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UNIVERSITY OF CAPE TOWN

Division of Environmental Health | UCT

Sweden
Sverige

University of Cape Town's CHEMICALS NETWORK

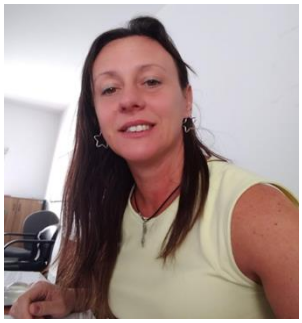
Issue: 1 of 2022

Date of discussion: 15th February 2022

Digest Summary of Discussion

The phasing out of mercury is a critical step in reducing hazardous chemicals amongst the population. The first chemical network discussion of 2022 focused on the "Safe handling of mercury as a hazardous substance and waste since the Minamata Convention entered in force". This discussion was presented by Irina Talamoni who is an industrial engineer experienced in hazardous waste and Rico Euripidou who is a campaign coordinator at groundWork and has experience working on mercury. This is a summary of the discussions held on the 15th of February 2022. To view the PowerPoint presentation and other resources for this discussion, click here.

ABOUT THE PRESENTERS



Irina Talamoni is an industrial engineer, she has over 14 years of fieldwork experience on hazardous waste. Since 2007, she has worked as a Technical Officer at the Hazardous Wastes Coordination, Ministry of Environment of Argentina. In that position, she evaluates applications for authorization of hazardous waste disposal plants. She also evaluates the management systems for hazardous waste that generators propose under the provisions of national and international regulations.

She also works on matters related to international environmental agreements of which Argentina is a Party, in collaboration with other Ministry areas such as Transboundary Movements of Wastes and Minamata Convention implementation area. Since 2017, she represents Argentina in many inter-sessional working groups as an expert in hazardous waste management. Among others, she is a member of the Expert Working Group of mercury waste thresholds under the Minamata Convention and the Group that reviews the technical guidelines of mercury waste management under the Basel Convention.

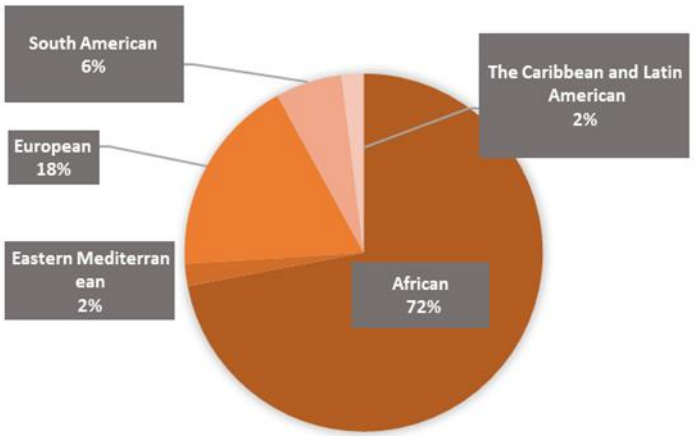
In 2020/2021 she attended the International Training Program provided by the Swedish Chemicals Agency and developed a change project regarding mercury storage.

Rico Euripidou, (MSc) has over 20 years of experience working on mercury. He currently works for groundWork, Friends of the Earth South Africa as a Campaign Coordinator, supporting campaign staff in the strategic alignment of groundWork's six campaigns. His interests lie in working on issues of chemicals and energy policy, climate change, and public health: all of which are, of course, closely interrelated. Rico originally trained as an Environmental Epidemiologist.

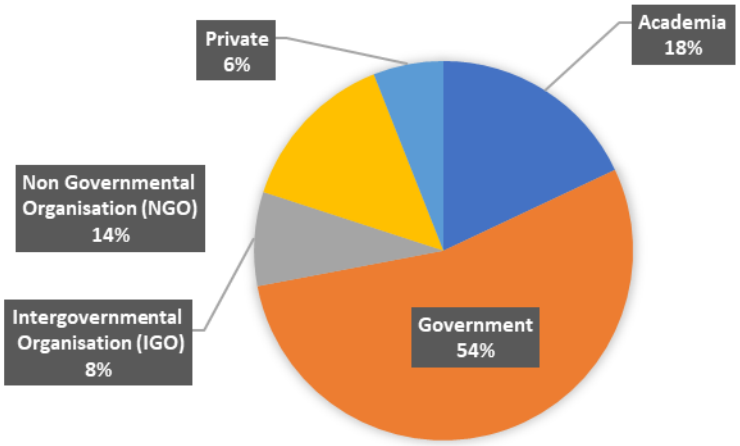
2022 DISCUSSION 1 ATTENDANCE BREAKDOWN

 # ATTENDEES: 50
Female – 50%
Male – 50%

REGIONAL REPRESENTATION



SECTOR REPRESENTATION



Key:
IGOs = Intergovernmental Organisations
NGOs = Non-governmental Organisations

