# Fall 2023 Newsletter

## Sustainable Chemicals through Contemporary Toxicology
Specialty Section

## President's Letter

**Dear Sustainable Chemicals through Contemporary Toxicology Members,**

Summer has zoomed by, and we are already getting into fall! Our Executive Committee was very excited to see so many thoughtful and exciting session proposals related to SCCT's mission. We are also looking forward to receiving award applicants and seeing your names on our ballot for next year's Executive Committee.

This issue includes reflections from our joint mentoring event at the Annual Meeting in Nashville and pieces on product stewardship and a new database designed to help users avoid inadvertently generated PCBs (iPCBs) in pigments. We also have announcements for upcoming webinars and the officer ballot. Share this newsletter with a colleague who is not a member, and let's watch SCCT grow! As always, reach out if you would like to get involved!

Stay well, bring peace, be bold,

Brittany Baisch, PhD, DABT
SCCT President

## In This Issue



**New to SCCT** or new to sustainability in toxicology? Please check out our website to learn more about our group's mission and activities!

**Looking for some resources** related to sustainability in toxicology? We put together a (non-exhaustive) list of tools, learnings, and organizations to browse.

**Follow us on LinkedIn!** We post about events and resources related to sustainability in toxicology, as well as member highlights. If you're interested in being featured, reach out to Monika Roy on LinkedIn.

## 2023-2024 SCCT Executive Committee: Meet the Leadership!

If you know of someone or if you are interested in joining our team as a Postdoctoral Representative, please reach out to Past President Margaret Whittaker.

**Margaret Whittaker**
Past President & Councilor

**Brittany Baisch**
President

**Lauren Brown**
Vice President

**Damani Parran**
Vice President -Elect

**Joanna Klapacz**
Secretary/ Treasurer

**Azita (AJ) Cuevas**
Senior Councilor

**Monika Roy**
Junior Councilor

?

**(THIS CAN BE YOU!)**
Postdoctoral Representative

**Neha Paranjape**
Graduate Student Representative

# Product Sustainability

*By Kevin Kransler, PhD, DABT, CPPS*

As society becomes increasingly aware of the impact our choices have on the environment, the concepts and work in product stewardship and product sustainability will continue to grow in importance. In the pursuit of a greener future, these two concepts play a vital role in establishing a more sustainable and resilient economy, safeguarding human health and the environment, and preserving the planet for future generations.

Product stewardship and product sustainability are comprehensive and include proactive approaches to managing the environmental, health, and safety aspects of a product throughout its entire life cycle. This involves taking responsibility for a product's impact on the environment and society, from the initial design and sourcing of materials to its manufacturing, distribution, use, and end-of-life disposal or recycling. The core principle of product stewardship is to minimize negative environmental and social impacts while maximizing positive contributions and value. By implementing robust product stewardship and product sustainability practices, companies can improve their environmental performance, bolster product safety, and cultivate stronger relationships with clients and customers who prioritize safety and sustainability.

**PSX Conference 2023—Boston MA, October 17-19th:** This comprehensive leadership forum aims to foster strategies that promote the development of safer and more sustainable products. Product stewardship professionals can expect insightful discussions, innovative approaches, and collaborative efforts to drive positive change and create a greener future. Explore diverse topics about the latest trends and challenges in product stewardship and product sustainability through a series of insightful learning sessions at this year's event. Discuss everything from resolving environmental compliance issues using design thinking, to aligning product portfolios with corporate sustainability objectives, to managing enterprise risk. Hear updates on chemical regulations such as global trends in packaging EPR and dive into the world of artificial intelligence, circular economy, and product risk assessment. The program will offer valuable insights into sustainable business practices and better product stewardship.

Don't miss this opportunity to collaborate with industry experts and innovators to collectively shape a more sustainable future.

# Save the Date! Nov. 6th SCCT Webinar Featuring the US EPA

**November 6, 11:00 AM–Noon ET, SCCT will host the US EPA!** We will provide an overview of the TRI Toxics Tracker tool. The Environmental Justice and Risk Analysis section of the tool will be presented. There will also be an introduction to the Solvent Substitutions Page and time at the end for questions and discussion.

This webinar will also spotlight the Association for the Advancement of Alternatives Assessment (A4). Join us for an informative and interesting session, and see how this tool might be useful in your work.

