

COMMUNITY OF PRACTICE ON CHEMICALS IN PRODUCTS

Organized by the SAICM Secretariat and the University of Cape Town

Issue: 2 of 2022

Discussion date: 12th May 2022

Discussion digest

Topic of Discussion: Traceability tools across supply chains.

With increasing pressure for environmental and social due diligence in global value chains, traceability has become a necessity. Without traceability, there can be no transparency and no accountability for the impacts of production and consumption decisions. The United Nations Economic Commission for Europe (UNECE) and the International Trade Centre (ITC), jointly with key industry stakeholders, have been working since 2019 on a project, funded by the European Union, to improve the sustainability of value chains in the garment and footwear sectors through greater traceability and transparency. The second discussion of the Chemicals in Product CoP was titled “Traceability tools across supply chains” and was presented by Virginia Cram-Martos, UNECE, Lorenzo Zullo, Chemchain and, Deborah Taylor, UNECE.

To view the PowerPoint presentation from this discussion, click [here](#).

ABOUT THE PRESENTERS



Virginia Cram-Martos, UNECE Project Expert is CEO of Triangularity, a social impact company that supports the use of innovation, e-commerce, and trade for development (<https://triangularity.net/>). Previously, she worked as Director of the Economic Cooperation and Trade Division at the UNECE. She is tri-lingual (English, French, Spanish) and holds an MBA in International Business from the University of Chicago and a Master’s in Finance from the Université Catholique de Louvain in Belgium.



Lorenzo Zullo graduated in environmental engineering at the Politecnico di Milano (Italy) and in chemical engineering at KTH, the Royal Institute of Technology in Stockholm (Sweden). He worked for 15 years in Brussels for different European industry associations, including tyre and rubber manufacturers (ETRMA) and for the metal sector (Eurometaux). He also had the opportunity to chair the cross-industry European Platform for Chemicals Using Manufacturing Industries (CheMi), representing a variety of sectors and comprising approximately 400 000 companies. In 2015 he began his entrepreneurship career. He founded [Chemycal](#), an innovative online platform for companies to monitor chemicals regulatory trends imparting their product portfolio. In 2020, he started to work on [ChemChain](#), a revolutionary blockchain platform to transfer information on chemicals in products along the value chain, from chemical manufacturers to consumers, recyclers, and waste operators.

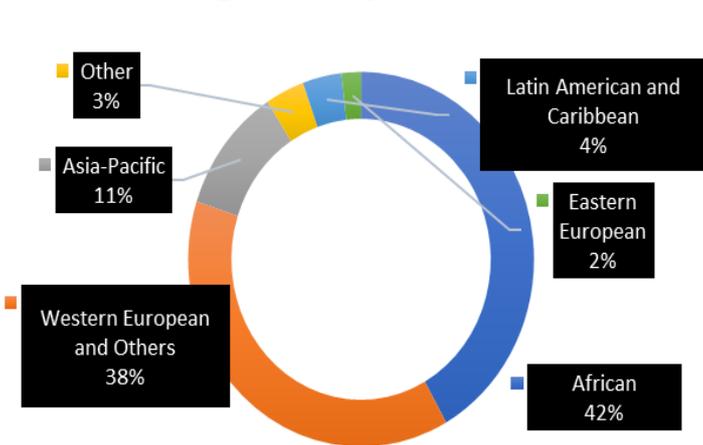


Deborah Taylor, UNECE Project Expert Leather Value Chain, the Managing Director of the Sustainable Leather Foundation, a not-for-profit Foundation, set up specifically to support the leather industry in becoming more sustainable. The purpose of the Foundation is to provide a global platform for the benefit of all stakeholders in the leather value chain. A practitioner member of the Chartered Quality Institute and a certified SA8000 lead auditor, Deborah also currently works as a Consultant for the UNECE on the project to “enhance traceability and transparency for more sustainable value chains in the garment and footwear sector”. In addition, she is a Council Member for the Society of Leather Technologists and Chemists.

