

# The Trade in Toxic Lead Pigments

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# Overview

- Background on lead chromate and legal status
- Outline our approach to documenting exports of lead chromate
- Discuss results
- Outline policy recommendations

# What is lead chromate?

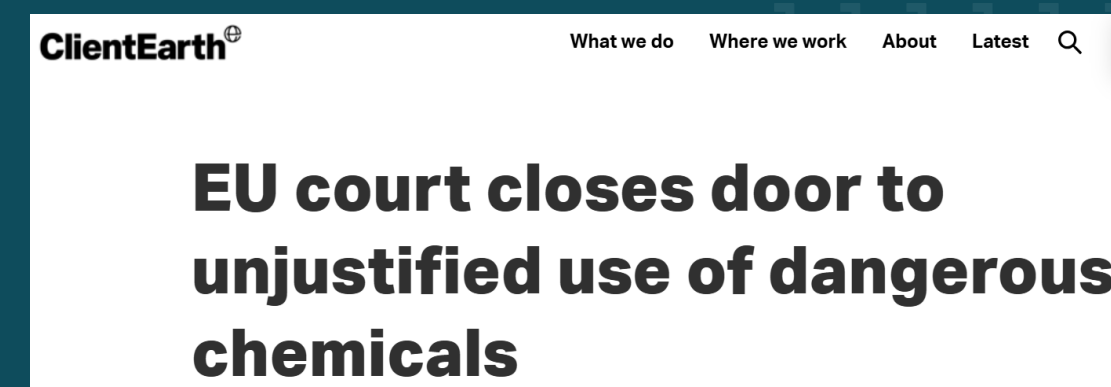
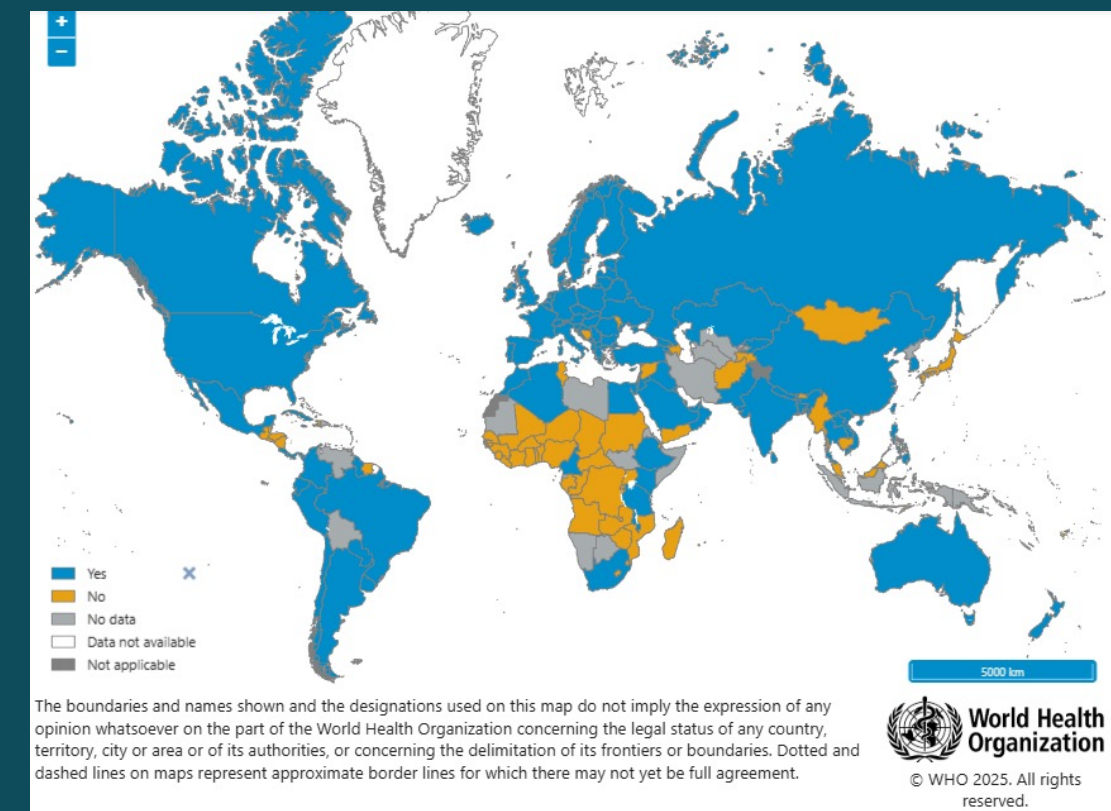
- Used as a pigment in paints and plastics, although has also been found in food (e.g turmeric in Bangladesh)
  - Generally used in the form of lead sulfochromate yellow and lead chromate molybdate sulfate red
  - Valued for durability and simple production
- Highly toxic when ingested, posing a particular hazard to young children
- Non-toxic alternatives exist and are affordable, although there are some investment costs for reformulating paints



