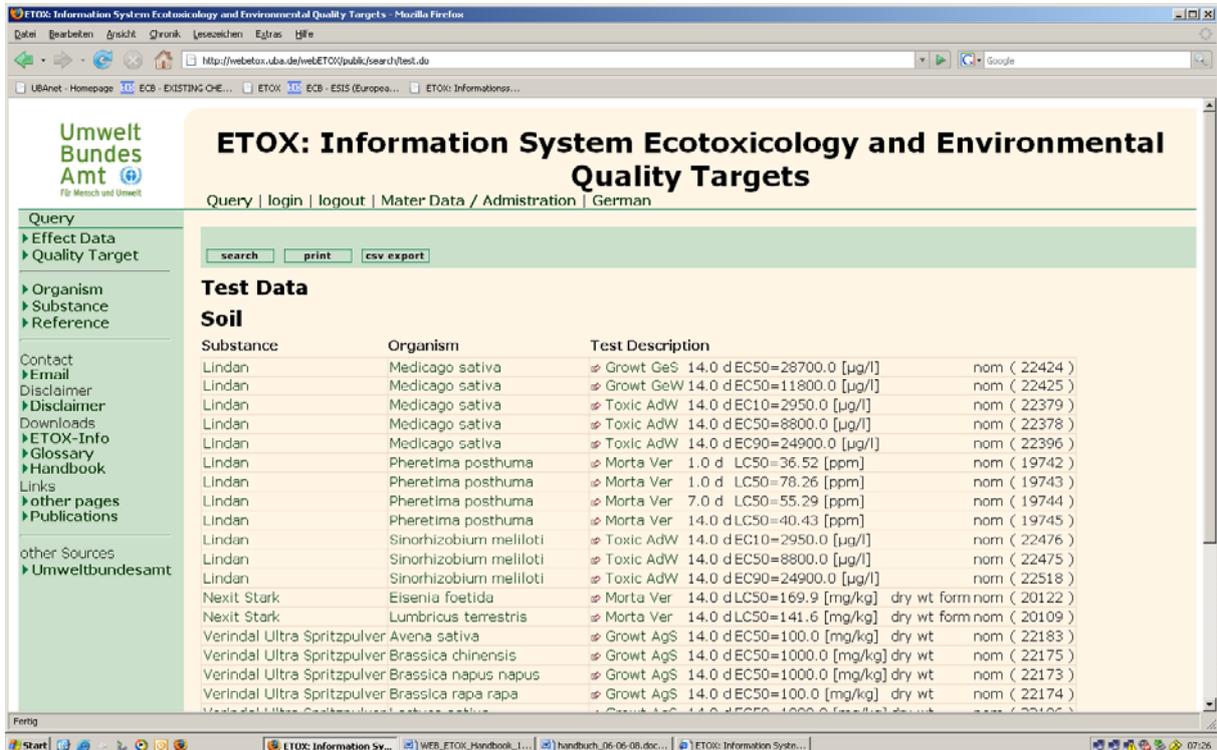
1.1.7 The Result of a Query on Effect Data

The hit-list depicted (Picture 4) shows the search result for the pesticide Lindane. Besides records on Lindane, the hit-list also shows records for commercial products containing Lindane as an ingredient. From the first column of the table ("Substance name") it is evident, whether Lindane was used in the test as pure substance or as an ingredient of a formulation in a marketed product.

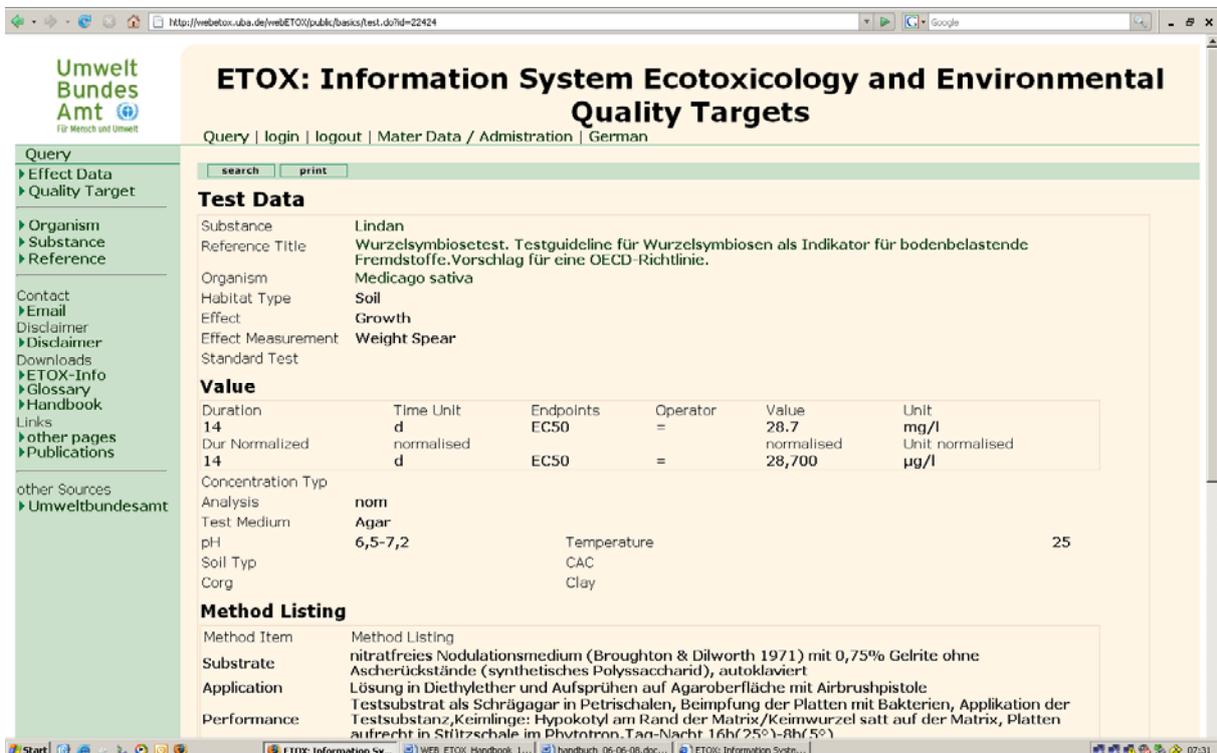
Clicking on a record in the column "Test Description" the detailed view with all available information on a record can be called up (Picture 5). By clicking on the name in the column "Organism" further information on the test organism can be shown and by clicking on the name in the column "Substance", information on the substance identity can be called up for display.

