

The state of PFAS exposure in Africa

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What do we know about PFAS production on the African Continent

There are currently no official or accessible or existing records of PFAS production.

International Exports of potential PFAS containing products

But we do know that:

- Compressed Air Foam Systems (CAFS) are in production in South Africa.
- Various AFFF formulations e.g., HYDRAL 3C, 6C and AR 3-3AR AFFF foam concentrates among many others, are commercially available across the continent.



Regulatory Aspects of PFAS on the Continent

National legislations and guidelines exist in various nations

Many do not directly regulate POPs -

➤ **The South African Government Gazette No. 42693 stipulates phase-out of PFOS and its salts by December 2021.**

➤ **Kenya's NIP recommends PFAS monitoring**

Generally very fragmented legislations and weak enforcements





Human Exposure to PFAS on the African Continent

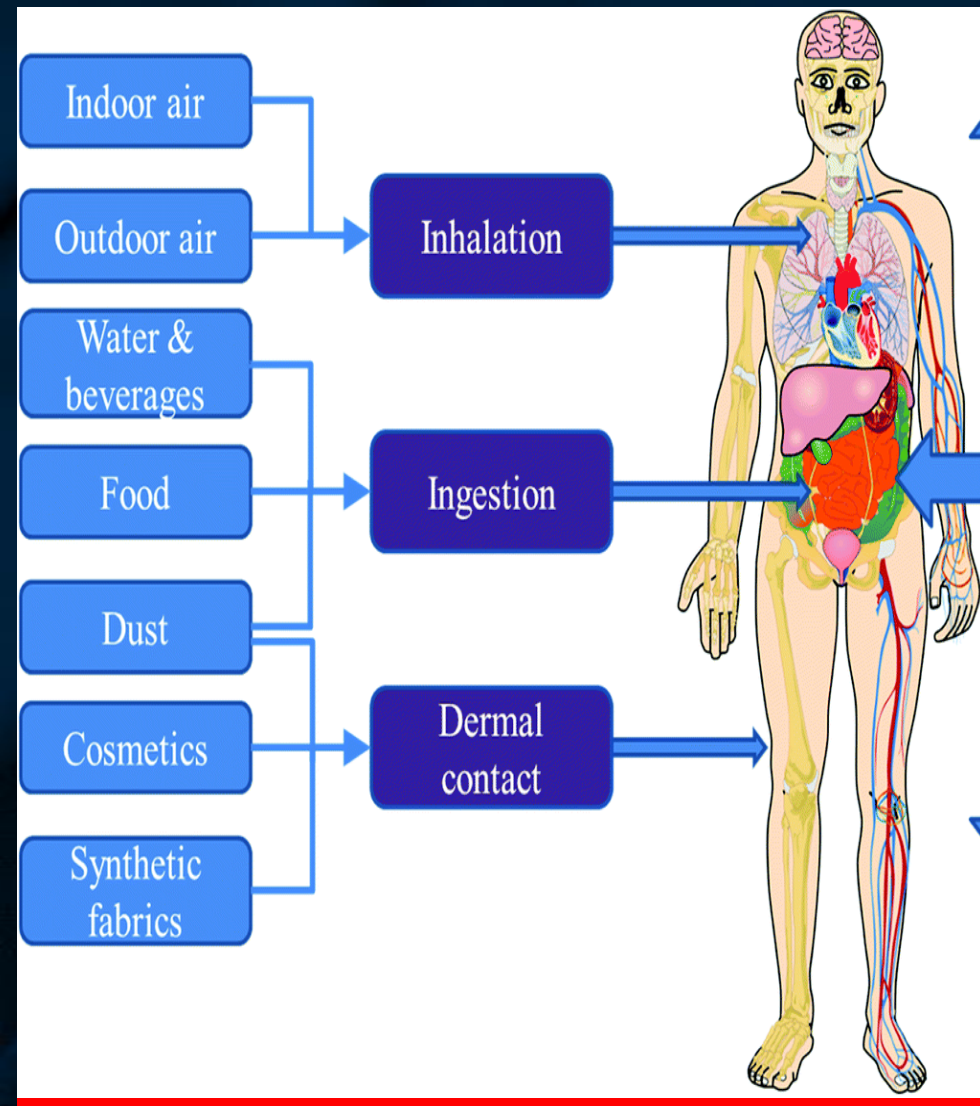
About 75 peer reviewed studies reporting on PFAS on the African Continent

Not much is known about inhalational exposure to PFAS on the continent.
Not much is known on dermal exposure to PFAS

Most studies on water/wastewater

A few studies on dietary intake of PFAS

A few preliminary population exposure study.



