# Chemicals and Waste Management Community of Practice (CoP)
# Discussion 3 Summary

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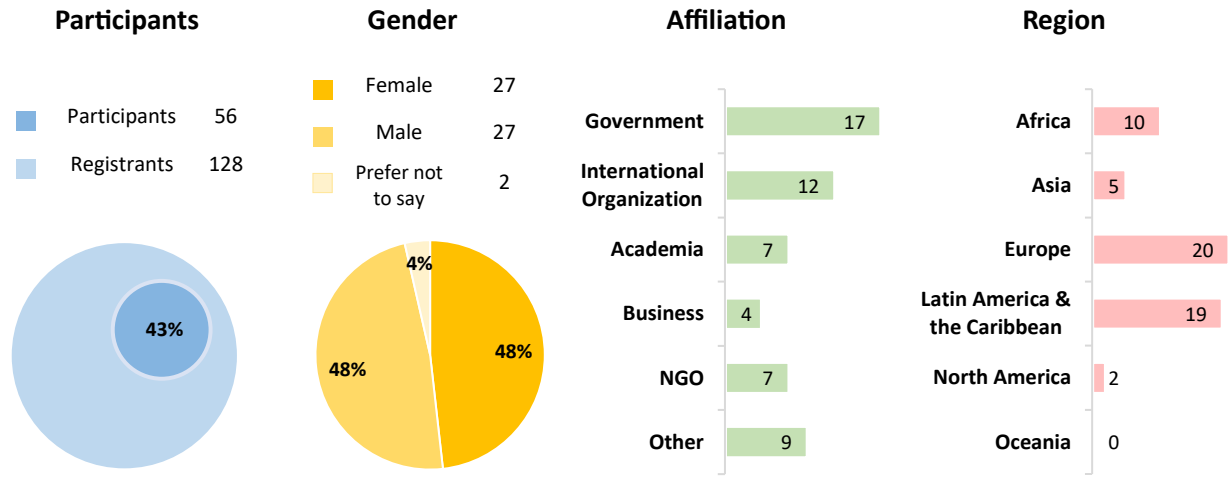
| **Title** | Chemicals in Plastics: A deep dive into composition, recyclability and policy implications |
| **Date & Time** | 28 June 2023, 14:00 – 15:30 (UTC+2) |
| **Recording** | https://youtu.be/XZk6aCX8JkQ |
| **SAICM CoP** | ggkp.org/ChemAndWasteCoP |

Plastic products present a complex challenge in that multiple chemicals that give plastics their versatility and durability simultaneously complicate recycling processes and pose potential health and environmental risks. The Intergovernmental Negotiating Committee (INC) on Plastic Pollution is in the process to develop an internationally binding instrument on plastic pollution, including the marine environment. Recognizing the cross-cutting influence that chemicals have on plastics, the CoP discussion zoomed in on the pressing issues related to chemicals in plastics and the unique difficulties SIDS face in handling plastics as an import-dependent economy.

It was noted how plastic additives such as POPs can be a hurdle for recycling as well as a potential threat to humans and the environment. An approach to address chemicals along the plastic life cycle was brought up and separation, data for better transparency and traceability, non-regrettable chemical substitution and producer responsibility were discussed as part of solutions. Multistakeholder discussion inviting especially the industry, would be key to reaching a toxic-free circular plastic economy.

## Attendee Report





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## Presenters

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| | **Roland Weber**, International Panel on Chemical Pollution and POPs Environmental Consulting |
|  | Since 30 years Dr. Roland Weber does research on persistent organic pollutants (POPs) and since 18 years he works as international consultant mainly for UN Organisations (UNEP, UNIDO, UNDP, Secretariats of the Basel Rotterdam and Stockholm Convention) and supported more than 30 environmental ministries in the implementation of the Stockholm Convention on POPs.<br>He is lead author of the UNEP publication "Chemicals in Plastic – A Technical Report" and is coordinating a UNEP project on POPs in plastics with other members of the International Panel on Chemical Pollution (a science NGO) including a recent webinar series.<br>Dr. Weber published more than 180 papers in scientific journals (h-index 45). |

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| | **Melanie Ashton**, Project Coordinator and Private Sector Engagement Specialist, Green Growth Knowledge Partnership (GGKP) |
|  | Melanie Ashton coordinates the Global Environment Facility (GEF) funded Implementing Sustainable Low and Non-Chemical Development in SIDS (ISLANDS), Coordination, Communication and Knowledge Management project. She also serves as the Private Sector Engagement Specialist for GEF ISLANDS, leading engagement activities with the shipping and cruise sectors on behalf of the ISLANDS Programme.<br>Prior to this role, Melanie was a member of the UNEP-GEF Chemicals and Waste, in UNEP's Economy Division. In this role Melanie coordinated the development of the ISLANDS Programme. She has developed chemicals and waste projects for GEF, the French Government (l'AFD), the Australian Government and the UN Food and Agricultural Organization. Melanie also led the Australian government funded landmark Persistent Organic Pollutants in Pacific Island Countries project, which involved the inventory, collection and clean of legacy POPs waste from 13 Pacific countries. She is the author of various papers and book chapters on chemicals and waste issues relating to the Stockholm Convention.<br>Melanie holds a Masters in Environment and Development Economics, from the London School of Economics and Political Sciences, where she was a Commonwealth Scholar. She also holds a First Class Honours Degree in Earth Sciences from the University of Melbourne. |

