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The FACT database: A comprehensive collection of fish acute cell toxicity data

Background & motivation

- **Lack of data overview** slows the adoption of non-animal methods (NAMs).
- Data is scattered across publications, **reported insufficiently** or not accessible to the public.
- We present the FACT database as a platform **to collect and showcase all available fish cell line acute toxicity data**.
- This collection allows for the characterization and better **understanding of the applicability domain** of the assay.

Data workflow for the FACTdb

- Data templates are filled in and submitted by data providers.
- Evaluation and processing is done by Eawag administrators.

Data sharing

- Experimental metadata template
- Cell viability data data template
- Data sharing agreement

Data verification

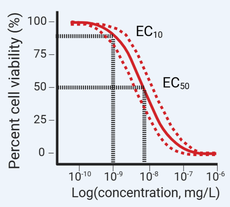
Key inclusion criteria

1. Used a fish cell line
2. Endpoint is cell viability
3. Exposure time ≤ 96 h
4. Confluent monolayer within the 3 days prior to the start of the exposure

Exclusion if
- Key criteria are not met
- Incomplete metadata

Data processing

- **Add chemical properties**: PubChem → CompTox → QSAR Toolbox
- **Assign OECD TG 249 compliance category**: Category I / Category II / Category III
- **Effect modeling and calculation**



Data availability

- Public data → FACTdb. Available to all users at https://factdb.eawag.ch
- Non-public data: Data only for internal research use and Applicability Domain characterization

Data contributions

The FACTdb benefits a broad audience, but is dependent on **your data contributions** to grow and represent available data. New data is added by the administrators at Eawag with the help of two data templates.

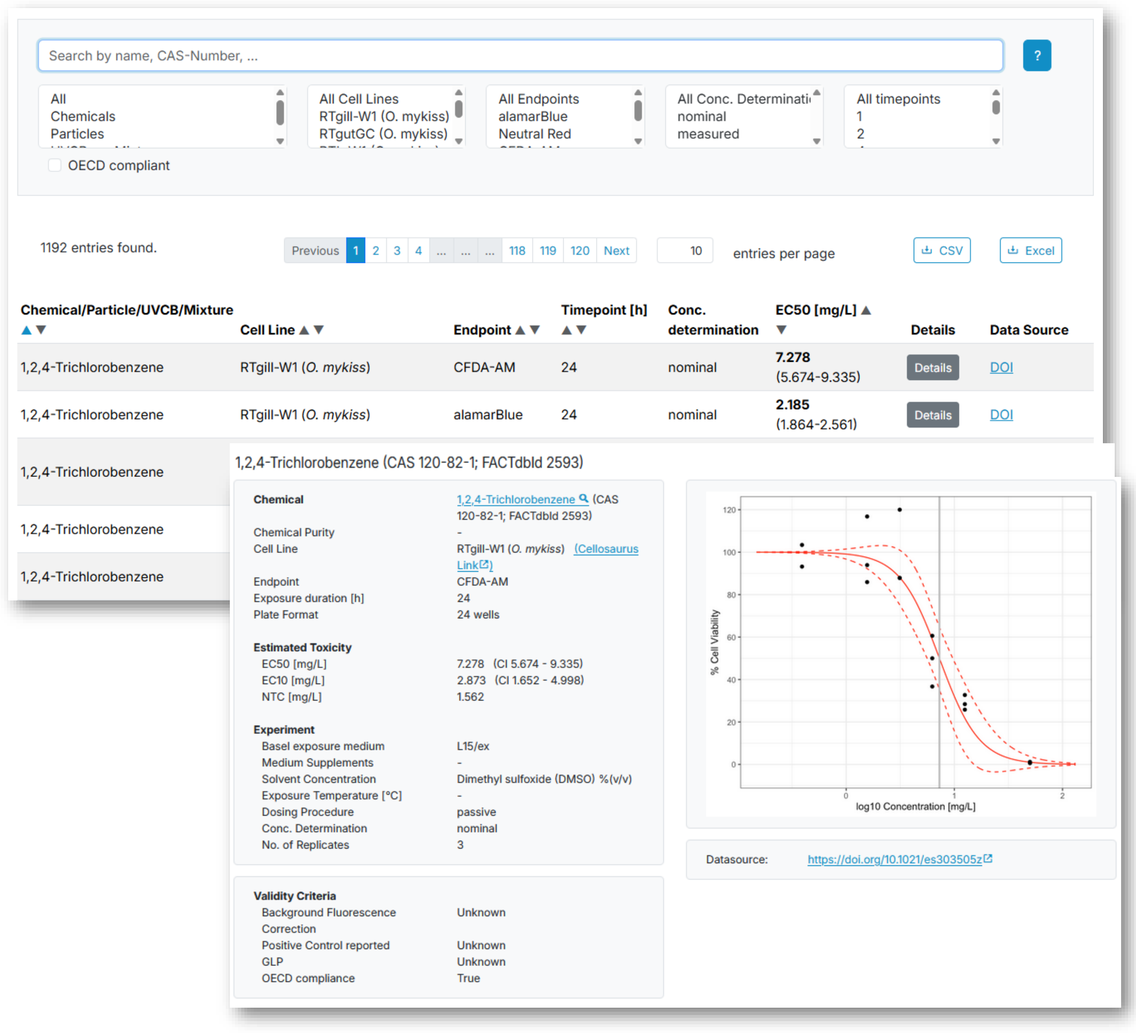
To contribute your data **contact ✉ factdb@eawag.ch.**

Publication

FACTdb is anticipated to be published soon alongside a manuscript (Schür & Revel et al., submitted). Templates will be made available on Zenodo.

User interface

Overview of all available data, allows searching and filtering of entries.



Detailed information for each database entry: Chemical information, experimental metadata, visualization and modeling of data.

Related Poster: The FACT QC-Checklist for data generation & reporting

1.03.P-Tu024 „Checklist-based quality criteria for generating and reporting acute fish cell line data in the FACT database.“

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