ERDEM Instructions for Processing the SAP Feb 2005 Download

This is supplied as part of the download.

1. The download consists of the Model ERDEM 202Z, built using the ACSL software from Aegis Technology Group, and Compaq Visual Fortran from Hewlett Packard. This is the latest version of the model used for enzyme inhibition.

2. The download also consists of these instructions, and the ACSL Viewer from Aegis Technology Group, which is used to view the code (via the Graphic Modeler) and to run the supplied input command file.

3. The model ERDM202Z works on Microsoft Windows 98, Windows NT 4.0, Windows 2000, and Windows XP. It has not been tested but probably works on Windows ME. You should have at least a 700 MHz processor, and at least 512 megabytes of memory. This takes most of the system resources when running, so close other applications

4. Place the download into your root directory. Double click on it to cause it to execute. It will then set up an ERDEM folder and place eight items in it. The ACSLViewer folder, the ERDM202Z folder, these download instructions, instructions for command file update, description of nomenclature, a rat and a human command file, and the ERDEM Report (excluding enzyme kinetics and dermal exposure to surfaces).

5. Open the ACSLViewer folder and click on the GM folder. Then create a shortcut on your desktop from the file gm.exe and name it ACSL Viewer.(right click on gm.exe and choose create shortcut, then with your mouse, move the new shortcut to the desktop).

6. Double click on the ACSL Viewer icon and then when the screen appears click on the “open” icon. Find the ERDM202Z folder and double click on the file ERDM202Z.GM. This will place the model with all of the compartments and lines between them which represent variables being assigned in one compartment and used in other compartments.

7. To look at model code, double click on a compartment, say SPLEEN and Metabolism. This will display the sub blocks for the SPLEEN and for SPLEEN Metabolism. Double click on the SPLEEN block and then choose edit on the next screen and the code for the Spleen will be displayed, probably in Notepad. The first part of the code is initialization of variables and checking the inputs. The second part of the code is the Derivative section. This section is executed during the integration process. It is executed repeatedly for each time at which values are needed to satisfy the integration procedure. Usually we use Adams-Moulton.

The Gear Stiff algorithm takes too much time and space for models of our size. (There are 18840 state variables-results of an integration process).

8. Note: This is a read only version. If you change the code, nothing will happen.

9. Running the ERDM202Z model is done as follows:

   From the screen after opening the erdm202Z.gm file

   - ❑ Choose the Simulate menu, and click on the Load ACSL option.
   - ❑ After two displayed comments there is an icon just placed on the start bar which has a lightening strike on it.
   - ❑ This is the icon for the RunTime screen.
   - ❑ Click on the icon.
   - ❑ There is a start window. In the Start Window type:
     RUN_RAT_ENZ_CARB.
   - ❑ The model will start running. It is set to run for 60 hours which may be completed in 10 - 30 minutes depending on your computer.
   - ❑ At the completion, some plots are generated and a log file is written.
   - ❑ These plots can be printed.
   - ❑ The log file can be accessed, either from the RunTime screen, or by closing the RunTime screen and accessing the file ERDM202Z.log in the ERDM202Z directory.