
ETOX: Information System Ecotoxicology and Environmental Quality Targets

Information on ETOX

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0 Foreword

With the information system ETOX of the Federal Environmental Agency a system has been made available, in which comprehensive information on the effects of chemicals on living organisms of aquatic and terrestrial ecosystems as well as quality targets (e.g. limit- and guidance values) can be searched in a structured way.

The documentation of national and international limit- and guidance values for surface waters and soils contain in-depth information on the legal status, scope of validity, protected assets, as well as description of the method of derivation of the corresponding values.

Currently the databank ETOX contains information on about 30,000 effect data from the aquatic field and about 5000 from the terrestrial field. Furthermore approximately 3500 national and international guidance-/limit values for the media water and soil have been documented.

The information on effect data, quality targets etc. have been compiled with greatest diligence and care. However we cannot guarantee that it is error-free and do not assume liability for direct or indirect damages. The Federal Environmental Agency is not liable for any conclusions drawn from, or decisions or measures taken based on information from the databank ETOX. The responsibility for this is entirely incumbent upon the user.

The data pool of ETOX has increased over several consecutive R+D-projects. The data pool is oriented towards substances that are relevant for the development of environmental criteria for the aquatic and terrestrial fields.

ETOX does not claim to document all effect data as well as target values for substances. General information on substances may inter alia be retrieved from the GSBL – Gemeinsamer Stoffdatenpool Bund/Länder (Joint Substance Data Pool Federation/Länder) <http://www.gsbl.de/> and further ecotoxicological effect data can also be researched in the databank ECOTOX by the US EPA <http://www.epa.gov/ecotox>.

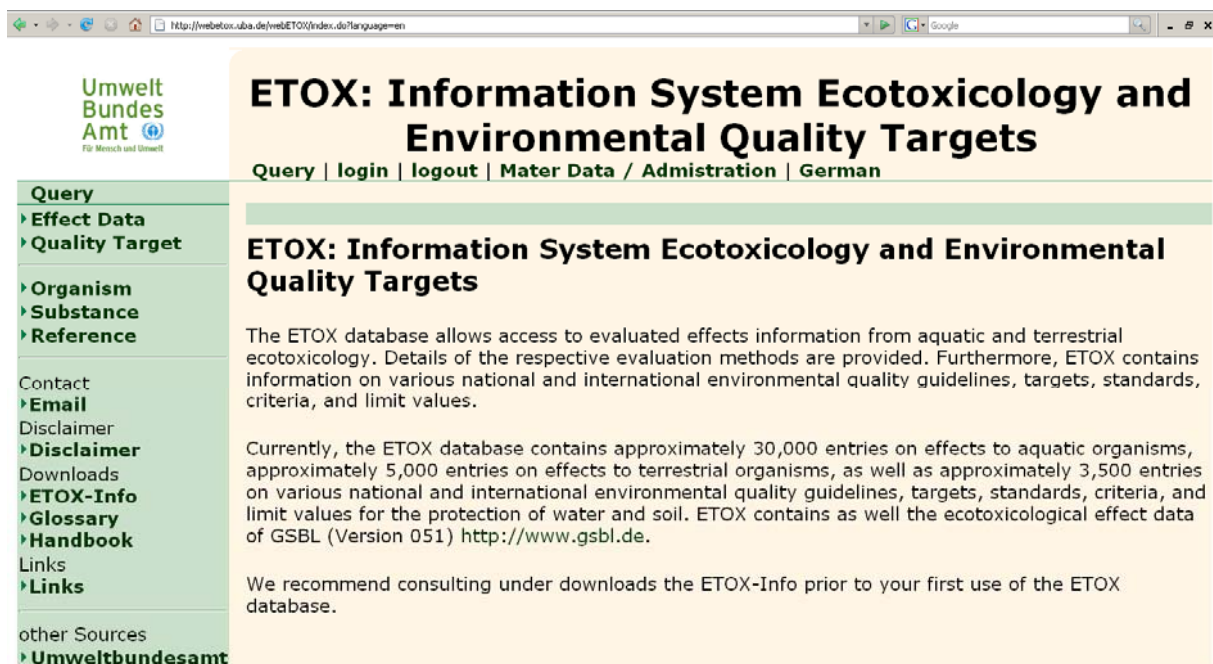
1 Queries in the databank ETOX

Searching effect data and quality targets in ETOX does not require any registration. However after successfully registering via the button „log in“, a registered user can call up e.g. the forms for data entry.

