

# CEM OHSE NEWSLETTER



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## Working as an organic chemist with allergies



For many years, I was known as an experimental organic chemist in the department, constantly surrounded by a variety of chemicals. Unfortunately, my body decided to rebel against me and develop allergies to pretty much everything. It all started back in my MSc days in the UK when I nonchalantly worked with Ethyl-4-chloroacetate. Little did I know, my face would soon become the itchiest place on earth whenever I came into contact with it.

As I progressed to my PhD project, I found myself face to face with this pesky chemical once again, but this time my face was having none of it. It was time to figure out a solution. Enter the hierarchy of controls:

1. **Elimination:** I could have eliminated the chemical from my synthesis, but it was a key player in the game. So, I passed the torch to a trusty VAC student to handle it for me.
2. **Substitution:** I tried to buy the product I needed instead of synthesizing it, but of course, it became as rare as a unicorn.
3. **Engineering controls:** I took to working with the compound in the fume hood, trying to minimize my exposure and keep my face from turning into an itchy mess.
4. **Administrative Controls:** I made sure to inform everyone around me that this chemical was my arch-nemesis.
5. **PPE:** Double gloving became my new fashion statement, ensuring that I didn't accidentally scratch my face and make matters worse.



In the end, I learned that sometimes you have to get creative when dealing with allergies in the lab. Who knew chemistry could be such a sneaky foe?

## Working with well-known Sensitizers



Have you had the pleasure of working with Dicyclohexylcarbodiimide (DCC)? Did it give you a little more than you bargained for? DCC is part of a lovely family of chemicals known as sensitizers. Personally, I've had a run-in with this chemical in the past (see picture - not my finest moment).



To calm my skin down after the encounter, I had to pop some antihistamines and slather on some hydrocortisone cream. Now, whenever I come across DCC, my skin throws a little tantrum. To avoid the drama, I used to beg my colleagues to



give me a heads up when they were working with DCC. If necessary, I'd even sweet talk a colleague into handling DCC for me.

The tricky thing about sensitizers is that each time you meet them, your reaction gets more intense. So, it's crucial to know if you're dealing with a sensitizer and if you're sensitive to it. Check out the CEM OHSE website for an article on handling peptide coupling agents, which are immune sensitizers. Just click on the link below and thank me later!

[https://science.uct.ac.za/sites/default/files/media/documents/science\\_uct\\_ac\\_za/232/HATU%20allergy.pdf](https://science.uct.ac.za/sites/default/files/media/documents/science_uct_ac_za/232/HATU%20allergy.pdf)

## One way to reduce running costs

Are you looking to reduce your research costs? It may come as a surprise, but every month you are paying rental fees for each gas cylinder in your possession, whether full or empty. Over time, these costs can add up to over R1000 per month, with rental fees increasing annually. Each supervisor has an allocated account with either Air Liquide or Afrox for gas cylinder rentals.



To minimize these expenses, consider the following steps:

1. When ordering a new gas cylinder using the MM010 form, be sure to include your research group account number.
2. Indicate on the form the number of empty cylinders that need to be removed.
3. Keep an accurate record of the number of cylinders in your laboratory, both full and empty.
4. Ensure that all empty cylinders are properly labelled as such, with your research group name clearly marked.

By following these guidelines, you can not only reduce your research group's monthly expenses but also help declutter the gas cylinder storage area in the faculty stores.



## Be careful when quenching Sodium metal

When handling sodium metal and preparing to quench, extreme caution is absolutely necessary as things can quickly take a turn for the worse. Begin by cutting the sodium into small pieces, then introduce isopropanol into the solvent to kickstart the reaction. Chill the reaction vessel with ice and gradually add methanol in small increments. Only after all the sodium has been consumed should water be added. Each step must be executed with precision to avoid a potentially explosive situation, followed by a fiery disaster. Trust me, I've witnessed this spectacle unfold more than once. So, proceed with caution and be prepared for anything!

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Harmonizing  
System

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Inform  
Restrict  
Extinguish