## Facilitator

**Brenda Koekkoek**, Senior Programme Manager, Secretariat of the Intergovernmental Negotiating Committee, UN Environment Programme (UNEP)

Brenda Koekkoek is a Programme Manager at the Secretariat of the Intergovernmental Negotiating Committee to develop an international legally binding instrument on plastic pollution, including in the marine environment.

Previously, Brenda worked as a programme manager for the Circle of Excellence on Plastic Pollution, which aimed to foster UNEP-wide leadership, collaboration and communication on marine litter and plastic pollution towards collective impact through establishing and coordinating the internal UNEP Circle of Excellence on Plastic Pollution. By promoting multi-stakeholder engagement and policy dialogues for plastic pollution, including deliberations for a possible future global agreement, she also supported the UNEP-wide sustainable consumption and production workstream including on waste management, chemical additives and microplastics. Prior to this, Brenda worked in a leading role with the secretariat of SAICM from 2012 onwards, including managing the secretariat efforts to design and now execute this multi-stakeholder SAICM GEF project.

Upon joining UNEP in 2006, she worked to establish and manage the Global Mercury Partnership and in providing policy support to the negotiation process for the development of the Minamata Convention on mercury. Prior to UNEP, Brenda worked at Environment and Climate Change Canada on air quality and chemical-related issues.

Brenda holds a Bachelor in Environmental Engineering and a Master's degree in Environmental Management.

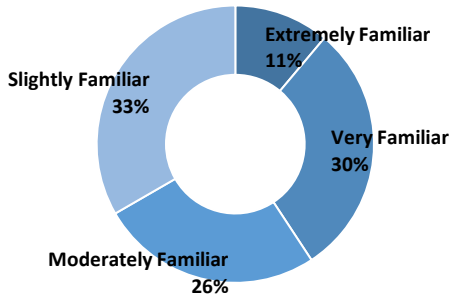
## Summary of Discussion

**INC Process**

The discussion kickstarted with a presentation on the background of the INC process. In March 2022, UNEA (United Nations Environment Assembly) adopted a resolution that calls for the development of an internationally legally binding instrument on plastic pollution, including the marine environment. The negotiations continued since November 2022 and in INC-2 in Paris, a discussion on 12 control measures highlighted how the chemicals issue is cross-cutting many aspects of plastics from the design and waste management to human health.

**POLL 1**

How familiar are you with the development process of an international legally binding instrument on plastic pollution?




**QUESTION 1**

What are the most pressing issues for you related to chemicals in plastics?

**Key elements discussed by participants and presenter during the discussion:**

The newly published "Chemicals in Plastics: A Technical Report" by UNEP, in collaboration with the BRS Secretariat, outlines multiple issues linked to plastic pollution and associated chemicals. The report integrates two studies on chemicals in plastics, revealing that of the 13,000 substances associated with plastics, more than 3,200 are chemicals of potential concern. Additionally, it points out 10 specific groups of chemicals of concern due to their hazardous nature.

The report underscores a robust link between chemicals of concern in plastics and SAICM emerging policy matters, as well as health and environmental issues. These concerning chemicals have been discovered in plastics across various sectors and product value chains and can be released during any phase of a plastic's life cycle. Consequently, addressing these chemicals could help resolve a spectrum of SAICM-related and other pressing issues.

Additionally, the report shows that regulated plastic additives, like Persistent Organic Pollutants (POPs) listed in the Stockholm Convention, can hinder the recycling process. Even though certain plastic additives, especially PBDEs, need to be excluded from recycling, their presence is often unnoticed.

There was a consensus among presenters and participants on the need for initial separation before recycling, particularly when dealing with toys and other plastics containing numerous unintended, non-recyclable additives. While floating was suggested as one separation method, an effective strategy for handling legacy chemicals in plastic is still necessary. They also stressed the importance of a robust regulatory framework and the ability to enforce it. Additionally, the lack of data was identified as a key obstacle that needs to be overcome to improve transparency and traceability, with the current stage seen as just the start of the process.