Via „Master data“ all users can view further information on the entries in the selection boxes of the search masks. The button „English/German“ serves to change between display in German and English language.

The choice of language should be made before the databank is used, as switching e.g. during a query, might result in errors in the language display of the interface or selection lists. Even in the English setting however some contents of records, i.e. detailed information, may still be in German. All selection lists and master data tables are available in both German and English. Information on language setting in browsers can be found in Chapter 2.1.

Access to the search of ecotoxicological test results takes place from the home-page of ETOX via the link „>Test“; the search of information on German and international target values (e.g. limit- and guidance values) is accessed via the link „>Quality target“ (Picture 1). After clicking on the corresponding button with the left mouse button, the pertaining search mask opens.



Picture 1: Home page

By clicking on the links „>Organism“, „>Substance“ or „>Literature“ you are transferred to the search masks to perform queries in the organism-, substances- and literature catalogue respectively of the databank ETOX. Searches on tests or quality targets cannot be performed in these masks.

Under „>Glossary“, technical terms, that are used in the databank and in the records, are explained. By clicking on the link „>Handbook“, the technical handbook to ETOX can be opened. It provides comprehensive descriptions of the search masks and the conventions for data entry.

1.1 General Guidelines for Searches

There are several options to enter search terms (Picture 2). In the case of fields, where the search term can be entered via keyboard, it is possible to search with the aid of so-called wildcards * before and/or behind the search term. In selection boxes searches are only possible with the entries from the selection list. If several lines are available for a search category e.g. substance name, the entries are connected for the search via „OR“. The entries of different search categories are connected via „AND“. This means for example that if substance name and substance number do not correspond, the search is unsuccessful. A query should therefore only be performed with substance name or substance number (CAS number).

For substance name, substance number, organism name, and reference a pre-search on the entries is possible under “Specific Search” (right bar). By clicking on the desired entry from the hit-list of the pre-search, the search-term is transferred into the search mask.

The query is performed by clicking on the button „Search“. The search results are displayed in the form of hit-lists (Picture 3). With the button „New Search“, the entries of all fields are erased.

The screenshot displays the ETOX search interface. At the top, the logo for 'Umwelt Bundes Amt' is visible. The main header reads 'ETOX: Information System Ecotoxicology and Environmental Quality Targets'. Below this, there are navigation links for 'Query', 'login', 'logout', 'Master Data / Administration', and 'German'. The search area is divided into several sections: 'new search' and 'search' buttons, a 'Test Data' section with multiple input fields and dropdown menus for 'Substance Name', 'Substance No', 'Habitat Type', 'Effect', 'Effect Measurement', 'Standard Test', 'Endpoints', 'Test Medium', and 'Test Evaluation', and a 'Specific Search' sidebar on the right with options for 'Substance Name', 'Substance No', 'Organism Name', and 'Reference'. The browser address bar at the top shows the URL 'http://webetox.uba.de/web/ETOX/public/search/test/open.do'.

