



How to Protect Yourself From Health Hazards in Your Jewelry Studio with Christine Dhien

THRIVE BY DESIGN WITH TRACY MATTHEWS

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Tracy: Welcome to Episode 188 from Thrive by Design, or "Of the Thrive by Design Podcast." Hey there, it's Tracy Matthews, the chief visionary officer over here at Flourish & Thrive Academy. I am super stoked to be here today and throughout because we're talking about a topic that we've never talked about before which has to do with all about protecting yourself from the inherent hazards that come with owning a jewelry studio and working on the bench. So, we are jewelers. We love making jewelry and a side effect of that, there are a lot of health hazards with the chemicals, and biproducts of jewelry making that are inherent in our craft. So, today, I have Christine Dhien on the show today. She is an author, a jeweler, and a grant-winning educator. She is the founder of Green Jewelry News, the author of "The Eco-Jewelry Handbook," and numerous articles. She also has taught and lectured about equal friendly jewelry making internationally, and Christine is also a certified personal fitness trainer specializing in injury prevention and rehabilitation. So, I'm excited to have Christine on the show today because as you're going to see, this interview is amazing.

I haven't really had a topic like this on the show, I don't think ever. We've never really talked about health practices, and the reason why I was fascinated by this is because for many reasons, you're going to hear me talk about this in the interview, but some of our designers in our community have talked about, you know, issues that have come up, and in particular, I remember Sarah McAleer or one of our SOS coaches talking about she got sepsis from working on the bench and how she had to step away from using any chemicals and even jewelry making for about a year



or maybe even longer because of this health hazard. She was in the hospital, so it can be very serious, and I've heard of this happening with other jewelers, and it's not like this is a doomsday like you're going to die by doing this, it's really about being safe and practical on the bench and being safe with how you're using the chemicals and machinery and how you're protecting yourself from the chemicals and machinery.

So, we're going to dive right into today's episode, but if you haven't done so yet, I'm curious, have you taken a glance at our Jewelry Brand's Brilliance Factor Quiz. I love this quiz because it is an excellent, excellent identifier of how to use your innate creativity to grow your business, and it's something I'm really excited about. We launched this quiz in December, and it has amazing feedback, and it's getting designers incredible results and awareness about, you know, what they're naturally good at in business, and also some of the areas that they could probably strengthen or fill the gaps in.

So, if you haven't taken the quiz yet, I swear you're going to be pleasantly surprised. It's going to be amazing. With that quiz, once you get your results, you'll get an outcome and your archetype will pop up, and then I'm going to share with you just some really actual tips, right away, and give you a resource that you can download to use this in your business, and then I've created a little handy dandy followup sequence for you to help you run your business a little bit better and to continue to grow. So, it's pretty awesome. I love watching the people reporting their results. I test out as the creator. I'm like probably a creator first and then an entrepreneur second, a hustler, a high-class hustler is what we call those people, and creative force of nature. So, I'm like a hybrid of those two. So, I'm curious to see what you are in that. Anyway, let's dive in to today's episode.

Today, I have a very special guest on the show, Christine Dhien of Green Jewelry News. It's a tongue twister, so got it out. Christine, thank you so much for being here.

Christine: Thank you, Tracy. It's great to be here.

Tracy: It's awesome. So, we originally met at the Chicago Responsible Jewelry Conference, and we ran into each other, I think like, in the middle of a session, like walking in the hallway, and somehow we spiked up a conversation. You were telling me about this book that you're writing, that you've already written, all about green studio practices, and I was



intrigued, and so, that's why I asked you on this show, and I'm excited to talk today to you about all things green and ergonomic and health in your studio.

Christine: I'm excited to share the information.

Tracy: So, it's super cool. I mean this is not super cool, but our SOS head coach, Sarah Mcaleer, ended up getting sepsis, and she was poisoned from the chemicals in her studio, and it's been a long haul for her to be able to actually go back and work at her studio. The good news for us is that she has been able to dedicate a lot of time to Flourish & Thrive, but the bad news for her is that she was hospitalized last year, and it was pretty scary, and so, I'm curious to know from you a little bit more about your background and how the Green Jewelry News Blog started and a little bit about why you're so passionate about healthy practices in the studio.