KEY MESSAGES FROM THE DISCUSSION

The Minamata Convention on mercury has been **ratified** by approximately **157 parties**. Once ratified, it should be domesticated by laws, which is proving to be a challenge many countries face. There are great laws and policies available but **implementing** them at a **local level** is difficult. This Convention is intended to **protect the health of the population** and includes guidelines for the safe handling of mercury products and waste. Since its implementation, countries are facing **challenges** such as:

- Environmental professionals are responsible for overseeing and implementing many of the environmental regulations and are disconnected from the department of health leading to a lack of coordination between the two ministries.
- The science and policy interface needs to be improved to allow policy to be based on the most recent scientific evidence.

Having a bottom-up approach to work with governments is encouraged to implement laws and policies. By now, countries should **start domesticating** these international conventions using a bottom-up approach.
Product storage and disposal have different regulations. Mercury storage is dependent on the country and the end usage of it. It is necessary to think about mercury-safe storage conditions and use the guidelines to regulate mercury specifically. This will allow for more transparency for the stakeholders and authorities controlling what the conditions for the storage of waste are: https://wedocs.unep.org/bitstream/handle/20.500.11822/12882/%5B3-6%5DSourcebookconceptnote.pdf?sequence=1&isAllowed=y

Artisanal and small-scale gold mining (ASGM) is a very tricky area of the convention because it is diverse in all the world's jurisdictions. The biggest gold rush that the world has ever seen is happening now in over 70 countries around the world. It is mostly informal and includes vulnerable populations like women and children. There are national action plans covered in the convention to help countries make sense of what is happening in their countries

and work with artisanal gold miners to reduce their exposure, encouraging them to not use mercury. The UNEP Global Partnership Mercury website and the WHO's Global Strategy and Plan of Action on Public Health, Innovation and Intellectual Property provide good resources to develop public health strategies and demonstrates alternatives to mercury.

CONTRIBUTIONS FROM PARTICIPANTS IN THE DISCUSSION

The discussion was structured around three questions. The key discussion points raised by participants and organized by themes or countries (although not representatives) are presented under each question:

Question 1:
What are the barriers or opportunities in your country to meet the requirements of Article 11 of the Minamata Convention on Mercury?

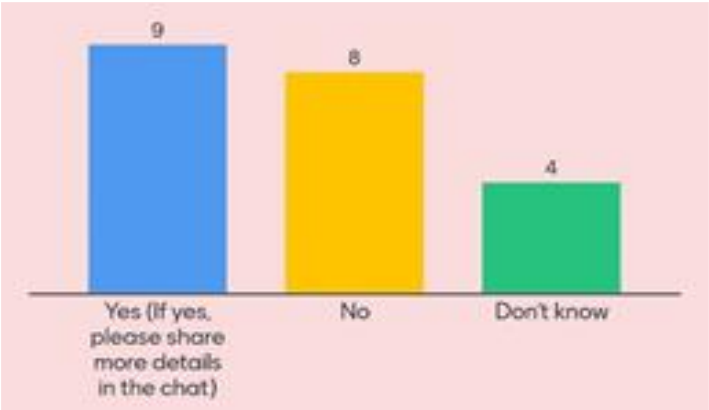
Country:	PARTICIPANT RESPONSES:
Argentina (Government)	➢ Taking certain products out of circulation or collecting them differently can be a challenge, since the laws on urban solid waste and hazardous waste overlap. Therefore, there is a legal loophole.
Iran (Academia)	Barriers are: ➢ The existence of different authorities/ decision-makers involved and lack of coordination between them. ➢ The lack of cooperation between academic and scientific institutions and executing authorities. ➢ Lack of ease access to scientific evidence, research affecting the cooperation between academics and government authorities.
Kenya (Government)	➢ There is a legal framework and guidelines in place on how to comply with article 11. There are a lot of assessments done by the division of waste management and climate change in collaboration with UNEP. The UPOPs project is very articulate in reducing the use of mercury in hospitals, industry, and agriculture. ➢ There is a regulation to reduce open burning in hospitals. Non-burning technologies have been introduced in several national and regional institutions and hospitals. ➢ Since 2013, there have been challenges. The National Environment Management Authority has had an uphill challenge because of staffing, resource allocation, and access to all parts of the 47 counties. There are many challenges. ➢ Kenya is yet to ratify Minamata Convention and at the moment, there are no specific laws that address mercury wastes. There are guidelines for waste management in hospitals in general. Hazardous wastes management is addressed under the Solid Waste Management Regulations of 2006
Tanzania (Academia)	➢ Lack of understanding of users in some mercury-containing products. ➢ Ineffective legislation. ➢ The opportunities are: Enabling legislation(s) in place for implementation of the Minamata Convention, Existence of different authorities involved in decision making can be useful if well-coordinated. ➢ Some pieces of literature are available for the implementation process as well. ➢ Weak legislation and poor coordination among various stakeholders/institutions responsible for supervision is still a challenge.
Zambia (Academia)	➢ Some products are easier to regulate than others. The challenges are mainly to do with the illegal trade of mercury-containing products such as personal care products, skin lightening creams, soaps, etc.