Please register here!

# Submit Your Abstract to SOT 2024!

SCCT is pleased to see several sessions related to our mission! See the list of tentatively accepted sessions. Please consider submitting an abstract during the upcoming abstract submission period! Abstracts are due November 13, 2023, at 11:59 pm. Get them in early!

63RD ANNUAL MEETING
& ToxExpo • March 10–14, 2024
SALT LAKE CITY, UTAH

# INSIGHTS FROM THE 2023 JOINT MENTORING EVENT

*By: Neha Paranjape*

Attending the 2023 Joint Mentoring event at the SOT Annual Meeting in Nashville was a great way to meet several professionals in toxicology from industry, consulting, academia, and government. The event was very well-organized and was geared toward fostering relationships between trainees (mentees) and professionals (mentors) in toxicology. The mentees were given a list of tables for rotation, where they met 2–4 mentors per table, as well as a list of all the participating mentors, should they wish to connect with anyone specifically—which I thought was a very useful component. Time passed by very quickly during the event, and all the discussions at tables were interesting and insightful! The tables I rotated through had mentors who were willing to provide collaborative feedback to the mentees' questions, as well as being willing to connect and chat more post-event. Overall, this event was a great way to network for graduate students and postdoctoral trainees, and I hope this event continues to be arranged every year.

# PRESENTING ON SUSTAINABLE CHEMISTRY AT THE 2023 FALL ACS MEETING IN SAN FRANCISCO

*By: Monika Roy, PhD, MSPH*


In August, I was fortunate to be able to travel to San Francisco to present on *What Sustainable Chemistry Means, Beyond the Hazards of Chemicals*, which is what is normally focused on in toxicology. From a more holistic view, sustainable chemistry also includes lifecycle impacts, climate and ecosystem impacts, equity considerations, and other factors. This project was released earlier this year and was intended to inform the US Office of Science and Technology Policy efforts to define sustainable chemistry, which was recently released. The goal of this work is to guide chemical and product development in safer and more sustainable ways for human health and the environment.

# The iPCB Pigment Resource: A Database Designed to Help Users Avoid Inadvertently Generated PCBs (iPCBs) in Pigments

*By: Lauren Heine, PhD, Co-Founder and Strategic Advisor to ChemFORWARD and President of the Association for the Advancement of Alternatives Assessment (A4), and Doug Krapas, Environmental Manager at Inland Empire Paper Company*

Polychlorinated biphenyls (PCBs) are a class of chemical compounds with 209 different congeners depending on the number and location of chlorine atoms on the biphenyl structure. Although the US EPA banned polychlorinated biphenyl (PCBs) in 1979 for hundreds of applications, the agency still allows for the inadvertent generation of PCBs to occur in excluded manufacturing processes[1] (CFR 761.3). Known as inadvertent PCBs (iPCBs), they are byproducts formed when manufacturing certain pigments and dyes, silicones, and vinyl chloride. Inadvertent PCBs in pigments are allowed at a maximum concentration of 50 ppm (25 ppm on a yearly average). While this does not sound like much, it is becoming increasingly problematic when one considers the life cycle of pigments, where printed paper and packaging materials enter and contaminate recycling streams and subsequently hinder our collective ability to achieve a safe and healthy "circular economy."

Even the most modern specialty paper mills in the world, like Inland Empire Paper Company (IEP) in Spokane, Washington, cannot remove enough of the iPCBs to meet water quality standards designed to protect public health, including the quality of a primary food source for tribal communities[2]. Paper recyclers remove inks and pigments and 99.9% of the iPCBs entering their facility, but they are required to limit their effluent to meet water quality standards for PCBs in the Spokane River that are billions of times lower than the federal TSCA iPCB allowance. Currently, such mills can only meet water quality standards by eliminating recycling.