PFAS in Marine Living Resources

Chemosphere 281 (2021) 130985

Contents lists available at ScienceDirect

Chemosphere

journal homepage: www.elsevier.com/locate/chemosphere

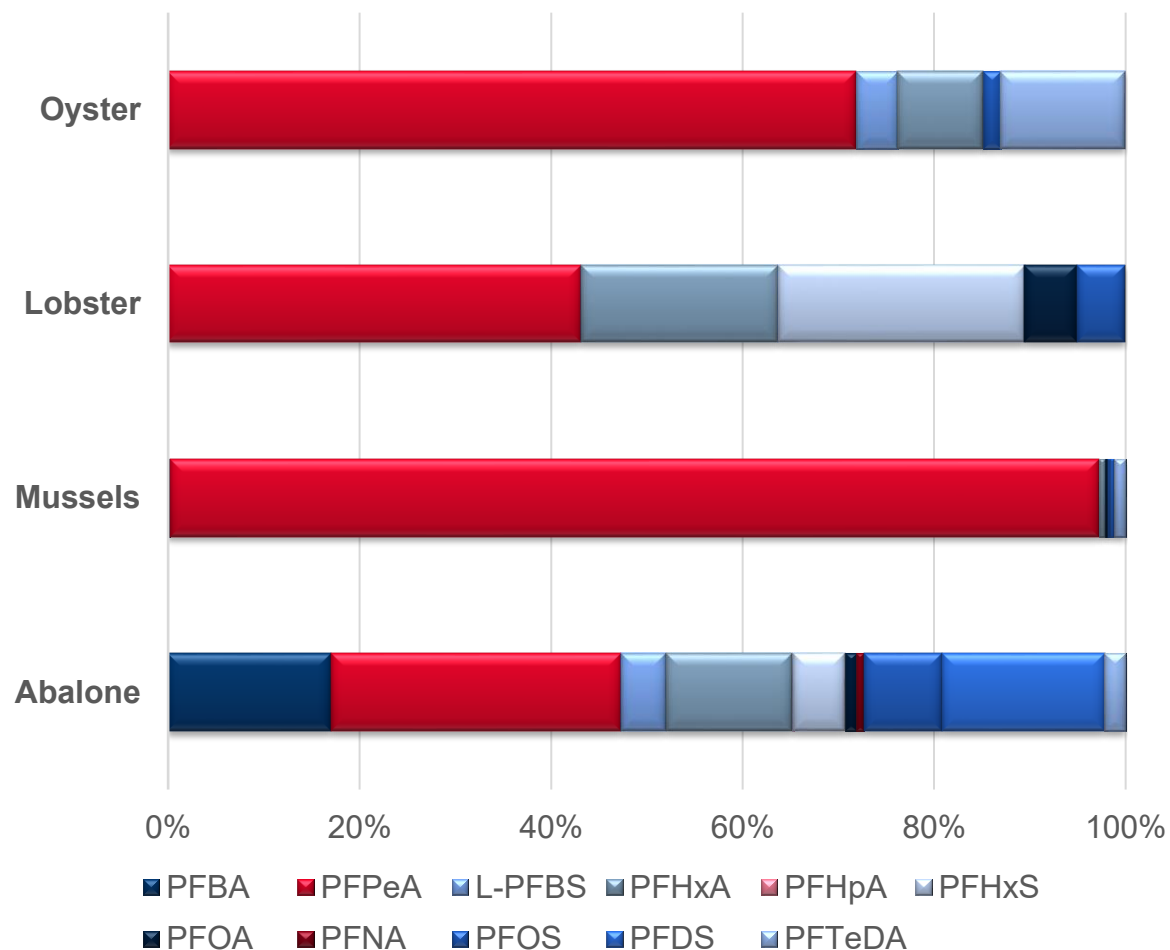


Concentrations and human exposure assessment of per and polyfluoroalkyl substances in farmed marine shellfish in South Africa

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Distribution of PFAS in Marine Shellfish



