

NCW 2007: The Many Faces of Chemistry

Career Profile: Chemical Safety Consultant

by Jay A. Young

Describe your present position.

I am a chemical safety consultant.

Did you get to your present position because of your background in chemistry and area of specialization or did life experience(s) take you there?

My parents gave me a Gilbert Chemistry Set approximately 80 years ago when I was about 6 years old. I was already interested in science; my father had been a high school chemistry and physics teacher and had kept copies of several of the free sales-promotion textbooks distributed by the publishers. I had a toy electric train, but no accessories such as crossing gates or semaphores. So I read the physics texts trying to learn how to construct solenoid coils, motors, and other devices that would operate such accessories—which I planned to make from whatever materials I could scavenge from friendly neighborhood adults.

I collected lin-o-type slugs (a lead-antimony alloy), used copper wire, Model-T-Ford spark coils (a *wonderful* device for generating 5-cm long sparks; I still have one of those spark coils). I used materials such as these in my play and learned all sorts of marvelous things. Did you know that when a spark penetrates through a paper sheet that it produces a very tiny hole in the paper? Sometime in that period I did construct a working electric motor, but I never did manage to get a solenoid coil to work.

That chemistry set was joyfully received. No scrounging was necessary; all the necessary materials and apparatus were provided, including an instruction book.

I was a literally-minded child and the manual listed several safety rules that I honored to the letter. Looking back, I suspect that long-ago emphasis on safety was then and still remains today as the reason why I have become dedicated to the safe use and handling of chemicals. I never did perform all of the “experi-

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ments” in the manual. Later on, my own high school chemistry teacher had been taught chemistry during his high school years by my father and that must have sealed my decision to become a chemist.

In what areas of chemistry did you specialize?

In college, organic chemistry was my nemesis, and physical chemistry was an undemanding course, poorly taught by an incompetent professor. So in graduate school I chose physical chemistry as my major. Then I learned the facts of life. With great effort I mastered the hurdles and became a real by-golly physical chemist.

Do you use chemistry on a daily basis? Describe what you do on a day-to-day basis.

Now I assist anyone who has a chemical question and who asks me to help. Either I know the answer or I know where to find the answer: in a book, a scientific journal, or from a person. If my answer will directly help that person earn his or her income, I charge for the time I spend in assisting them. Otherwise, there is no charge. What I know was given to me, I do not own my knowledge; therefore I give away what I know when requested, but I try to avoid being imposed upon.



photo by Stanley Klein

Jay Young, chemical safety consultant.

Describe the personal skills that have played an essential role in your present position.

To me it is more a matter of habits than of skills. First and foremost, I would affirm the efficacy of the habit of prayer; when I need help, I ask for it, and boy do I often need that help! Second, I would claim the habit of doing the job *completely*; no loose ends. Many years ago, my father emphasized the lesson expounded in Elbert Hubbard's essay, *Message to Garcia*, and the essence of that essay has been my guide ever since. A summary of the message is, when you are given a task to perform, do so, and be sure when you are finished that no one else would have done it better. (Not because you are more competent than anyone else, but because you simply want to serve to the best of your ability.) By now, it has been more than 100 years since it was first published; it is as cogent today as it was back in 1899.

What advice do you have for those who wish to pursue this or some other nontraditional career path?

The advice I would give to others is the same advice I have given to my 18 children (none of whom are chemists): pray and read Hubbard's essay.

Clearly, when you are as old as I am, you can offer detailed advice to anyone who asks, and then they might become just like me, which would be a great mistake! The world does not need more people like the ones it already has; if that should happen, the mess it is in could only get worse. What is needed is more people unlike the ones the world has now.

How and where can readers learn more about this type of career?

The career I have fallen into is a career of helping others. As it happens, I have been given a competence in chemistry as the means I am able to use to help others. But the chemistry is merely the tool; there are thousands of other tools. For some who aspire to help others, chemistry will be their tool; for still

others, movie making, or cooking, or garbage collection, who knows?

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Related Resources

1. Young, Jay A. Teaching Judges, Juries, and Lawyers. *J. Chem. Educ.* **1998**, *75*, 1076.
2. Young, Jay A. Introducing Chemical Laboratory Information Profiles: CLIPs. *J. Chem. Educ.* **2001**, *78*, 444.
3. Young, Jay A. *JCE* Chemical Laboratory Information Profiles on CD-ROM. *J. Chem. Educ. Software*, 2005.