Picture 2: Search mask for Effect Data

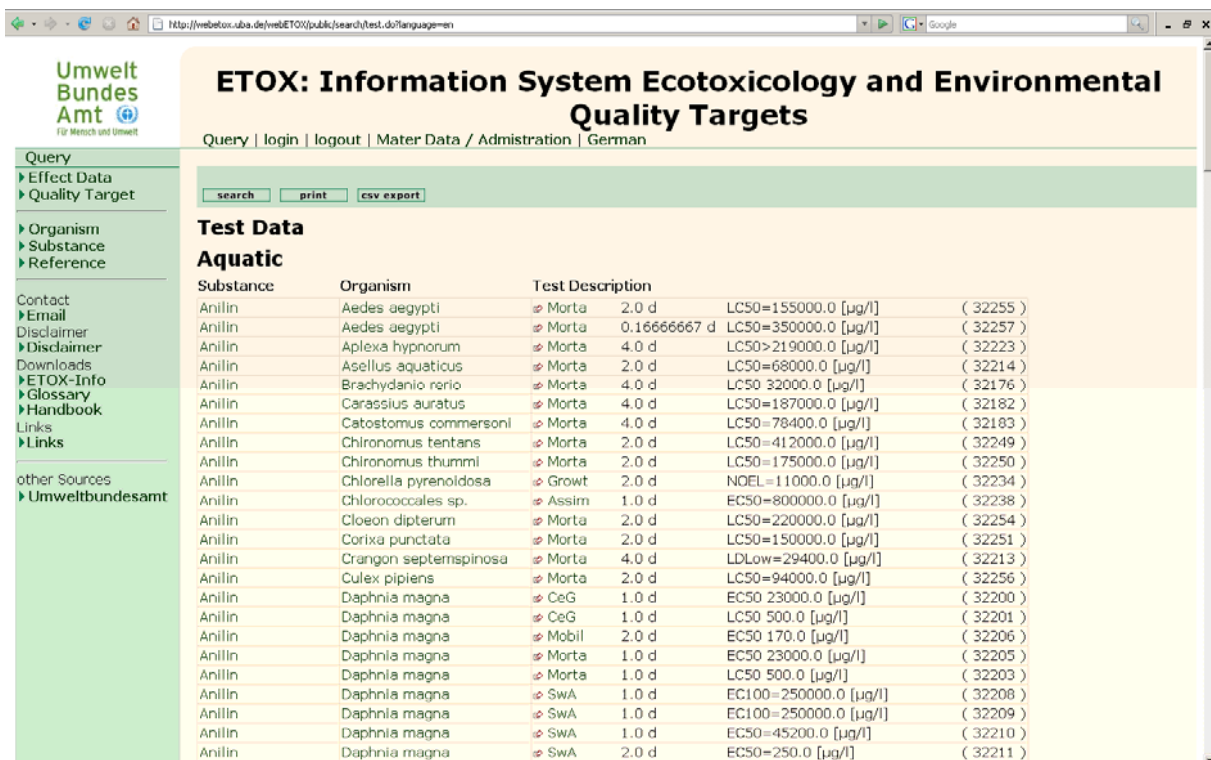
1.2 Layout of the Hit-list for „Test“

The button „Search“ in the headline of the hit-list transfers you back into an empty search mask (Picture 3). Via the button „Print“ an expanded overview-table (rft-file) can be opened, printed or saved. To export the table as text file with field separators, click on the button „csv export“. The hit-list displays first the aquatic effect data followed by test data on soil organisms.

The column **Substance** provides the substance name or chemical name, that is preferred in ETOX of the test substance. By clicking on the substance name information on the substance identity like synonyms and substance number can be called up.

The column **Organism** gives the ETOX-preferred organism name (in general the scientific name) for the organism that was used in a test. Clicking on the organism name will call up information on further names, taxonomy or general ecological information on the test organism.

By clicking on the information in the column **Test description** of a record, detailed information can be called up for it.



The screenshot shows the ETOX website interface. The main title is "ETOX: Information System Ecotoxicology and Environmental Quality Targets". Below the title, there are buttons for "search", "print", and "csv export". The table below is titled "Test Data Aquatic" and contains the following data:

Substance	Organism	Test Description
Anilin	Aedes aegypti	Morta 2.0 d LC50=155000.0 [µg/l] (32255)
Anilin	Aedes aegypti	Morta 0.16666667 d LC50=350000.0 [µg/l] (32257)
Anilin	Aplexa hypnorum	Morta 4.0 d LC50>219000.0 [µg/l] (32223)
Anilin	Asellus aquaticus	Morta 2.0 d LC50=68000.0 [µg/l] (32214)
Anilin	Brachydanio rerio	Morta 4.0 d LC50 32000.0 [µg/l] (32176)
Anilin	Carassius auratus	Morta 4.0 d LC50=187000.0 [µg/l] (32182)
Anilin	Catostomus commersoni	Morta 4.0 d LC50=78400.0 [µg/l] (32183)
Anilin	Chironomus tentans	Morta 2.0 d LC50=412000.0 [µg/l] (32249)
Anilin	Chironomus thummi	Morta 2.0 d LC50=175000.0 [µg/l] (32250)
Anilin	Chlorella pyrenoidosa	Growt 2.0 d NOEL=11000.0 [µg/l] (32234)
Anilin	Chlorococcales sp.	Assim 1.0 d EC50=800000.0 [µg/l] (32238)
Anilin	Cloeon dipterum	Morta 2.0 d LC50=220000.0 [µg/l] (32254)
Anilin	Corixa punctata	Morta 2.0 d LC50=150000.0 [µg/l] (32251)
Anilin	Crangon septemspinosa	Morta 4.0 d LDLow=29400.0 [µg/l] (32213)
Anilin	Culex pipiens	Morta 2.0 d LC50=94000.0 [µg/l] (32256)
Anilin	Daphnia magna	CeG 1.0 d EC50 23000.0 [µg/l] (32200)
Anilin	Daphnia magna	CeG 1.0 d LC50 500.0 [µg/l] (32201)
Anilin	Daphnia magna	Mobil 2.0 d EC50 170.0 [µg/l] (32206)
Anilin	Daphnia magna	Morta 1.0 d EC50 23000.0 [µg/l] (32205)
Anilin	Daphnia magna	Morta 1.0 d LC50 500.0 [µg/l] (32203)
Anilin	Daphnia magna	SwA 1.0 d EC100=250000.0 [µg/l] (32208)
Anilin	Daphnia magna	SwA 1.0 d EC100=250000.0 [µg/l] (32209)
Anilin	Daphnia magna	SwA 1.0 d EC50=45200.0 [µg/l] (32210)
Anilin	Daphnia magna	SwA 2.0 d EC50=250.0 [µg/l] (32211)

Picture 3: Hit-list for Effect Data

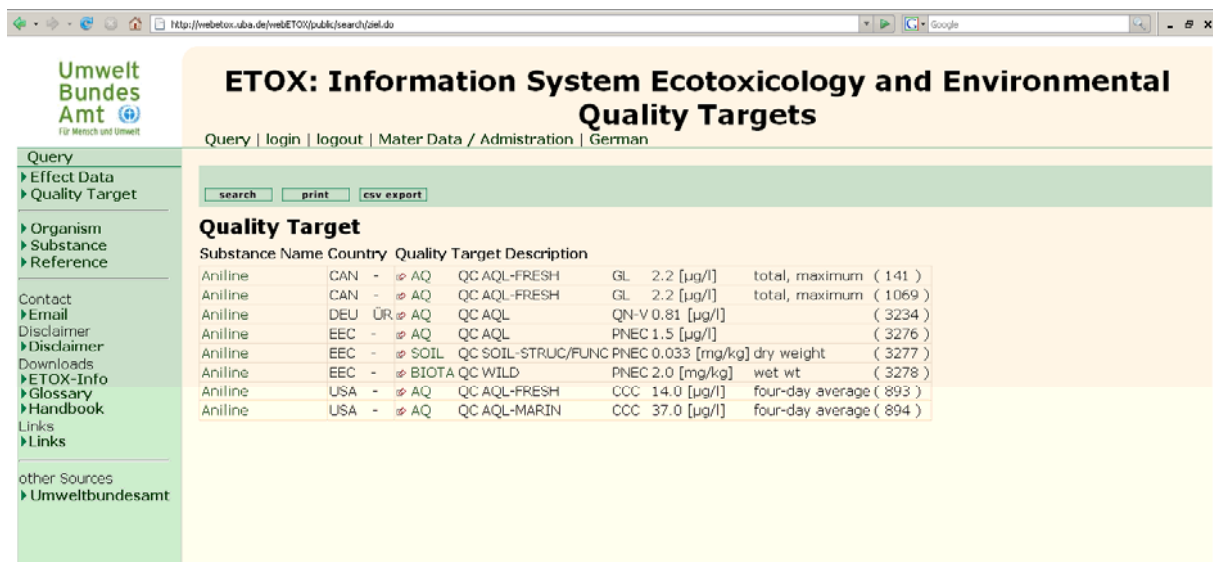
1.3 Layout of the Hit-list for „Quality Target“

In the column **Substance name** the ETOX-preferred substance name or parameter name for a target value (Picture 4) is used. By clicking on the substance name information on its identity like synonyms and substance number can be called up.