PFAS in dairy milk and infant formula from South Africa



Science of the Total Environment 755 (2021) 142697

Contents lists available at ScienceDirect

Science of the Total Environment

journal homepage: www.elsevier.com/locate/scitotenv

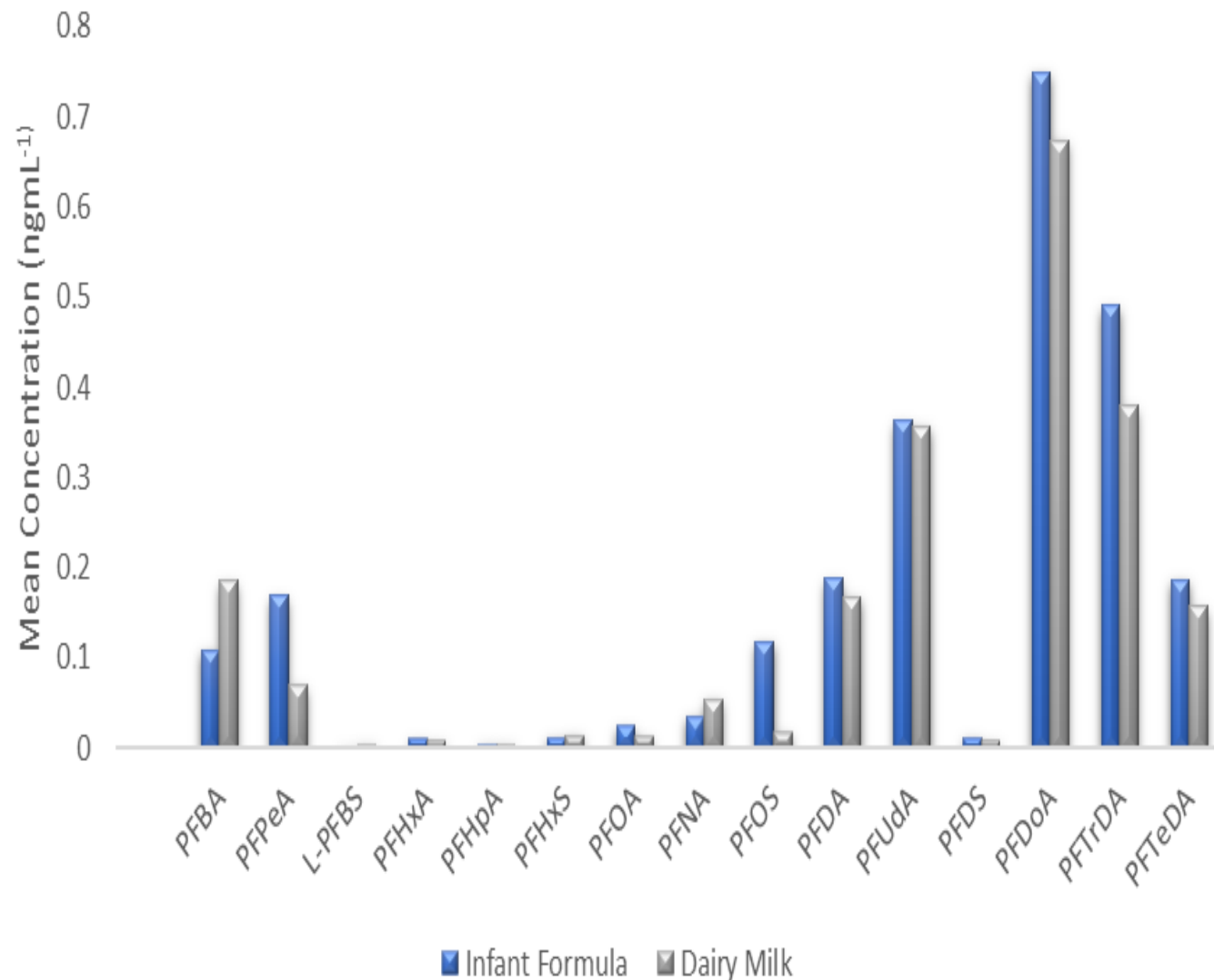
Determination and assessment of human dietary intake of per and polyfluoroalkyl substances in retail dairy milk and infant formula from South Africa

