

ECOTOX ASCII Download Data Structure Documentation ECOTOXicology Database System Version 5.0

Prepared for

U.S. Environmental Protection Agency (EPA)
Office of Research and Development (ORD)
Center for Computational Toxicology and Exposure (CCTE)
Great Lakes Toxicology and Ecology Division (GLTED)
Duluth, Minnesota

By

General Dynamics Information Technology (GDIT)
Duluth, Minnesota
Contract: SMAVCS4 68HERD24A0001
Task Order: 68HERD24F0089, CCTE TO11
Task 1 ECOTOX Knowledgebase and Supporting
Applications

September 2024

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INTRODUCTION

The entire ECOTOX data set is available for downloading as pipe (|) delimited ASCII data files. These files can be imported into other databases and with some effort can be reconstructed into a working database.

The supporting data structures for ECOTOX have changed to support a redesigned, unified data entry system. This document provides a description of the revised data structures.

For more information on the ECOTOX database contact:

ECOTOX Support

U.S. Environmental Protection Agency (EPA)

Office of Research and Development (ORD)

Center for Computational Toxicology and Exposure (CCTE) Great Lakes Toxicology and Ecology Division (GLTED)

6201 Congdon Boulevard

Duluth, Minnesota 55804

Telephone: 218-529-5225

Fax: 218-529-5003

E-mail: ecotox.support@epa.gov

OVERVIEW OF STRUCTURE CHANGES

Both the AQUATIC (AQUIRE) and TERRESTRIAL (TERRETOX) data sets have been combined into a single, unified database (ECOTOX).

Key Design Elements

- Aquatic and Terrestrial data may be filtered by using the ORGANISM_HABITAT field on the TESTS table.
 - Water (Aquatic)
 - Soil (Terrestrial)
 - Non-Soil (Terrestrial)
- Up to three (3) Endpoint/BCF values are stored on each RESULTS record to accommodate multiple concentration types. Similarly up to three dose concentrations are stored on each DOSES record.
- Terrestrial Dose-Response detail data (endpoint = NR) has been pulled out of the RESULTS table. A single summary result record now exists, with detail data stored explicitly in separate dose-response data tables.
- Individual comment fields are now provided for nearly every data element rather than the encoded general comment fields used previously. These will be valued for newly entered data. Historical remarks data was generally NOT parsed out into their respective individual fields during data conversion and remain in one of the general comment fields (ADDITIONAL_COMMENTS, OTHER_EFFECT_COMMENTS, etc). Additional parsing of historical remarks MAY occur in a future release. To indicate that a general comment was encoded for historical data, a single slash is now stored in the designated comment field for that data element rather than stored as part of the data value itself. (i.e. Endpoint: LC50/ = Endpoint: LC50, Endpoint_comments: /)
- More data fields are now parsed out into explicit components and operators. i.e. Mean_op, Mean, Min_op, Min, Max_op, Max.
- Water chemistry and other media characteristics are now associated with the RESULTS, but are stored in a separate MEDIA_CHARACTERISTICS table in a one-to-one relationship.
- Some renumbering of record numbers was required to avoid overlap in combining the databases.
 - Aquatic data (AQUIRE): Since the AQUIRE database records were essentially a result record, the historical AQUIRE_LOCATION number was retained as the ID in the RESULT table. A new, system generated, sequential TEST ID was created to store test-specific information. To determine the old AQUIRE_LOCATION(s) for a specific test:

```
SELECT RESULT_ID FROM RESULTS WHERE TEST_ID = ?
```

- Terrestrial (TERRETOX). The historical TEST_RECORD_NUMBER was retained as the ID in the new TESTS table. A new, system generated, sequential RESULT ID was created to store the result-specific information. To determine the historical result number for a given record, refer to the OLD_TERRETOX_RESULT_NUMBER field on the RESULTS table.

ECOTOX Data Tables

- TESTS
 - Information pertaining to the experimental design.
- CHEMICAL_CARRIERS
 - Information pertaining to the carrier and/or positive control chemicals reported for the test.
- RESULTS
 - Information pertaining to the endpoint or non-endpoint result or dose-response summary (also NR endpoint).
- MEDIA_CHARACTERISTICS
 - Water chemistry and media characteristics parameters. 1-1 relation with RESULTS table.
- DOSES
 - Information pertaining to the dose-response dose.
- DOSE_RESPONSES
 - Parent dose response record containing sample size, effect measurement, response site, observation duration, etc.
- DOSE_RESPONSE_DETAILS
 - Detail dose response record, one for each response value by dose.
- DOSE_RESPONSE_LINKS
 - Ties dose response to its NR endpoint result summary record.