Christine: Well, I've been a jeweler for a long time. I started off before I was in high school, I really wanted to learn how to make jewelry and started taking jewelry classes in high school, and at the same time, when I graduated from high school, I was voted most likely to save the earth. So, I've always been very ecologically minded in my personal practices of the choices I make and always been a jeweler, you know, since I was in high school, and I never really thought about how those two things related to each other and that they might be in discord until I went to the SNAG Conference in 2005 and heard a presentation by Christina Miller and Susan Kingsley, of Ethical Metalsmiths, and they were talking about how gold was mined, and it was a big wakeup call for me.

After I heard that presentation, I decided I really wanted to get involved in do something to help more the industry forward in a positive way, and so I started brainstorming with Ethical Metalsmiths about what I could do to get involved, and in 2008, I started working with Jennifer Heatner who was also involved in Ethical Metalsmiths, and she was living in San Francisco where I was at the time, and together we coordinated to teach a class called "Green Jewelry," and it was very cool to have this collaboration because she was the expert basically on all of the things that had been in that presentation at the SNAG Conference about how gold was being mined, and she was a lawyer, so she knew about all of the organizations that were being formed to try and prevent damage with gold mining and that kind of thing, so she took care of all of that information, and I had been working at the Revere Academy as a jewelry instructor for quite a



number of years by then, and so, I had been thinking about the part about the studio practices and what we were doing in the studio that might actually impact our health. So, I was giving that portion of the class. So, it was a great synthesis of those two pieces of the puzzle as to what was going on as far as the "green jewelry movement."

So, from there, it just kind of evolved into teaching and getting a response from the students and what they were most interested in and providing people with the information that they needed. So, really I focused on a lot of different aspects of this "green or eco" jewelry making from studio practices which includes health and safety and how to protect yourself, and I've heard of cases like you're talking about with your team member where jewelers have been exposed to chemicals and then they've had to completely stop what they're doing in order to recover. So, I know jewelry making is a passion, and people really get addicted to it, and they want to spend as much time as possible pursuing their passion, and that is possible as long as people take a few preventative measures to start with. So, that's what I was hoping to do, and the book is basically to spill it down into some basic information that is easily accessible so that people can get the information they need and use it, implement it easily in a studio to protect themselves.

Tracy: Awesome. That's so great. I just like had a flashback moment as you were saying this, because I was working with a jeweler about two years ago who all of a sudden, like during a really busy time, I cannot talk about it now, but like something happened, and "I have to like stop working for you, here's a referral," because I think that she got sick. I think because she was working in one of those probably like not properly ventilated spaces in the diamond district where she is sharing with five other jewelers, improper ventilation or something. It's not funny, and I hope that she's okay. I haven't her from her since, but hoping everything is okay. I don't want to like freak anyone out, but like, you know, you've just got to be safe about what you're doing. So, I'm sure it's about something though. I know the answer to this because I've been going to the conferences for a while about this, but tell everyone a little bit about how gold is mined and what measures are being done to sort of prevent that.

Christine: Well, there's two basic methods for mining. One in the industrial large-scale mining, and that is done with big equipment and large volumes of earth are moved in order to get the gold out of the earth, and the earth is dug out of the ground, transported to a processing facility and



processed such that it is ground up to fine material and then sprinkled with cyanide which then leaches the gold out of the dirt in order to capture it for refining. So, that's the large-scale mining. Those mines are enormous, and some of the pits from that large-scale mining are so big that they can be seen from outer space.

Tracy: Yeah.

Christine: So, it's a huge impact to the earth, and generally, this type of mining is done by large-scale corporations and with more advanced equipment.

Tracy: It's usually like...it's not just for jewelry though. It's like for electronics and stuff too.

Christine: Well yeah. Gold has a lot of purposes. That's true, but I think they had the statistic at the conference that 52% to 58% of gold that is mined is used in the jewelry industry. So, it is predominantly used for the jewelry industry. The second way the gold is mined is called artisanal mining which is on a smaller scale, and it's all very rudimentary equipment.