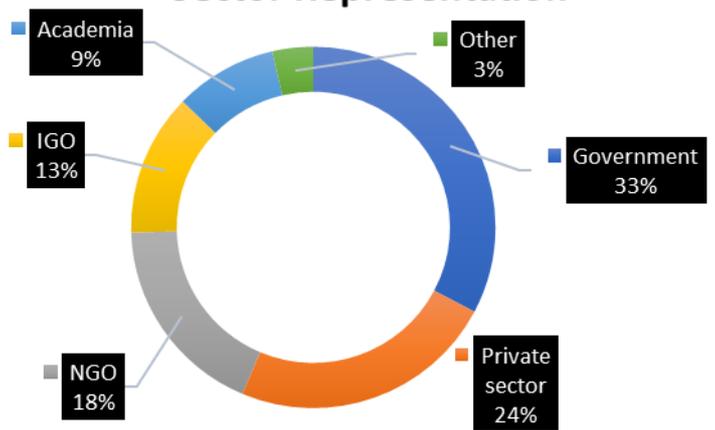
2022 DISCUSSION 2 ATTENDANCE BREAKDOWN

TOTAL ATTENDEES FOR 2022 DISCUSSION 2: 55
Female – 49%
Male – 49%
Unknown – 2%

Regional Representation



Sector Representation



Key:
IGO – Intergovernmental organisation
NGO – Non-governmental organisation

Chemicals in Products Community of Practice 2022 Discussion 2 Summary and looking ahead

This discussion covered **three aspects** of traceability like the "**role of traceability to support sustainability in the production and use of chemicals in the supply chains**", and "**the use and transfer of information on chemicals in products along the value chain via Digital Products Passports (DPPs)**" and case studies of proven technology solutions to support sustainability in the production.

Most participants agreed that **traceability is important to support sustainability in the production of chemicals and helps with aspects of health such as the health and safety of consumers. It is also important for the identification of products during their lifecycle, it promotes effective stock management and gives the ability to recall products.** 55% of participants (n=11) stated that there is legislation that support traceability of chemicals in place in their countries while 25% (n=5) were not aware of such legislation and 20% (n=4) of respondents stated that their countries do not have such legislation in place. A total of 44% (n=7) respondents stated that their countries are currently using a traceability system to verify claims about chemicals used in products while 50% (n=8) of participants were not sure whether they have used it or not and 6% (n=1) said that they did not use any traceability system in their countries.

Participants had various opinions when it came to the use and transfer of information on chemicals in products along the value chain via DPPs. Some participants found that **the implementation of DPPs is a good opportunity to allow brands and retailers to increase transparency towards consumers and give more visibility to sustainable brands.** The DPP is also considered **a potentially valuable tool to facilitate sorting and recycling of products at the end of their life.** Concerns were raised regarding the **practicality of having a product passport for all products and the ability to capacitate at an equal level all the countries and companies in this process as well as the role of substitution of hazardous chemicals using DPPs.** Despite these challenges, 65% (n=13) of participants thought that in the future, every product will have to come with its digital product passport while 30% (n=6) said they do not think it is possible. Participants rated infrastructure, standardisation, acceptance, and confidentiality as the main challenges that will inhibit the implementation of DPPs for all products.

One case study on **agrochemicals usage in Zimbabwe** was mentioned as an example of **technology solutions to support sustainability in the production.** Respondents stated **that it will be difficult in practice to trace materials from waste to new material and it is a challenge for brands to provide full disclosure of chemicals in products but not a challenge to disclose information about hazardous chemicals.** When selecting which technologies can support the traceability of chemicals and chemical management, participants identified that the use of QR codes to be scanned with smartphones (n=2) and Blockchain Technology (n=2) will support the best traceability of chemicals and chemicals management. The main challenges to adopting technology solutions for traceability identified were cost (n=13), security of information (n=13) and infrastructure (n=13).