By clicking on "csv export", the information from the overview table on the screen can be exported into a text file with field separators.

By choosing “print“, an extended overview-table of the test descriptions including the literature source is shown as text file in a separate window.



Picture 4: Hit-list



Picture 5: Detailed view of a test result

The description of the test performance or method respectively, is recorded differently for data of aquatic and terrestrial fields. In elder data records for the habitat water the description

of the method can be found under Memos Method-Memo as free text. The description of the method for the habitat soil and newer records for the aquatic field is provided as structured test method description, which can be found under “Method Listing”.

1.2 Query on Quality Targets

With the button “Quality Targets“ in the start-menu (Picture 1), the corresponding search mask is displayed (Picture 6).

Queries with entries in the fields Substance Name, Substance Number, Reference and Identification Number of the query mask, correspond with queries of these sections in the section “Effect Data” (compare Chapter 1.1). Though they are not really substances, quality target parameters like e.g. AOX, BSB, coliforme bacteria, pH, temperature, TOC or Turbidity can also be entered in the field Substance Name for a search.

The query fields Protected Asset, Usage, Protection Level, Institution, Country, County, Medium, Status and Designation in the query mask are meant mainly to perform very specific queries.

The screenshot shows a web browser window displaying the 'Quality Target' search interface. The browser's address bar shows the URL: <http://webetox.uba.de/web/ETOX/publik/search/zie/open.do>. The page has a navigation menu on the left with categories like 'Query', 'Effect Data', 'Quality Target', 'Organism', 'Substance', 'Reference', 'Contact', 'Email', 'Disclaimer', 'Downloads', 'ETOX-Info', 'Glossary', 'Handbook', 'Links', 'other pages', 'Publications', 'other Sources', and 'Umweltbundesamt'. The main content area is titled 'Quality Target' and contains a search form with the following fields: 'Substance Name' (containing 'Cadmium'), 'Substance No', 'Protected Asset', 'Use', 'Protection Level', 'Institution', 'Country', 'County', 'Medium', 'Status', 'Designation', 'Reference Title', and 'Identification No' (with '0' in the first box and a '-' sign in the second). A 'search' button is located at the bottom of the form. On the right side, there is a 'Specific Search' section with links for 'Substance Name', 'Substance No', and 'Reference'. The browser's top bar shows the 'Google' search engine and window control buttons.

Picture 6: Search mask for quality targets

1.2.1 Selection Fields in the Query Mask for Quality Targets

Fields “Protected Asset“ and “Use“

The selection lists contain terms that describe the protected asset in the sense of formal demarcation of use (e.g. agricultural), contamination path ways (e.g. soil – plant - food) or media (surface waters, soils), which the target value e.g. in a legal regulation, refers to. There is a certain overlap with the search terms of the field “Use“, that explicitly aim at different, in the Federal Soil Protection Act mentioned types of use.

Field “Protection Level“

In the field “Protection Level“, you can select entries that indicate the urgency or protection level respectively of the target value (e.g. precaution or averting a danger).

Field “Institution“

A search for authorities, government agency, commissions etc., which have passed target values, can be performed in the field “Institution“.

Fields “Country“ and “County“

The field “Country“ enables a selective search for target values from certain nation states or geographical regions, while with the field “County“ a selection of federal lands or provinces within a state is made available.

To search on quality targets for a specific German Federal Land (Bundesland) like e.g. North Rhine Westphalia it is not necessary to select the term Germany in the search field “Country“. The search terms of the individual fields are independent of each other and because of the AND-linkage of the fields, arbitrarily combined search arguments do not result in a successful search.

Field “Medium“

Besides soil (SOIL) and water (AQ) other terms like biota, sediments and suspended particulate matter can be used as search criteria/arguments in the field “Media“.

The Registration of quality targets for sediments, suspended matter and biota has just start and not all data are registered.

Field “Status“

The field “Status“ contains higher-level search terms on the legal status of the target value like quality criterion (QC), quality target/objective (QO) and quality standard (QS). These terms are defined in the glossary.

Field “Designation“

The selection list contains the abbreviated denotation of the value according to the source like quality target, Maximum Permissible Concentration (MPC) and Target Value (TV), Guideline (GL) etc.. The complete term of the abbreviations can be viewed in the section Master Data.

1.2.2 The Result of a Query for Quality Targets

The hit-list depicted (Picture 7) shows the result of a query. The first column of the table ("Substance name") contains the substance name or parameter for a corresponding target value.

By clicking on a record in the column "Quality Target Description", the record is shown in detailed view (Picture 8). In the detailed view the full name of the abbreviations is shown. By clicking on the name in the column "Substance name" information on the substance identity can be called up.

Selecting "Print", a separate window will open and display an expanded overview-table of the target values including their literature source as text file.

By clicking on "csv export", the information of the overview table from the screen can be exported into a text file with field separators. The export file will contain the following fields: ETOX_ID_NR,"Substance","CAS_NO","EC_NO","ETOX_ID_NO_Substance","Country_or_Region","County","Medium","Status","Protected_Asset","Use","Protection_Level","Institution","Designation","Value_Target_LR","Value_Target_UR","Unit","Conc_Spec","Remark","Derivation_Base","Derivation_Method","Note","Target_Description","ETOX_ID_NO_Reference","Author","Year","Title","Journal","Volume","Pages","Source"