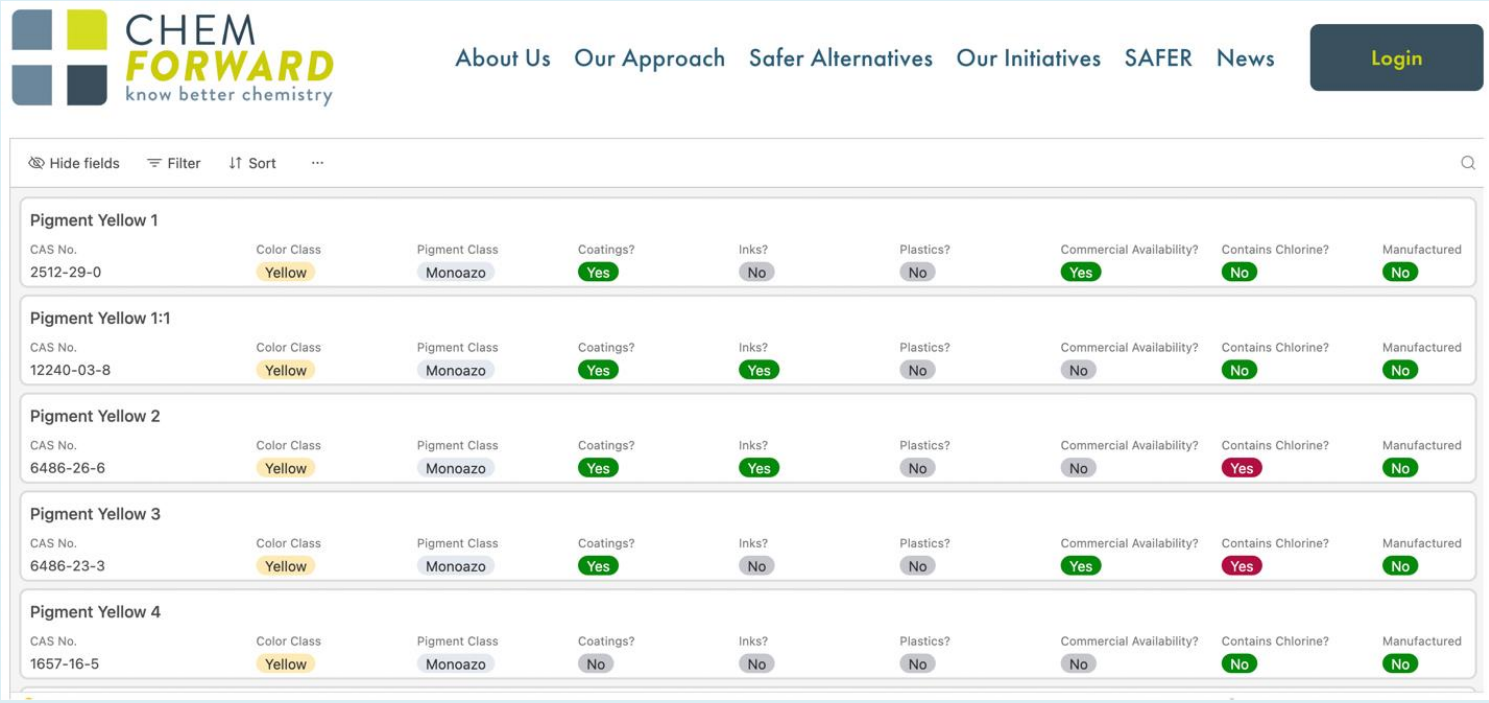
| Reference | PCB Concentration (ppm) | PCB Concentration (ppq) | Magnitude Difference |
|---|---|---|---|
| **Federal TSCA Allowance** | **50** | **50 000 000 000** | **----** |
| EPA Standard Imposed on WA | 0.000000007 | 7.0 | **7,142,857,143** |
| *Spokane Tribe WQS | 0.0000000013 | 1.3 | **38,461,538,462** |

*Adopted a Fish Consumption Rate of 865 grams/day (1.9 pounds per day), currently the most stringent water quality standard in the nation

ChemFORWARD created the iPCB Pigment Resource with support from the Spokane River Regional Toxics Task Force (SRRTTF). The Pigment Resource is a freely available, searchable dataset of nearly 400 pigments organized by chemical name, CAS#, color index number, application (coatings, inks, or plastics), availability in the US market, and whether they were manufactured using chlorinated solvents or are comprised of organochlorine molecules. The tool can be used to help identify pigments that are unlikely to contain iPCBs because there is no chlorine in the pigment molecule or in its manufacturing process. While the iPCB Pigment Resource does not provide information on performance characteristics or full chemical hazard assessments, it does identify alternative pigments that may be used for similar applications.