These comments reflect that **the challenge is not in providing information on traceability but in the implementation thereof.** Looking ahead, when thinking about sustainability, regardless of what is done by regulators and policymakers, **it is up to the concerned organisations to incorporate traceability in the everyday function of business instead of seeing it as an add-on.** This will have a greater impact on achieving traceability and will help with ensuring the safety of products consumed. The involvement of organisations will facilitate the conversation and partnership throughout the value chain. If sustainability becomes part of the future, then we are heading on the right path.

ANNEX

DETAILED SUMMARY OF DISCUSSION:

Disclaimer: The information in this digest represents the opinions of members participating from different stakeholder groups expressed during the discussion. The views expressed in this document do not necessarily represent the opinion or the stated policy of the United Nations Environment Programme, the SAICM Secretariat, the GEF or UCT, nor does citing trade names or commercial processes constitute an endorsement.

THE DISCUSSION WAS STRUCTURED AROUND THREE QUESTIONS AND THE KEY DISCUSSION INPUTS FROM PARTICIPANTS ARE PRESENTED UNDER EACH QUESTION:

Q1. What is the role of traceability to support sustainability in the production and use of chemicals in supply chains?

COUNTRIES	PARTICIPANT'S RESPONSES
ARMENIA (NGO)	<ul style="list-style-type: none">- Traceability is important for the protection of the health and safety of consumers as well as people involved in the production stages.- It helps with keeping track of the ethical aspect of production practices and the conditions under which the garment is produced.
GUYANA (GOVERNMENT)	<ul style="list-style-type: none">- Traceability has a very important role in clearly identifying the source of chemicals in products, and to make health and safety decisions in regulatory actions or modification of formulation at production.
MADAGASCAR (OTHER)	<ul style="list-style-type: none">- Traceability enables preventing the distribution and dispensing of adulterated, expired, banned chemicals, and promotes effective stock management.
OTHER	<ul style="list-style-type: none">- Traceability helps to avoid problems leading to a capacity that is particularly important for process manufacturers – the ability to recall products. With the right information, it is possible to promote efficiency and improve decisions making through traceability.
SOUTH AFRICA (ACADEMIA)	<ul style="list-style-type: none">- Commercial products are used daily, and people are always in contact with them. Production of such products involves a variety of chemicals that may pose harm to consumers. Therefore, it becomes important to document chemicals that are used in the production processes of such goods. The data should be readily available for accountability purposes to protect human health.- Traceability is important in creating trust and transparency and such an approach can sustain production because consumers will be informed about the possible dangers of using the products.- Traceability approaches help governments to enforce laws that protect human rights' issues.- Traceability systems help reduces the use of counterfeit chemicals in the production process. This approach helps companies understand the origin of chemical ingredients through authentication. This approach is part of the standards certification process. In Zimbabwe, this approach is beneficial in tracing the origins of agrochemicals.
SOUTH AFRICA (NGO)	<ul style="list-style-type: none">- Traceability helps to ensure safety during the entire material/product life cycle and enables the identification of materials suitable for recycling.- Transparency is key for human health and safety
SOUTH AFRICA (PRIVATE SECTOR)	<ul style="list-style-type: none">- The ability to identify, track and trace elements of a product or substance as it moves along the supply chain from raw goods to finished products. E.g., identification of hazards before production and use of ingredients could be a conflict mineral.
TANZANIA (IGO)	<ul style="list-style-type: none">- Traceability is important for the identification of sources, and production to establish the fate of products. Taking a measure like recycling needs traceability information.
USA (PRIVATE SECTOR)	<ul style="list-style-type: none">- There is a need to decouple transparency from traceability. Traceability is critical for sustainability and other things like regulatory compliance, but transparency implies disclosure to actors outside the supply chain which does not necessarily guarantee the well-being of the last user. Thus, it enables supplies of the right chemical quality to be availed.
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QUESTIONS FROM PARTICIPANTS

RESPONSES

FRANCE (IGO)

- What does the traceability data look like in practice? Is it a sticker or a barcode on the garment label for example? Or provided with the packaging somehow?