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Query | login | logout | Mater Data / Administration | German

search print csv export

Quality Target

Substance Name	Country	Quality Target Description	MAC	Value	Unit	Target Type	Value
Cadmium	CAN	QC DRINK	MAC	5.0	[µg/l]	total, maximum	(915)
Cadmium	CAN	QC AGRIC-IRRI	GL	5.1	[µg/l]	total, maximum	(1000)
Cadmium	CAN	QC AGRIC-LIVE	GL	80.0	[µg/l]	total, maximum	(1001)
Cadmium	CAN	QC AQL-FRESH	GL (I)	0.06	[µg/l]	total, maximum	(1002)
Cadmium	CAN	QC AQL-FRESH	GL (I)	0.05	[µg/l]	total, maximum	(1003)
Cadmium	CAN	QC AQL-FRESH	GL (I)	0.03	[µg/l]	total, maximum	(1004)
Cadmium	CAN	QC AQL-FRESH	GL (I)	0.01	[µg/l]	total, maximum	(1005)
Cadmium	CAN	QC AQL-MARIN	GL	0.12	[µg/l]	total, maximum	(1006)
Cadmium	CAN	QC AGRIC-IRRI	GL	5.1	[µg/l]	total, maximum	(1111)
Cadmium	CAN	QC AGRIC-LIVE	GL	80.0	[µg/l]	total, maximum	(1112)
Cadmium	CAN	QC AQL-FRESH	GL (I)	0.06	[µg/l]	total, maximum	(1113)
Cadmium	CAN	QC AQL-FRESH	GL (I)	0.05	[µg/l]	total, maximum	(1114)
Cadmium	CAN	QC AQL-FRESH	GL (I)	0.03	[µg/l]	total, maximum	(1115)
Cadmium	CAN	QC AQL-FRESH	GL (I)	0.01	[µg/l]	total, maximum	(1116)
Cadmium	CAN	QC AQL-MARIN	GL	0.12	[µg/l]	total, maximum	(1117)
Cadmium	CAN	QC DRINK	MAC	5.0	[µg/l]	total, maximum	(1118)
Cadmium	CHE	QS, D. AQL	QZ	0.05	[µg/l]	total dissolved	(394)
Cadmium	CHE	QS AQL	QZ	5.0	[µg/l]	total dissolved	(395)
Cadmium	DEU	QC AGRIC-IRRI	ZV	5.0	[µg/l]	total, 90th pecentile	(766)
Cadmium	DEU	QC AQL-FRESH	ZV	0.072	[µg/l]	total, 90th pecentile	(767)
Cadmium	DEU	QC DRINK-SURF	ZV	1.0	[µg/l]	total, 90th pecentile	(768)
Cadmium	DEU	QC FISH-CONSM	ZV	1.0	[µg/l]	total, 90th pecentile	(769)
Cadmium	DEU	QC RIVER	BACKG	0.018	[µg/l]	total	(770)
Cadmium	DEU	QS DRINK	GW	5.0	[µg/l]	-	(2326)
Cadmium	DEU DE-NW	QS AGRIC-IRRI	GL	6.0	[µg/l]	-	(540)
Cadmium	DEU DE-NW	QS DRINK-SURF	G, A1	1.0	[µg/l]	-	(541)

Picture 7: Hit-list quality targets

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Query | login | logout | Mater Data / Administration | German

search print

Quality Target

Substance: Cadmium

Reference Title: Canadian water quality guidelines: Updates (Dezember 1995), Chapter 1 (revised), Appendix XVIX

Medium: WATER

Country: Canada

Institution: Canadian Council of Ministers of the Environment

Status: Quality Criteria

Use: Protected Asset

Protection Level: not specified

Value

Designation	Operator	Target LR	Target UR	Unit
MAC		5		µg/l
MAC		5		µg/l
Conc Spec		total, maximum		

Remark:

Derivation

Derivation Base:

Derivation Method:

Note

Note:

Zielbeschreibung:

Ancillary Conditions

Ancillary Conditions Type: Ancillary Conditions

Monitoring

Monitoring Item: Remark

Picture 8: Detailed view on a quality target

1.3 Organism / Organism Catalogue

You can start a query on organisms in the organism catalogue via the button ">Organism" in the start-menu (Picture 1).

Registered users (UBA or projects) are also authorized to perform queries in the fields "Project" and "Availability", in order to enable them to e.g. quickly retrieve organisms, that were registered within projects. Furthermore it is possible for them to call up the entry-mask for the registration of new organisms via the button "New" in the headline. The registration of organisms in the catalogue is described chapter 2.3.

1.4 Substance / Substance Catalogue

A query on substance names and substance numbers, that are assigned to a "preferred name", can be started from the main menu (Picture 1) via the button ">Substance". Each substance or parameter respectively (e.g. pH-value, TOC etc.) has been assigned a database-internal identification number. All information on substance identity, substance name, substance group, chemical formula etc., as well as substance number are assigned to this identification number.

For public users it is possible to search the fields Substance Category, Substance Name, Substance Number, and Identification Number.

Registered users (UBA or projects) are also authorized to perform queries in the fields "Project" and "Availability", in order to enable them to e.g. quickly retrieve substances, that were registered within projects. If a registered user was assigned the corresponding rights it is furthermore possible to call up the entry-mask for the registration of new substances via the button "New" in the headline. The registration of substances is described chapter 2.4.

1.5 Reference / Reference Catalogue

A search of the data on literature saved in ETOX can be selected from the home-page (Picture 1) via ">Reference". The literature-search is mainly of use for database maintenance, e.g. to check which literature by a certain author has already been recorded in ETOX.

Registered users (UBA or projects) are also authorized to perform queries in the fields "Project" and "Availability", in order to enable them to e.g. quickly retrieve literature sources, that were registered within projects. If a registered user was assigned the corresponding rights it is furthermore possible to call up the entry-mask for the registration of new

references via the button “New“ in the headline. The registration of substances is described chapter 2.5.

1.6 Project

View of data-entry projects is only available to registered and authorized users. Under the rubric Project the information on data-entry projects can be viewed.

2 Conventions for Data Entry

The entry of new records, editing and deleting of data in ETOX may only be performed by authorized users, who log into the database with a corresponding password and who have been assigned the corresponding entry-rights. To enter a new test data record under the heading "Effect Data", click on the button "New" and an entry mask for the recording of the data will open.

The entry of substances, reference and organisms is made after pre-selection (description see below). In selection boxes only entries from the selection lists are possible. Expansion of the selection lists and completion of the master data can only be performed by the database administrator.

If the corresponding terms are missing in the selection list, the corresponding master data tables have to be added. This is possible in the section "Master data", and described in detail in chapter 2.3. Saving of a new effect data record as well as changes in individual fields of a record is done by clicking on the button "Save" at the bottom of the entry form.

Changing, Copying or Deleting of a record

After saving a new effect data record a record can be changed, copied or deleted if the user was assigned the corresponding rights. Recording and saving of different effect values of tests, which differ only in a few frame conditions, is done most efficiently by using the copy-function:

Clicking on the button "Copy" the record currently in the mask including its sections "Memos" and "Method Listing" are duplicated. In the newly created mask the new "Value", or the changing values or parameters respectively can be entered and saved. If a record was copied accidentally, the record exists as a duplicate and has to be deleted subsequently.

