
COMPUTER SOFTWARE REVIEWS

CHEMiCALC, The University Companion

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The Chemical Education Bulletin Board, CHEMED-L, allows immediate international exchange. As a result of a recent request I offered to review a Windows based software product called "CHEMiCALC".¹ I am not aware at all of the competition, but this Windows version was easy to install on a IBM compatible 486 computer with Windows.

The program has six modes. The Element Mode gives a database of the periodic table with typical physical properties listed. This also allows comparisons to be made between pairs of elements like Na and Cl. The Formula Mode gives percentage compositions. Calculation gives a rapid answer to the mass in grams of 0.25 mol of $\text{Al}_2(\text{SO}_4)_3$ or the volume (in milliliters) of 0.02 g of methane gas. The formulas are easily written with subscripts. The Reaction Mode will balance reactions, including ionic ones, and gives calculations in different units. The Empirical Formula Mode allows the user to determine the molecular composition of an unknown. Providing one remembers where everything is, the system is superb.

There are always minor frustrations. On page 23 of the manual, there are no instructions on how to calculate the

mass of 25 cm³ of Br_2 , although this is given at a later point. On page 30, the formula of copper sulfate is given as $\text{Cu}_2\text{SO}_4 \cdot 2\text{H}_2\text{O}$. For this user, the equation solver is most impressive and the easiest to use so far. No doubt it can be beaten, but to date the program has always been successful. The crystallographer in me did not like the use of nanometer units for radii; picometers look "nicer".

The best thing for teaching is WYSIWYC—"what you see is what you calculated", a nice product which would be a useful addition to any first-year course, although it might eliminate the need for students to think when solving a chemical problem.

REFERENCES AND NOTES

- (1) CHEMiCALC, the chemistry companion, is available from Chemical Concepts Corp., 912 North Main St., Ann Arbor, MI 48104, USA, Fax: 313-663-7937; E-mail: chm_ramsay@emunix.emich.edu. The program sells for U.S. \$149 plus shipping/handling. Network and multiuser site licences are available.