USA (PRIVATE SECTOR)

- Are consumers asking for transparency or just NGOs?

- There could be different solutions depending on the product. For a t-shirt a QR code or an RFID tag on the label is probably the most suitable solution.

- It is not only NGOs who are asking for transparency. Some surveys prove that consumers are increasingly interested in knowing what dangerous chemicals there are in products. Consumers are looking for information in a more easily “consumable” format such as labelling that makes product claims, but companies cannot make claims without being able to support them. Some companies do make even more information available, for example, in agriculture information about the farmer who grew coffee/cocoa/bananas, etc. The brands who provide this find that younger consumers appreciate this thus giving them greater consumer loyalty.

Throughout the discussion, informal polls were conducted to help encourage discussion among the participants. They do not provide any representative data.

Poll 1: Are there policies and legislations in place in your country that support the traceability of chemicals in supply chains? (N=20)

- **Yes, 55% (n=11)**
- **No, 20% (n =4)**
- **Not sure, 25% (n = 5)**

Poll 2: Are you currently using any traceability systems/frameworks to verify claims about chemicals used in products? (N=16)

- **Yes, 44%(n = 7)**

ITALY (NGO)

The Material Safety Data Sheet is used to trace the chemicals in a particular product. It is used to recommend raw materials for paint producers.

TANZANIA (IGO)

The Quick Response codes are used in the country.

- **No, 6% (n = 1)**
- **Not sure, 50% (n = 8)**

Q2. Do you think the use and transfer of information on chemicals in products along the value chain via Digital Product Passports is an opportunity to reach sustainability and circularity?

Country	Participant's responses
ITALY (NGO)	- Having a product passport for all products will not be practical. But of course, this will be a valuable tool for consumer products that go for recycling and food products.
NEPAL (NGO)	- It is a good system, but all the countries and consumers need to be capacitated at an equal level, that is not possible.
SOUTH AFRICA (ACADEMIA)	- The use and the transfer of chemicals in information via the value chain helps companies understand which chemicals are commonly used in Zimbabwe and which ones they should import. - However, challenges can occur when some companies are not transparent for fear of creating competition within their sectors. Some companies do not feel comfortable because of the thought that some of their products may be reproduced.
SWEDEN (GOVERNMENT)	- Information cannot replace the substitution of the most hazardous chemicals; it should not be up to the user to handle this.
TANZANIA (IGO)	- Yes, it is, due to the long-lasting storing of chemical product information that will take years to be lost, hence sustainability.
USA (PRIVATE SECTOR)	- A product passport for all products may be quite ambitious, but it is possible to have many products. Many people in developing countries may not even see the value of this product passport and may be able to access the information contained therein.
PRESENTER'S NOTES:	- In the past, many companies had no idea what chemicals were being used by 3 rd and 4 th tier suppliers. Digital product passports make this transparent, and as a result, the brands and retailers become accountable for purchasing from sustainable suppliers.