	➢ Opportunities for the domestication of the Convention are there. Zambia did conduct the initial assessment and undertook the UPOPs Project which focused on the unintentional production of POPs and Mercury-containing products. These products are currently in interim storage awaiting safe disposal.
Zimbabwe (Government)	➢ The prevalence of artisanal gold miners is a major hindrance to mercury waste management. ➢ A 2017 UNIDO project/report estimated that between 2012 to 2017, well over 500,000 Zimbabweans were engaged in artisanal mining. ➢ The uncoordinated sector is characterized by poor mercury handling practices and the mercury wastes generated are managed indiscriminately. ➢ Moreover, Zimbabwe currently lacks a standard public hazardous waste management facility and for this reason, such wastes are poorly managed. ➢ The battle with economic constraints continues to adversely impact pursuits towards the stipulations in Article 11 of the convention.
PRESENTER'S COMMENTS	➢ Article 11 of the Minamata Convention defines mercury wastes to mean substances or objects consisting, containing, or contaminated with mercury or mercury compounds in a quantity above the relevant thresholds that are: disposed of, intended to be disposed of, or required to be disposed of by the provisions of national law or this Convention. (Article 11.2) ➢ Many of the environmental laws, legislation, and policies in South Africa are intended to protect public health. Yet the environmental professionals are responsible for overseeing and implementing many of the environmental regulations. ➢ Furthermore, the environmental professionals are delinked from the department of health. The latter should be involved in environmental governance in the decision-making process in determining the impacts of these determinants of disease. ➢ The coordination channel existing between the health ministries and environmental ministries should be considered carefully along with ministries mandated with different portfolios such as energy and energy production. Aligning these will help to assess the cost and benefit of different approaches chosen in environmental management. ➢ There is also another barrier between the science and policy interface needs to be addressed. UNEA took a resolution to better articulate the science and policy interface so that our policies and actions are informed by the most recent science.

Questions from participants	**Answers from presenters**
Do you think most regulators are aware of where mercury is in their countries - both in terms of products and location - to dispose of these?	➢ Under the Minamata convention, many countries around the world were allowed to apply for funding to undertake the Minamata initial assessment (MIA). The MIA was a vehicle for countries to undertake a baseline assessment of where the mercury is found in their country. The approach was to develop an inventory, a system using an excel spreadsheet allowing ease of modelling and to accurately estimate the amount of mercury under the different thematic areas of the convention. ➢ Under the "products" area were included: thermometers and batteries. Countries needed to estimate the number of thermometers and batteries that they imported every year and what kind of batteries. The level II inventory allowed countries to

	estimate how much mercury might be contained in these products with more specific national data. ➢ Some initial information from the African region showed that products were very important as far as importing mercury into your country was concerned. Countries imported the products that they needed, and the inventory allowed them to measure the amount of mercury imported into the country. ➢ Another way to estimate the amount of mercury in the country is through measuring mercury in the air. Open burning happens because mercury -containing products are deposited in unsanitary landfill sites. The mercury waste then evaporates into the environment, and we are then able to measure the level of mercury contamination.

Throughout the discussion, informal polls were conducted to help encourage discussion among the participants. They do not provide any representative data but rather provide a snapshot of participants' views.