Pigment Red 104

# Legal status

- 48% of countries have at least some legal controls on lead paint generally
  - These often include exemptions for ‘industrial’ uses
  - The capacity to enforce this legislation varies
- Since a court ruling in 2019, lead chromate is no longer authorized for use or sale within the European Union (or United Kingdom)
  - Hasn’t been used in Sweden for decades

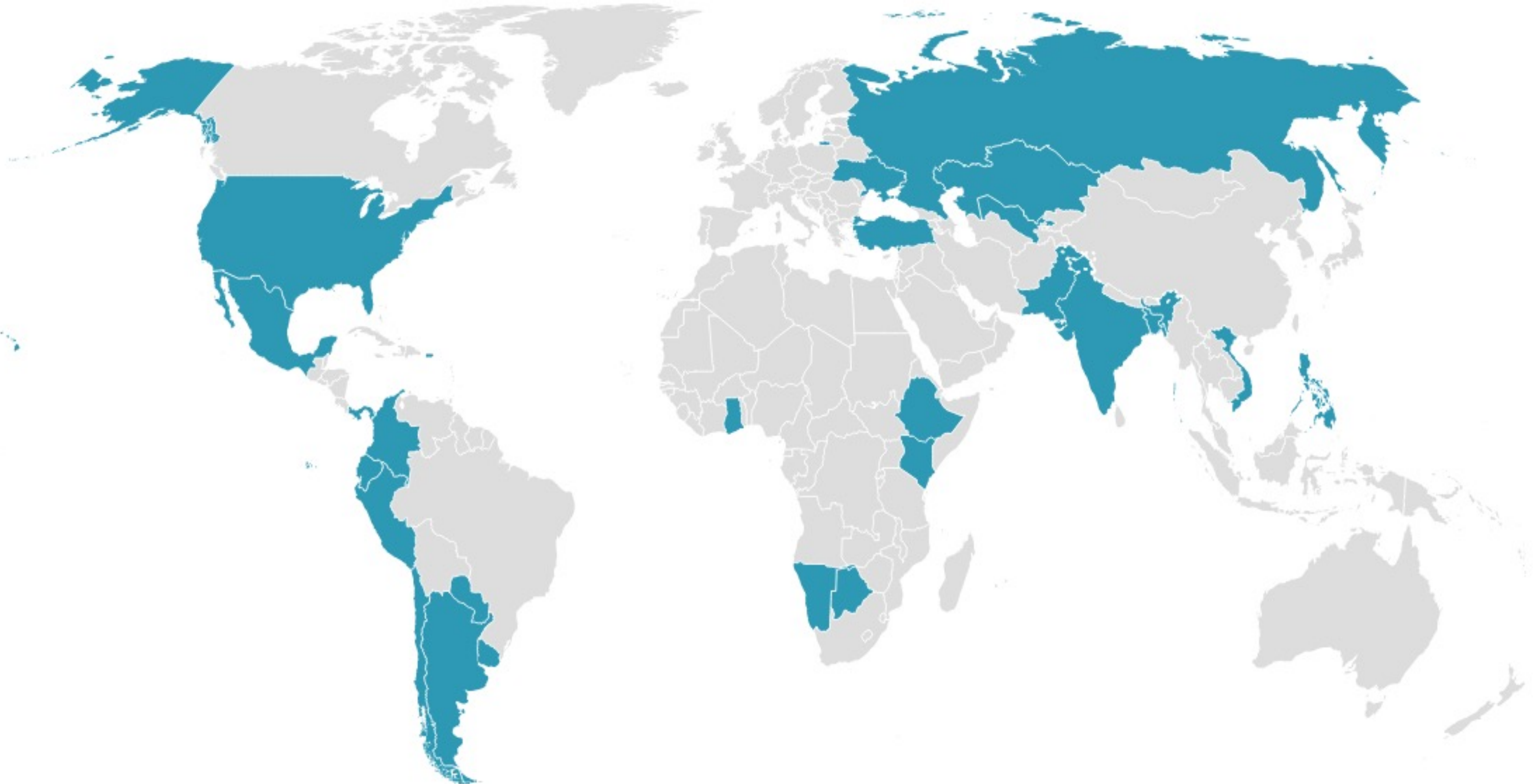


# Our approach

- UN trade data (COMTRADE) product (HS) codes are too coarse to document flows of lead chromate
- Building on work by IPEN, we use data from ‘Bills of Lading’: receipts of cargo by carriers, reported by 25 countries
  - Have data on dates, volumes, prices, exporting/importing companies, and product description
- Downloaded all data from 2022 to 2024
- We filtered for all shipments with product descriptions that included a reference to lead chromate (or its synonyms)
- We also estimate total trade by extrapolating using COMTRADE data: this suggests that our data covers approximately 60% of total trade

SHIPPER/EXPORTER(Complete Name and Address) INTERNATIONAL CARGO EXPRESS PTY LIMITED UNIT 1, 789 KINGSFORD SMITH DRIVE EAGLE FARM QLD 4009, AUSTRALIA		JOB NO.: HBL NO.:		
CONSIGNEE(Complete Name and Address) INTERNATIONAL CARGO EXPRESS PTY LIMITED UNIT 1, 789 KINGSFORD SMITH DRIVE EAGLE FARM QLD 4009, AUSTRALIA		<b>LOGISTICS (SHENZHEN) CO., LTD</b> <b>BILL OF LADING</b>		
NOTIFY PARTY(Complete Name and Address) SAME AS CONSIGNEE		FOR RELEASE OF SHIPMENT, PLEASE CONTACT INTERNATIONAL CARGO EXPRESS PTY LIMITED (BRISBANE) UNIT 1, 789 KINGSFORD SMITH DRIVE EAGLE FARM QLD 4009, ABN NUMBER : 54003500347 TEL: +61 (07) 36381300, FAX: +61 (07) 3888 1776		