QUESTIONS FROM PARTICIPANTS	RESPONSES
<p>HONG KONG (PRIVATE SECTOR)</p> <ul style="list-style-type: none"> ➤ Please elaborate on the interoperability (bi-directional) of data between ChemChain and other systems? ➤ Please elaborate on how verification of data entered/scanned takes place? ➤ If there are errors or deliberately malicious intent to upload incorrect data; is there a plan that periodic verification will take place to see that the user is correctly entering data? 	<ul style="list-style-type: none"> ➤ Not possible to provide an answer without knowing the specification of the other systems. For example, the interoperability is provided with SAP systems via API. ➤ Users can link certificates/docs (for example lab test results, or certificates of origin) to support the correctness of the information. ➤ An auditing scheme can be implemented to check and “mark” the correctness of the data.
<p>SOUTH AFRICA (ACADEMIA)</p> <ul style="list-style-type: none"> ➤ How much training is required for stakeholders along the value chain to be able to understand the DPP and to use it for decision making? 	<ul style="list-style-type: none"> ➤ It will depend on how user friendly and intuitive digital product passport solutions. Different sectors might have different challenges depending on the complexity of the products. At ChemChain we are focusing on making the DPP creation process very easy and affordable also for small companies.
<p>NEPAL (NGO)</p> <ul style="list-style-type: none"> ➤ What will be the means of verifying the misleading or misinformation given in the Digital Product Passport? 	<ul style="list-style-type: none"> ➤ In most traceability systems the party providing the information is also provided; so false information can be traced to its source which will lose its business and may also be subjected to penalties. Also, for certifications and audits, many systems ask for verification of the validity of the certificate from the issuing organisation.
<p>MALAWI (GOVERNMENT)</p> <ul style="list-style-type: none"> ➤ The amount of product information that is supposed to be shared, is it harmonised for all products? Is confidential data protected? 	<ul style="list-style-type: none"> ➤ No yet. The European Commission is planning to work on various implementing regulations to define the content of the DPP for four key sectors: furniture, textile, electronics, and construction products.

Throughout the discussion, informal polls were conducted to help encourage discussion among the participants. They do not provide any representative data.

Poll 3: Do you think every product in the future will have to come with its digital product passport? (N=20)

- Yes, 65% (n = 13) of all products should have a Digital Product Passport.
- No, 30% (n = 6) Digital Products Passports could be useful only for some products.
- No, 5% (n = 1) Digital product passports are not the solution to increasing information on chemicals in products.

Poll 4: What is the main challenge in your view to implementing digital product passports? (N=17) (On a scale of 1 – 5)

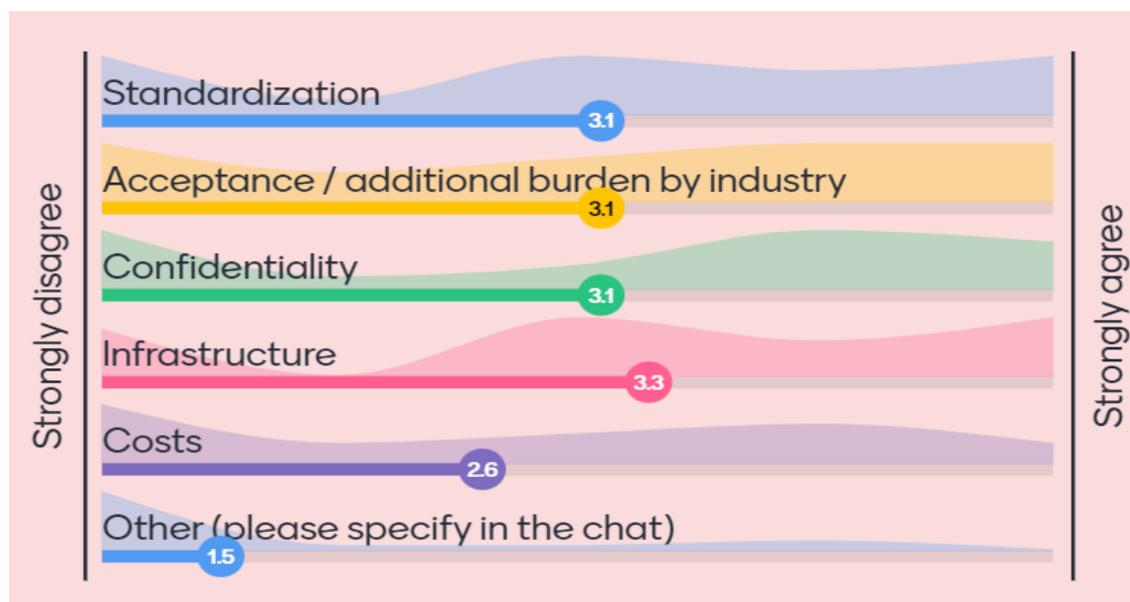


Figure 1 Image from Mentimeter with votes of participants from highest challenge to the lowest challenge.