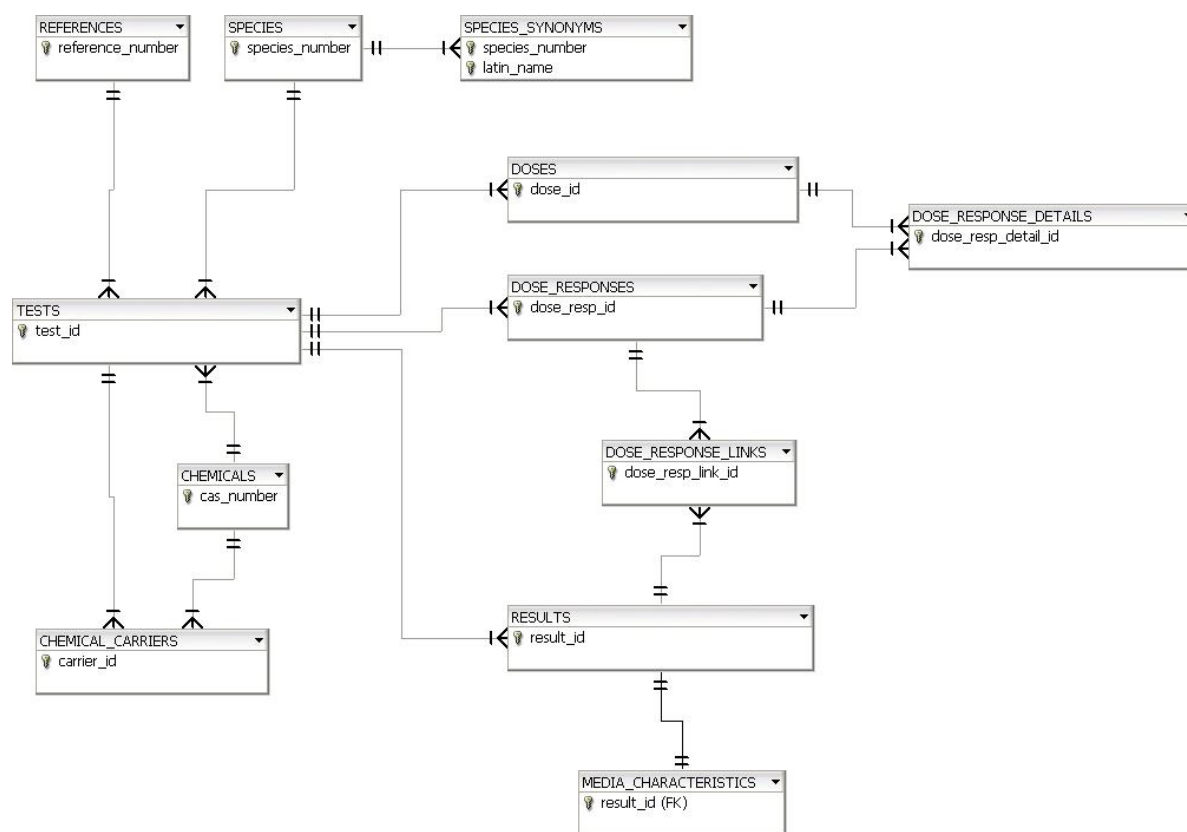
ECOTOX Lookup Tables

- REFERENCES
 - Bibliographic reference information for the test.
- CHEMICALS
 - Lookup table of chemical names by CAS number.
- SPECIES
 - Taxonomic information pertaining to the test species.
- SPECIES_SYNONYMS

- Synonym names for the test species.
- APPLICATION_FREQUENCY_CODES
- APPLICATION_TYPE_CODES
- CHEMICAL_ANALYSIS_CODES
- CHEMICAL_FORMULATION_CODES
- CHEMICAL_GRADE_CODES
- CONCENTRATION_TYPE_CODES
- CONCENTRATION_UNIT_CODES
- CONTROL_TYPE_CODES
- DOSE_STAT_METHOD_CODES
- DURATION_UNIT_CODES
- EFFECT_CODES
- ENDPOINT_CODES
- EXPOSURE_TYPE_CODES
- FIELD_STUDY_TYPE_CODES
- GENDER_CODES
- GEOGRAPHIC_CODES
- HABITAT_CODES
- ION_CODES
- LIFESTAGE_CODES
- MEASUREMENT_CODES
- MEDIA_CHAR_UNIT_CODES
- MEDIA_TYPE_CODES
- ORGANIC_MATTER_TYPE_CODES
- ORGANISM_SOURCE_CODES
- RADIO_LABEL_CODES
- RESPONSE_SITE_CODES
- SAMPLE_SIZE_UNIT_CODES
- SEASON_CODES
- STATISTICAL_SIGNIFICANCE_CODES
- SUBSTRATE_CODES
- TEST_LOCATION_CODES

- TEST_METHOD_CODES
- TEST_TYPE_CODES
- TREND_CODES
- WEIGHT_UNIT_CODES

APPENDIX A: ECOTOX DATABASE DIAGRAM



APPENDIX B: ECOTOX DATA DICTIONARY

See the separate HTML document, [ECOTOX_ASCII_dd.html](#), for detailed metadata information. The comments column contains a mapping/cross-reference to the previous data model. It also includes lookup table references for all foreign key data elements.