So, it's a very large labor force. Huge amounts of people are working doing this type of gold mining, but they're using basically pick axes and shovels and just very basic handheld equipment, and because they have such little access to equipment, the easiest way to get the gold out of the earth is by adding mercury into the pan once they've panned it down to being essentially mostly gold in the pan. To separate that out from the earth, they add in mercury which attracts gold like a magnet, and then that mercury is taken, and they burn it away which leaves only the gold. So, that's a very dangerous method as far as the people that are actually doing the mining because they're exposing themselves to the mercury not only by handling it but also the fumes once it's burned off. Often times, they're doing this in rivers and streams, so it's exposing the mercury to the watershed which is then contaminating the water supply as well as could be the food supply chain and the fish are in the water and that kind of thing. So, it's a major concern, and mercury release by the jewelry industry is the number polluter for that. So, it's a big concern. So, there are organizations...

Tracy: And then it goes into the fish we eat and the water we drink.

Christine: Exactly. Yeah, and then the people who are doing this mining, they've been doing it for centuries, so they don't know that this is problematic.



They were just doing it the way that they've been doing it all along, so they're not thinking oh this is...

Tracy: Bad.

Christine: A problem. Yeah. So, this is just the way that we make a living, and there are organizations like Mercury-Free Mining that is being headed up by Toby Pomeroy that are working to try and find a solution to this methodology that will be mercury-free so that people can continue to mine the way that they have been mining but do it without the mercury, so they'll achieve more results as far as production goes but without the contamination and health hazards.

Tracy: Well, this is a little bit of a sidebar, but that centrifuge thing that they were showing at the Chicago Responsibility Conference was really cool.

Christine: Yeah.

Tracy: And I'm calling it a centrifuge for lack of a better word.

Christine: Right, and that is one of the proposed ideas that they're working on as far as mercury-free mining where it's collecting; it's basically doing the same thing the mercury would do but without mercury and very basic tools so it can be used by anyone without having to use electricity and that kind of thing. So, it's a good solution if they can find a way to make it scalable.

Tracy: Yes. Exactly. So, you've been part of the Green Jewelry Movement for many, many years it sounds like, and it's so cool you worked at Revere. I took classes there when I lived in San Francisco.

Christine: Oh thanks.

Tracy: I think we talked about, it is so sad that it's...

Christine: Yeah.

Tracy: No longer there.

Christine: I know. Everybody misses it. It's true.

Tracy: I know, like the best place to go and just take a drop-in class. Anyway, so obviously you've been involved in the industry for a long time, especially in this Green Jewelry Movement. How have you seen it evolve.



Christine: Well, like I said, it was 2005 when I first heard this presentation at the SNAG conference, and it was quite shocking for everyone. No one really had known that kind of information about how gold was mined, and it was kind of introducing that type of information to jewelers and people who are in the industry, and then shortly after that, that type of information was introduced to the general public.

For example, blood diamonds came out in 2006, so that was the following year. There was a big article in National Geographic. It was the cover article about how gold was being mined by artisanal minors and the hazards with that. That all started coming our right around the same time. As a response, then the jewelry industry started to talk about people in the industry who were working towards a more positive change. So, Modern Jewelry and JCK started to come out with articles about designers who were doing what they could to make a positive impact.

For example, Toby Pomeroy was working with Hoover & Strong to provide gold that 100% recycled so that his customers would have a choice of how they would be able to buy gold that was not being mined in the ways that, you know, are destructive but rather recycling it, and Jennifer Dawes also was very mindful of her practices as far as purchasing materials from gold also to gemstones, so they started to be highlighted in these articles in the magazines, and I think it came to a natural flow to start thinking, Oh well, you know, if the people who are mining are being exposed to this kind of dangerous situation, like what are the dangerous situations that we're being exposed to as jewelers in the studio, and so then there was more of an interest in that part of the whole equation and what people could do to promote their own health and safety in the studio as well as choosing materials that were more ethically sourced.

Tracy: Okay, awesome, awesome. Now, we talked a little bit about mercury in the gold and some of these pioneers in front of the ethical jewelry movement, but what are...you know, I think people don't realize, you know like, Sarah, you know working in her studio all of a sudden gets hospitalized and becomes very sick. What are some of the biggest health hazards being a jeweler and working in your studio?