Q3. Are there case studies of proven technology solutions to support sustainability in the production and use of chemicals in supply chains?

COUNTRIES	PARTICIPANTS' RESPONSES
BELGIUM (PRIVATE SECTOR)	- Consumers play an important role in “recollecting” products/materials before they end up in waste. Producers of an article should increase their responsibility in facilitating recollection of the products placed on the market. In the same way, a consumer gets money back when bringing back cans and glass bottles to the supermarket, they should be able to do it for any product they purchase.
GERMANY (NGO)	- It might be a challenge for brands to provide full disclosure of chemicals in products, but it should not be a challenge for them to disclose information about hazardous chemicals, including those which are already regulated globally. This information cannot be considered confidential.
SWEDEN (GOVERNMENT)	- It will be difficult in practice to trace materials from waste to new material when it is part of a multi-material article, for example, an office chair with metal parts, textile, and plastic parts that need to be tracked separately when recycling material.
SOUTH AFRICA (ACADEMIA)	- The use of agrochemicals in Zimbabwe is a good example.

PRESENTER'S NOTES:

- The big challenge is how to scale up successful pilots so that they can be affordably implemented across large numbers of supply chains.

PARTICIPANTS QUESTIONS

RESPONSES

HONG KONG (PRIVATE SECTOR)

- Did the report also mention the cost of IT /types of equipment at various steps?
- Did the blockchain pilot also intend to adhere to the recycling use case or is it considered irrelevant since perhaps the recycler will not have used time/ resources to check?
- If the answer to question 2 is yes, any plans to make this system failure-proof by having full disclosure even if current list-based certifications are used. As regulations, science informs us about newer restricted substances; we can see a risk of older clothes end up being recycled
- Is the UNECE influencing/informing policymakers in UN countries about these pilots, so that they are able to consider the socio-economic benefits of enforcing DD/Sustainable Products/DPP policies by prescriptive approach as with this pilot?

- If this is referring to the Policy Recommendations then no, it doesn't make proprietary recommendations for commercial decisions such as IT. It does, however, make it clear that traceability can be manually supported and is not dependent upon expensive IT and infrastructure.
- Not enough information was available within the current landscape to effectively look at the recycling use case – the pilot tests efficacy of the approach and methodology for traceability and transparency, from farm to finished product currently. Post-consumption and recycling options could be included if the information is available.
- These are areas that will invariably need consideration in the recycling and post consumption development opportunities.
- Yes, we have been conducting workshops and field visits to present the project. To date, in Milan, UK, Uzbekistan, Chile and Egypt. At all events policymakers and government representatives have been present.

Poll 5: Which technologies can support traceability of chemicals and chemical management? (N=11)

- Use of QR codes to be scanned with smartphones. The code should present a link which will eventually present substantial information (n=2)
- Blockchain Technology (n=2)
- Blockchain (n = 1)
- Use of product IDs that are unique and standardised as well as classified (n = 1)
- Government Mandatory Legislation (n = 1)
- Pollutant Release and Transfer Registers PRTR (n = 1)
- Chemical Fact Sheet (n = 1)
- ANU responds (n = 1)
- Micro-dots (n = 1)

Poll 6: What are the main challenges to adopting technology solutions for traceability? N=19 (Select all that apply)

- Cost: 23% (n = 13)
- Security of Information: 23% (n = 13)
- Standardisation: 21% (n = 12)
- Infrastructure: 23% (n = 13)
- Other (Please specify in the chat): 9% (n = 5)

Responses in the chat:

NEPAL (NGO)

- The lack of access to technology and connectivity.

South Africa (ACADEMIA)

- The Lack of awareness of the technology and regulation to support the implementation of these systems and ensure compliance.