2.1 Entry of Effect Data

In the empty entry-mask (Picture 8) the corresponding facts to the study can be selected from the selection lists of most fields. It is a prerequisite for the registration of effect data that the facts required (field contents / property characteristics) are part of the selection lists or available in the substance catalogue, organism catalogue or reference catalogue respectively.

To avoid duplications for the fields "Substance name", "Reference", and "Organism name", this can be checked in the section ">Substance", ">Organisms" and ">Literature" (left column) upfront before registration. Since usually records from new sources are entered, the first step should be to enter the literature in the section ">Reference" (left column).

The contents available for the fields "Effect" and "End point", "Standard" and "Test Medium" can be displayed in the corresponding selection list or in the master data respectively. The potential content of the fields "Effect", "Parameter", "Unit" etc. is usually already provided in, so that the corresponding terms are already accessible. If the corresponding terms are missing in the selection lists, the corresponding master data tables have to be complemented. This is possible for the administrator in the section "Master Data", and is described in Chapter 2.3. In case that necessary entries are missing in the master data, please inform the administrator of the entries to be added via ">Contact". The entry will then be checked and afterwards added to the list by the administrator. In mandatory fields please enter "no entry" or "-", note down the record number and edit the record later.

Picture 8: Entry mask effect data

The fields “>Substance name“, “>Reference“ and “>Organism name“ are entered by clicking on them and subsequent pre-selection.

2.1.1 Substance

The field “Substance name“ of the entry mask (Picture 8) is entered by clicking on it and subsequent pre-selection (search). The chemical used in the test is entered, by clicking on the corresponding substance in the selection list.

The field “Substance name“ can furthermore be entered by performing a specific search in the entry mask under substance name or substance number and clicking on the substance name (column name (preferable)) from the hit-list. To edit records this procedure should be used.

If a desired name is not in the selection list, a new substance has to be created in the substance catalogue “>Substance“. It should however be checked beforehand, whether the substance was recorded under a different name/synonym (see Chapter 1.3).

In case of effect studies, which have been performed on e.g. substance mixtures or pesticide preparations, the ETOX_Name of the preparation should be selected, and not the name of the pure active ingredient. Usually the active ingredient has already been associated with a preparation, or has to be recorded accordingly during the new entry of a substance. For tests with “pure“ active ingredients, the ETOX_Name of the active ingredient should be chosen.

2.1.2 Reference

The field "Reference" of the entry mask (Picture 8) is entered by clicking on it and subsequent pre-selection (search). The corresponding literature source to the study is entered by clicking on the corresponding title in the selection list.

The field "Reference" can also be entered by performing a specific search under reference (right bar) in the entry mask. To change records this procedure should be used.

The recording of new literature sources is performed under the heading >Reference in the left bar.

2.1.3 Organism name

The field "Organism name" of the entry mask (Picture 8) is entered by clicking on it and subsequent pre-selection (search).

The field "Organism name" can furthermore be entered by performing a specific search under >Organism name, >Taxonomic group (right bar) in the entry mask. To change records this procedure should be used.

A selection via >Organism number or >Organism ecology has not yet been filled with data.

The field "Organism name" in the entry mask (Picture 8) is usually allocated to the official, i.e. scientific (Latin) name of the tested test organism. For tests on respiration or enzyme activities of microorganisms in soil the term "**Microorganisms (microbial activity)**" should be selected in the field "Organism", since the measured activities cannot be assigned to a specific species, but rather represents the reaction of all microorganism present in the tested soil sample.

2.1.4 Habitat

By clicking on the terms "aquatic", "benthic" or "soil" in the selection box "Habitat" it must be selected, whether the effect data to be entered are assigned to the aquatic or terrestrial field. The deciding criterion for this is, whether the test organism is an aquatic or terrestrial organism or in which habitat the test was performed respectively. For example tests, that have been performed with insects during their aquatic life-stages, are assigned to the "Habitat" aquatic. Tests, that are performed with sediment-organism and with sediment as test medium, are assigned to the "Habitat" benthic.

2.1.5 Effect and Endpoint

The field “Effect“ of the entry mask (Picture 8) shall contain a term of the basic biological functions, that have been tested of the test organism of the referenced source, while the field “Endpoint“ shall contain the concrete measured or observed parameter. For instance if under effect “reproduction“ or “respiration“ are mentioned as endpoints, the measuring parameters could be “number of eggs“, “number of juvenile“, “oxygen-demand“, or “CO₂-production“ respectively; that means effects of chemicals on basic biological functions (effects) can be measured via different biological endpoints.

2.1.6 Standard

If the quoted test was performed following a standardized test method, the short notation of the standard method, in which the test instruction was described, is entered in the field “Standard“.

2.1.7 Value: Period, Time unit, Parameter, Operator, Value, Value Unit

In the section “Value“, the effect concentrations are entered according to the referenced literature. In the fields “Period“ and “Time Unit“ the test period should be entered according to the source.

The field “Parameter“ of the entry mask (Picture 8) shall contain information, at which statistically validated measured concentration a toxicological effect of the test substance was noticed in the tested organism according to the referenced source. A content-related explanation of these entries can be found in the glossary.

In the field “Operator“ characters like =, <, > etc. can be entered. In the field “Value Unit“ the unit of measurement can be selected. The entry of the effect concentrations will later automatically be converted by ETOX to standardized concentration units (mg/kg, µg/l, µmol/kg and µmol/l) in the hit-list and in the printed table “print“, so that you do not have to do the conversion yourself.

2.1.8 Relation and Nominal/Analytical

These fields in the entry mask (Picture 8) contain important additional information with regards to “Value“. In the field “Relation“ it should be indicated, whether the applied concentration steps and therefore also the “Value“ relate to the dry weight (DWT) or the fresh weight (FWT) of the test substrate (e.g. soil or feed). If the “value“ given does not refer to the active ingredient but to the applied formulation or applied substance respectively (e.g. in the case of pesticides), the abbreviation “Form“ (for formulation) has to be selected. For tests with metal compounds the value given usually refers to the “pure“ metal. If the concentration

for test with heavy metals refers to the metal-salt, the specification MeSalt (for metal-salt) should be added. Further information to be entered/recorded/given here would be deviating matrix references, i.e. if the "value" does not refer to active substance concentration in the soil substrate but to the solution, the water extractable concentration, or to the concentration in the body of the test organisms etc.. The entry convention for this field is described in the glossary under the keyword "Relation"

In the field "Nominal/Analytical", the entry shall clarify, whether the concentration steps reported in the quoted test were determined via chemical analysis (ana = analytical) or refer to the applied concentrations (nom = nominal).