| **QUESTION 2** |
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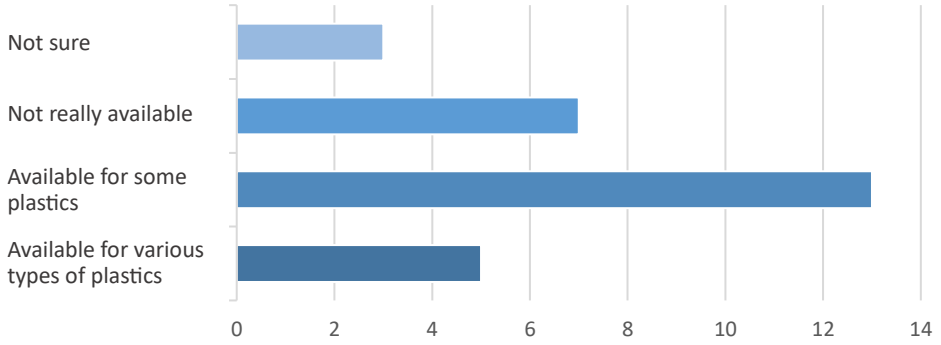
| What challenges are you finding in managing plastics containing hazardous chemicals – specifically end-of-life vehicles and management of e-waste? |

**Key elements discussed by participants and presenter during the discussion:**
When it comes to the recycling of plastics, Small Island Developing States (SIDS) face particular challenges due to their heavy reliance on imports. Both the presenters and participants engaged in discourse around the GEF ISLANDS Programme. ISLANDS works with a variety of issues related to hazardous chemicals, products and materials that are imported into SIDS. It also encourages learning and knowledge exchange between these states. Unique problems that SIDS grapple with, like the absence of sufficient recycling infrastructure and the expenses associated with transporting recyclable waste to markets, were brought to light during the discussion.

The dialogue also extended to the exploration of two available recycling methods. One approach is the sink-float waste management technology, which is used to isolate valuable ABS and other significant flame retardants. The second methodology is a type of dissolution process, where plastics are immersed in a solvent to thin out the polymer and additives.

**POLL 2**

Are recycling facilities available in your country for various types of plastics waste?




Presenters and participants agreed on the complexity of the recycling techniques. This prompted a discussion about the need to simplify the composition of plastics. However, it was acknowledged that this task requires further exploration, given that additives and chemicals each lend unique functionalities to plastic. Furthermore, it was proposed that it is essential to officially recognize and educate informal recyclers about the chemicals in plastics, thereby reducing stigma and promoting better understanding in this area.

**QUESTION 3**

What kind of incentives and regulatory frames can be created such that supply chain actors can transfer information regarding chemicals in plastics throughout the plastics lifecycle? E.g. from plastic manufacturers to businesses and consumers that use plastics and finally to waste managers that have to deal with (problematic) plastic waste.

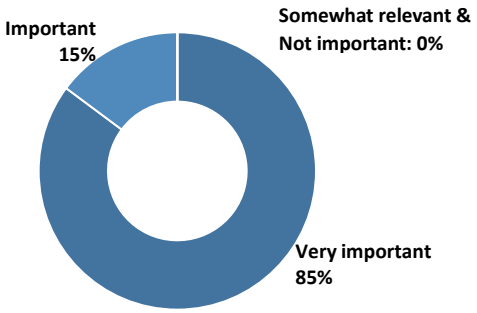
**Key elements discussed by participants and presenter during the discussion:**

During the discussion, the presenter and participants examined several strategies to manage chemicals throughout the plastic lifecycle. They recognized the challenges in replacing these chemicals due to their

varying functions in plastics, including color durability and toughness. However, they also highlighted that many other chemical or even non-chemical alternatives exist. The importance of substituting chemicals of concern and assessing alternatives to prevent regrettable substitution was emphasized as a crucial part of the solution. Europe's ongoing efforts to eliminate flame retardants from televisions were cited as an example.

**POLL 3**

For how relevant do you consider chemicals of concern for a (more) circular plastic economy?




For better transparency and traceability, the need for a comprehensive toxicity assessment of a broader range of chemicals was discussed. This approach, they agreed, is essential for a safe, toxic-free circular economy. They also mentioned potential strategies to enhance producer responsibilities, including the EU digital product passport.

The participants stressed the need for more constructive dialogue with the industry. They suggested that industry players could collaborate with international projects and partner with other sectors to contribute to science-based standards development.

The discussion concluded with an overview of the INC negotiations related to chemicals and plastics. The participants indicated that an agreement on both voluntary and legally binding measures through the INC process could potentially be implemented internationally, including among SIDS, to support countries in the short term.

## Useful Resources

- UNEP, Chemicals in Plastics: A Technical Report
- Enabling a circular economy for chemicals in plastics
- Deep Dive into Plastic Monomers, Additives, and Processing Aids
- UNEP, An Assessment Report on Issues of Concern: Chemicals and Waste Issues Posing Risks to Human Health and the Environment
- Chicago Tribune, Tribune Watchdog Playing with Fire (Series on flame retardant in the US)
- Flammability standards for furniture, building insulation and electronics: Benefit and risk
- Halogenated Flame Retardants: Do the Fire Safety Benefits Justify the Risks?

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