Christine: Well, the two types of health hazards to be really the most aware of are the chemicals that are in the studio and then the airborne particles that there may be exposure to as well. So, the best thing to do to start with is to take an assessment of the studio and look at what chemicals are in use



and basically just do an inventory, and check every chemical, what you're using it for, make an inventory binder, and then with that, you would collect the materials safety data sheet for each chemical which gives you information about proper storage, proper handling, what the exposure hazards are, and that kind of thing so that then it's just to build awareness of what is happening in the studio on a daily basis and where the hazards might be, and then to start to think about if there are certain ones that stand out as being particularly hazardous, would there perhaps be an alternative product or chemical that could be used that is less toxic? Maybe not even a chemical but a substitution that could perform the same function without causing as much hazard in the studio.

Tracy: Can you give me an example of that?

Christine: Well, if you think about different fluxes people have been a big conversation with jewelers because often time, fluxes will contain fluorides....

Tracy: Mhm.

Christine: And the reason that they contain fluorides is because adding fluoride to the flux actually creates the functionality of the flux, have it become viscous which is what we need in order to protect the surface of the metals from oxides from forming, it does that at a lower temperature so that the protection starts at a lower temperature making it more effective. So, that's why fluorides have been added to the flux traditionally, but it is possible to use nonfluoride fluxes and fluxes that have fewer elements in them so you're not as exposed to as much. So, for example...

Tracy: Breath.

Christine: Breath, yeah. And one thing that really goes back. It's interesting, like how things evolve to be, you know, more "advanced" over time and then we realize, oh well, it's more effective as a flux but maybe not as effective as something that's protecting our house, so going back to something that has been used for quite a long time, decades, if not centuries, is borax cone, and I found out about that when I was teaching a class in England, and I was there in the studio and trying to do a demo about soldering, and I was like, "okay, where's the flux?" And they had me this cone, this white cone.

Tracy: You're like, what the heck is this?



Christine: I had no idea what to do with it, and then they explained to me, oh, it comes with a little dish and you grind it in the dish and you add water and it makes a little paste and use it just like flux, and here I was on the spot doing a demo with some new flux that I had never seen before, and it worked great. It was beautiful.

Tracy: Okay, awesome. You're like, "I hope this works. Fingers crossed."

Christine: Exactly. And so it's very economical. It's an inexpensive thing. It lasts forever because you're just grinding a little bit, and then you use it with water and you basically replenish it with water as you go. So, I am the biggest fan of that as an alternative. There are some proprietary brands of flux that are biodegradable and have less impact as well, so there are options out on the market as well. People are not as keen on the cone.

Tracy: Keen on the cone. I like that alliteration.

Christine: There are other options out there, but the one thing is to really look at what you're using and to see if it is in fact the best option for what your needs are and for your health concerns, and in the book, I outline actually the chemicals step-by-step. I put them into a category of flux, and then I go through and give the working properties, you know, the melting temperature, that kind of thing, and how to store them, what the possible health hazards are, and overall rating as far as being health friendly and eco-friendly, and then I give the safety rating as well for the health, so that's, kind of, people can go through and look and see what their needs are and match up the best products to those. So, flux is just one example. Patina's are another example. Pickle, obviously is another chemical we've got in the studio. And all of those...

Tracy: Like our pickle pot was like, I'm like, it could, I don't know. I remember. This is so random. I remember moving out of my studio in New York when I was closing down my business, and I got like this huge rash all over my face, and I think like I touched the pickle pot or something and like rubbed my face, and I thought I had zoster or like adult chicken pox for a while. Like, I went to the doctor, and they were like, "Oh my God, you're screwed," or shingles, whatever it is, like shingles, and they're like "You're going to be sick for like 6 months and it's very painful," and I was like, "Oh my God what's happening," but it turns out it was from the chemicals in the studio, and it was just like one touch moving something.



Christine: Right. So, that is where reducing to a less toxic, you know, using some kind of a less toxic alternative is going to help prevent that, but it's not always a perfect solution. Even the less toxic alternative, they say, "Oh, avoid exposure to skin and eyes and that kind of thing."

Tracy: Yeah.

Christine: Of course, you want to protect yourself as much as possible even when you're using a less toxic alternative but making those kinds of substitutions is a good first step, but I think that the best option there is a citric pickle. It's a food grade acid so it can cause irritation, but it's not quite as harsh of a chemical as a standard sodium bisulfate which has what has been traditionally used, and some people find that they don't think it works as fast or, you know, that it doesn't quite do the same job, but what I've found is if you mix up the solution to be an adequate strength, then it does a nice job of cleaning the metal.