Parameter names are e.g. AOX, pH, temperature or turbidity.

The column **Nation/Land** shows the abbreviation of the corresponding nation state or the geographical region as well as - if necessary - also the Federal land.

By clicking on the information of a record in the column **quality target description**, detailed information for this record can be called up.



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

search print csv export

Quality Target

Substance Name	Country	Quality Target	Description
Aniline	CAN	- AQ	QC AQL-FRESH GL 2.2 [µg/l] total, maximum (141)
Aniline	CAN	- AQ	QC AQL-FRESH GL 2.2 [µg/l] total, maximum (1069)
Aniline	DEU	ÜR AQ	QC AQL QN-V 0.81 [µg/l] (3234)
Aniline	EEC	- AQ	QC AQL PNEC 1.5 [µg/l] (3276)
Aniline	EEC	- SOIL	QC SOIL-STRUC/FUNJC PNEC 0.033 [mg/kg] dry weight (3277)
Aniline	EEC	- BIOTA	QC WILD PNEC 2.0 [mg/kg] wet wt (3278)
Aniline	USA	- AQ	QC AQL-FRESH CCC 14.0 [µg/l] four-day average (893)
Aniline	USA	- AQ	QC AQL-MARIN CCC 37.0 [µg/l] four-day average (894)

other Sources
Umweltbundesamt

Picture 3: Hit-list for Quality Targets

2 Browser Settings

2.1 Language Settings

The ETOX website and the selection lists are available in both German and English. For proper display of ETOX on the screen, the preferred language should be set for example in MS Internet Explorer in the menu Extras and Internet options (Picture 5).

2.2 Browser Functions, Other

In some cases e.g. more extensive searches, use of the back-function of the browser, or switch between German and English language, it may be required to refresh the display-page, as the proxy-server sometimes displays older pages, that had been called up before.

If ETOX has not been used over a period of 15 min., ETOX has to be re-started as the connection was automatically terminated by the server.

3 Cooperation partners

The databank ETOX enables cooperation partners a project-bound data entry. Subsequently and after an approval process these data can be released for public use and are then available to everyone for research.

Data registration of effect data and target values for approximately 80 substances will be performed in the frame of a project that is financed by the German Working Group on water issues of the Federal States (Länderarbeitsgemeinschaft Wasser - LAWA) in the course of the years 2005-2006. A follow-up project will start in 2008.

Furthermore maintenance and addition of the Canadian Environmental Quality Guidelines in ETOX a cooperation is planned with Environment Canada. Information on the Canadian Environmental Quality Guidelines can be found on the internet under <http://www.ec.gc.ca/ceqg-rcqe>.

4 Short-Description

Databank name	ETOX
Access	<ul style="list-style-type: none">▪ Internet http://webetox.uba.de/webETOX
Databank content	<ul style="list-style-type: none">▪ Data on the effects of chemicals on water- and soil organisms▪ Quality target surface waters and soils (guidance- and limit values)
Content of the data records	<ul style="list-style-type: none">▪ Effect data (detailed description of the performance and evaluation of the test, rating of the quality of the effect data compared to standard test guidelines)▪ Quality targets (Nation, responsible institution, protected assets, usage reference, instructions on the procedure for the monitoring in the environment, description of the basis and method of derivation)▪ Chemicals (main name, synonyms, CAS-No., sum formula)▪ Organisms (species name, taxa, German and English synonyms)▪ Literature (bibliographic information, like authors, year, title, journal)
Geographical coverage	International
Actualization	Irregularly in the frame of F+E projects and other projects
Languages	German / English
Databank developer	Federal Environmental Agency (Umweltbundesamt (UBA)), Berlin, Germany
Host	Federal Environmental Agency
Databank design	Relationale MS SQL 2000-Server Datenbank WWW-Interface in ASP (Active-Server-Pages, programming in JavaScript)
Retrieval language	Standard Query Language (SQL)
Access-conditions	Searches are available for free worldwide to everyone with WWW-access
Remarks	-