The iPCB Pigment Resource is being used for a pilot project engaging a pigment supplier, an ink manufacturer, IEP, ChemFORWARD, and two Inland Northwest printers. This unique collaboration is analyzing currently used inks for the presence of iPCBs and then reformulating those inks with alternatives identified from the iPCB Pigment Resource. A Quality Assurance Project Plan was developed to demonstrate the feasibility of replacing iPCB-containing pigments with those that do not contain iPCBs, including procedures for evaluating ink performance and relative cost. If successful, this pilot project will offer evidence that safer alternatives, based on the absence of iPCB impurities, are available and feasible. The ultimate goal is to provide safer

alternatives to ink formulations that will preserve paper recycling operations and reduce the iPCB load that is currently polluting waterways.




**References:**

[1] U.S. Environmental Protection Agency. Inadvertent PCBs.

[2] Association for the Advancement of Alternatives Assessment (A4). Between a Rock and a Hard Place: Inadvertent PCBs (iPCBs) and a Circular Paper Economy. A4 Quarterly Webinar.

# ADVANCEMENT of ALTERNATIVES ASSESSMENT SYMPOSIUM—OCTOBER 25–26th

*By: Margaret Whittaker, PhD, MPH, CBiol, FRSB, ERT, DABT, and Colleen McLoughlin, PhD, DABT, ERT*

The Association for the Advancement of Alternatives Assessment (A4) is hosting the **International Symposium on Alternatives Assessment on October 25–26, 2023** at the University of Washington in Tacoma, WA. The Symposium sessions will support continued learning about advances in the field across all facets of the assessment process with a special focus on advancing equity considerations to protect against unintended and unjust consequences in the outcomes of an alternatives assessment. **A4 invites SCCT members to join!**


The A4 hosts quarterly webinars and would like to invite SCCT members to attend and check out the previous webinars (with recent topics including MoCRA and ZeroPM).

**A4 will be joining us for the upcoming SCCT webinar "Overview of the EPA Toxics Release Inventory (TRI) Toxics Tracker" on November 6.**

# SOCIAL HOTSPOTS DATABASE CONTINUING EDUCATION COURSE—October 24th

*By: Margaret Whittaker, PhD, MPH, CBiol, FRSB, ERT, DABT*

The SCCT and the Association for the Advancement of Alternatives Assessment (A4) invite you to register for an in-person Social Hotspot Database Project CE Course of interest on **October 24th** in Tacoma, Washington. This year's A4 Symposium, "Enhancing Safety, Health, and Equity," will take place October 25–26 and includes a special focus on advancing environmental justice and equity considerations in alternatives assessments. Although environmental justice has its roots in the US, the concept is highly linked to social justice and related human rights issues that form the basis of global environmental and social governance (ESG) initiatives.

The Social Hotspots Database Project aims to foster greater collaboration in improving social conditions worldwide by providing the data and the tools necessary for improved visibility of social hotspots in product supply chains. Participants can expect to learn about: (1) key attributes applicable to alternatives assessments to evaluate social impacts of chemical/product manufacturing globally using tools such as social life cycle assessment; (2) how to use the social hotspots database; and (3) lessons learned from the instructor and participants to support evaluating and utilizing information about social hotspots to inform chemical selection decisions.

**INSTRUCTOR:** Gregory Norris, Co-Creator and Executive Director, Social Hotspot Database

Registration for the CE course is separate from the A4 Symposium ticket. Please register here for the CE course.

# AWARDS! AWARDS! AWARDS!

If you are a graduate student or postdoc, please plan on competing for an **SCCT Graduate Student** or **SCCT Postdoc Award**. The deadline for your submission is **January 10, 2024**. In addition to providing you with a cash award and recognition at the SCCT annual reception, winning the award looks great on a CV! Please read about the awards on the SCCT Awards web page.

# MEMBERSHIP OPPORTUNITIES!

Members willing to help with webinar planning, newsletter content, furthering communications (social media, blogs, etc.), or award judging are always welcome! Please reach out to President Brittany Baisch if interested.

# JOIN THE SCCT LEADERSHIP TEAM!

The following positions will be open for the **2024–2025** cycle: Secretary-Treasurer, Postdoc Rep, Junior Councilor, VP-Elect, and Grad Student Rep. If you are interested in running for any of these positions (see descriptions here), the deadline for your biosketch submission to Past President Margaret Whittaker is **October 31**.

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