Poll 1 (N = 21): In terms of the Minamata convention on mercury waste, has your country legislated any laws or policy in this respect?

Ethiopia, n = 1

- There is a proclamation to provide for hazardous waste management and disposal control

Iran, n=1

- Yes, in Iran there are clear laws and regulations under Minamata and Basel, WHO and Ministry of Health, Ministry of Foreign Affairs, etc. for mercury-containing waste but as usual, in many developing countries enforcement of these regulations is not always perfect.

Kenya, n=1

- There is a legal framework in place and guidelines on how to comply with article 11. There are a lot of assessments done by the division of waste management and climate change in collaboration with UNEP. The UPOPs project is very articulate in reducing the use of mercury in hospitals, industry, and agriculture. There is a regulation to reduce open burning in hospitals and non-burning technologies introduced in several national and regional institutions and hospitals. Artisanal and small-scale gold mining (ASGM) is a tricky one as it is also a highly mobile sector. Workers keep moving from one area to another depending on a gold rush. Kenya has developed an action plan to address mercury use in ASGM.

Zambia, n=1

- No, the products mentioned here are the ones that were collected through the UPOPs products and were mainly medical devices that contained mercury. Zambia has legislation for the management of hazardous **waste,** but it has not domesticated the **Minamata** convention, especially the mercury threshold in waste**.** The barrier is procedural. Zambia is a Party to the Minamata Convention but requires parliament to domesticate the provisions of the convention**.** We need to pass a law post ratification.

Guyana, n=1

- Has developed its National Action Plan for Mercury use and is currently implementing its NIP for mercury

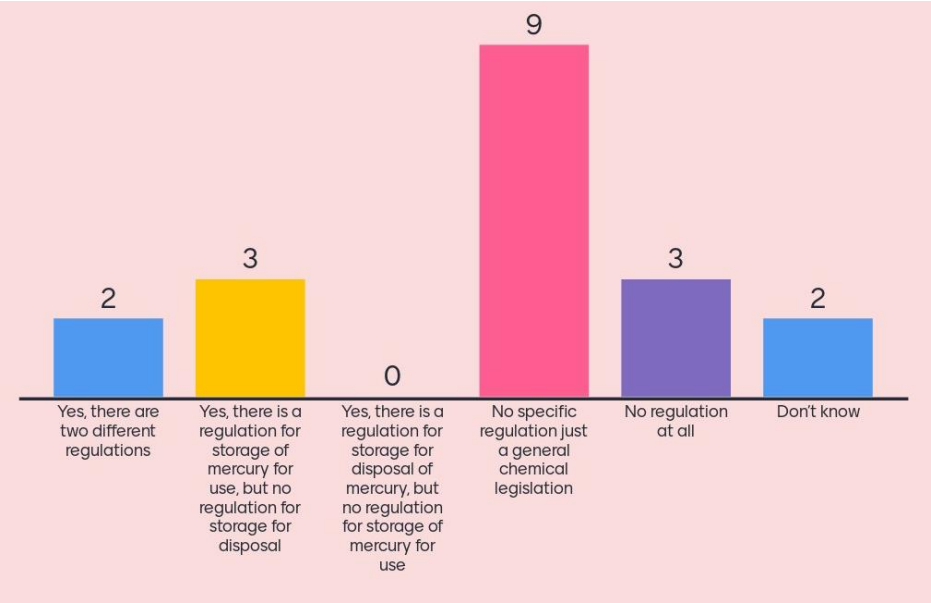
Question 2:

Is a specific regulation needed for mercury storage regardless of whether it is for use or for disposal? Give examples, explain the pros and cons of different regulatory approaches.

