The Regulation of Unintentional Trace Contaminants of PFAS in Singapore

Introduction

The production and use of per- and polyfluoroalkyl substances (PFAS) is increasingly regulated due to global concerns about their persistence and toxicity to living organisms. In Singapore, four PFAS:

a) Pentadecafluorooctanoic acids, their salts and related compounds (PFOA);
b) Perfluorooctane sulfonic acids (PFOS);
c) Perfluorohexane sulfonic acids, their salts and related compounds (PFHxS); and
d) Long-chain perfluorocarboxylic acids, their salts and related compounds (LC-PFCA),

are scheduled and regulated as hazardous substances under the Environmental Protection and Management Act 1999 ("EPMA"). A person must not import, manufacture, possess for sale, sell or offer for sale these PFAS unless the person holds a licence granted by the Director-General for Environmental Protection ("DGEP") for that purpose. Neither may a person store or use these PFAS without a permit from the DGEP or transport them except in accordance with the Environmental Protection and Management (Hazardous Substances) Regulations ("Regulations").

As more PFAS are listed under the EPMA, manufacturers and importers across a wider range of products and supply chains will increasingly need to establish whether the regulatory controls under the Act apply not only where a listed PFAS has been deliberately incorporated into a product, but also whether it is present incidentally. This client update explores whether and how these PFAS occurring as unintentional trace contaminants ("UTC") in products and articles are regulated under the EPMA.

Stockholm Convention on Persistent Organic Pollutants ("Stockholm Convention")

PFAS are internationally regulated as persistent organic pollutants under the Stockholm Convention. The Convention lists in its Annex A, PFOA, PFHxS, and from 16 December 2026, LC-PFCA; and PFOS in its Annex B. Singapore is obliged to take measures to eliminate their production and use, and (subject to limited exceptions) its export and import of PFOA, PFHxS, and PFOS. Singapore must also from 16 December 2026, subject to notifying the Secretariat of the Convention of its intention to use LC-PFCA for any of the available specific exemptions, take measures to eliminate the production and use of the PFAS, and (subject to limited exceptions) eliminate its export and import. In its circular dated 26 January 2026, the National Environment Agency (NEA) confirmed that the manufacture, import and export of LC-PFCA and products containing them will be prohibited from 16 December 2026, subject to any applicable exemptions.

Unintentional Trace Contaminants

The notes to Annex A and Annex B of the Convention provide that, except as otherwise specified in this Convention, quantities of a chemical occurring as UTC in products and articles are not considered as listed in the respective Annexes. The Convention does not define UTC. However, the Persistent Organic Pollutants Review Committee considered the interpretation of UTC in 2010–2011 and compiled information on the different national definitions and implementation practices to this general exclusion.

The Environmental Protection and Management Act

The EPMA does not set out any threshold levels for products containing regulated PFAS to be exempted or excluded from classification as hazardous substances.

Part I of the Second Schedule of the Act contains a list of products that are exempted from being classified as hazardous substances themselves even if these products contain specific hazardous substances. In some cases, these exemptions are based on the concentration levels of the specific hazardous substances. However, none of these exemptions are applicable to products containing regulated PFAS.

Part II of the Second Schedule sets out a list of products that are generally excluded from classification as hazardous substances even though they contain hazardous substances. For some but not all of these listed products, certain regulated PFAS are carved out from the exclusion regardless of whether they are intentionally or unintentionally present in these products and regardless of concentration level at which they are present.

The National Environmental Agency's Administrative Position

PFAS in Firefighting Foams

As a matter of administrative position, in respect of PFAS in firefighting foams, the NEA had in its updated industry guideline on the phase out of firefighting foams containing PFOA, PFOS, or PFHxS dated 27 March 2026, stated that the UTC threshold for the phase out from 1 January 2026 of the import and use of firefighting foams containing any of the three PFAS is as follows:

a) 25 ppb for PFOA;

b) 10,000 ppb for PFOS, their salts and related compounds; and

c) 100 ppb for PFHxS.

This means that UTC of PFAS in firefighting systems below the thresholds can continue to be used even after the phase out date. The guideline further provides that companies are to provide test reports/Safety Data Sheets/technical specification documents on request to NEA to show compliance to the PFAS thresholds.

In addition, while, all reasonable and practicable measures must be taken to clean out the PFAS residues from a firefighting system that had previously continued PFAS-based firefighting foam, no further action is required if the residual PFAS levels in the system are not higher than the above respective UTC thresholds or if the residual PFAS has been cleaned out of the system to as low as reasonably practicable.

PFAS in Other Products

The position in respect of other products containing PFAS is less clear. The NEA had in its responses to public consultations in 2021, 2022, and 2024, on the proposed addition of various chemicals (including LC-PFCA) as hazardous substances under the EPMA, stated that as allowed for and in alignment with the provisions under the Stockholm Convention and the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, UTC of the chemicals in products would be exempted from the proposed regulatory control under the EPMA. However, the NEA did not set out any UTC thresholds in its responses. Instead, the NEA appears to prefer a case-by-case approach, where the relevant supporting documentation (e.g., safety datasheets, analytical reports, etc.) may be required to be furnished when such cases surface.

Conclusion

While the Stockholm Convention generally excludes PFAS UTC in products and articles from the application of the Convention, the operationalization of this exclusion has been left to Party states without guidance. The EPMA does not provide for the exclusion of products containing UTC of regulated PFAS from regulatory control as hazardous substances. However, NEA's publicly articulated position on the exemption of products with UTC of certain chemicals from regulatory control means such exemption may exist in principle, although this position cannot automatically be relied on as extended to all PFAS in all products. Where a product

containing a regulated PFAS is not excluded by the Act from being classified as a hazardous substance, and apart from the case of UTC of PFAS in firefighting foams, for which quantitative thresholds for UTC of PFAS exist, a conservative approach for businesses is to seek the exemption of a product containing UTC of a regulated PFAS from regulatory control on a case-by-case basis.

This Client Update was authored by our Head of ESG, Dr Joseph Chun.

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