Introduction and Aims

The COSMOS DB contains chemical structures, compound records and biological data important for developing computational methods for repeat-dose toxicity for assessing the safety of cosmetic products. Dermal and oral absorption data to address the bioavailability issues are also included.

This poster describes the COSMOS DB and the data content housed in the database. The COSMOS DB is based entirely on open-source technology for its database and cheminformatics library. COSMOS DB provides a Data Entry System (DES) that can be used for data entry as well as in the quality control process.

Data Content

- Chemistry
  - COSMOS Cosmetics Inventory
  - Tox21 inventory [3]
  - US FDA CFSAN CERES public content
- Oral toxicity data*
  - US FDA PAFA
  - US FDA CERES (selected public data)
  - COSMOS oRepeatDose ToxDB
    - US EPA ToxRefDB
    - EU SCCS
    - EU ECHA substance registration database
    - US NTP
- Dermal absorption data
- Oral absorption data

* details are available at poster: COSMOS toxicity data curation (C. Yang et al)

Dermal Absorption Data

- EDETox database: University of Newcastle [4]
- EDETox update and new studies: University of Kent donation [5]
- COSMOS partners’ harvesting of cosmetics ingredients
  - ~163 (of total 464 chemicals) are found in the COSMOS Cosmetics Inventory
  - compiling data on skin metabolites is in progress

References

4. EDETox, University of Newcastle. http://research.ncl.ac.uk/edetox/Freedatedatabase.html

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