France (IGO)

- The Limitation of digital literacy and time commitment by SMEs to report.

Helpful resources:

- UNECE No.46 Policy Recommendation Enhancing traceability and transparency of sustainable value chains in the garment and footwear sector (2021)
[ECE-TRADE-463E.pdf \(unece.org\)](#)
- UNECE Call to Action for Traceability, Transparency, Sustainability and Circularity of Value Chains in the Garment and Footwear Sector (2021)
[ECE/TRADE/C/CEFACT/2020/6 \(unece.org\)](#)
- UNECE initiative for Transparency and Traceability for Sustainable Value Chains in Garment and Footwear: project's leaflet
[SUSTAINABILITY PLEDGE - Homepage \(thesustainabilitypledge.org\)](#)
- UNECE The Sustainability Pledge Website
[SUSTAINABILITY PLEDGE - Homepage \(thesustainabilitypledge.org\)](#)
- UNECE Mapping of policies, regulations and guidelines: Report, Policy developments on traceability and transparency (April 2021).
[ECE/TRADE/C/CEFACT/2021/INF.3 \(unece.org\)](#)
- Business Requirements Specification for Traceability and Transparency in the Textile and Leather Sector, Part 1: High-Level Process and Data Model (April 2021).
[BRS-Traceability-Transparency-TextileLeather-Part1-HLPDM_v1.pdf \(unece.org\)](#)
- Business Process Analysis for Sustainability and Circularity in the Leather Value Chain (April 2021).
[E320_BPA-SVC-leather.pdf \(unece.org\)](#)
- Chemchain website and video pitch.
[ChemChain | Track chemicals along the value chain/ Chemchain | Blockchain platform to track chemicals along the value chain - YouTube](#)
- Solvay - Press release 22.1.2021 – “Chemical product information: Solvay to use blockchain for a smooth-running circular economy”.
[Chemical product information: Solvay to use blockchain for a smooth-running circular economy | Solvay](#)
- Dow – Press release 18.3.2021 – “Dow launches blockchain pilot for mattress recycling program”.
[Dow launched a blockchain pilot](#)
- Cefic newsroom – “Communicating About Substances Along The Value Chain: What’s The Latest?”
[Communicating about substances along the value chain: what’s the latest? - cefic.org](#)
- Cefic SDG targets – “Tracking Chemicals Along The Value Chain To Ensure Recyclability”
[Tracking chemicals along the value chain to ensure recyclability - cefic.org](#)
- EU Commission Sustainable product Initiative
[Sustainable products initiative \(europa.eu\)](#)

- Harnessing the potential of blockchain technology for due diligence and sustainability in cotton value chains, Policy brief (2021)
[ECE/TRADE/C/CEFACT/2021/12 \(unece.org\)](https://unece.org/ece/Trade/C/CEFACT/2021/12)
 - White Paper on Blockchain in Trade Facilitation (2020)
[2011174 E ECE TRADE 457.pdf \(unece.org\)](https://unece.org/ece/Trade/457.pdf)
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CiP CoP: The Secretariat of the Strategic Approach to International Chemicals Management (SAICM) and the Environmental Health Division at the University of Cape Town (UCT) created this Community of Practice (CoP) to foster online discussions and address key issues on Chemicals in Products (CiP) among stakeholders from governments, international organizations, industry, academia and civil society.

This CoP is contributing to the SAICM/GEF project on Emerging Chemicals Policy Issues Knowledge Management Component. This activity is supported by the Global Environment Facility (GEF) project ID: 9771 on *Global Best Practices on Emerging Chemical Policy Issues of Concern under the Strategic Approach to International Chemicals Management (SAICM)*.

If you have any questions or require clarification on this initiative, please contact the SAICM Secretariat at saicm.chemicals@un.org or UCT at uctcops@outlook.com.

Join the CiPs CoP at: <https://saicmknowledge.org/community>

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