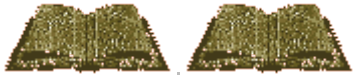
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Book Reviews: Technical Books Section



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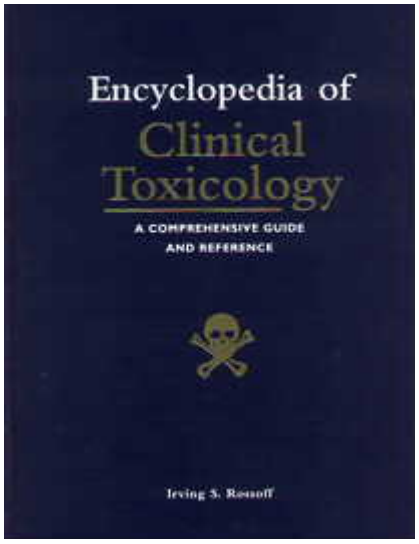
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QUINTESSENTIAL REFERENCE

Encyclopedia of Clinical Toxicology:A Comprehensive Guide and Reference to the toxicology of prescription and OTC drugs, chemicals, herbals, plants, fungi, marine life, reptiles and insect venoms, food ingredients, clothing and environmental toxins, 1st Edition, *by* Irving S. Rossoff DVM, FACVPT. Hard Bound, 8.5" x 11".
CRC Press-Parthenon Publishers, 345 Park Avenue South, 10th Floor, New York, NY 10010, USA, . Publication Date 12/28/2001. xiv + 1507 pages, ISBN 1-84214-101-5 (alk. paper). Price $299.95

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Let me start with some questions. Why does the Federal Aviation Administration recommend pilots not to take Viagra within 6 hours of flying? Or do eggs increase the levels of cholesterol in man? Or how much hydrogen cyanide do we consume in a year? And if you have thought up your answers, here are the correct ones: Federal Aviation Administration is not worried about any possible amorous activities; it simply recommends pilots not to take sildenafil (Viagra), because it causes temporary visual changes in blue/green color perception or increased sensitivity to light, which may be dangerous during flights. Contrary to popular belief, egg yolk does not increase cholesterol levels in man. A large chicken egg consists of 1.7 g **saturated fats**, 0.7 g **polyunsaturated fatty acids**, and 2.7 g **monounsaturated fatty acids**. The latter two are considered to be **cholesterol-lowering** and the ration in the egg of unsaturated to saturated fatty acids is 2:1. And if you are not convinced, how about this fact: Romanians eat 3 eggs/day and have less coronary artery disease than Americans. And as for the last question, an average person eats about 2 pounds of lima beans in a year, which amounts to 40 mg of Hydrogen cyanide. The normal human lethal dose is between 50-100 mg; thus we eat almost a full lethal dose of hydrogen cyanide every year!

View this book on Amazon

Where did I get these facts from? Well, these are not mine; they come straight from the latest book on toxicology written by Irving S. Rossoff. The book is a veritable storehouse of information on all types of poisons. As the sub-title suggests, the poisons include everything from minerals, chemicals, medicines, OTC drugs to marine life, reptiles, venoms and even clothing!

Some Excerpts

The book gives important, "ready-to-assimilate", rare, and often interesting information on almost every drug/poison you can think of. The following information appears on page 512.

HAZEL NUTS
Untoward Effects: A common allergen for **people**, often cross-reacting with ***apples*** and ***potatoes***. In Germany, anti-serum is used to detect its use in ***beer*** manufacturing. Its use is illegal there, but not in the US. ..and the following on page 632
MANTIS SHRIMP
Untoward Effects: A **lobster**-like **shrimp**, reaching upto 8 inches in length, with jack-knife claws and sharp spines projecting from its sturdy tail fin. It will attack **anyone** bothering it. The lacerations caused by its claws and tail have been severe, even cracking the face masks of **divers**. The wounds have developed anaerobic, granulomatous lesions from *Mycobacterium marinum*. ..and the following on page 913
PROPYLENE CARBONATE
Use: Solvent and as a gellant for clays.
Untoward Effects: 100 mg/day/3 days irritant to **human** skin and 60 mg topically on **rabbit** eye is irritant. Can cause necrosis from IM injections in pectoral muscles of **broilers**
LD_{50}, ***rat***: 29 g/kg.

Dr. Rossoff has been collecting rare information on all poisons for almost 60 years now, and has about 100,000 separate folders of information of these poisons. For this book, he has just opened 6000 of these, and the result is this massive tome. One can only imagine the size of the book, if he wished to include all the information available to him.