PIER	PORT OF RECEIPT			
OCEAN VESSEL/VOYAGE ITAL LAGUNA 0875	PORT OF LOADING SHANGHAI, CHINA			
PORT OF DISCHARGE BRISBANE, AUSTRALIA	PLACE OF DELIVERY BRISBANE, AUSTRALIA	FINAL DESTINATION(FOR THE MERCHANTS REFERENCE ONLY)		
<b>PARTICULARS FURNISHED BY SHIPPER</b>				
MARKS & NUMBERS	NO. OF PKGS	DESCRIPTION OF GOODS	GROSS WEIGHT	MEASUREMENT
N/M	776 ROLL(S)	REPROCESSED SPONGE UNDERLAY	16250.000 KGS	136.000 CBM
SHIPPER'S LOAD AND COUNT AND SEAL 2 X 40HQ CY/CY				
89871/40HQ/EMC 8 /334ROLL(S)/5250KGS/68CBM 0795/40HQ/EMCW /442ROLL(S)/11000KGS/68CBM Shipped on board 2019-08-22				
FREIGHT and CHARGES PAYABLE BY TOTAL 2 X 40HQ CONTAINER(S) ONLY AT: DESTINATION				
IN ACCEPTING THIS BILL OF LADING, the Shipper, Consignee, Holder hereof, and Owner of the goods agree to be bound by all of its stipulations, exceptions and conditions, whether written, printed or stamped on the front or back hereof, as well as the provisions of the above Carrier's published Tariff Rules and Regulations, as fully as if they were all signed by such Shipper, Consignee, Holder or Owner, and is it further agree that containers are stowed on Deck, as per Clause 6. IN WITNESS WHEREOF, the Master of the said vessel has affirmed this Bill of Lading and authorized signature.				
	PREPAID	COLLECT		
	FREIGHT COLLECT			
Number of originals issued (if more than one originals issued, the others stand void when ONE is accomplished.)				
TERMS OF LADING CONTINUED ON REVERSE SIDE		BILL OF LADING NO. THREE	PLACE AND DATE OF ISSUED SHENZHEN 2019-08-22	

