

I am very saddened to hear about Macky. May you and your family be comforted among the mourners of Zion and Jerusalem during this difficult time.

Although I only met with Macky in person a handful of times, he always left me with a powerful impression. When I was in High School about fifteen years ago, I had an assignment in my chemistry class to interview someone who works in chemistry. My father suggested I ask Macky, and he happily obliged, writing me a beautiful and detailed response. It was obvious that he was tremendously passionate and also found Torah and Hashem in every aspect of his career. I am attaching my interview with him to my e-mail.

1) What are you?

At present, I am an industrial chemist - i.e., a chemist who is working in industry. In addition, I have been teaching Chemistry over the years in various capacities - science-club activities for students as well as introductory courses for those with little or no background in Chemistry.

2) What do you do during the day? Describe a normal day for me.

In my 'defined' capacity as "Trouble-shooter", my normal everyday activities involve helping to solve problems that arise in the various production processes that our company is involved in. These can range from finding the reason that a certain process is not continuing as planned, to determining the cause of a product not being as pure as the client's specifications demand. One of the more important aspects is following the course of certain parameters to make sure that they are not starting to deviate. For example, the final form of many of our products is a dry white powder. The 'permitted wetness' is defined as being less than 0.3%, for a certain product. While our laboratory checks these values frequently to make sure that the maximum permitted value is not exceeded, they may not notice a "creeping" upward trend from day to day. For example, 0.1, 0.15, 0.18, 0.21, 0.24% are all acceptable values. But something is going on here that needs looking into, and if necessary - corrected. That too is part of our job.

In addition, products may become contaminated with 'foreign' materials, and we have to find out exactly who these 'intruders' are (chemically), find a way to "undo" their negative effect on the product, and determine what steps to take to prevent this from happening again.

This is a little picture of some of the things I do.

3) Where is your working environment? What is it like?

The production plant of the company I work for, "Bromine Compounds Ltd.", is in an industrial park called Ramat Chovav ("Chovav" is one of the names in the Torah for Yitro, Moshe Rabenu's father-in-law. But I have no idea if there is any connection.) There are a number of different chemical companies here, which interact to some extent with one another.

My office is in the same building which houses the various laboratories which serve the company. Much of my work is in the lab itself. Apart from the fact that there are certain 'aromas' in a chemical environment (which my nose is already not sensitive to), it is a very exciting environment to be in, since the work is always something different, and you have to interact with people from all kinds of backgrounds and work expertise in order to solve the problems that arise.

4) Who are other people or specialists that you need to contact or work with during the day?

The immediate group that I work with, the so-called "Trouble-Shooting Unit" consists of 4 people (including "The Boss"), who divide the various production processes between them, so that each of us has a specific number of production plants that we are responsible for, and we have developed an expertise in those processes. We obviously interact with each other a lot, but also with the larger body of laboratory people who can perform analyses for us

that they are better trained to do. We also attend various seminars from time to time for furthering our own professional knowledge.

5) What paper work or homework do you need to do? Who does it? Do you have long or short work hours?

The hours are normally from 7:00 AM to 4:00 PM, Sunday through Thursday. Rarely do we have to come in on our 'off-hours', although an obvious exception is when a new process is starting up for the first time. Then we have to be available on a 24-hour a day basis. But I personally have never been called in in the middle of the night, although it has happened to others in our group.

Paperwork is never-ending, but for the most part we do it at work.

6) Is this a solitary or active job?

Both.

Each of us is responsible for our particular area, and in that sense it is solitary. But there is so much interaction with others that my work can really only be described as very active!

7) How did you settle your position in the business that you work in?

Originally, I worked in the R & D (Research and Development) Division of our company - for nearly 9 years. In many ways that work was very suitable for me, because I like to make new things and/or discover why other things work.

However, about 10 years ago, I was asked to help build/set-up a lab in our Pilot Plant (an intermediate scale-up plant to check out new processes that were developed in R&D before they go into actual production in the main plant). After that job was completed, I moved "over" to this, the main production facility of the company, to become part of their chemical team. Actually, I'm one of only 3 chemists in this, the major focus of what is a multi-national company.

This is really where the action is.

8) Why did you decide on this career?

Chemistry is the only one of the sciences where you are actually being partners with G-d in the act of creation. While we are only re-arranging molecules, and NOT creating from nothing, it still results in many new materials, which hopefully improve the quality of life for all mankind, and benefits all living things. We try. And that is what makes it so exciting.

Besides that, in order to do the best job, you have to involve many other disciplines - in the humanities as well as the sciences.

9) What skills does one need to do what you do? What else could you do with these skills?

The most important thing is a healthy dose of curiosity. And a desire to find answers to questions, as well as ask them:

What makes things tick? How do you make that? Can I do that? Can I improve on that?

Can I make something that no one has even thought of before? A simple example: Velcro straps for shoes and other products. A very simple idea, and an extremely useful one. But it couldn't be done before the knowledge was available, AND somebody said to himself - "That's something I could do!"

"Chemistry is a Verb", one of my teachers taught me, and is it ever true!

What else can you do with these skills? I don't know - I'm doing what I love to do, and that is very important.

But as an aside - Some years after we made Aliyah, we "took a break" and moved to a moshav, where we learned how to grow the best hothouse tomatoes in the world. My parents thought that perhaps this wasn't the best use of the talents that G-d gave me. But we felt that the many years of study that I invested in Chemistry taught me how to think - and that is something anyone can use anywhere. And, it is not something that can be taken away from you. Only you can take it away from yourself by not using it.

10) What qualifications or school degrees do you need to work in this job?

For my particular job, a Bachelor's Degree in Chemistry or Chemical Engineering is the minimal requirement. Personally, I have a PhD. in Chemistry, which opens the way for further advancement into management positions, if I wanted to. Instead, I have preferred to develop my teaching skills and do so "at the drop of a hat". (I also love to do Chemical Magic shows...!)

11) How related is your job to chemistry in general and to the entire chemistry industry? In other words, what chemistry do you use in your everyday job?

My job is as related to Chemistry as can be. While I answered previously:

"What else can you do with these skills? I don't know..."

that really isn't true. A good training in Chemistry can be a basis for anything that requires the ability to think independently, a love for understanding how things work, a desire to help others, a desire to explain things to others, etc. It is even a good basis for law (patents etc.)!

However, where the knowledge of Chemistry is a good basis for other professions, it is at home best when it is used to DO Chemistry. And that's what I do.

By the way, did you know that your home has a laboratory in it?

It's called ... the KITCHEN.

And yes, your mother (and maybe even father!) are CHEMISTS.

12) What advice do you have for people who aspire to become like you?

"Do your homework!"

No joke - that is the most important secret for succeeding in any venture. Every field of learning is called a discipline, because that is what is required to become good at it - whether it's playing the piano or building the CN Tower.

And Jordan, if you're good at something - you want to be proud of yourself, and you want others to be proud of you, too.

An additional piece of advice is to talk to others in the profession, in addition to visiting places where they DO chemistry - labs, hospitals, factories, etc., etc.

"Chemistry is a Verb."

As we say in our mother tongue - B'Hatzlacha! [Best of luck]

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