The information is given in dictionary style. Thus if you have to look for information on, say, *Infliximab*, all you have to do is open the book like a dictionary and find out the entry. Once you reach the entry (on page 551), you are greeted with all the information available in it. For instance on this substance, you find this information:

INFLIXIMAB
=cA2 = Remicade
Monoclonal antibody. Inhibits TNF and used IV in treating Crohn's disease and rheumatoid arthritis.
Untoward effects: Nausea in >15%. Facial flushing, headache, fever sepsis, chills, dyspnoea, hypotension, urticaria, and chest pain also occur. A lupus-like syndrome reported in a treated patient.

You might imagine that this book gives information only on rare and exotic poisons like the ones above, and you would be wrong. The book gives information on all poisons - common and rare. I found interesting pieces of information on such common poisons as Organophosphorus, mercury, arsenic, digitalis and so on. Information on toxicology of commonly used drugs such as Insulin, indomethacin, penicillins etc is also given. The value of the book however lies in information on poisons which are almost impossible to find in other books.

By and large, the information on poisons appears under five sections: Name of the drug; its synonyms; the class of drug, its use and other unique properties; untoward effects, in which are included such information as LD_{50} and so on; and effects on animals. Under the name of many drugs you will see several names starting with the "=" sign. These are the synonyms of the drug. For instance, under the drug ***PACLITAXEL*** (on page 791), you will find this information:

=NSC 125,973 = Taxol

This means that the drug has these two synonyms. It is quite possible, that the user may start his search with the name *Taxol*. If he looks up the main dictionary, he would not find it under T (after *Taxine*, the next entry is *Taxotere*). How does he retrieve his information? The answer lies in the 353 page appendix, which is only devoted to synonyms. All synonyms are listed here. What he does is look up the entry in this section, and he comes up with this information on page 1466:

Taxol -> PACLITAXEL

Neat! The reader now goes to Paclitaxel, and all the information is available.

It is this easy search style, which will make this book really endearing to all.

HIGHLIGHTS

Dictionary style presentation.
1154 pages of informative text.
353 pages of *Alternative Nomenclature* in an Appendix.
Information on more than 6000 poisons.
Such rare information as "convulsive dose in 50% of the population (CD_{50}), Lowest Lethal Concentration (LC_{LO}), Lethal Concentration on 50% of Population (LC_{50}), Lethal Dose in 50% of population (LD_{50} or DL_{50}), Lowest Toxic Dose reported (TD_{LO}) and average toxic dose in 50% of the population (TD_{50}), wherever available.

Historical and other interesting tidbits given [Examples: *..the so-called "wallpaper poisoning", due to its arsenic pigments, were actually cases of aspergillosis and penicilliosis (page 105); ..bats are the most susceptible mammals to DDT toxicity (page 332); and ..in 1986, 140 people in Minnesota, South Dakota, and Iowa became ill from eating "gullet-trimmed meat" in their hamburgers, because these trimmings included thyroid glands! (page 511)*]

What I found very interesting were some entries on exotic poisons such as Jojoba bean (page 580), Kushtas (page 590) and Mu Tong (page 726). There are innumerable other entries on other exotic poisons. Try finding these poisons in traditional toxicology books, and you will realize the importance of this book. For the curious, I will reproduce here the information which appears under the last mentioned poison - Mu Tong.

MU TONG
A Chinese herbal remedy
Untoward effects: Nephrotoxicity is due to its **aristolochic acid** (q.v.) content. Toxicity varies when it is derived from different plants.

Information on another Chinese remedy appears on page 621

LU-SHEN-WAN
A Chinese herbal preparation
Untoward effects: Like many Chinese herbals, it contains arsenic trioxide, causing chronic poisoning in many people in Singapore.

Entries are not of uniform size. They vary from short ones - as the ones mentioned above - to really long ones, such as on Phenytoin, which runs in 5 pages (pages 848 till 852).

Some entries are on chemicals, which you will not find anywhere else. Have you ever heard of a death by Argon? I hadn't - till I read this book. This is what the book has to say on page 103.

ARGON
Untoward effects: Although an inert gas, it has been used for euthanasia of cats and dogs, simply by replacing the air (Oxygen) in a closed chamber. It was the cause of three deaths at an army hospital, where a supplier hooked up an argon tank to the operating room's oxygen line. The patients died of suffocation.

In this book you will read of toxicity of copy paper and copying machines, rice, eggs, jellyfish and jet fuels, ants, apamin (venom of honey bees), liver, and a host of other chemicals, substances and food stuffs, which you never even imagined could be toxic. This book is indeed an eye-opener in this regard.

The book should be useful for all clinical toxicologists who are looking for information on poisons, especially their symptomatology. Researchers, forensic toxicologists, forensic pathologists, undergraduate and postgraduate students of medicine and toxicology and pharmacologists would also find this book very useful.

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