Careers in Green Chemistry and Sustainable Design

Taylor Nations – Regulatory Compliance Director, ECOS

[00:00:00] My name is Taylor Nations and I am the Regulatory Compliance Director for ECOS here in Lacey, Washington. And I've been with the company working in green chemistry for almost 11 years. I'm regulatory compliant, so that means I handle compliance with the regulations that touch our products.

[00:00:25] Household cleaning products in the U.S. are not very well federally regulated, so states are developing a lot of their own laws, and so it's a very multidimensional landscape. So, it really does require that there's a department making sure that we're compliant with everything that's federally required of us as well as state by state.

[00:00:43] But what's cool about our company too, is that not only are we ensuring that our products are compliant with regulation, but we're also pushing to have further regulation in the cleaning product space. It's really important that government agencies and industry groups push for regulation to make sure that we're creating safe, sustainable products.

How do companies create innovative products?

[00:01:07] Previously, we had been preserving our dish soap with a petroleum derived synthetic preservative, which was approved by the EPA and the Safer Choice Program and was the safest in its class. But we looked to other industries to see what they were doing, because there were some reasons we'd want to get out of using that preservative.

[00:01:27] So we looked to the personal care industry, and they create things like shampoos, conditioners, body washes and things like that, and found that they were using a preservative that was not previously really utilized in our industry. And so, we looked to them to see if that would be compatible with our formulas. Turns out it was, it had great efficacy, it was a much more sustainable and safe ingredient. And so, we actually had to petition the EPA to allow that ingredient into Safer Choice certified formulas because they weren't there yet.

What is sustainable design?

[00:02:01] Part of sustainable product design is using as few ingredients as possible, using as little packaging as possible, not adding things that aren't actually contributing to the purpose of the product. So, a dye is a good example

of that. Like, your purple laundry soap doesn't clean better than a non-dyed laundry soap, but that purple dye has its whole manufacturing process.

[00:02:20] And so like everything you have in a product that doesn't actually serve a purpose just unnecessarily impacts the carbon footprint and sustainability profile of the product. We really focus on not only creating a very sustainable finished product, but also creating that product in a very sustainable way.

[00:02:39] All of our facilities are LEED certified. We also manufacture products that are carbon neutral, water neutral, and our facilities are zero platinum waste certified. So that means that over 95 percent of the waste generated at our facilities is diverted from landfill. Another big tenet or core value for ECOS is creating sustainable products that are affordable for everyone.

[00:03:02] So we truly believe that to have the biggest impact you need to create products that are accessible for everyone and a lot of times price can be a barrier to green.

What can you do?

[00:03:15] A great way for students to start learning about the cleaning products in their homes and in their classrooms is really just to start reading the bottle. Students can look at the back label and start to learn about the ingredients and then also look to third party sources. ECOS chooses to certify the products because greenwashing is a real thing.

[00:03:34] So a lot of companies are out there just saying That their product is green, but they don't have anything to back that up. So, it's really just somebody's opinion. So, we choose to primarily partner with the EPA Safer Choice Program. So, you know that the U.S. EPA is saying, yes, this product is green. Yes, this product is safe. Yes, this product is sustainable. That program also has an efficacy component. And so you have to show that the product also works well in order to get the certification.

What are pathways to working in green chemistry?

[00:04:05] All through school, I went in thinking I wanted to be a nurse. And then as I started taking more science classes, I realized like, oh, hey, I actually really like chemistry. I really like microbiology. And I didn't know that until I was exposed to it. So, I did go to college for chemistry and I knew that I've

always been kind of science minded, but I didn't really know about green chemistry and I definitely didn't know about like laundry soap science until I was working at a laundry soap factory.

[00:04:32] But that really opened my eyes to the fact that there's a chemist behind almost every single product that you're buying every day. That's when I got excited about just working for a company that's producing something that people are touching every single day, but we're doing it in a way that's not like depleting and, and that is done in a sustainable manner.

[00:04:52] So I definitely didn't know that I would end up working for a cleaning products brand. Like I had said, I didn't even know that there were chemists working for cleaning products brands. I never thought about it. And so, not only was I sort of surprised -- or like that wasn't part of the plan -- but as I've entered into the company, my role has evolved in so many ways that I didn't expect or definitely I didn't have down as like, this is the career trajectory. But I've just been following what's interested to me and being open and definitely being open to learning new things and also being willing to try new things that I know I'm not going to be good at and also being okay with failing a little bit and learning from those experiences.

[00:05:39] But it's really fun. It's fun to touch different pieces of the business. It's fun to work with cool people who are doing cool stuff in a sustainable way. There's a whole ecosystem of people that have to come together in order to create a sustainable product. So, it's not just chemists. So, I would say to any student out there who's thinks like, no, no, no, science isn't my thing, there is still a space for you in sustainable product development and manufacturing. If there's a need in your school -- like in your classroom and your workplace -- that's not being met, to raise your hand and say, yeah, I'll learn to do that. One, it's just like a nice thing to do, but also it exposes you to things that you may not be aware of.