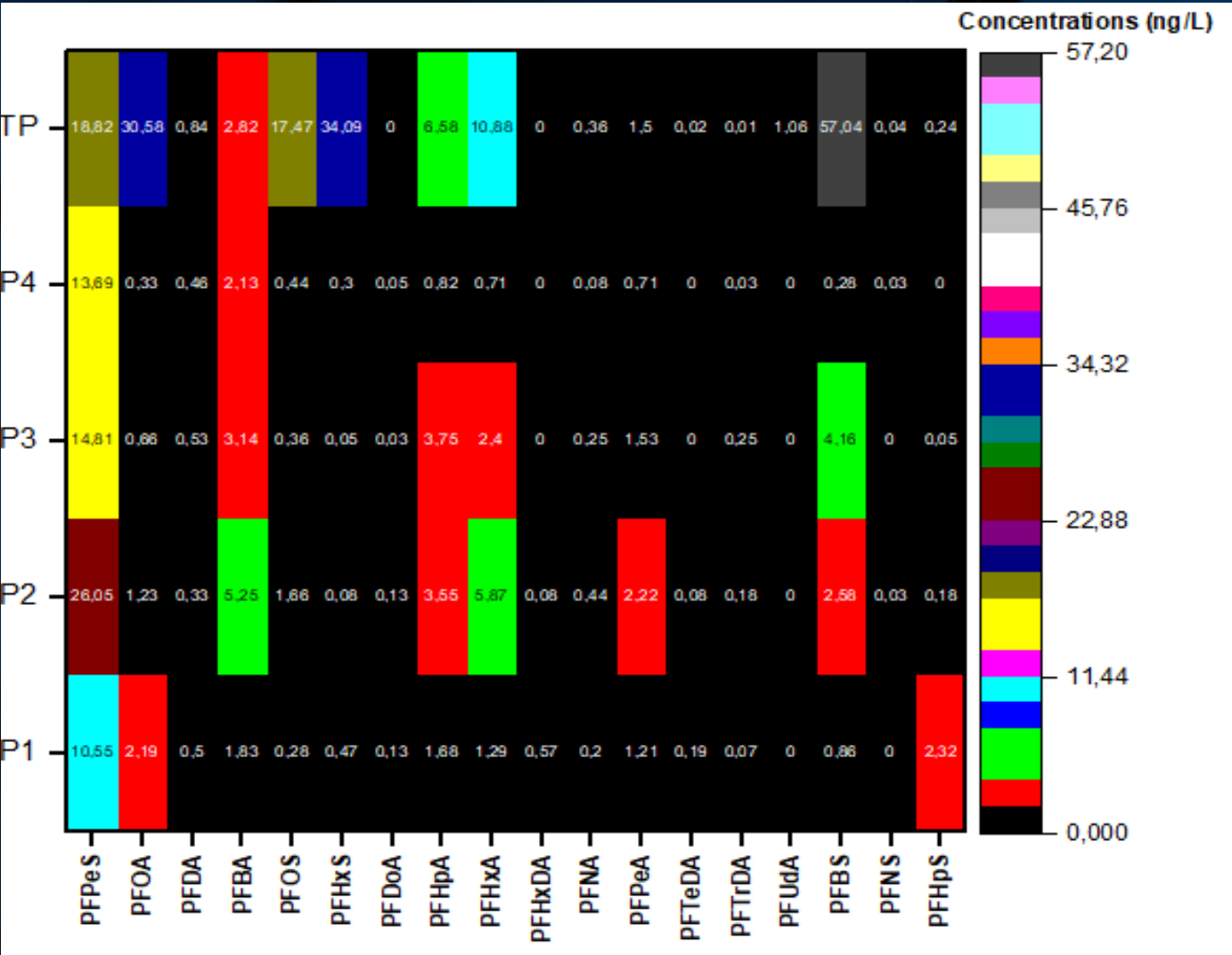
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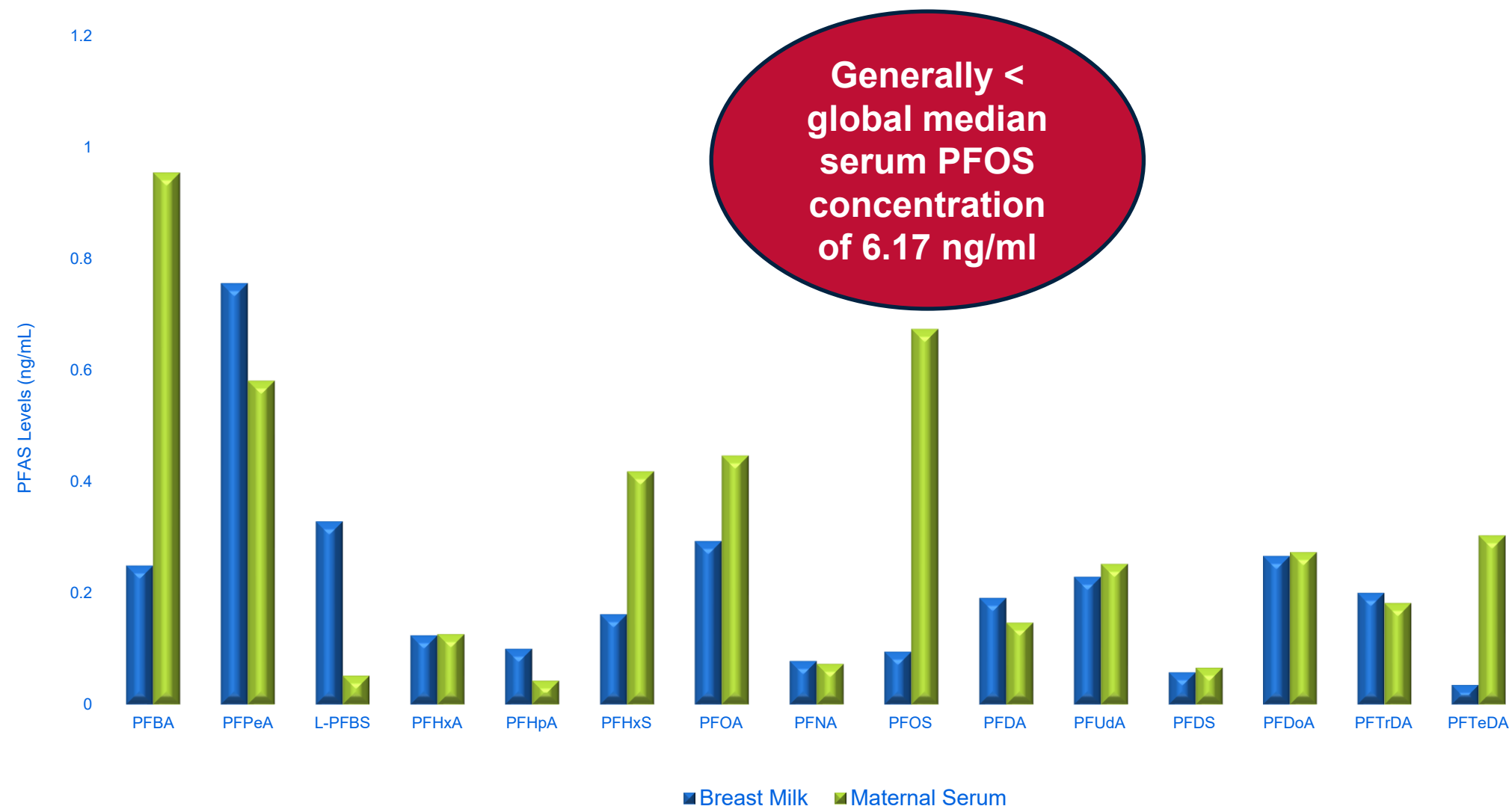
The average concentrations of PFOA, PFOS, PFNA and PFHxS in drinking tap water exceeded their respective US EPA maximum contaminant levels.



Preliminary Human Biomonitoring of PFAS in South Africa



PFAS Levels in Matched Breast Milk and Maternal Serum



Future Direction

Action plans on the effectiveness of existing state instruments for the management of PFAS e.g. legacy PFOS & PFOA

Material in-use and material flow analysis for PFAS concentrates on the continent.

Urgent action on stockpile of PFAS containing products
Integrated monitoring and assessment of PFAS among competent authorities across Africa.

Cross-continental risk-based exposure assessment for PFAS across different population group

An urgent need for epidemiological studies to understand the influence of PFAS on population health on the continent.

ACKNOWLEDGEMENT



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