Tracy: Does it smell good?

Christine: It's fairly odorless. They do say, you know, to use it with proper ventilation as well. So, that goes back to protecting yourself and taking the proper precautionary measures. So even there, reducing, like the other thing that I like to advise people to do is if they have a small studio to use a small pickle pot rather than a big pickle pot because the smaller your pickle pot is, as long as it's big enough to put in your largest item of jewelry, it doesn't have to actually be very big, and then they will have less of the volume in the studio. So pickle works best when it's warm and it is evaporating out the fumes from the liquid, but if you have less liquid to start with, there will be fewer fumes.

Tracy: Mhm.

Christine: And then you also have less liquid to figure out what to do with when you do finally come to the end of the life of the pickle.

Tracy: Yeah.

Christine: Disposal is another issue, and just to give people an idea of the life of pickle, like you were saying, how it was looking pretty bad there at the end with the pickle. People can actually clean the pickle. So, I know it turns blue, and that's from an introduction of copper into the solution which indicates that the copper is actually doing its job because that's what pickle does is take the copper off the surface as it oxidizes from heating,



and so, the blue will happen as far as the pickle is concerned, but often times like what's in there is like little pieces of soldering brick and different things that make it start to look really dirty. So, what can be done is it can be strained through a coffee filter to take that debris out, and then it's going to be a clear liquid, so it's not going to look quite like a bog down there in the bottom.

Tracy: The bog. The pickle bog.

Christine: So, again by handling it is an exposure issue, so you want to make sure you use protective gloves and a protective mask for exposure to the fumes.

Tracy: I wear adhesive splashers or something.

Christine: Exactly, and eyewear and adhesive splashers. And all of that information should be available for MSDS or the SDS of whatever that you're using on the chemical. I've also included it with the common chemicals in the book so people understand what safety gear should be used with each chemical, and then I also review what basic equipment should be on hand and how to keep it where you need it so that it's right there and it's easy to use because I think that's my most common complaint I get from people who don't want to use the safety equipment as they think it's either uncomfortable or it's inconvenient to use it, and so the advice I give people is "Like well, if you're going to buy safety goggles and you're hesitant to use them because you don't think they're comfortable, the best thing you can do is actually go and try on safety goggles until you find a pair that you think is comfortable, because then you'll actually wear them."

Tracy: Exactly.

Christine: And then once you have them, then you want to make sure that they're in the location where you actually are going to be needing to use them. So, if you're using them at the bench because you're using a flex shaft and you're worried something might fly in your eye, make sure they're right there by the handle of the flex shaft so you remember, okay, I'm going to put these on right when I'm doing this or right by the pickle pot so that you have them handy, and then the other thing is, is people say, "Oh, well they're all scratched up. I can't see through them well." And so that's a matter of taking care of the equipment.

Tracy: Yes.



Christine: So, storing it in a plastic bag or making sure it's hanging on a hook where you're not going to get it scratched, that kind of thing. So, it's just kind of thinking through the process of how can I make it easier for myself to protect myself.

Tracy: Exactly. What should people be doing about the particles? Because that's like from buffing compounds or other airborne particles like gas from the liquid chemicals, right?

Christine: Right, and so, yeah, particles are usually from polishing or any kind of mechanical removal of something from the jewelry. So, it's really important to, of course, use proper mask protection for that and also proper ventilation. So the ventilation system that you choose is going to depend on your particular situation. Localized ventilation is usually very effective especially if you're doing something in a small area. If you've got a big buffing machine, then having a ventilation system right around the unit is going to be the most effective. You can kind of judge by how the clean the studio stays how well you're collecting the particles from the air. So, if you leave something out and it gets covered with dust and particles very quickly, then you can imagine how much you're breathing in.

Tracy: Wow.

Christine: Whereas if you're able to adequately remove those particles from the air with a vacuum system, ventilation, that kind of thing, now you're not going to see that developing as quickly.

Tracy: Do you recommend people get one of those, like, doomsday ventilation masks with the, you know what I'm talking about?

Christine: It's a personal choice, and I would say it depends on what you're doing in the studio because those are, so like it's a half face respirator is what you're referring to, I believe.

Tracy: Yeah, and it has the things coming out of the side.

