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Peer reviewed

Review: Relational Database of Information on Potential Endocrine Disrupters

Reviewed by Dale Stirling
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Relational Database of Information on Potential Endocrine Disrupters.
Leicester, UK: Institute for Environment & Health, University of Leicester,
2002. CD-ROM (Version 1). £450

Recently, there has been increased attention to the potential effects synthetic chemicals have on human and wildlife endocrine systems. These systems are essential elements in the life of multicellular animals and the chance that chemicals may harm hormone receptors or hormone transport mechanisms is of great concern. At this time evidence of endocrine disruption is much stronger for fish and wildlife than in humans. Regardless, much research and publication has occurred since this issue became a red flag issue in the late 1990s.

One of the newest and most innovative endocrine disrupter related resources is the Institute for Environment & Health's (IEH) *Relational Database of Information on Potential Endocrine Disrupters* (REDIPED) which is a CD-ROM-based product that contains information on 79 potential endocrine disrupting chemicals. Chemicals are selected from a main chemical navigation page using a drop-down menu or typing in the name or CAS #. Information for each chemical includes chemical identity (includes CAS #, chemical family names, chemical formula, synonyms, and related compounds), physical properties (includes standard data such as boiling point, flammability, melting point, etc.), volumes (refers to historical and contemporary market volumes from four geographic regions-UK, European Union, USA, and global), uses (relates to the primary or main use of a chemical and also their categorization-agro, consumer, food, industrial, natural, pharmaceutical, or veterinary product), regulations (notes whether the chemical appears on one of five lists of regulated chemicals), sources of exposure (lists ways by which a chemical may be released into the environment), exposure assessment (provides data concerning actual data on human or wildlife exposure or the likelihood of such exposure occurring), environmental accumulation (information on a chemical's potential to accumulate in organisms), environmental degradation (the rate of degradation of a chemical in various environmental media), fate (the environmental compartments in which a chemical or its breakdown products are most likely to occur), and biological activity (QSAR activity, *in vitro* and *in vivo* activity, binding abilities, relative activity, and general toxic effects of

relevance).

Although similar data for tens of thousands of chemicals exist in numerous documents (Merck, Sax, ACGIH, NIOSH, etc.) this database goes beyond standard sources to include extensive review of the literature associated with the 79 chemicals. IEH searched the following databases: Biosis, CA Search, Cancerlit, Embase, Medline, Scisearch, Pascal, and Toxline. IEH used a search word strategy designed to capture essential references for each chemical. The addition of a literature review is what elevates this product to exceptional levels. While there is no substitute for conducting one's own literature searches, this provides an excellent base of comprehensive information for each of the chemicals.

REDIPED was developed to be used with Microsoft® Access software (versions 97, 2000 or 2002) on Microsoft® Windows 95, 95 or 2000 platforms. Installation is intuitive and it is best viewed with a screen resolution of 800 x 600 or 1024 x 768. Interestingly, security is an issue with this product because in order to gain permissions the user must join the REDIPED security workgroup file. By entering REDIDPED via the programs menu the user will automatically be assigned to the REDIDPED workgroup file. In Access 97 and 2000 the user can join the REDIPED workgroup by running the wrkgadm.exe program and select to join the rediped.mdw file. However, if the user opens REDIPED while in the default System workgroup they will not become a member of the REDIPED security workgroup and will therefore, not be able to gain full functionality from the database. In Access 2002 the user can join the REDIPED workgroup by running the Workgroup Administrator program and select to join the Rediped.mdw file. However, if the user opens REDIPED while in the default System workgroup, they will not become a member of the REDIPED security workgroup and will therefore, not be able to gain full functionality from the database. Unlike books on endocrine disrupters, this product is provided to the user as a non-transferable non-exclusive license. Furthermore, IEH retains ownership and all copyright to REDIPED.

IEH provides excellent background information on the database, including extensive descriptions of the development process, type of data provided for each endocrine disrupting chemical, and each field related to chemical identity. Even the introductory material on the background of endocrine disrupters is of scientific journal quality.

This CD-ROM is an important addition to the body of information about endocrine disrupters. There do not appear to be any competing products; therefore this is a resource that has no peers. The only downside is that like most databases it is not updated as frequently as some researchers may

require to keep current with their own research needs. Nevertheless, it is still a timely and powerful research and reference tool. Although its price may preclude individual purchase (purchasers of version 1 qualify for a 50% discount on future updates), it is a worthy addition to the corporate, consulting, or university library. Concern over endocrine disrupters will continue and this product, and its subsequent updates, should serve well the research needs of scientists and environmental professionals. Additional information about REDIPED can be found at <http://www.le.ac.uk/ieh/databases/rediped.html>

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