Country:	PARTICIPANT RESPONSES:
Iran (Academia)	➢ Yes, considering the high diversity and the large land area in Iran, there are many related mines, a high number of consumers, and a diversity of goods. There are now different laws and regulations for different types of mercury waste and disposal, e.g., from lamps, batteries, soaps, industries, and mines, etc.
Guyana (IGO)	➢ There are the Pesticides and Toxic Chemicals Regulations that cover the storage and transport aspect of mercury. The disposal aspect is, however, under a different agency called the GGMC and EPA. There are no specific regulations for the waste storage aspect
Kenya (Government)	➢ There are many regulations on mining that do not make mention of mercury. ➢ A regulatory framework on mercury storage is needed in our country, but needs to be benchmarked (or model regulation) from countries already having one ➢ A law or regulation on mining must allow for alternative products to mercury. Mercury is used in quantity by small gold miners who seem to be in their position illegally. The fact that mercury is highly contested leaves many not knowing how to safely dispose of it. ➢ Countries need to have one regulation on trade and the use of mercury, including storage. This way there will be no overlaps with other regulations on mercury. Sometimes having separate pieces of legislation on the same product can be difficult to enforce and comply with. In Kenya, there are no regulations on mercury storage and disposal.
South Africa (Academia)	➢ Regulations on mercury have been incorporated in other dangerous goods regulations but not specifically addressing mercury. ➢ The pros are that these regulations on Mercury are partly covered by the regulations and some of the basic challenges are addressed that way. ➢ Cons include that with such an approach, some issues can be overlooked in legislation especially when it comes to storage.
Tanzania (Academia)	➢ It is essential to have a specific regulation for mercury storage since the existing legislation(s) consider mercury as a general hazardous waste and therefore no emphasis has been provided about storage. However, existing legislation could be possibly amended to accommodate the storage part. ➢ There are many regulations talking about hazardous waste including Mercury Mining Act, Environmental Act (hazardous waste disposal), etc
Zambia (Government)	➢ Yes, a law is needed to manage interim storage of mercury waste. Ownership of waste and final disposal needs to be guided. Who bears the cost for storage and disposal?
PRESENTER'S COMMENTS	➢ There are many regulations on mining that do not make mention of mercury. ➢ Not having a specific regulation for mercury for storage and disposal can lead to conflict in decision making. The owner of a manufacturing plant containing mercury products can be unclear about what to do with the mercury they process. The questions that arise are: who controls the waste? and which regulations apply to this situation?

Questions to presenters	Answers
What do you think are the pros and cons of not having two different regulations for low- and middle-income countries?	➢ The pros are more transparency for the stakeholders (the authorities) who will control what are the waste storage conditions because as a product the storage and disposal have different regulations. For example, the labelling for storage is different from the labelling for disposal: with storage, it is mandatory to have a safety data sheet but not for disposal. If there is only one regulation for mercury storage and disposal, we can foul these requirements. I cannot identify any cons for having two different legislations, maybe conflict between different authorities to control the storage of mercury. ➢ The informal sector is a little bit different on this issue, the convention has a provision for mercury and the next COP will try to define or will adopt it
Do you think that the responsibility for the storage of end-of-life mercury-added products should be the importer's or the retailer's once they reach the end of their life cycle?	➢ It depends on the context of the country. In Argentina, we do not have specific regulations for this kind of responsibility laid upon the producer as some other countries have. We try to do that with some other hazardous waste. It could be a good approach to share the responsibility to take out of the market these products. In Argentina, we have restrictions for use of mercury in products, so we do not have a lot of products in circulation that have mercury. However, we have an issue tracing the product throughout its life cycle as we do not have the technological capacity to do so. That is why storage is important when dealing with a product phase-out process.

Throughout the discussion, informal polls were conducted to help encourage discussion among the participants. They do not provide any representative data but rather provide a snapshot of participants' views.



Poll 2 (N =19) Does your country have a specific regulation for the storage for mercury for use versus the storage of mercury for disposal?

Argentina, n=1

- Taking certain products out of circulation or collecting them differently can be a challenge, since the laws on urban solid waste and hazardous waste overlap. Therefore, there is a legal loophole.

Ethiopia, n=2

- There is a proclamation to provide for hazardous waste management and disposal control
- In Ethiopia, mercury waste is managed within a general legal framework (Industrial Pollution Prevention and Control Regulations (2006), The Environmental Pollution Control Proclamation (2002), The Solid Waste Management Proclamation, Proclamation to provide for hazardous waste management and disposal control 2018). Ethiopia has no specific legislation on mercury or mercury waste.

Guyana, n=2

- Guyana has developed its National Action Plan for Mercury use and is currently implementing its NIP for mercury
- In Guyana, there are the Pesticides and Toxic Chemicals Regulations that cover the storage and transport aspect of mercury. The disposal aspect is, however, under a different agency the GGMC and EPA and there are no specific regulations for the waste storage aspect.

Iran, n=1

- There are clear laws and regulations under Minamata and Basel, WHO and Ministry of Health, Ministry of Foreign Affairs, etc. for mercury-containing waste. As usual, as in many developing countries, enforcement of these regulations is not always a perfect situation.