# Countries reporting Bills of Lading

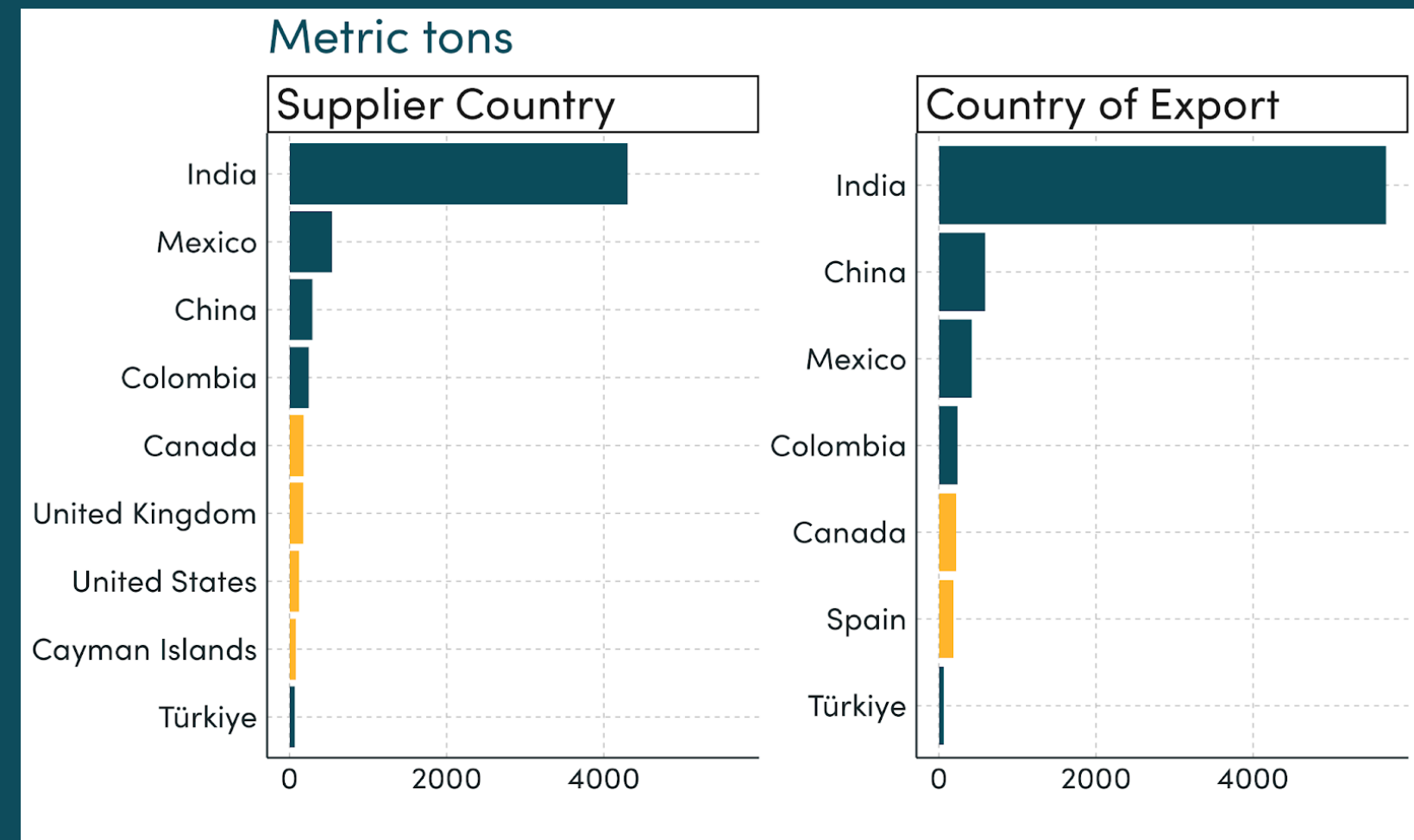


# Findings

# Substantial trade, dominated by India and middle-income countries

- 14,000 tons of confirmed annual exports, including 10,000 tons to LMICs
  - Extrapolation suggests that the true figure is >23,000 tons
  - Potential for significant harm
- By value, ~\$170 million annually: represents tiny share (>0.2%) of pigment market
- Trade is dominated by Indian companies (51% of export volumes by weight in our data)
- 6–7% of exports are from high-income countries