Christine: Yeah, the cartridges, and those cartridges can be changed out depending on what you're working on. So, there are cartridges that are specific for chemicals, and then there are cartridges that are specific for dust particles. So, depending on what you're working on, those cartridges would be changed out, and I would say if it's particularly hazardous material, and you're using it often in the studio, then that would definite be advised. So, you just have to consider what you're working on, and also



your personal concerns. I had, like for example, working at Revere, pregnant people coming and taking the classes, and they inevitably would use those half-face respirators, and I think that that was a wise choice for them because they're in a situation where contaminating their body is not only going to have an impact on them but on the future generations, so obviously, those people are going to be more aware of what they're doing to their bodies because it's not just them, but the next thing you know, it's more their future life they're bringing into the world. But it's the same thing, you know, we've got the rest of our lives to live, so the more we protect ourselves now the better off we'll be in the future.

Tracy: So, we talked a lot about green practices on the bench. Is there anything else that designers are going to be thinking about to make their studios eco-friendly or more healthy, etc.

Christine: Well, another thing that's a hazard as far as the jewelry occupational hazard goes is ergonomics.

Tracy: Yeah.

Christine: Because if we don't have the bench set up in the right way, the way that we're working 8 hours or more if you're passionate about it, probably more per day, it can cause repetitive stress injuries. So, it's having an ergonomic setup at the bench is really important. So having the working height at the right height so that you're not slouching over the work, making sure that you're using adequate magnification so you can see the work without trying to get your eyes closer to the work, it would be better to be at a nice upright stance and be able to see the work rather than having to bend over to get to it.

Tracy: Lighting your hair on fire.

Christine: Right. So, and then thinking about where the work is so that you can maintain an upright stance but then also the awareness of your posture while you're working as well. So, setting yourself up for success with good ergonomics and then also being aware of your posture so you're maintaining a healthy position. If people do slouch over, it tends to put stress on the upper back and neck muscles and create a lot of tension, and so that's usually where jewelers will experience the tension. So, what I recommend is that people set themselves up for success with that by putting an alarm on to remind them to take a break, because I know once



I get started on a task, I'm so into it and I don't want to stop, you know. I just want to keep going.

Tracy: Totally.

Christine: So, if I have a little alarm that says, "Okay, Christine, now it's time to take a break." It kind of gives you permission like, okay, I'm taking care of myself now, and in the book, I've also included some basic stretches with pictures so people can figure out how to do it so that you can stretch your neck and your shoulders, and then, of course, carpal tunnel is a big problem for a lot of jewelers as well, so some wrist stretches, and these are things that you can do even sitting at the bench. It's great to stand up and take a break and change positions, but even if you're feeling like, oh I don't have time to stand up right now, you could do a few wrist stretches and neck stretches even sitting at the bench.

So, keeping that mindfulness throughout the day is really going to help at the end of the day feeling more refreshed and less tension in the body and that kind of thing. One other thing is that people often will because they want to get the job done perform a task that has an impact like repetitive hammering or grinding, those kinds of things that have kickback into the body, and if that's something that jewelers are doing, I always recommend, "Well, you should do it in shorter intervals, you know, maybe 20 minutes at the most and then take a break, and change to different task, and that's a good idea just a game plan in general of how you set up your work day is to group tasks into batch tasks so you can complete. You feel like, okay I've gotten this task done, and it's been 20 minutes/30 minutes, now I'm going to change working positions and maybe stand up for a while and do this other task that I do standing and complete that, 20 to 30 minutes, and then come back and do something else where I'm changing positions again. So, you can continue to change positions throughout the day, and that will put less stress on the body.

Tracy: Okay, perfect. Awesome. This is wonderful. So you wrote this book and you keep referencing to the book, so tell us a little bit about the book.

Christine: Well, the book is called "The Eco Jewelry Handbook," and the subtitle is "A Practical Guide for a Healthy, Safe, and Sustainable Studio." So, those are the health and safety and then the sustainability not only of the planet but of jewelers being able to stay in their career. So, it addresses all of those things. I started teaching classes. That was in 2008, and it just seemed like there was so much interest and especially students seemed to be the



ones where they're learning all this information. They want to put the practices into effect right from the beginning which is great. You know, it's easier to start the right way from the beginning rather than reinvent the wheel once you've gotten started. But it seemed like people felt like it was not very accessible, all this information, so I thought okay, well, what can I do to make this information more accessible to people because I really wanted...I firmly believe that people want to do the right thing, and if it's easy for them to do the right thing, they'll do the right thing. So, I wanted to make it easy.