Kenya, n=1

- There is a legal framework for management including restriction, storage, and disposal of medical equipment and products under the Ministry of Health. Mercury in other sectors is managed under the National Environmental Management Authority. However, it is difficult to estimate the size of the problem without a harmonized system of declaration, labelling, and identification of products and items containing mercury. Artisanal mining is also informal and those working or owning the mines are not well informed on mercury management
- Mercury in Kenya is legally required to be recycled instead of indiscriminate disposal
  ASGM is a tricky one as it is also a highly mobile sector. Workers keep moving from one area to another depending on a gold rush. Kenya has developed an action plan to address mercury use in ASGM
- Kenya is yet to ratify the Minamata Convention and at the moment, we do not have specific laws that address mercury waste. We have guidelines for waste management in hospitals in general. Hazardous wastes management is addressed under the Solid Waste Management Regulations of 2006.
- No technical guidelines or SoPs on mercury storage and disposal in Kenya

T**anzania, n=1**

- Tanzania has several legislations about mercury disposal including the Environmental Act on Hazardous wastes Regulations (2008). It is clearly stated that mercury is a waste needing special attention in its handling and management.

Zambia, n=5

- Zambia has legislation for the management of hazardous waste, but it has not domesticated the Minamata convention, especially the mercury threshold in waste.
- Also, mercury waste and mercury threshold need regulation
- A split regulation for storage would be very cardinal rather than a general regulation. It would be better to be specific.
- My observation is that countries may have regulations for hazardous waste, but the focus is not on mercury only. Having specific regulations for mercury waste may be a con as it will be a burden to the country to develop and implement the regulation. In my opinion, it may be practical to amend existing legislation to incorporate mercury or to have guidelines to help in the management of mercury waste.
- No, the products mentioned here are the ones that were collected through the UPOPs products and were mainly medical devices that contained mercury

Togo, n=2

- Togo doesn't have a regulation on mercury I think because mining is not one of the main economic activities here.
- For a regulation to be effective it needs finance, institutional mechanism, etc. Having more than 1 regulation for a specific chemical in developing countries is a huge burden. It can't work.

Poll 3 (N = 14): Are there different technical storage conditions in your country depending on whether the mercury is for use or for disposal?

Cameroun, n=1

- Cameroun does not have specific laws on mercury

Iran, n=1

- There are different technical storages.

Guyana, n=1

- There is only the Pesticides and Toxic Chemicals Regulations which covers the aspect of storage for mercury when in use. There are no separate conditions or aspects for storage for mercury disposal

Kenya, n=1

- No. This area is still grey in Kenya. I once visited a store that imports mercury and mercury was mixed with other goods in the warehouse

South Africa, n=3

- Don't think so
- Most mercury in SA is destined for "disposal" in what are designated as "highly hazardous landfill sites". Mercury is mainly stabilized with sulfur in drums and dumped. However, many mercury-added products leak into the environment.
- No different technical storage in South Africa.

Zambia, n=3

- Nonspecific. The technical aspects are general and that's why it is important to have specific technical provisions.
- I don't think that Zambia has any specific guidelines for mercury use or disposal
- We have different regulations for storage or for use and if it is for disposal the regulation for hazardous waste will apply

Tanzania, n=1

- No specific guidelines

Other, n=3

- No specific guidelines
- Mercury is for use, but it should be in a proper way at a required amount
- There are no technical guidelines for mercury, especially at home, there are just some guidelines on how it should be managed. For example, being in a container labelled not to be opened

Question 3: **Given this variability, how should waste thresholds for Category C wastes under Article 11 be established?**	
Kenya (Government)	➢ Keep the mercury bar low for general waste but high for hospital waste ➢ The establishment of category C waste will require political goodwill and adequate resources allocated to create community awareness, participation, and proactive action against generating the waste. All must take part to protect health and promote safety. All experts must be allowed to take part. ➢ Local exposure settings should be considered ➢ Given that countries have different capacities to manage chemicals, having a tiered approach to setting the threshold would be a fair approach. There could be one target threshold (which should be the standard) but also have interim thresholds to give countries flexibility
Zambia (Government)	➢ This is a very important question. As the next COP approaches, this issue needs guidance. ➢ While a general threshold can be given, there's a need to consider a risk-based approach. Perhaps a "band" can be given depending on the endpoint being considered.
PRESENTER'S COMMENTS	➢ Currently, the definition of "waste" is being debated in the SAICM Beyond 2020 discussion. What do you think the definition needs to include for countries which do not have mercury regulations or thresholds in place?