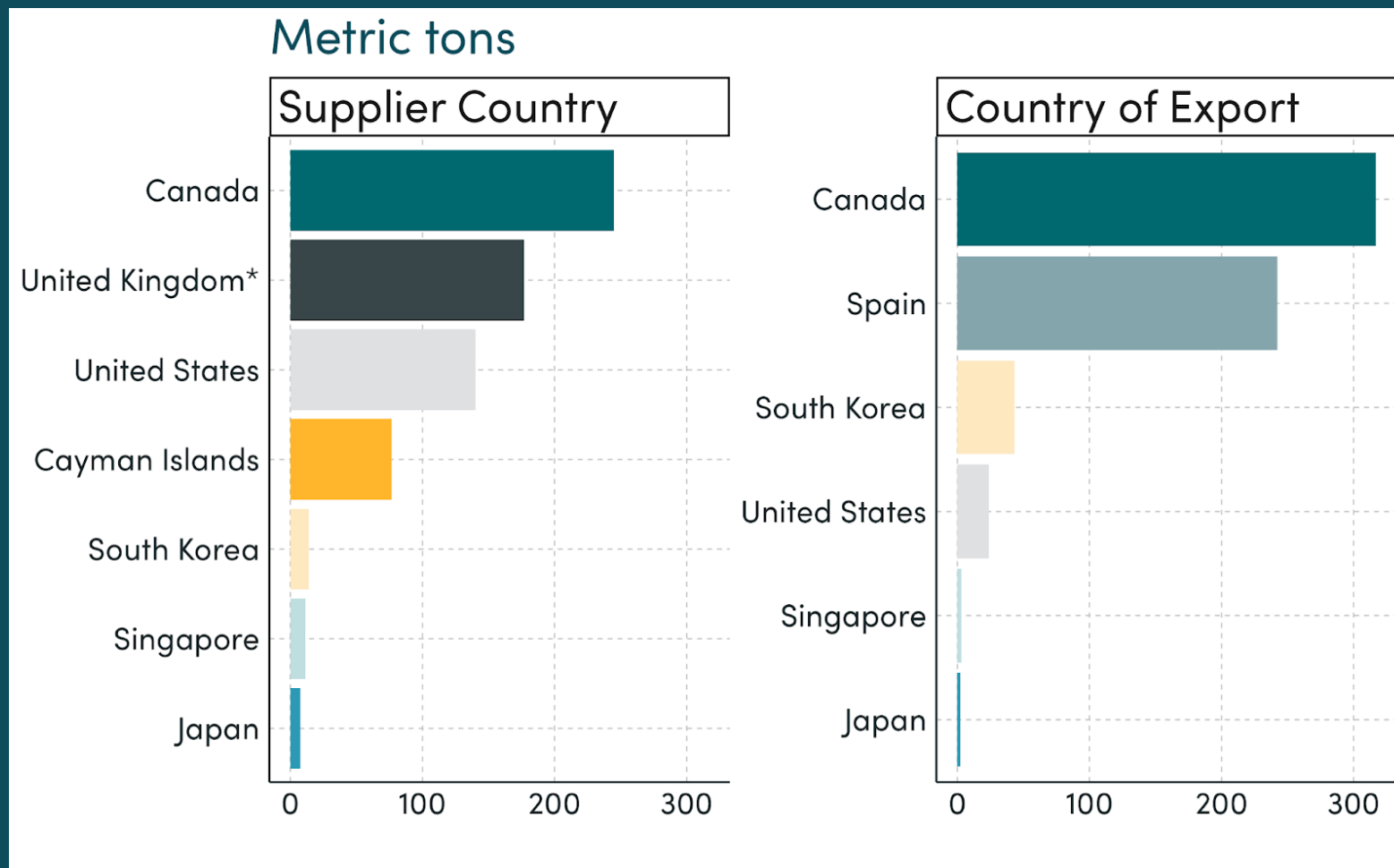
## Annual exports from all countries to reporting countries, by weight