2.1.9 Test medium

In this field the medium used in the test shall be described. The field "Test medium" contains a selection list with different media. If the term field soil is entered, it has to be described in more detail in the field "Soil type".

2.1.10 Soil types

In this field the "Soil type", which was used for the test, shall be described. The selection list of the field "Soil types" contains the terms for soil types. If the soil type was not defined in the source, its classification should be performed according to the percent amounts of sand, loam, silt, and clay of the tested soil according to the table "Limit values of the soil types (amounts of the fractions) of the German standard procedures for soil mapping (Bodenkundliche Kartieranleitung [AG Boden 1996, 4. Edition]).

2.1.11 pH, Temperature

In these fields the corresponding data from the quoted literature are entered as free text. In case of fluctuations of the pH-values or the test temperatures the ranges of variation can be entered as "from – to". The test temperature should be reported in °C.

2.1.12 Cation-exchange capacity (CEC), organic carbon content (%Corg), clay content (%Clay)

For the cation-exchange capacity "CEC" of the tested soil substrate the corresponding measuring unit has to be reported, since no standardized measuring method exists.

For the entry of the contents of organic carbon of the tested soil in percent "%Corg", attention should be paid to the fact that most sources only mention the organic content of the soil (organic matter or humus content respectively); this value should then be entered with the <- symbol in front of the actual number. According to the German standard procedures for soil

mapping [AG Boden 1996, 4. Edition] the content of the organic material in percent is about twice as much as %Corg.

Under “%Clay“, the clay content of the tested soil or sediment can be entered in percent.

Field allocation for tests of different habitats:

Habitat	CEC	%Corg	%Clay
Water	-	-	-
Sediment	-	+	+
Soil	+	+	+

2.1.13 Dynamics

Description of the exposure conditions in the test system (only for the habitat types “aquatic” and “benthic”).

Static = Test set-up without exchange of water during the test period

Semi-static = Test set-up with periodic exchange of water during the test period

Dynamic = Test set-up with permanent exchange of the test solution (flow-through test).

2.1.14 Water hardness

Here the value with its corresponding operator for the water hardness of the test medium should be reported. The water hardness should be entered in the sequence operator, value and unit. The information on the water hardness of the test medium (as CaCO₃-content) should be reported in mg/l.

2.1.15 Method Listing

Here a description of the methodical frame conditions should be entered. By clicking on “Method Listing” in the right bar an entry-line for this section is created. All pertinent information on test performance and methodology used should be encoded. In the case of modifications to a standardized test (see frame conditions standard methods) the potential deviations should also be entered here.

The terms that should be entered in the column “Method Item“ can be selected from a selection list per entry line.

Under Method Listing (German) or (English) respectively the corresponding information should be entered as free text (max. 255 characters) in both fields.

As a principal the description of the methodology should be as detailed as possible, i.e. as many methodical terms as possible should be assigned to the information provided in the quoted test.

An explanation which methodical parameter of the quoted test should be described in the individual Method Item can be found in the glossary or under the corresponding methodology term. In the section ">Master data", a description of the terms can be found under Method Items.

2.1.16 Memos

Remarks (German/English)

In this field all other facts from the reference that are worth mentioning should be entered.

Method Memo (German/English)

Here further information on the test performance and the methodology used can be mentioned, as long as it cannot be assigned to the frame conditions intended for this, under Method Listing.

Further Findings (German/English)

All other findings other than the selected endpoint, which are worth mentioning, should be described.

Data source

No entries are required. The field is intended to mention the data source when data are imported.

2.1.17 Test Evaluation and Derivation

Test Evaluation

The field "Test Evaluation" shall contain a rating with the numbers from 1 to 4 and reflect a personal evaluation by the editor with regards to the quality of the present data record or the quoted literature respectively. The rating criteria are described under master data and in the glossary. The feature test evaluation can be awarded several entries, so that the evaluations of different institutions and evaluation-systems can be provided. If necessary, complementary short comments on the rating can be entered in the field Remark (German/English). A short description of the evaluation notation and rating scheme can be found under ">Master data".

Derivation

In the field "Derivation" cross references can be entered, e.g. whether the quoted effect date can be used as deciding value for the derivation of target values, or the relevance of the value for the substance's evaluation. So far no convention of entry has been laid down for this field.

Soil Relevance / Water Relevance

Corresponding to the entry under habitat, the marker for the relevant medium shall be entered. For bacterial-tests with culture medium etc. as test medium the data could also be relevant for both fields. In this case the marker should be set for both fields.

2.1.18 Administrative Data

Administrative data does not require entries. The entries are automatically generated by the system. Administrative data are not shown in the public view.

Project

Here the project name, which the user registered upon login, is automatically entered.

Data status

Entries	Description
Project	The record was recorded within a project and has not yet been released for further screening/data review (private). The record is accessible only to users, who have access to the corresponding project.
Validation	The record was released for further data validation by the verifying institution (e.g. Federal Environmental Agency). Further editing in the project is not possible any longer. If a record contains content-related errors or if further information needs to be added, the record may be reset into the status "project" (=private) by the data-inspector.
Internal	After validation the record of a project can be first released for UBA-internal use.
Public	After final validation the record may be released to public users and can be researched by all users.

Prepared by / Last modified by

The user from the login is automatically entered.

Created / Last modification

Both date fields are automatically entered.