So, I wrote this book, and the format is very approachable. It's a fairly compact format, easy to leave it on the bench and have it easily accessible to reference, and it's basically an introduction into what are all of the factors that go in to being an eco-jeweler and how can I protect my health and safety which is primarily what we've been talking about today, and it breaks it down to, like I said, different kinds of chemicals that are rated and then how to store those chemicals safely once you have them in the studio, all the gear for protecting yourself, and the how you can do techniques that you're already doing in the studio, casting, soldering, those kinds of things on a more eco-friendly path. So, you're creating less waste which is in turn going to create less exposure and those kinds of things, and then like I said with the ergonomic setup like what the proper dimensions are going to be for ideal working heights and those kinds of things.

It has the whole diagram so people can kind of see what's ideal and try to set themselves up in a similar way, and then there are two other sections in the book. The second section is about bench practices and how you can actually conserve resources in your own business which makes sense not only for the environment but also for the bottom line of the business. So, it's really a win-win type of a situation when you can implement new practices in that way, and then collecting bench scrap at the studio, doing that in the most effective way so you're really collecting all of the small particles of precious metals as you're working which again is going to help the bottom line for the business, but also we were talking about in the beginning of our conversation, Tracy, that the impact of mining precious metals is so immense that once we get it out of the ground, we want to make sure that every little spec of gold and silver stays in the supply chain. So, everything we can do as jewelers at the bench to collect as much of that scrap as possible is actually keeping the metal in the supply chain and adding more resources for that recycling system that we are talking



about being able to purchase recycled metals. So, I offer some tips about how to do that and just little basic things, you know. It's not about buying a lot of expensive equipment, it's about thinking through your operations and really just making small adjustments so that you can be as efficient as possible.

The one part in the book that I haven't mentioned yet is, the third section outlines ways for people to purchase materials that are ethically sourced and all of the considerations that they should think about as ethical sourcing which was the topic of the conference where we met, the Responsible Jewelry Conference in Chicago. So, as you know from that conference, there are a lot of considerations and a lot to think about, and it is hard to know where to get started. So, I like to give people kind of an overview of what to think about and what questions to ask the suppliers and how to come up with your own policy of what you want to achieve as far as sourcing your materials.

Do you want to ensure that no child labor has been used in the sourcing or do you want to make sure that there are no chemicals being used in the gold processing. There are all kinds of ways you can set a sourcing policy and then change your material sourcing to fit the parameters.

Tracy: Absolutely. Well, Christine, this is awesome today. You mentioned to me that you can buy the book on Amazon, and they'll also be able to buy it on your website, greenjewelrynews.com.

Christine: Greenjewelrynews.com. I'll have a link there as well as far as purchasing it, and lots of information about the book, and right now, Amazon actually has a preview of the book so people can see the first 20 pages online and get an idea of the layout, and the first section, like I was talking about is all the chemicals and all the information about how to protect yourself when you're using them and choose ones that will protect your health as well as get the job done. Yeah, so, greenjewelrynews.com is my website, and all the information about the book there as well.

Tracy: Christine, when is the book released?

Christine: Well, it's already out. So, it's available right now online or purchase in all the major suppliers, the jewelry suppliers should have it as well.

Tracy: And, I know we can buy it on Amazon, and on your website, greenjewelrynews.com.



Christine: That's right.

Tracy: Awesome. Christine, thank you so much for being here today. It's been a pleasure.

Christine: Thank you so much Tracy. I really enjoyed it.

Tracy: Thank you for listening to the show today. We are going to have all the resources that Christine spoke about as well as access to our Jewelry Brand Makeover Quiz in the show notes. You can head on over to flourishthriveacademy.com/episode188 to grab your show notes, buy the book on Amazon or wherever books are sold, and start getting in the practice of safe jewelry habits. This is Tracy Matthews signing off. If you haven't done so yet, make sure that you rate and review the show. I'm really looking forward to continuing to help you flourish and thrive.