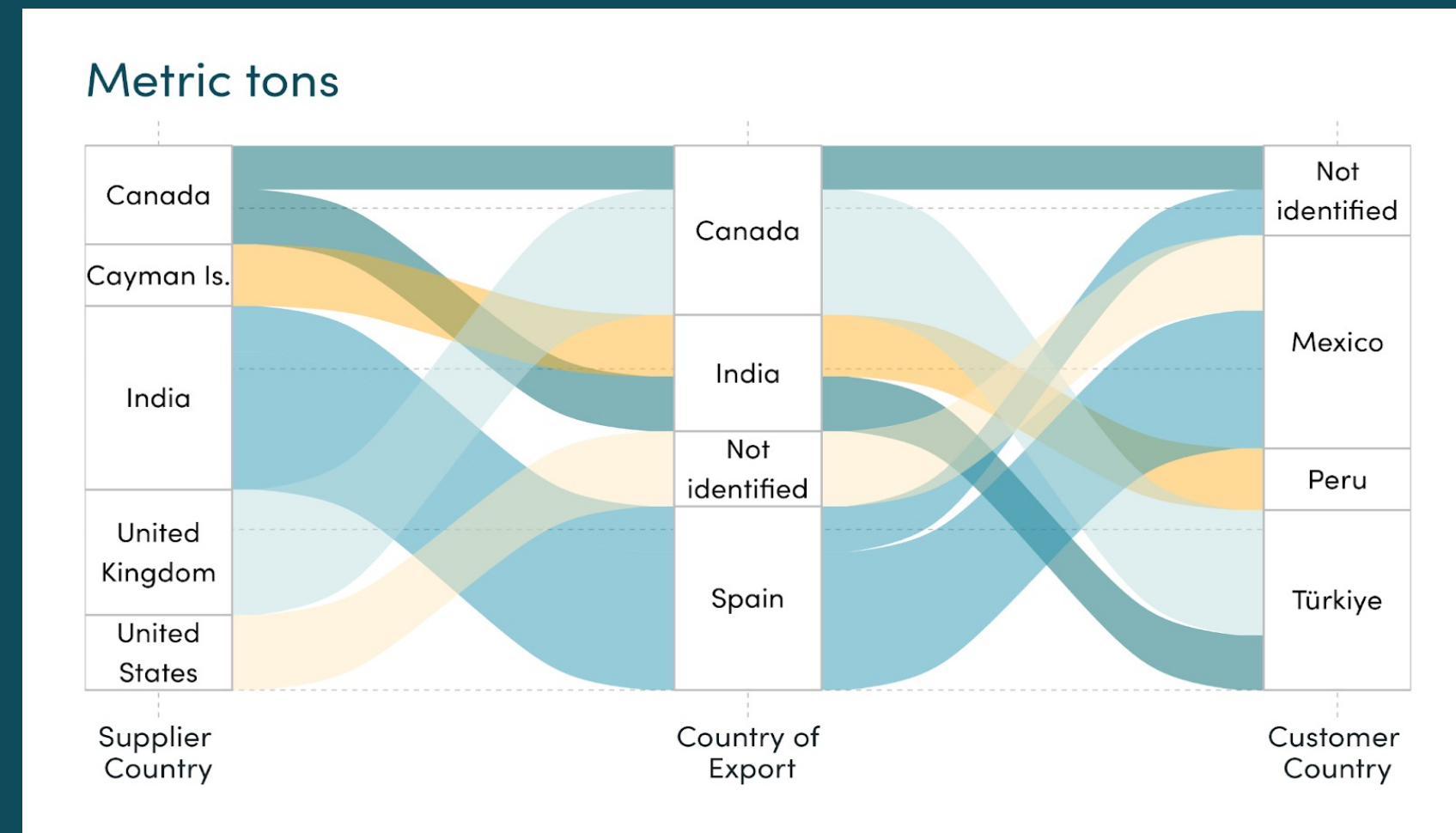
High-income countries are shown in gold.

# Significant high-income exports: from Canadian companies, but also Spanish ports

Annual exports from high-income countries, by weight



Single biggest flows from high-income countries, by weight



\* Exports from United Kingdom were from a UK-based company, but these were physically exported from Canada. Exports ceased in 2022.

# Policy recommendations to curtail trade

1. All countries should move toward a complete ban on lead chromate manufacture and use in the long-term.
2. High-income countries should prioritize ending exports of lead chromate to poor countries. Countries should also prevent their territories from being used as pass-through points for lead chromate shipments.
3. Low- and middle-income countries should raise awareness of the toxicity of lead and lead paint among their own public, to reduce demand in the long-term.
4. The Rotterdam Convention, which governs trade in hazardous chemicals, should add lead chromates to its list of regulated substances.