2.2 Entry of Quality targets

The entry mask (Picture 9) for new quality target records is called up via the button “New“ in the search mask “>Quality targets“. After capturing the information on a target value and when all mandatory fields have been filled out, the record is filed in the database by clicking on “Save“

The screenshot shows a web browser window with the URL <https://webtox.uba.de/webETOX/private/basis/ziel/request.do?event=insertRequest>. The page title is "Quality Target". The form contains the following fields and sections:

- Identification No**
- Substance**
- Reference Title**
- Medium** (dropdown)
- Country** (dropdown)
- County** (dropdown)
- Institution** (dropdown)
- Status** (dropdown)
- Protected Asset** (dropdown)
- Use** (dropdown)
- Protection Level** (dropdown)
- Value**
 - Designation (dropdown)
 - Operator (dropdown)
 - Target LR (input)
 - Target UR (input)
 - Unit (dropdown)
 - Target LR normalised (input)
 - Target UR normalised (input)
 - Unit normalised (input)
- Conc Spec** (dropdown)
- Remark (German)** (text area)
- Remark (English)** (text area)
- Derivation**
 - Derivation Base (German) (input)

Picture 9: Entry mask quality targets

Editing

To change an already existing record, click the button “Edit“ in the headline of the data record to be edited in detailed view. Completion of the individual fields and use of the selection lists is performed as described under entry of effect data.

Copying and Deleting

Copying of records is possible via the button “Copy“. Subsequently the record can be modified with “Edit“. Saving and deleting of quality target records is done in the same way as it is done for “Effect Data“.

2.2.1 Substance / Parameter

Entries into the fields are performed analogously to the entry mask “Effect Data“ (see Chapter 2.1.1). Quality target parameters as e.g. AOX, BSB, coliforme bacteria, pH, temperature, TOC and Turbidity, that are not substances, should also be entered here.

2.2.2 Reference

Entries into the field is performed analogously to the entry mask "Effect data" (see Chapter 2.1.2).

2.2.3 Medium

The field "Medium" specifies the environmental medium (e.g. water, soil, biota, sediment etc.) which the quality target refers to.

2.2.4 Country and County

These fields characterize the scope of application or the origin of a target value (e.g. quality standard). While the corresponding state or the geographical region (in case of multi-national environmental agreements or regulations) is entered in the field "Country", the field "County" specifies the name of the province, the canton, or the federal state or land, in which the target value is valid.

In contrast to the elaborations on the corresponding query-rules, which required only one of these fields for a successful search, it is mandatory to fill in both fields during data entry. In case of legal regulations that apply nationwide, the term "national" has to be entered or chosen in the field "County".

2.2.5 Status

The entry field shall contain terms to formal classification criteria (QS=Quality standard, QO=Quality target/objective, QC=Quality criterion) with respect to the value to be saved.

Quality Criterion:

Quality criterion indicates a specific quality requirement, recommended from a scientific view, to attain a specified protection target.

Quality Target/Objective:

Quality Target characterizes a desired condition (numerical value or descriptive goal setting), which should be attained - in a certain area. Quality targets are environmentally-politically set orientation values. The fixing is usually based on scientifically founded quality criteria. However social-ethical elements may also have an influence.

Quality Standard:

Quality Standard identifies a legally binding value, which shall be attained or has to be kept, of a politically-specified quality norm.

2.2.6 Protected Asset and Use

In these fields terms are entered, which define the validity of the materials, uses, and effects, etc. to be protected. The entries or terms to be selected from the lists partially overlap, since they were taken from different legal regulations, which again originate from different countries or states respectively. Correspondingly when filling out the fields the quoted regulations have to be checked with regards to the use demarcation, the specified usage, contamination-paths etc.; eventually they might have to be tuned with similar entries, that have already been saved in ETOX.

As a basic principle entries in the field "Use" specify the scope of validity of a quality target for a more general protected asset.

2.2.7 Institution

The entry field "Institution" shall contain the name of the institution (authority/agency, commission, ministry etc.), that laid down and/or was concerned with the establishment or derivation of the corresponding target value.

2.2.8 Protection level

These entry fields shall contain key terms on classification criteria, which usually arise from the quoted legal regulation (e.g. guarantee of precaution, prevention of risks/hazards within legal regulations), with regards to the quality standard to be entered. If the protection level is unknown this field may be left empty.

2.2.9 Section "Value"

"Designation", "Operator", "target value LL", "target value UL", value specification, "remark"

The entry of the quality target or quality targets respectively values is made in den fields "Target value LL" and "Target value UL".

If no lower and upper limits are fixed for the value, the entry is only made in "target value UL". The fields "Operator" and "Value unit" are identical with the fields of the same name in the effect data.

Just like the field "Concentration Type" in "Effect Data", the field "Conc spec (Value specification)" shall contain additional information on the target value.

In the field "Remark" short information on the properties of the media (e.g. water hardness etc.) for which the target value was set, can be entered (max. 255 characters).

Further information can be entered in a structured manner under context of validity or described in more detail under "Notes" or ">Ancillary Conditions".

2.2.10 Section “Derivation“

In the field “Basis of Derivation“ in the section “Derivation“ it is shortly described, which data pools were used for the fixing of the quoted target value. In the field “Derivation Method“, the method how the quality target value was derived from the data pools is described. The description of this method shall contain the most important points as precise and at the same time as concise as possible.

2.2.11 Section “Notes“

In the section “Notes“, the field of the same name contains additional information on the properties of the medium or frame conditions, that should be considered when applying the quality targets on environmental samples (e.g. for monitoring programs). A summary of this information shall be depicted in the field “Remarks“ of the section “Value“ (see above).

In the field “Target description“, verbal descriptions of targets or general environmental-political goals, which should be attained with the quality targets, can be given.

2.2.12 Section “Ancillary Conditions“

Here further information and limitations of the scope and context of validity of the target values (year of the derivation, act, etc.) can be entered in a structured manner.

To add information on “Ancillary Conditions“, the corresponding link in the right bar has to be clicked on; this will create a new entry line.

The screenshot shows a web browser window with the URL <https://webetox.uba.de/webETOX/private/basis/ziel/save.do>. The page content is as follows:

- Derivation Method (English)**: A large empty text input field.
- Note**:
 - Note (German)**: A large empty text input field.
 - Note (English)**: A large empty text input field.
 - Zielbeschreibung (German)**: A large empty text input field.
 - Zielbeschreibung (English)**: A large empty text input field.
- Ancillary Conditions**:
 - A dropdown menu is open over the 'Year of Derivation' column, listing: Year of Derivation, Status of derivation, Peer review, Law, Area of application, Nutzungsabgrenzung.
 - Table with columns: Ancillary Conditions Type, Ancillary Conditions (German), Ancillary Conditions (English), (delete this row).
 - Row 1: Year of Derivation, 1999, 1999, [icon].
 - Row 2: Remark (German), Remark (English), (delete this row).
- Metadata:
 - Project: UBA
 - Prepared by: UBA_SCHUDOMA
 - Erstellung: 31. 12. 1900, 00:00:00
 - Data Status: public
 - Changed by: UBA_SCHUDOMA
 - Letzte Änderung: 31. 12. 2003, 00:00:00
- save** button.