Poll 4 (N = 8): Should there be one threshold for Category C wastes, and if so, should it be lower to protect public health in LMIC? Include your country in the response.

Ethiopia, n=1

- Yes, it should be lower

Guyana, n=1

- I think that for a start we can set one threshold at the current proposal of 25 units but have a phased approach to lower the threshold over time

Kenya, n=1

- The threshold should be one or lower. Achieving sustainable management of chemicals in LMICs is faced with many challenges, and therefore a precautionary principle should apply to offer maximum protection to LMICs

South Africa, n=2

- Not sure; is the assumption that Category C exposures are the highest? What about other exposures?
- Keep a low threshold for general waste management but high for healthcare waste management

Zambia, n=3

- We follow the precautionary principle; therefore, a low threshold is preferred. It should be lower than 25
- Yes, it should be lower.
- I think it should be a single lower threshold if Public Health is to be considered

Poll 5 (N = 11): Should each Party be allowed to set its threshold, perhaps using guidance on the exposure scenarios that may be considered? Include your country in the response (Open-ended).

Zambia n=1

- To an extent but maybe a model with an embedded calculator can be given to ensure consistency.

Guyana n= 1

- An international organization such as WHO should set the threshold as countries like ours do not have the capacity and resources to conduct studies to set thresholds.

Iran n= 1

- If all parties, follow laws and rules set already by Minamata that's the best. Minamata may still have to expand its laws and regulations to cover all of these.

Other, n= 6

- I think there should be one common threshold (minimum value) but allow partners to implement lower thresholds.
- "I believe that there should be a threshold for art.11...and that waste below that threshold could be managed by the hazardous waste management guidelines."
- No - there should be one global threshold, especially because of porous borders and the potential for dumping waste on countries with no or weaker thresholds.
- Yes
- Yes
- This would give a chance for local considerations to be made. It is a good idea
- I think different regions should be able to set their thresholds under local conditions as the effects might vary i.e., as in the case with Pesticides.
- Should be standard.

Key resources:

- Minamata Convention
  www.mercuryconvention.org

- MC-3/5 - Mercury waste thresholds:
  https://www.mercuryconvention.org/en/documents/mercury-waste-thresholds

- MC-2/6 - Environmentally sound interim storage of mercury other than waste mercury:
  https://www.mercuryconvention.org/en/documents/environmentally-sound-interim-storage-mercury-other-waste-mercury

- Technical guidelines on the environmentally sound management of wastes consisting of, containing or contaminated with mercury or mercury compounds:
  http://www.basel.int/Implementation/TechnicalMatters/DevelopmentofTechnicalGuidelines/TechnicalGuidelines/tabid/8025/Default.aspx

- MC-3/5_Mercury waste thresholds:
  https://www.mercuryconvention.org/en/documents/mercury-waste-thresholds

- UNEP GUIDANCE National Authority for Chemicals Control: Structure and Funding https://wedocs.unep.org/bitstream/handle/20.500.11822/28403/ChemContAut.pdf?sequence=1&isAllowed=y

- UNDP GUIDE FOR INTEGRATING THE SOUND MANAGEMENT OF CHEMICALS INTO DEVELOPMENT PLANNING https://www.kemi.se/en/international-cooperation/support-for-development-of-national-chemicals-control/guidance-for-other-countries

- SADC GHS POLICY Globally Harmonised System for the Classification and Labelling of Chemicals https://mcusercontent.com/d7287b4fd8b59441405f989a1/files/aa124c1b-4d29-4a79-948a-a51d38f1781b/GHS_SADC_final_policy.pdf

Chemical Network: The Chemical Network is a non-partisan online forum established by the Division of Environmental Health (DEH) at the University of Cape Town's (UCT) School of Public Health and Family Medicine. It was established as part of a knowledge management and sharing project supported by the Swedish Chemicals Authority (KemI).

This forum has been produced with financial assistance from Sweden, through the Swedish International Development Cooperation Agency (SIDA), which has been arranged by the Swedish Chemicals Agency (KemI). The views herein shall not be taken to reflect the official opinion of SIDA or the Swedish Chemicals Agency.

If you have any question or require clarification on this initiative, please contact UCT at chemicallistserver@gmail.com.
If you are not already a member, to join the Chemical Network at: https://forms.office.com/r/Lk1tgAL6DF