2.2.13 Section “Monitoring (Methodical instructions)”

In the section “Monitoring“, e.g. the method of analysis for the substance which was stipulated by the legislator and which the corresponding target value refers to, shall be captured. In the course of this, the method of sampling, extraction and analysis shall be entered.

To add information on “Monitoring“, the corresponding link in the right bar has to be clicked on; this will create a new entry line.

The classifying terms can be chosen from the selection lists of the fields in the column “...term“ and the corresponding method description including information on the applicable norm can be entered right beside in the fields of the column “Content“.

2.2.14 Administrative Data

No entries shall be made under administrative data. The entries are automatically generated by the system. Administrative data are not shown in the public view.

Project

Here the name of the project, which was registered by the user during login, is automatically entered.

Data status

Project, verification, intern, public

Prepared by / Last modified by

Here the user from the login is automatically entered.

Created / Last modified

Both date fields are automatically filled in.

2.3 Entry of organisms

The entry mask for new organisms to be recorded can be called up via the button “New“ in the search mask “>Organism“.

To add information on “Organism name“, (“Organism number“), “Taxonomic group“ and “Organism ecology“, the corresponding link in the right bar has to be clicked on; this will create a new entry line (Picture 10).

As a minimum requirement the scientific name of the species or at least an ETOX_Organism name, if the publication of an ecotoxicological test result did not specify the scientific name, as well as a collective name (e.g. fish) has to be given.

The screenshot shows the ETOX web interface. The browser address bar displays the URL: https://webetox.uba.de/webETOX/private/basics/organismus/request.do?event=insertRequest. The page title is "ETOX: Information System Ecotoxicology and Environmental Quality Targets". Below the title, there are links for "Query", "login", "logout (schudoma - UBA_426)", "Mater Data / Administration", and "German".

The left sidebar contains the following navigation links:

- Query
 - Effect Data
 - Quality Target
 - Organism
 - Substance
 - Reference
 - Project
- Contact
 - Email
- Disclaimer
- Downloads
 - ETOX-Info
 - Glossary
 - Handbook
- Links
 - other pages
 - Publications
- other Sources
 - Umweltbundesamt

The main content area has a search bar and several sections:

- Organism**: Includes "Identification No" and "Taxonomic Level" (dropdown menu).
- Organism Name**: A table with columns: "Notation (German)", "Notation (English)", "Name (preferred)", "Organism Name Typ", and "(delete this row)".
- Taxonomie**: Includes "Parent" (input field).
- Organism Ecology**: A table with columns: "Notation (German)", "Notation (English)", "Organism Ecology Type", and "(delete this row)".
- Organism No**: A table with columns: "Notation", "Organism No Typ", and "(delete this row)".
- Administration Data**: A table with columns: "Project", "UBA_426", "Availability", and "Project".

A "save" button is located at the bottom of the form.

The right sidebar contains the following links:

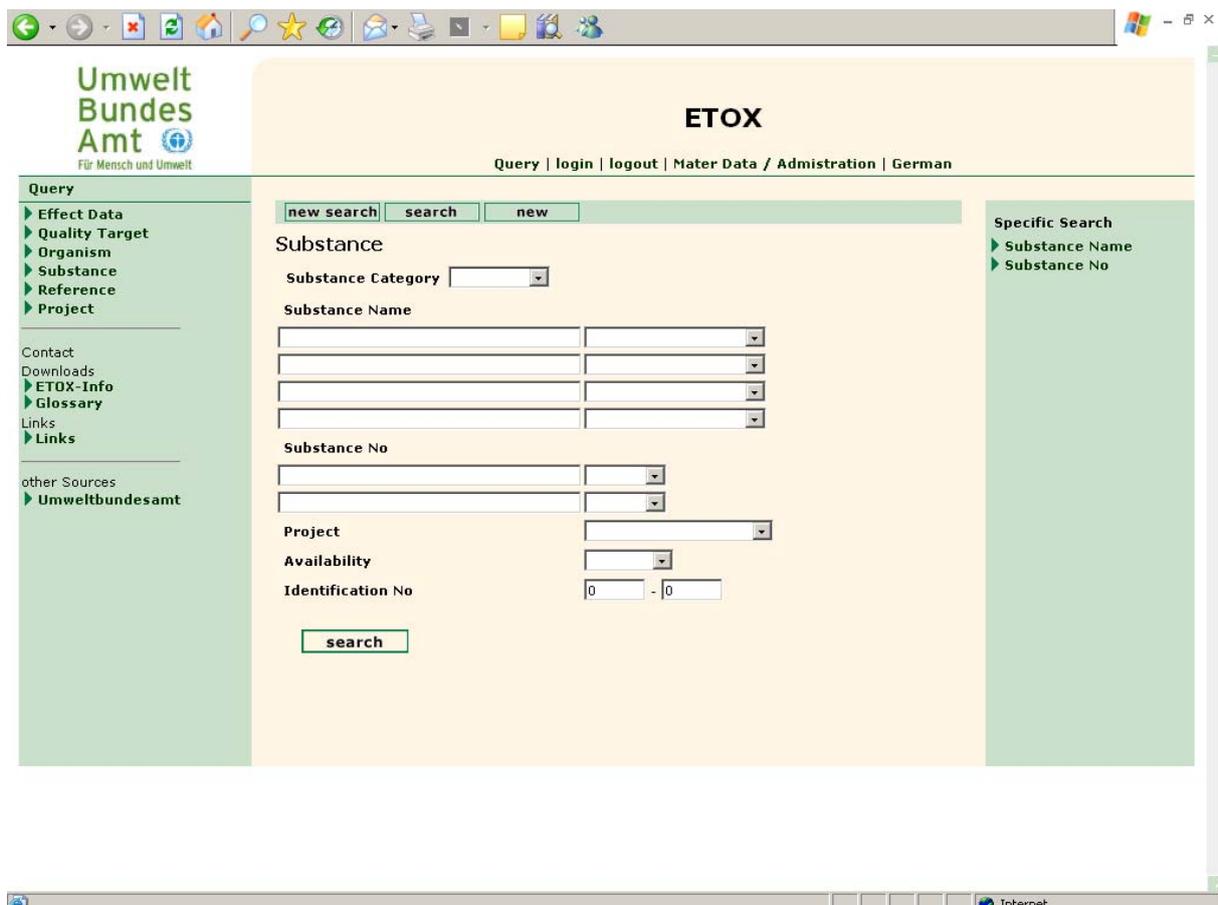
- add
 - Organism Name
 - Organism No
 - Organism Ecology
 - Organism Group

Picture 10: Entry mask organism

2.4 Entry of Substances

The entry mask for new substances or quality target parameters to be recorded can be called up via the button "New" in the search mask ">Substance". To add information to "Substance Name" and "Substance Number" the corresponding link in the right bar has to be clicked on; this will create a new entry line (Picture 11). As a minimum requirement "Substance Type" (mandatory field) and a "Substance Name" (scientific substance name, an ETOX-substance name, or active ingredient name) have to be entered. In case of pesticides the name of the active ingredient (e.g. 2,4-D-sodium salt) should preferably be chosen. Under "Substance category" it should be entered, whether the entry is about a substance (individual ingredient or component-substance like for example preparation, substance mixture etc.) or a parameter (quality target parameter e.g. pH-value). After revision of the existing substance catalogue it is intended to have a differentiation between individual ingredients and component-substances.

A pre-search in the GSBL-Database (">GSBL") on substance identity and transfer of the information retrieved is available internally to the UBA only.



The screenshot shows the ETOX web application interface. At the top left is the logo of the Umwelt Bundes Amt (Umwelt Bundes Amt) with the tagline "Für Mensch und Umwelt". The main header area contains the title "ETOX" and navigation links: "Query | login | logout | Mater Data / Administration | German". Below the header, there are three tabs: "new search", "search", and "new". The "new search" tab is active. The main content area is titled "Substance" and contains several input fields and dropdown menus:

- Substance Category:** A dropdown menu.
- Substance Name:** Three input fields with dropdown menus on the right.
- Substance No:** Two input fields with dropdown menus on the right.
- Project:** A dropdown menu.
- Availability:** A dropdown menu.
- Identification No:** Two input fields with a minus sign between them.

At the bottom of the form is a "search" button. On the right side of the interface, there is a "Specific Search" section with two links: "Substance Name" and "Substance No". On the left side, there is a "Query" menu with several options: "Effect Data", "Quality Target", "Organism", "Substance", "Reference", "Project", "Contact", "Downloads", "ETOX-Info", "Glossary", "Links", "other Sources", and "Umweltbundesamt".

Picture 11: Entry mask substance

2.5 Entry of References

The entry mask for new literature sources to be recorded can be called up via the button “New“ in the search mask “>Reference“. The encoding of information on literature is depicted in Picture 12; the input requirement for the individual fields is described in more detail in the text below.

The screenshot shows a web browser window with the URL <https://webetox.uba.de/webETOX/private/basics/literatur/request.do?event=insertRequest>. The page title is "ETOX: Information System Ecotoxicology and Environmental Quality Targets". The header includes navigation links: "Query | login | logout (schudoma - UBA_426) | Mater Data / Administration | German".

The left sidebar contains a menu with the following items:

- Query
 - ▶ Effect Data
 - ▶ Quality Target
- ▶ Organism
- ▶ Substance
- ▶ Reference
- ▶ Project

Below the menu are sections for "Downloads" (ETOX-Info, Glossary, Handbook), "Disclaimer" (Disclaimer), "Contact" (Email), "Links" (Publications, other pages), and "other Sources" (Umweltbundesamt).

The main content area is titled "Reference" and contains the following form fields:

- search
- Identification No
- Author
- Year
- Title
- Journal (dropdown menu)
- Volume
- Pages
- Source
- Location
- Standard Test
- OESA Reference No
- Copyright (dropdown menu, currently set to "Intern")
- File (input field with "Durchsuchen..." button)

Below the form is the "Administration Data" section:

Project	UBA_426	Availability	Projekt
---------	---------	--------------	---------

A "save" button is located at the bottom of the form.

Picture 12: Entry mask “Literature“

Autor: Example for the entry of authors: Crommentuijn, T., Polder, M. D., Sijm, D., de Bruijn, J. H. M., van de Plassche, E. J.

Year: Year of publication

Titel: Specific rules with regards to capitalization within the field "Title" have not been laid down for English titles yet. Capitalization in English titles should be corresponding to the way it is given in the original source.

Journal: Please select the journal from the selection list. If a journal is not listed, please contact the database administrator and provide the short and long denomination.

Band: Volume of the journal. Please do not enter any special symbols like e.g. () [].

Pages: Example page numbers 123-127

Source: In the field "Source", additional bibliographical information in case of monographs like place of publication and total number of pages are entered. If the quoted source is actually a compendium with different essays, reports etc. of different authors, the information on the individual essays are saved in the fields "Author, Year, Title, Pages", and in the field "Source" the names of the publishers of the compendium, colon, title of the compendium, dot place of publication, comma, total number of pages are entered in this sequence and way.

Location: Here the location in the UBA-library can be entered.

Standard: No entry is required in this field. The signature of the standards (e.g. EPA-660/3-75) that was assigned to the literature source is automatically entered.

Substance testing / Quality target: "Substance testing" means the source contains ecotoxicological effect data. "Quality target" indicates the source contains target values.

Oesa Reference: No entry is required (Reference number of the former database OESA).

Copyright: Release status of the data file saved under "file".

File: Under file a text file, PDF-file or another data type can be loaded onto the server. It should be noticed, that in "Copyright" project (only in project) or internal (UBA-internal) has to be selected. The entry public may only be chosen if the content of the data file may be to everyone's disposal/accessible to everyone.

2.6 Maintenance of the master data

Modifications and additions in the section "Master data" of the database can only be performed by database administrator.

The contents of the selection lists in the entry fields are kept in ETOX as master data in individual tables. The contents of the master data are accessible to all users/can be viewed by all users.

From the entry-site/entry-page you can get to the page with the master data tables via the link "Master data" (Picture 1). In some of the substance data tables a description or definition of the entries can be found.

2.7 Administration

The registration of new users and projects is restricted to the database administrator.

3 References

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